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Navy's Information Professional (IP)  
Community's Continuing Education Unit (CEU)  
tracking process**

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# NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

## THESIS

**BUSINESS PROCESS RE-ENGINEERING (BPR) OF THE  
NAVY'S INFORMATION PROFESSIONAL (IP) COMMUNITY'S  
CONTINUING EDUCATION UNIT (CEU) TRACKING PROCESS**

by

Sylvia M. Layne

March 2006

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**BUSINESS PROCESS RE-ENGINEERING (BPR) OF THE NAVY'S  
INFORMATION PROFESSIONAL (IP) COMMUNITY'S CONTINUING  
EDUCATION UNIT (CEU) TRACKING PROCESS**

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Submitted in partial fulfillment of the  
requirements for the degree of

**MASTER OF SCIENCE IN INFORMATION TECHNOLOGY MANAGEMENT**

from the

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## **ABSTRACT**

This thesis analyzes how the United States Navy's Information Professional (IP) Community is currently managing the Continuing Education Unit (CEU) Program, propose and develop a technical solution that could be implemented by Commander, Naval Network Warfare Command (NETWARCOM) to minimize the current management challenge.

The IP Community has a fiscal year requirement to obtain a certain number of CEUs. The process of tracking these CEUs is currently manually performed using a Microsoft Excel spreadsheet. This thesis examines the feasibility and effectiveness of redesigning the CEU tracking process in light of modern Business Process Re-engineering (BPR) methodologies that incorporate contemporary information technology. The "AS-IS" process is identified using the Knowledge-Value Added (KVA) methodology and modeled using Microsoft Visio software to identify pertinent redesign recommendations. A "TO-BE" process is also identified using KVA and modeled using Visio and a web-based prototype system, Reengineered Continuing Education Unit Tracking tool, is developed using basic tools such as Microsoft Access and Dream Weaver Active Server Pages (ASP) to demonstrate the viability, value and efficiency added to implementing the necessary functionality. The benefits of replacing the current manual system with a web-based system are reduced manpower hours, increased accuracy, and consistency in the process.



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Two of my Naval Postgraduate School classmates, Major Michael Pitts, USMC and LT Ben Cone, USN provided significant contributions to the development of the initial CEU Tracking Tool prior to some of the changes implemented after the usability analysis. Their technical assistance and knowledge was the foundation that allowed my prototype to be successful and accepted by the sponsor, Naval Network Warfare Command (NETWARCOM).

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# **I. INTRODUCTION**

## **A. PURPOSE**

This thesis evaluates and analyzes the current Continuing Education Unit (CEU) process determining its feasibility and value utilizing Business Process Re-engineering (BPR) and the Knowledge Value Added (KVA) methodology. KVA is a way to allocate value-revenue inside organizational boundaries based on knowledge. Based on the results from the KVA analysis, a web-based prototype tracking tool is developed that enabled the Director of Information Professional Center of Excellence (IPCOE) and Naval Network Warfare Command (NETWARCOM) to automatically track CEU credits for all personnel in the Navy's IP Community. Additional objectives of this research include:

1. Studying and understanding the current CEU tracking method, its context, and its impact.
2. Defining the requirements that must be met by this solution as per the CEU Program and NETWARCOM.
3. Identifying candidate solutions fulfilling the above requirements and selecting the “best” solution.
4. Designing and/or implementing the chosen solution.

## **B. BACKGROUND**

The Chief of Naval Operations formally announced the creation of the Information Professional (IP) Community in Naval Administration (NAVADMIN) message 182/01 in July of 2001. The Navy's IP Community was developed to plan, acquire, operate, maintain and secure the Naval Network and the supported systems of the Navy's operational and business processes ensuring they are reliable, available, survivable, and secure. (McCarter and Beck, 2003). With the help of the Fleet Commanders, the number of afloat Command, Control, Communications, Computers

(C4) operational billets were increased, a training and qualification program was implemented, and a sense of community emerged among the newly formed cadre of IP Officers.

In October of 2003, Vice Admiral Mayo expanded the IP community to Naval Reservists allowing the community to flourish and broaden its knowledge base to space systems, information and command and control. The IP officers are restricted line officers augmented from bi-annual selection boards. The community was originally composed of approximately 300 officers but has increased to well over 500 serving in shore, overseas and sea duty billets. (McCarter and Beck, 2003)

### **C. CONTINUING EDUCATION UNIT (CEU) PROGRAM**

With the development of the IP Community, Officers are required to maintain technological proficiency in space systems, network operations and protection, and information technology as well as enhanced warfighting techniques. (Lawlor, 2001) These technological proficiencies are identified as Continuing Education Units (CEUs). Senior Leadership planned to supplement graduate and technical education for IP Officers to promote the importance of a continuous learning environment in core competency areas as well as to ensure compatibility with the relevant aspects of the civilian industry. IP core competency areas are composed of:

1. Command, Control, Communication, Computers (C4) and Information Technology (IT) Architecture
2. Knowledge Management (KM)
3. IT Management and Operations
4. Communications Systems Management
5. Computer Network Defense (CND)

In addition to the core competencies, officers are also encouraged to obtain expertise in more special competencies. The special competencies include:

1. Joint C4
2. Intelligence, Surveillance and Reconnaissance (ISR)
3. IT Acquisition
4. IT Standards and Contract Management
5. Space Systems Operations

Each officer is required to obtain a specific number of CEUs in the above areas consistent with the qualification level (Basic, Intermediate or Advanced) they have achieved. With the Basic qualification level, an officer is only required to obtain one CEU per fiscal year. Achieving the Intermediate and Advanced qualifications, there are 10 CEUs required every fiscal year thereafter. (NETWARCOMINST, 2003)

CEUs are composed of formal learning experiences, professional activities and professional organizations. Formal learning experiences are web-enabled computer-based training (CBTs) courses, civilian and military educational courses in core competency areas, industry certifications and Distance Learning (DL) courses. Professional activities include writing journals or articles for military or civilian organizations as well as attending or teaching seminars related to core competency areas. Professional organization participation is also highly encouraged. Credits can be earned by participating as an active board member of professional core competency organizations. (NETWARCOMINST, 2003)

An approved list of CEUs is generated and maintained by the Director of the Information Professional Center of Excellence (IPCOE) as directed by NETWARCOM. The IPCOE is also required to manage and control the CEU program.

## **D. RESEARCH QUESTIONS**

### **1. Primary Research Question**

What is the best solution to effectively web-enable and manage the manual tracking process for the U.S. Navy's Information Professional (IP) Continuing Education Unit (CEU) program?

## **2. Secondary Research Questions**

- What are the current requirements for the administration of the CEU program as detailed in NETWARCOMINST 1520.2?
- How does the Director, Information Professional Center of Excellence (IPCOE) currently track the IP Officer Community's fiscal year CEU requirements?
- How are the tracked requirements reported to NETWARCOM for each individual?
- What type of feedback process is currently available from the IPCOE to the IP Officer that submits a request?
- What are the "best" Commercial-off-the-Shelf (COTS) products used by the industry for web-enabling databases?
- What would be a feasible technical solution that the IP Community could implement?

## **E. SCOPE AND METHODOLOGY**

The scope of this thesis includes an analysis of the IP Community's current process for tracking CEUs and why it was not effective. The scope also analyzes the feedback process from the IPCOE to both the individual IP Officers submitting a request as well as to NETWARCOM the fiscal year completed CEUs. The "best" COTS tools used by industry for web-enabling databases are reviewed. The recommendations include a technical solution for minimizing the current challenges of CEU management as well as a delivered software solution. The primary objective was to define the process and perform a redesign that improved the process.

The methodology used to fulfill the requirements for this thesis consisted of the following:

1. Research of previous thesis research conducted on Continuing Education Units, Business Process Re-engineering, and web-enabled applications.

2. A classical problem-solving approach to the CEU management process utilizing Knowledge-Value Added (KVA) methodology for the “AS-IS” and the “TO-BE” process comparing the results.
3. Problem analysis of the existing system.
4. Requirements analysis of what the new system must do and how the users will be affected.
5. A complete logical design and system model to include data flow diagrams, data models, and process and interface models.
6. Decision analysis of COTS solutions evaluated against utilizing Rapid Application Development (RAD) encompassing various scopes of feasibility analysis.
7. The physical design and integration of the new system.
8. The construction and testing of the technical system.

#### **F. ORGANIZATION OF THESIS**

The thesis is organized as follows. Chapter II provides an overview of the CEU process and BPR. Chapter III provides a process model, various ways of improving the process, the advantages and disadvantages of Commercial-Of-The Shelf (COTS) and Rapid Action Development (RAD) solutions and the benefits of improving the process. Chapter IV contains the proposed process redesign and a comparison of the current and proposed process identifying advantages and limitations of both. Chapter V covers the implementation of the process to include requirements and design, prototype construction, and testing. Chapter VI summarizes the conclusions, recommendations and future research on the CEU process.

#### **G. BENEFITS OF THE RESEARCH**

This thesis analyzes how the USN IP Community is coping with the current CEU Program management tracking challenges and defines the current state (i.e., AS-IS model) and the end state (i.e., TO-BE model) of the program. Additionally, it provides an analysis of COTS packages versus RAD solutions that could automate and web-enable



the program. It identifies best practices of Business Process Re-engineering that could be used to make web-enabling the CEU Program successful. Recommendations are provided on how the IP Community can better manage the CEU Program by making modifications to the current manual tracking process, establishing an enterprise solution, and by making changes in the business process. This study not only benefits the Senior IP Officers that manage the CEU Program, but also the IP Officers that are required to track and maintain their individually earned CEUs.

## II. PROCESS OVERVIEW

### A. THE CONTINUING EDUCATION UNIT PROCESS

The Continuing Education Unit Process in its earliest stages was a very manual process. When NETWARCOM developed the CEU Program with the idea of IP Officers maintaining a level of proficiency in the areas of information technology, space systems and network operations, they did not have a specific tool in place that could track and collect the CEUs for the entire community. Once the program was launched, the community was still in its earliest stages and many tools utilized became a standard regardless of their effectiveness. Keeping track of the first earned CEUs fell under the direction of CAPT Chris Vance, the first Director, Information Professional Center of Excellence (IPCOE). CAPT Vance decided to create a tool already in place within Navy Knowledge Online (NKO). He created a thread for CEU Credit Request under the IP Continuing Education Unit area allowing IP Officers to communicate their requests to obtain credit for earned CEUs. Figure 1 depicts an example of the previous method used by CAPT Vance.

<a href="#">CEU Credit Request</a>	jonathan.durham	10/15/04 2:19 PM	
<p>Capt, Ltjg Huwa and I would like to request 3.5 CEUs for the following; Course description: NAVY EHF SATCOM PROGRAM (NESP) LDR, MDR AND GBS Communications Management Training (Orig Msg DTG: 201340Z SEP 04) Course Coordinator contact information: Name: David Putnam, Company: LINQUEST, MAYPORT, FL Phone number: 904-992-1177 website or e-mail address: PUTNAMDR@NPT.NUWC.NAVY.MIL Course Length: 3 days/14.5 hrs total OCT 5-7 IP competency: Satellite Communications Fleet and Joint C4I Personal contact information: Ltjg Jonathan Durham jonathan.durham@navy.mil 619-571-4881 Ltjg Jessica Huwa jesshuwa@hotmail.com - primary jessica.huwa@navy.mil - secondary 619-459-0402</p>			<a href="#">sponsor</a>

Figure 1. Initial CEU Tracking Process

This method was semi-effective but was very manual in nature. Information from this thread was printed, evaluated and then placed in a binder for future reference. After

approval or disapproval of a member's request, feedback was provided by replying to the member's request with a final decision. The original format for a request that was on the approved CEU List consisted of:

- a. Name and Rank
- b. Course Name
- c. Date of Course/Days Completed
- d. IP Competency

If a course was not listed on the approved CEU List, a request could be made to get a course added to this list by providing the information below.

- a. Name, Rank and your contact information
- b. Course Name
- c. Course Description
- d. Course Coordinator Name, contact information, website or email
- e. Course Length
- f. Course Location
- g. IP Competency

The IPCOE would research the course and determine whether it should be added to the master CEU list based on its applicability to the IP Competencies.

This manual process allowed the IPCOE to marginally track the CEUs for the entire IP Community via NKO and maintain paper copies in a three ring binder. The process did not allow the IPCOE to effectively provide feedback to NETWARCOM nor did it allow the member to accurately track their submissions other than a line entry in their Fitness Report (FITREP).

### **1. Description of the Current Process**

The current process has changed very little since its inception. The process is still very manual and NKO is the central repository to collect the member's request. Instead

of a CEU thread, there is now an IP CEU Feedback Gear option under the IP Continuing Education Unit area to make the requests. Additionally, the IPCOE is not tracking the CEUs, but instead are being temporarily tracked by NETWARCOM representative Joseph Sullivan until a web-enabled tool is developed. Hence, the sole purpose for this thesis.

## **2. The Goals of the CEU Process**

One goal of the CEU Process is to effectively track and maintain the proficiency levels of all IP Officers within the Navy and to accurately report those proficiencies to Naval Network Warfare Command so that the most skilled officers are placed in positions. Additionally, the CEU Process can act as a management tool for Senior Leadership to ensure that IP Officers obtain the same level of technical knowledge as their peers in the civilian industry.

## **B. BUSINESS PROCESS RE-ENGINEERING**

Business Process Re-engineering (BPR) was introduced by Frederick Taylor in the 1900s when he wrote *The Principles of Scientific Management* article. BPR was derived from Scientific Management which involved “breaking the management process down to a thoughtless cycle of simple sequences which were to be carried out in the least amount of time possible with the minimum amount of effort”. This was the first stage of an unsuccessful BPR because of many unresolved issues from its inception. From Scientific Management came the idea of Total Quality Management (TQM) out of Japan after World War II. TQM was simply a revised BPR with corrections to many of the discrepancies identified earlier and whose sole purpose was to improve manufacturing operations. The rebirth of BPR was introduced in 1990 by Michael Hammer and James Champy in their book *Re-engineering the Corporation*. (Wikipedia, 2005)

The Customer, Competition and Change are the three main drivers of the success or failure of a business in today’s changing world. Many organizations are aggressively pursuing solutions to the business problems that are equally experienced by similar companies. Conglomerate corporations like Wal-Mart and Hewlett Packard have gone

the extra mile to determine the solutions that place them head and shoulders above their competition. Their success can be equated to Business Process Re-engineering. (Cheraghi et al.1999)

### **1. Re-engineering Overview**

What is business process re-engineering (BPR)? BPR has been referred to as process innovation, simply re-engineering and business engineering by Davenport & Short, van Mael and Hammer & Champy. It is defined as "the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance such as cost, quality, service and speed". (Hammer and Champy, 1993). Additionally, BPR has an emphasis on a single, dramatic performance of improvement through radical process redesign. (Nissen, 2005)

The basic principle behind BPR is to take a current business process, specify the desired result and construct a new process without considering past conventional knowledge and perceived assumptions from within the organization. (Fosdick, 2000) The result is "breakthrough improvements in performance measures" and possibly the revamping of the organizational structure of the company. (Malhotra, 1998)

### **2. Business Process Re-engineering Principles for e-Business**

The major driving assumption in business process re-engineering is to maximize the value-adding content of a process and minimize everything else. There are three types of e-Business Redesign Principles and Tactics according to El Sawy in *Redesigning Enterprise Processes for e-Business*. The three types are principles and tactics for restructuring and reconfiguring around processes, changing information flows around processes and changing knowledge management around processes.

Principles and tactics for restructuring and reconfiguring around processes consist of four sub-principles. The first sub-principle is "Lose Wait" which refers to squeezing out waiting time in process links to create value. Some of the tactics involved in the "Lose Wait" principle are:

- a. Redesign time-sequential activities to be executed concurrently.
- b. Design for continuous flow rather than stop-start batches.

- c. Modify upstream practice to relieve downstream bottlenecks.

The next sub-principle is Orchestrate or let the swiftest and most able enterprise execute.

Common tactics include (El Sawy, 2001):

- a. Partner a process with another enterprise.
- b. Outsource a process to another enterprise.
- c. In source a process back into the enterprise.
- d. Route the process through an infomediary.

The third sub-principle is mass-customize or flex the process for any time, and any place, any way. The common tactics are (El Sawy, 2001):

- a. Flex access by expanding the time window for the process.
- b. Flex access by transferring the physical space in which the process happens.
- c. Create modular process platforms
- d. Push customization to occur closest to the customer.

The last restructuring and reconfiguring sub-principle is synchronize meaning synchronize the physical and virtual parts of the process. Synchronize common tactics are (El Sawy, 2001):

- a. Match the offerings on the physical and virtual parts of the channel.
- b. Create common process platforms for physical and electronic processes.
- c. Track the movement of physical products electronically.

The principles and tactics for changing information flows around the process consist of three sub-principles. Those sub-principles are digitize and propagate, vitrify, and sensitize. Digitize and propagate is a way to capture information digitally at the source and propagate it throughout the process. Vitrify provides glass-like visibility through fresher and richer information about process status. Sensitize fits the process with vigilant sensors and feedback loops that can prompt action. (El Sawy, p65-70)

The principles and tactics for changing knowledge management around the process are relative to three sub-principles. The first sub-principles is analyze and synthesize which augments the interactive analysis and synthesis capabilities around a process to generate value added. This principle has several common tactics that answer “what-if” capabilities to analyze decision options. It provides a “slice and dice” data analysis capability that detects patterns and it also provides intelligent integration capabilities across multiple information sources. (El Sawy, p70-71)

The second sub-principle is to connect, collect and create or grow intelligently reusable knowledge around the process through all who touch it. Common tactics involve creating a community of practice around the process; create expertise maps and “yellow pages” related to the process; and to embed knowledge-sharing spaces for interactive dialogs around the process. (El Sawy, p72-75)

The last sub-principle for changing knowledge management is to personalize or make the process intimate with the preferences and habits of participants. This principle requires learning preferences of the customers and doers of the process through profiling; business rules must be inserted in processes that are triggered based on a dynamic personal profile or personal process execution habits must be kept track of. (El Sawy, p76-77)

The ten principles identified can be used for redesigning enterprise processes in e-business situations. These principles can also be applied in the government enterprise. They provide a clear framework for understanding the strategic forces driving the e-business speed loop for the enterprise as demonstrated in Figure 2. (El Sawy, 2001)

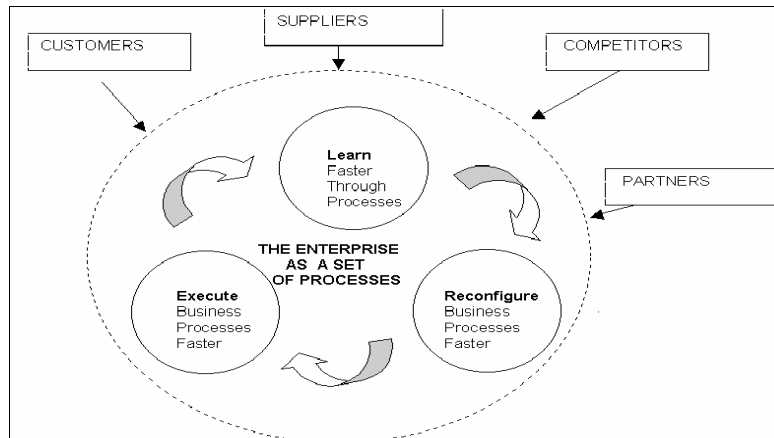


Figure 2. Strategic forces driving the e-business speed loop for the enterprise (From El Sawy, 2001)

The customers, suppliers, competitors, and partners are the driving forces in the e-business environment where transformation of the enterprise is into a full-fledged participant. (El Sawy, p55)

The principles focal point is on process architecture and how it is enabled by e-business technologies as well as how they acknowledge the interaction with other factors. These principles are simply guidelines and can assist in complete understanding of the processes involved in e-business. Once the principles for e-business are understood, one must understand the best BPR practices that should be considered in order to obtain a successful BPR process.

### 3. BPR Best Practices

There are many reasons for embarking on a BPR project. Some of the popular reasons include: increase market share, reduce product development over time, increase sales, improve quality, reduce costs and highly important is to improve customer service. In order to successfully accomplish the above reasons, there are nine “best practices” that should be incorporated and considered at the start of any redesign process.



The best practices are as follows:

a. **Best Practice #1:** Recognize and articulate an “extremely compelling” need to change. A thorough understanding is required of the present “AS-IS” state and the “TO-BE” state and the transformation process that occurs between the two. See Figure 3 below. (Cook, 2005)

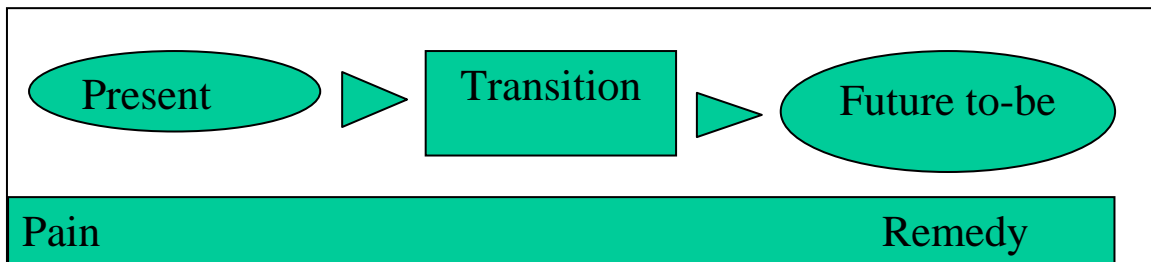


Figure 3. Transitional Change Management (From Cook, 2005)

b. **Best Practice #2:** Start with and maintain executive level support. BPR requires day to day support from top level executive managers. If top management loses focus on the BPR effort, they will likely lose support and commitment as well. The lack of executive support will show that you have chosen the wrong BPR approach.

c. **Best Practice #3:** Understand the organization’s readiness to change. Readiness to change depends on strength of the culture or past success or failure with BPR. Future shock of the expected change should be minimized. Identify where change may not be successful. BPR can test the limits, but carefully and the resistance must be clearly estimated in advance.

d. **Best Practice #4:** Effectively communicate your intentions early to create buy-in. The importance of communication can not be stressed enough at every level within the organization for the necessary changes to reengineer the process. Two way communications is a must between suppliers, customers and any others that have a stake in the re-engineering activities.

e. **Best Practice #5:** Create “Top Notch” Teams. The “right team” will be able to come to the right solutions at the right time and will be able to create buy-in

throughout the organization for a solution. The teams should consist of members from each of the following groups:

- 1) Executive Steering Committee
- 2) Re-engineering Work Teams
- 3) Line Management
- 4) Facilitators/Consultants

f. **Best Practice #6:** Use a well-prepared framework. Companies will choose either an in-house or outside framework. An advantage of in house frame work is that it comes from the same culture base and presents ideas in a way employees are already familiar with. The advantage of using outside framework is that it is based on breadth of experience with many different companies. Elements of a good BPR framework include incorporation of change management; provisions for organizational change; allocation for radical change; clearly defined goals; plans for customer and supplier input; integration of information technology (IT) and flexible enough to be tailored to the company's needs.

g. **Best Practice #7:** Use consultants effectively. Consultants can be really beneficial by offering leadership, experience, knowledge and visions for the future. Consultants can range from coaches, facilitators, visionaries, experts, project managers or trainers. Coaches offer leadership, encouragement and an assessment, whereas facilitators use proven tools and techniques to ensure the change process runs smoothly. Visionaries clearly focus on the future. Experts, with their knowledge and skills, conduct BPR. Project managers coordinate corporate-wide activities and trainers instruct an organization's staff in the day to day skills needed for BPR.

h. **Best Practice #8:** Listen to the customer. Core business processes are always connected with the customers as opposed to the supporting processes. It is important to listen to the customer's requirements before deciding which process to reengineer. Customer inputs can be taken in any number of ways as shown in Figure 4.

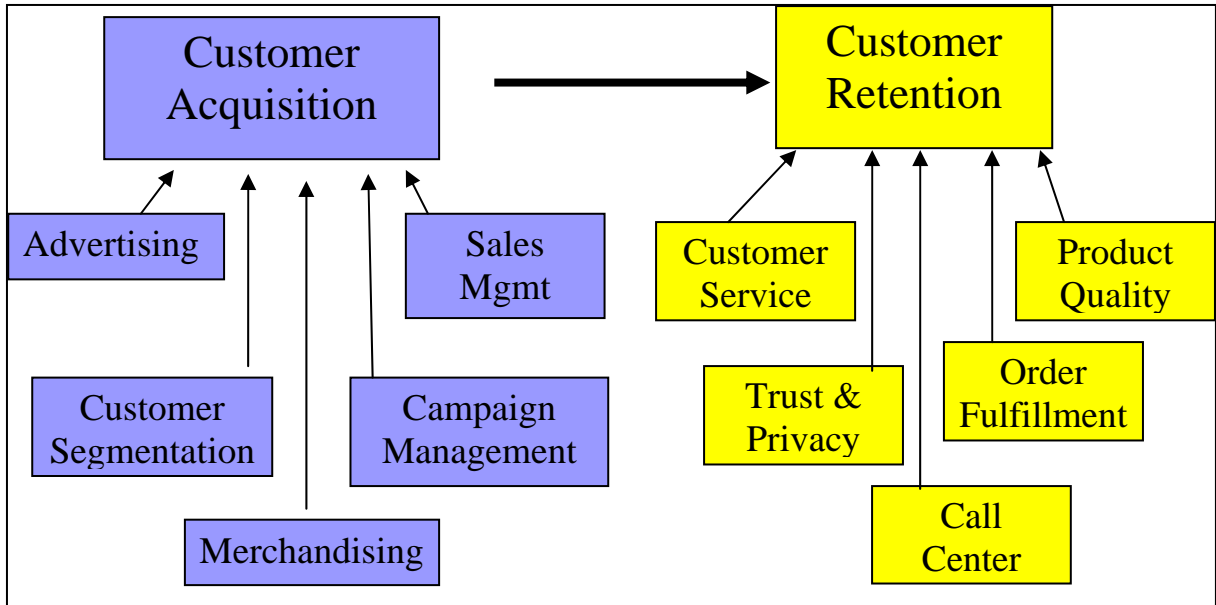


Figure 4. Customer Inputs. What is the BPR trying to do? (From Cook, 2005)

Additional BPR Best Practices could incorporate linking goals to the corporate strategy. Corporate strategy should be the initial focal point of process re-engineering. Also, ensure that focus is maintained and not too many processes are reengineered at one time. Have a clear understanding of the “AS-IS” and the “TO-BE” environments. Lastly, understand the risks and have a contingency plan as well as have plans for continuous improvement.

#### 4. Knowledge Value Added (KVA)

Now that the best practices have been identified for a more efficient approach to process re-engineering, it is important to calculate how that redesigned process adds value to the customer of the process. It is expected that the redesigned process will create knowledge and allow the participants to learn more from the business process as they interact with it. “Knowledge Value Added is a framework for measuring the value of corporate knowledge assets”. (IEC, 2005) This framework enables executives to measure the value of knowledge rooted in company processes, technology, and employees. The KVA methodology was created by Dr. Tom Housel, a professor at the Naval Postgraduate School, Monterey, CA and Dr. Valery Kanesky, an employee at Hewlett-Packard, Palo Alto, CA.

KVA is an information age methodology that provides a way to measure the value of knowledge assets deployed in core processes objectively. Additionally, it assesses the value of intellectual capital and information technology while also providing a way to allocate value-revenue inside organizational boundaries based on knowledge. KVA provides performance ratios for all core processes; return on knowledge (ROK). (Cook, 2005)

*a. Return on Knowledge (ROK)*

The commercial industry has reaped benefits from using Return On Investment (ROI), however, such an analysis is difficult for not-for-profits organizations such as the Department of Defense (DoD), in which a traditional “revenue stream” is not generated. Rather than using cost in place of a revenue stream, KVA can assist DoD to measure and allocate a proxy for revenue that will enable it to determine the value of its knowledge-base assets (people, processes, and technology) that cannot be reflected in traditional ROI methodologies. KVA data populates a new ratio, Return on Knowledge (or ROK), which describes “returns” in terms of the number of units of knowledge that are generated by each unit of knowledge cost. Using Learning Time as a surrogate for the return in ROI, the ROK ratios can now be defined as:

$$R O K = \frac{K}{C}$$

where:

K = Knowledge generated by a single core process

C = Cost assigned to Time to Complete a single core process, or surrogate for cost assigned

“ROK is a ratio with the percentage of revenue allocated to a process (including its supporting IT) based on the amount of knowledge required to produce the process’ outputs in the numerator and the cost to use the knowledge in the denominator. ROK in this sense can be used at any level of aggregation to estimate the return on IT”. (Housel, 2005)

**b. The Seven Step KVA Methodology**

The complete KVA methodology requires completion of the seven steps below in Table 1.

Steps	Learning Time	Process Description	Binary Query Method
One	Identify core process and its subprocesses.		
Two	Establish common units and level of complexity to measure learning time.	Describe the products in terms of the instructions required to reproduce them and select unit of process description.	Create a set of binary yes or no questions such that all possible outputs are represented as a sequence of yes or no answers.
Three	Calculate learning time to execute each subprocess.	Calculate number of process description words, pages in manual, and lines of computer code pertaining to each subprocess.	Calculate length of sequence of yes or no answers for each subprocess.
Four	Designate sampling time period long enough to capture a representative sample of the core processes final product or service output.		
Five	Multiply the learning time for each subprocess by the number of times the subprocess executes during the sample period.	Multiply the number of process words used to describe each sub process by the number of times the subprocess executes during sample period.	Multiply the length of the yes or no string for each sub process by the number of times the subprocess executes during sample period.
Six	Calculate cost to execute knowledge (learning time and process instructions) to determine process costs.		
Seven	Calculate ROK and ROP and interpret the results.		

Table 1. Knowledge and Process, Binary Query Audit Seven Steps (From IEC, 2005)

When companies use the above methodology, it allows them to analyze their processes and subprocesses in great detail. For some organizations, it is the first time that they are examining their processes in detail. The results are significant and can facilitate strategic operations within an organization toward value creation and cost efficiencies. (IEC, 2005)

KVA methodology reveals the contribution of knowledge to the creation of value which is crucial for managing knowledge assets. A KVA analysis quantifies the role of knowledge to the activities of a company which allows them to effectively manage and leverage knowledge throughout the organization. Overall, KVA provides a company with a variety of benefits enabling them to have “operational clarity and strategic vision for knowledge management initiatives”. (IEC, 2005)

### **III. THE CEU PROCESS MODEL**

#### **A. CURRENT PROCESS MODEL**

The current process, as explained in Chapter II, can be broken down into six step-by-step procedures for better clarification. The current process steps are as follows:

Step 1. IP Officer completes an authorized CEU credit.

Step 2. The IP Officer requests approval in one of two ways:

a. The member goes to the NKO CEU page and provide the information via the IP CEU Feedback Tool or,

b. They directly email their request to Joseph Sullivan at [joseph.c.sullivan@navy.mil].

Step 3. The CEUs are then manually tracked by Mr. Sullivan using a series of Microsoft Excel spreadsheets where the CEUs are entered using formulas to keep a running tally of the CEUs. The other spreadsheets show the CEU breakdown for training, professional activities, and certifications.

Step 4. Feedback is then provided to the member via email or the NKO IP CEU Feedback Tool.

Step 5. The member ensures the CEU credits are placed in block 41 of the NAVPERS 1610/2 Fitness Report & Counseling Record (E7-06) which serves as the member's service record entry.

Step 6. The final report to NETWARCOM is non-existent. No final or formal reports have been made to NETWARCOM since the development of the CEU Program.

The above steps are displayed in the process flow diagram in Figure 5.

## 1. Process Flow Diagram

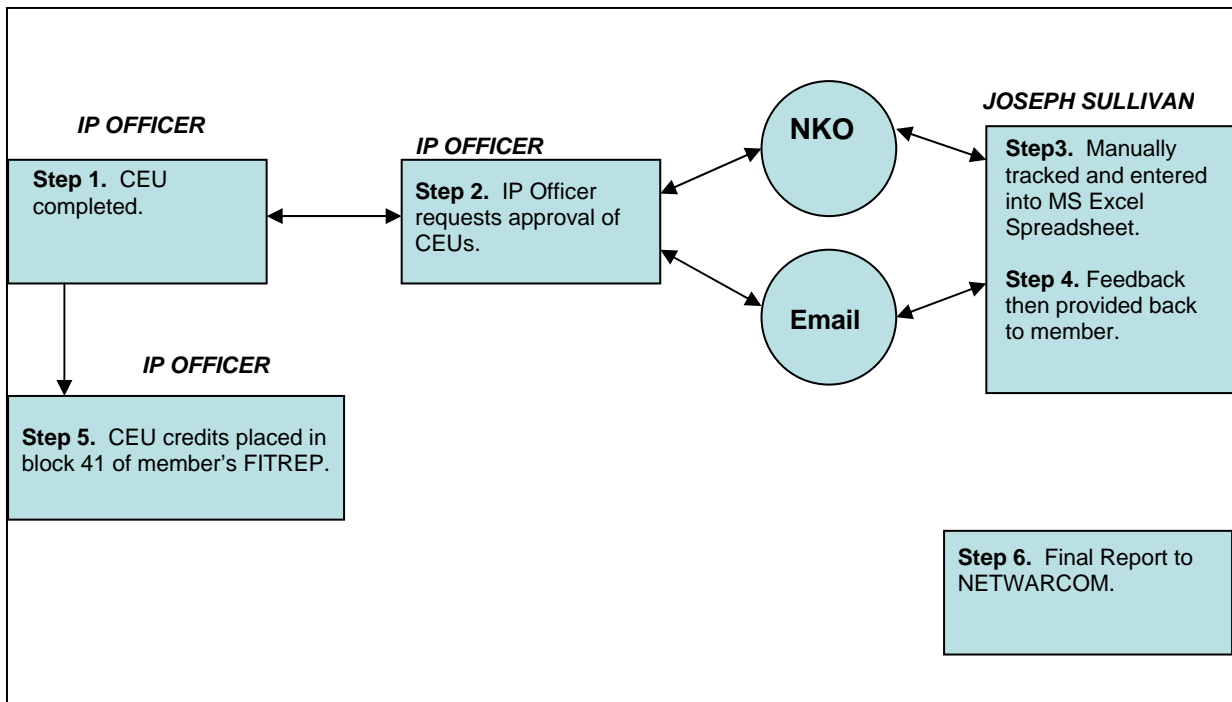


Figure 5. AS-IS CEU Process Flow

## 2. Knowledge Value Added AS-IS Model

The KVA “AS-IS” model for the CEU process was determined from various email, phone interviews and site visits with NETWARCOM representative Joe Sullivan to determine the amount of knowledge embedded in each accounting process. Additional face to face interviews were conducted on IP Officers to determine the amount of knowledge in the submission process for CEUs. From those interviews, various assumptions had to be made. The next section will go in further detail about all the assumptions as well as a description of the components found in the KVA analysis table displayed in Figure 6.

### a. Assumptions/Descriptions

- Sub-process: Each step-by-step procedure that must be followed in order to complete the CEU process.
- All IP Officers use the same overall process and sub-process to request CEU credits.

- Command Units Involved: These are the commands that contain one or more IP Officers that use the CEU process to make requests, organizations that produce, deliver or market CEU credits, and the commands that manage the overall program. For the IP Officers on the KVA spreadsheet (See Figure 5, column heading C), the number of 250 was estimated by taking approximately 500 IP Officers in the Navy and assuming there are at least two stationed per command. That would equate to 250 command units that have one or more IP Officers that are making CEU requests.

- Average # of People Involved: This is the average number of people involved in each sub-process of the CEU program. The number used for IP Officers was an assumption of 83 officers which was one-third of the 250 command units involved. The 83 officers will be used for all sub-processes that an IP Officers is involved in.

- Times Fired (week and hour): Times Fired is an average number of times each sub-process was completed in the sample period of a week. This average was converted to number of times fired in an hour for measurability purposes. The number used for IP Officers was an assumption of 21 times per week based on say 25% of the average # of people involved for the first two accounting sub-processes. For sub-process three under accounting for IP Officers, an assumption was made based on the number of Fitness Reports (FITREP) written annually for each paygrade. For instance, annually, a FITREP is written for a LTJG, LT, LCDR, CDR, and a CAPT (these are the majority paygrades that make up the IP Community). So this means that one fifth (16.6 or 17) of the 83 average number of people involved are placing information in their FITREPS about CEUs earned.

- Time to Complete: Time to Complete is the average time it took to complete one instance of the sub-process.

- Actual Learning Time (ALT): This is an estimation of the time required for an average person to learn each sub-process. It answers the question how long it takes to provide Hands-On-Training, in classroom teaching or word of mouth training to obtain an understanding and operate the Navy Knowledge On-line (NKO)



website or to send an email. ALT is a representation of the value that is created in each of the sub-processes and is calculated in the numerator of the Return on Knowledge (ROK) formula referred to in Chapter II.

- Nominal Learning Time (NLT): This is another estimation of the time required for an average person to perform each process. It measures the time it takes to learn each sub-process when given a total of 100 hours to complete the learning of all sub-processes. For example, when an IP Officer completes the sub-process, “Log into the NKO website” requires .10 hours of learning time out of the total 100 hours.

- Return on Knowledge (ROK): As described in Chapter II, a performance ratio for the sub-processes was developed to obtain meaningful insights from the KVA Analysis. The ROK formula again is:

$$ROK = \frac{K}{C}$$

***b. Calculations***

There are three areas that make up the calculations for the KVA analysis. Those areas are Total Benefit, Total Cost and each of the four Core Processes. Each are discussed in detail below.

- Total Benefit: The Total Benefit for each sub-process is calculated by multiplying the ALT (hours) times the Times Fired (hour) times the Average # of People Involved completing the sub-process. These calculations determined the number of knowledge units generated by a single command unit for the sub-process in the sample period. To obtain the total units of knowledge generated by all commands for the sub-processes, the above calculations were multiplied by the # of Command Units Involved. (Column representation of  $J = C \times D \times F \times H$ )

- Total Cost: To estimate the unit cost for each sub-process, the number of hours that it took to complete a sub-process (Time to Complete) was determined to be equivalent to the actual dollar unit cost since dollar unit cost is the wages/hour paid to complete the sub-process. The wages/hr were multiplied by Times Fired (hour) times the

Average # of People Involved and then times the # of Command Units involved. This produces the Total Cost of the knowledge generated by each command for each sub-process (Column representation of  $K = C \times D \times F \times G$ ).

- Core Processes: The data collection to perform the initial analysis was based on four core CEU processes. Each of the four core processes has several steps or sub-processes that were identified earlier in this chapter. The four core processes are Accounting, Production, Delivery and Marketing.

Within the Accounting process, this includes the IP Officer acquiring, reporting and maintaining earned CEUs. This also includes NETWAROM representative, Joe Sullivan, reviewing, approving/disapproving and transferring to MS Excel spreadsheet CEU requests. Production processes are the processes conducted by the people who create the courses and materials for the CEUs on the approved list. These are organizations like, but not limited to, SPAWAR, NPS, CISCO, CNET, civilian colleges and universities, and Computer Based Training (CBT).

Production processes will predominantly be utilized for Formal Learning (FL) type CEUs which includes courses offered by the above organizations that focus on civilian and military core competency related topics.

Delivery processes are the places where the IP Officers go to obtain the approved Professional Activities or Professional Organization CEUs offered by the various organizations to include some of those previously identified under Production organizations. Some of these places include Armed Forces Communication and Electronics Association (AFCEA), Military Command (MILCOM), or other civilian or military conferences and seminars. These processes fall into the Professional Organizations and Professional Activities type of CEUs. Professional Organization CEUs is presenting a topic at a conference and being an active board member of a professional core competency related organization. Professional Activity CEUs include writing a professional military journal or recognized core competency related journal in industry. Points are also accumulated for attending approved conferences and seminars or teaching in one of the IP core competency areas.

Marketing processes is where the advertisement and promotion of the CEUs is done. Detailers are the main source of information for the IP Officer transferring to a new duty station. This is where information about available training and education, and other job-required course, is shared. Many of the training and courses advertised by the detailer enables the IP Officer to gain CEU credits. Other promoting and advertising of available CEUs is done by NETWARCOM, the Naval Postgraduate School as well as industry organizations like CISCO, Microsoft, etc. An explanation of the cost involved in each core process is explained in sections c through f below:

***c. Core Process 1 - Accounting***

The average IP officer completing a CEU is a Lieutenant earning an average salary (only base salary for a LT with 4 or more years) and Bachelor Allowance for Subsistence (BAS) for 2005 were used to compute these figures) per month of \$4,352.19 (\$4,168.20 base salary and \$183.99 BAS). This equates to \$18.13 wages per hour.

Joe Sullivan is a government contractor and is equivalent to a GS-13 between steps 3 and 4. His hourly rate according to the 2005 rates is (does not include location rates, or overtime, simply base pay) \$33.98.

***d. Core Process 2 - Production***

For production of an approved FL CEU, the average cost involved was estimated using three sources. One was by using the average cost incurred in launching the Information Professional Senior Officer Course (IPSOC) here at the Naval Postgraduate School. The reason the IPSOC was used because the officers that attend this course earn CEUs, and it is the most common type of CEU earned by the average IP Officer. The IPSOC course is a 14-day course; however, the analysis information was based on meeting five days per week. The next two sources were also based on meeting five times per week. The second source was the way the cost is allocated in the NPS Office of Continuous Learning for launching either an in-residence, online, or Distant Learning course. The last source was a Navy training course taught by Space and Naval Warfare Systems Command (SPAWAR). Some of the cost incurred by all offices included labor, non-labor, contracts/transfers, direct costs, indirect costs, faculty and

materials. Based on the research conducted and the information provided, to produce one day worth of education/training the average cost was \$1,111. This equates to \$138.88 per hour.

*e. Core Process 3 - Delivery*

For the delivery of a Professional Activity/Professional Organization CEU, the cost involved included those incurred by both attendees and host organizations. Three events (conference, meeting and symposium) were analyzed: MILCOM 2005, IP Community Meeting Training Symposium and AFCEA WEST 2005. For the host organization, the cost evaluated included:

- Room Rental (hotel, conference center, etc)
- Catering (all meals offered to include breakfast, lunch, snacks and beverages)
- Materials and Conference Souvenirs (handouts, brochures, flyers, gifts to attendees, gifts for speakers)
- Speaker/Lecturer compensation (cost for airfare, hotel, transportation and salary for the event)
- Setup and Equipment (audio, visual, and all other necessary equipment)

For a conference attendee, the cost consisted of:

- Registration fees (fees varied for member, non-member, student, government, non-government, etc).
- Workshop/Plenary Session fees
- Meals (only some were included with registration fee)
- Airfare, hotel and transportation

So to determine the total cost involved, an average was determined for both the host organization and the attendees. All three hosted events were averaged to determine a daily cost of \$7,610 which is equivalent to an hourly cost of \$951.00 (based

on 8 hours in a day). The cost were averaged based on room rental rates from \$300 - \$1000 (\$650), catering from \$25 - \$75 (\$50) per person, materials from \$0.06 to \$0.40 (\$0.23 x 20 copies for 100 books = \$460) per copy of items, speaker\lecturer fees from \$200 - \$2000 (\$1,100), and equipment set-up from \$300 - \$500 (\$400). The cost varied and depended on the location, number of people in attendance, speaker acquired and the choice of the meals. For this determination, an average was computed based on 100 personnel attending a conference. The total cost for an attendee was averaged based on an attendee requiring airfare, hotel, and transportation for a conference that lasted an average of three days. The sample data was acquired from IP Officers stationed at the Naval Postgraduate School that attended all three of the events mentioned earlier in the Delivery paragraph. The same 250 number of command units involved was used because if half of the commands sent at least one IP Officer, then that would be a minimum of 250 commands involved in this process. The average cost for all three IP Officers was \$1,534. The total daily cost for an attendee was \$511.34 which equals an hourly cost of \$63.92 (based on 8 hours in a day).

*f. Core Process 4 - Marketing*

For the marketing of an approved CEU, the detailing community at the Naval Personnel Command (NPC) usually promotes and advertises the availability of training or education opportunities to officers as they are up for Permanent Change of Station (PCS) orders. So when an IP Officer is up for new orders, they contact the detailer and request a specific duty station. If the detailer decides that officer is suited for that specific job requested, the officer will get billeted for the job. Many times, enroute to a specific job, the IP Officer will need to attend job-specific training prior to arriving at the new duty station. This is where the detailer begins to promote the training or education availabilities where in the long run earns that IP Officer a CEU upon completion. Sometimes the detailer is the first to share the availability of these courses or training to the IP Officer. Detailers also are able to advertise about available training when they take road trips to different cities to speak to those in their community. Additional advertising occurs on various Navy websites. One site in particular is the Navy Knowledge Online (NKO). Each enlisted and officer community has their own

pages within the website that provides enormous amounts of information to their people about what is going on in their community, available training and education, changes and news in general.

To evaluate the cost involved in marketing and promoting courses, only the cost involved with the detailers were evaluated. The advertising cost on the NKO website was minimal and would not have proven beneficial in the total cost analysis. The average detailer is the rank of a LCDR. For the purposes of this analysis, four detailers (not Community Managers) were allotted to each community for a total of 76 detailers. Each detailer works an average of 12 hours a day. Only base salary for a LCDR with 4 or more years) and Bachelor Allowance for Subsistence (BAS) for 2005 were used to compute these figures. The salary per month consisted of \$5,633.59 (\$4,449.60 base salary and \$183.99 BAS). This equates to \$23.47 wages per hour.

Once the core processes were determined, the sub-processes for each were also identified and all calculations were computed. Figure 6 provides a sample illustration of the results determined from the formulas used in the KVA Analysis of the “AS-IS” CEU process. The full analysis can be viewed in Appendix H.

CEU "AS-IS" PROCESS											
CDG	Subprocess	# Command Units Involved	Average # People Involved (per unit)	Times Fired (occurrence per week)	Times Fired (per hour)	Time to Complete (hours)	ALT (hours)	NLT (hours)	Total Benefits (#Units Involved*#People Involved*Time Fired*ALT)	Total Cost (Manhours Expended) (# of Units*#People Involved*Time to complete)	ROK
	<b>ACCOUNTING</b>										
IP OFF	IP OFFICER COMPLETES CEU	250	83	21	0.525	1	0.1	1	1089.375	10893.75	0.40%
IP OFF	IP OFFICER REPORTS COMPLETED CEU (EMAIL OR NKO)	250	83	21	0.525	0.5	1	1.5	10893.75	5446.875	8.00%
IP OFF	IP OFFICER PLACES APPROVED/COMPLETED CEU IN FITREP	250	83	17	0.425	0.01	0.5	1	4409.375	88.1875	200.00%
CEU MGR	CEU MGR RECEIVES CEU APPROVAL REQUESTS (EMAIL OR NKO)	1	1	2	0.05	0.5	1	1.5	0.05	0.025	8.00%
CEU MGR	APPROVED CEUs ARE ADDED TO MS EXCEL SPREADSHEET FOR EACH REQUEST	1	1	2	0.05	1	1	1.5	0.05	0.05	4.00%
CEU MGR	CEU MGR PROVIDES FEEDBACK TO IP OFFICER MAKING REQUEST.	1	1	2	0.05	0.5	0.1	0.5	0.005	0.025	0.80%
	<b>PRODUCTION</b>										
IPCDE	IP SENIOR OFFICER COURSE (IPSOC)	1	15	5	0.125	1	8	16	15	1.875	32.00%
NPS	MASTER'S LEVEL COURSE, DISTANT LEARNING, ONLINE	1	23	5	0.125	0.5	8	14	23	1.4375	64.00%
SPAWAR	NAYY TRAINING COURSE	1	11	5	0.125	0.5	8	14	11	0.6875	64.00%

Figure 6. KVA "AS-IS" CEU Analysis

### 3. Analysis of Results

In order to provide a detailed analysis of the results from the KVA "AS-IS" process, performance ranges for the ROK ratios had to be established. Sub-processes had an ROK that fell below 10% were the first processes reviewed for reengineering. Sub-processes that had an ROK between 10% and 20% were the next set of processes reviewed for reengineering. Lastly, the processes that had an ROK greater than 20% were analyzed to see if it was possible to simply improve upon the efficiency of that process. Some of the initial ROK calculations yielded overly inflated percentage rates. In order to obtain useful information, all sub-processes were divided by 25. Using the divisor was a way to get the percentage rates to fall between 1% and 100% allowing the proportional relationships between the numbers to remain intact. Processes that fell below 1% and any ratios greater than 100% were easily assessed because they were clearly noticeable from the predetermined percentage range.

Most of the ROKs fell below 10% which indicated the process had an extensive amount of manual labor and wait time involved and included the use of more than one IT system to complete the process.

## **B. POSSIBLE WAYS TO IMPROVE THE PROCESS**

KVA enables a business to evaluate whether or not there is value in their business processes and whether they are getting a return on knowledge or a return on their investments. Once it is determined that a certain business process is not adding value to the overall company's mission, that company has a decision to make. Some of the questions that Chief Executive Officer or business owner would want to have answered is how can we ensure we are getting the best KVA for this process? What other solutions are out there? Is it cost effective to build the solution in-house or should we purchase a product already designed as a solution to our ineffective process? There are many Commercial-Off-The-Shelf (COTS) products available on the market for nearly every problem a company is experiencing. If a process is currently being managed manually, there is a COTS product available to automate that process. Additionally, if that CEO decides he wants to have a software product solution developed in-house but faster than the standard time it takes for software development, a Rapid Application Development approach would be ideal. RAD is a software development process that shortens the development cycle down to about 60-90 days instead of the typical software development of 1-5 years or not developed at all. There are some compromises and advantages with the COTS and with the RAD approach, but a usable system can be developed or purchased to accommodate the ineffective business processes. The next sections will cover COTS and RADS solutions more in depth.

### **1. Commercial-Off-The-Shelf (COTS) Solutions**

For the typical organization, the use of COTS products can be found throughout departments like office and management support, logistics, manufacturing, finance, and even law and medicine. The time-to-market pressures of software development has increased the use of COTS products tenfold compared to the days when government and



industry organizations had the convenience of developing their own company-specific database, network or user-interface management infrastructure products. (Boehm and Abts, 1999).

COTS products are commercially available through vendors and can be integrated with little to no customization and can be very beneficial to that company. With COTS, you have no control over the product's functionality or performance. If the source code is modified, then it is really not COTS software and it becomes the company's responsibility to repair. Yet, many companies have also found that some of the advantages of COTS products do not come free of hassles and disadvantages as well.

**a. *Advantages***

According to Boehm and Abts, the advantages of COTS software include:

- Immediately available; earlier payback
- Avoids expensive development
- Avoids expensive maintenance
- Predictable, confirmable license fees and performance
- Rich functionality
- Broadly used, mature technologies
- Frequent upgrades often anticipate organization's needs
- Dedicated support organization
- Hardware/software independence
- Tracks technology trends

**b. *Disadvantages***

Abts and Boehm also identified some disadvantages of COTS software.

Those disadvantages were as follows:

- Licensing, intellectual property procurement delays
- Up-front license fees

- Recurring maintenance fees
- Reliability often unknown or inadequate; scale difficult to change
- Too-rich functionality compromises usability, performance
- Constraints on functionality, efficiency
- No control over upgrades and maintenance
- Dependence on vendor
- Integration not always trivial; incompatibilities among vendors
- Synchronizing multiple-vendor upgrades

A key disadvantage in using COTS software within the military or other state, local, or federal government organizations is that most of the products are not designed to interoperate with each other. One must ensure that the organization's in-house software will work with the prospective COTS products. The Life Cycle Architecture milestone is a good anchor point that could be used as part of the development process. The Life Cycle Architecture is where management "verifies the basis for a sound commitment to product development (a particular system architecture with specific COTS and reuse commitments which is shown to be feasible with respect to budget, schedule, requirements, operations concept and business case; identification and commitment of all key life-cycle stakeholders; and elimination of all critical risk items)". (Boehm and Port, 1999) COTS interoperability and scalability demonstrations should be included as risks that should be documented and resolved. The AT&T/Lucent Architecture Review Board (ARB) is a good commercial practice that can be used at the Life Cycle Architecture milestone to ensure smooth COTS interconnections. AT&T has documented over a 10 percent savings from using ARBs over a 10 year period. (Boehm and Abts, 1999)

## 2. Rapid Application Development (RAD) Solutions

The Rapid Application Development methodology was developed as a solution to the customary long-term approach to software development. This solution was a way to deliver systems more rapidly, usually within 60 to 90 days. This approach is definitely not ideal for all projects. The scope, size and circumstances surrounding the project will determine the success of the RAD approach. Additional important factors to consider in deciding to use the RAD approach are displayed in Table 2 below. (Gantthead.com, 2005)

<p><b><u>PROJECT SCOPE</u></b></p> <p><i>Suitable for RAD</i> - Focused scope where the business objectives are well defined and narrow.</p> <p><i>Unsuitable for RAD</i> - Broad scope where the business objectives are obscure or broad.</p> <p><b><u>PROJECT DATA</u></b></p> <p><i>Suitable for RAD</i> - Data for the project already exists (completely or in part). The project largely comprises analysis or reporting of the data.</p> <p><i>Unsuitable for RAD</i> - Complex and voluminous data must be analyzed, designed and created within the scope of the project.</p> <p><b><u>PROJECT DECISIONS</u></b></p> <p><i>Suitable for RAD</i> - Decisions can be made by a small number of people who are available and preferably co-located.</p> <p><i>Unsuitable for RAD</i> - Many people must be involved in the decisions on the project, the decision makers are not available on a timely basis or they are geographically dispersed.</p> <p><b><u>PROJECT TEAM</u></b></p> <p><i>Suitable for RAD</i> - The project team is small (preferably six people or less).</p> <p><i>Unsuitable for RAD</i> - The project team is large or there are multiple teams whose work needs to be coordinated.</p> <p><b><u>PROJECT TECHNICAL ARCHITECTURE</u></b></p> <p><i>Suitable for RAD</i> - The technical architecture is defined and clear and the key technology components are in place and tested.</p> <p><i>Unsuitable for RAD</i> - The technical architecture is unclear and much of the technology will be used for the first time within the project.</p> <p><b><u>PROJECT TECHNICAL REQUIREMENTS</u></b></p> <p><i>Suitable for RAD</i> - Technical requirements (response times, throughput, database sizes, etc.) are reasonable and well within the capabilities of the technology being used. In fact targeted performance should be less than 70% of the published limits of the technologies.</p> <p><i>Unsuitable for RAD</i> - Technical requirements are tight for the equipment to be used.</p>
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Table 2. To RAD or not To RAD (From Gantthead.com, 2005)

Prototyping, iteration, and timeboxing are management techniques common with RAD approaches that are optimized for speed. Prototyping is aimed at creating a

demonstrable result and refining that result early on. Feedback from the business and the users helps in the refinement process. Iteration and prototyping are synonymous. Iteration is incremental development predominantly based on refinement. Timeboxing allows the scope to change but delivery can not. The attention is focused on delivery above all else. (Gantthead.com, 2005)

The ultimate goal of RAD is to overcome scope and requirements creep by preventing the project's exposure to change by curbing the development cycle and restricting the cost of change by integrating the changes up-front before any large investments are made in development and testing. With any approach, there are advantages and disadvantages. The next section will cover those advantages/disadvantages in depth. (Maner, 1997)

*a. Advantages*

Maner clearly identifies the advantages of the RAD approach. Those advantages include:

- Buying may save money compared to building
- Deliverables sometimes easier to port  
(because they make greater use of high-level abstractions, scripts, intermediate code)
- Development conducted at a higher level of abstraction  
(because RAD tools operate at that level)
- Early visibility  
(because of prototyping)
- Greater flexibility  
(because developers can redesign almost at will)
- Greatly reduced manual coding  
(because of wizards, code generators, code reuse)
- Increased user involvement  
(because they are represented on the team at all times)
- Possibly fewer defects  
(because CASE tools may generate much of the code)

- Possibly reduced cost  
(because time is money, also because of reuse)
- Shorter development cycles  
(because development tilts toward schedule and away from economy and quality)
- Standardized look and feel  
(because APIs and other reusable components give a consistent appearance)

***b. Disadvantages***

In addition to Maner's identification of the advantages of RAD, he also openly identified the disadvantages.

- Buying may not save money compared to building
- Cost of integrated toolset and hardware to run it
- Harder to gauge progress  
(because there are no classic milestones)
- Less efficient  
(because code isn't hand crafted)
- Loss of scientific precision  
(because no formal methods are used)
- May accidentally empower a return to the uncontrolled practices of the early days of software development
- More defects  
(because of the "code-like-hell" syndrome)
- Prototype may not scale up, a B-I-G problem
- Reduced features  
(because of timeboxing, software reuse)
- Reliance on third-party components may ...
  - sacrifice needed functionality
  - add unneeded functionality

- create legal problems
- Requirements may not converge  
(because the interests of customers and developers may diverge from one iteration to the next)
- Standardized look and feel (undistinguished, lackluster appearance)
- Successful efforts difficult to repeat  
(no two projects evolve the same way)
- Unwanted features  
(through reuse of existing components)

### **C. BENEFITS FROM IMPROVING THE PROCESS**

Many corporations today are faced with streamlining their business processes to improve relations, service and interactions with customers and suppliers and reduce costs. Streamlining these business processes can be extremely challenging to the organization. Effective businesses processes depend on repetitive processes like order processing, accounts payable processing and invoicing, supply chain management as well as customer support. Many of the processes are repetitious and often require high distribution of individual documents. In some of the more advanced companies, these processes have been automated. However, in many other organizations, as with the Continuing Education Unit process, the processes are not automated.

Processes that are not automated are error-prone, waste an insurmountable amount of man-hours, could cause a loss in customer base and are not as efficient as an automated process. By automating the CEU tracking process, not only will the benefits be visible with management, but it will also be visible with the IP Officers required to report their CEUs. Some of the benefits of improving the process consist of:

- Significantly speeding up the communication process between the IP Officer and the CEU Program Manager.
- Bring efficiency to the overall work process by reducing errors due to loss or inaccurate information.

- Improving the quality of service and accuracy of information flow.
- Elimination of manual processes to include transferring of information contained in emails or the IP CEU Feedback Tool to a MS Excel spreadsheet.
- Ability to provide instant feedback to the users as well as the managers of the system with the clicking of an “approved” or “disapproved” button instead of generating another message or report to signify status.
- Users would be able to maintain their individual CEU completion records.
- Integration with existing NKO website to launch newly developed system.

The major benefit from automating this process is that every IP Officer could effectively manage and track their CEUs from anywhere they have an Internet connection. Currently, there are no reports or feedback provided to NETWARCOM as the instruction indicates there should be. By automating, it will allow the IPCOE to quickly provide feedback to both the member and to NETWARCOM whenever requested. Additionally, the benefits of replacing the current manual system are reduced man-hours, increased accuracy, and consistency and standardization of the process.

## IV. PROCESS RE-ENGINEERING

### A. MODEL AND DESCRIPTION OF THE PROPOSED PROCESS

The proposed process was thoroughly analyzed from the results of the KVA “AS-IS” process determined in Chapter III. The results indicated that many of the sub-processes had ROK ratios of less than 10%. This indicated that those sub-process with low ROK ratios were processes that needed to be reengineered. Before the sub-processes could be reengineered, a new process flow diagram had to be identified in order to determine the most efficient way for the processes to occur.

#### 1. Process Flow Diagram

The process flow is now divided into two parts. The IP Officer or the IPCOE can both generate actions within the process. There is one system that can have many users. Only one organization has approval authority for CEU requests and adding additional CEUs to the List of Approved CEUs. The approval authority has returned to the IPCOE from Joe Sullivan at NETWARCOM. The entire process has been automated and the MS Excel spreadsheets used by Joe Sullivan have been incorporated into the database so no data has been lost. Figure 7 depicts the TO-BE process flow.

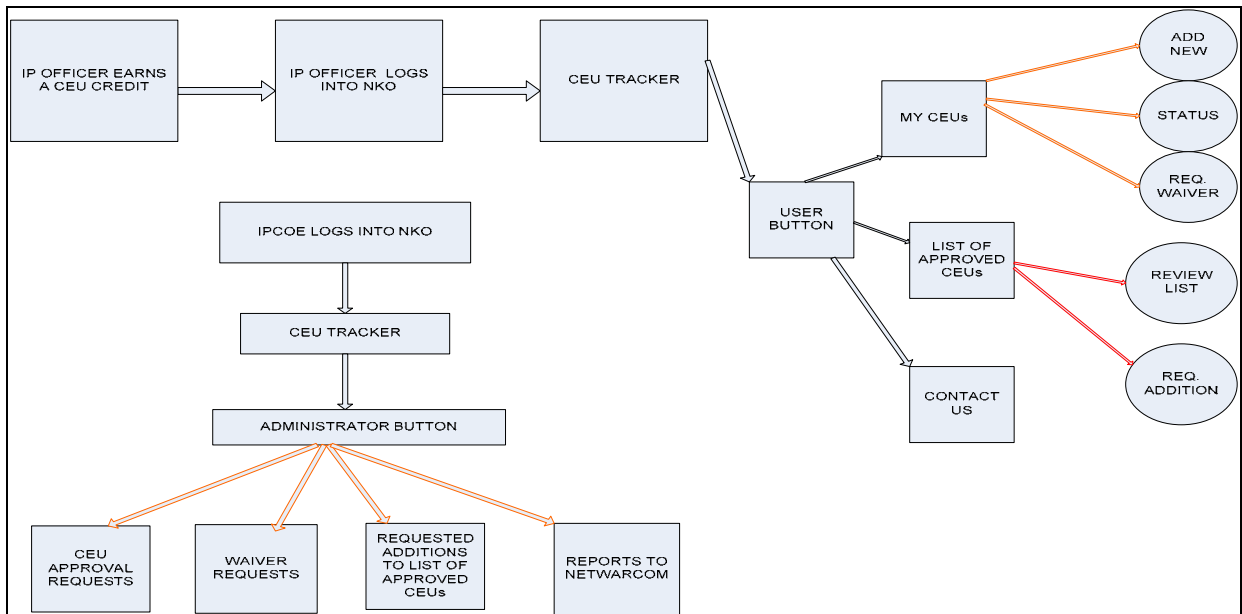


Figure 7. TO-BE CEU Process Flow



## 2. Knowledge Value Added (KVA) TO-BE Model

The KVA “TO-BE” model was determined after reviewing the research on the various ways to improve the process identified in Chapter III as well as utilizing the principles of KVA and BPR. The low ROK ratios indicated that since most of the sub-processes were completed manually that automating the process was the most likely solution to make the CEU tracking process more efficient. Not all processes could be automated, but those that returned the low ROKs were successfully automated. Additionally, a few processes were eliminated and others were created. Of the four core processes, only sub-processes within Accounting changed. Production, Delivery and Marketing core processes did not change because regardless of what mechanism is used to track the CEUs, these processes remained a major part of the CEU Program and there was no value found in recreating the entire program.

A new column was added to the “AS-IS” KVA model in order to compare the results from both the “AS-IS” and the “TO-BE” model metrics. This new column is simply the Return on Knowledge (ROK) results from the “AS-IS” model and is entitled *ROK Before (from AS-IS)*. The numbers included for the “TO-BE” Time to Complete and the Actual Learning Time are based on the testing and evaluation of the newly developed prototype web-based solution. Items typed in red font indicate a modification or addition to the AS-IS process. The TO-BE KVA shows an increase of 27.64% in the overall ROK and can be contributed to an increase in knowledge embedded in the IT system. More intelligent IT systems normally require less knowledge as displayed in the increase in the overall ROK. As part of the development of the new prototype, several processes were created and there was an elimination of some of the manual sub-processes (shaded gray). Figure 8 is the KVA “TO-BE” CEU Analysis. It can be viewed in its entirety in Appendix I.

CEU "TO-BE" PROCESS												
COG	Subprocess	# Command Units Involved	Average # People Involved (per unit)	Times Fired (occurrence per week)	Times Fired (per hour)	Time to Complete (hours)	ALT (hours)	NLT (hours)	Total Benefits (\$Units Involved*#People Involved*Time Fired*ALT)	Total Cost (Manhours Expended) (\$ of Units*#People Involved*Time Fired*Time to complete)	ROK BEFORE (from AS-IS)	ROK
	<b>ACCOUNTING</b>											
IP OFF	IP OFFICER COMPLETES CEU	250	83	21	0.525	1	0.1	1	1089.375	10893.75	0.40%	0.40%
IP OFF	IP OFFICER ACCESSES CEU TRACKING TOOL VIA NKO	250	83	21	0.525	0.2	1.5	0.25	16340.625	2178.75	0.00%	30.00%
IP OFF	IP OFFICER REPORTS COMPLETED CEU (EMAIL OR NKO)	250	83	0	0	0.5	1	0	0	0	8.00%	0.00%
IP OFF	IP OFFICER PLACES COMPLETED CEUS INSIDE CEU TRACKER AND REQUESTS APPROVAL. MANAGES OWN CEU RECORD.	250	83	21	0.525	1.5	2	1	21787.5	16340.625	0.00%	5.33%
IP OFF	IP OFFICER PLACES APPROVED/COMPLETED CEU IN FITREP	250	83	17	0.425	0.01	0.5	1	4409.375	88.1875	200.00%	200.00%
IPCOE	IPCOE CHECKS DAILY CEU TRACKER AND REVIEWS, APPROVES, DISAPPROVES REQUESTS ELECTRONICALLY FOR ALL INPUTS.	1	1	5	0.125	2	8	2	1	0.25	0.00%	16.00%
CEU MGR	CEU APPROVAL REQUESTS (EMAIL OR NKO)	1	1	0	0	0.5	1	0	0	0	8.00%	0.00%
CEU MGR	APPROVED CEUS ARE ADDED TO MS EXCEL SPREADSHEET FOR EACH REQUEST	1	1	0	0	1	1	0	0	0	4.00%	0.00%

Figure 8. KVA "TO-BE" CEU Analysis

## B. COMPARISON AGAINST THE CURRENT PROCESS

When looking at the changes from the AS-IS environment to the developments in the TO-BE environment, there were some major changes to enhance the effectiveness of the overall tracking process. Some of the changes included revising the way a CEU gets reported, who they get reported to and how feedback is provided. One of the main changes is ownership of the CEU Program was returned back to the Director of the Information Professional Center of Excellence (IPCOE) instead of remaining with NETWARCOM representative Joe Sullivan. Originally in the AS-IS environment, an IP Officer requested approval of a CEU by sending an email to Joe Sullivan or by using the IP CEU Feedback Tool found in Navy Knowledge Online (NKO). Now, the Officer simply logs into NKO using their pre-assigned password and accesses the CEU Tracker and manually enters the CEUs he/she is requesting approval for. This allows the member to directly use the web-enabled system to update the database with new information and it serves as a history for previously entered CEUs. Unlike previously, Joe Sullivan would retrieve the information from his email or from the NKO IP CEU Feedback Tool and manually transfer the information to the MS Excel spreadsheet. Instead of simply

replying to an email or the IP CEU Feedback Tool, now the IPCOE can instantly approve a request allowing a status to quickly be returned to the officer submitting the request. Another requirement of the CEU Program was to provide feedback to NETWARCOM. The former system had no standard means of making reports to NETWARCOM on the status of the entire IP Community's fiscal year CEU earnings. The new system allows the IPCOE to generate reports and queries from the database and submit them to NETWARCOM with ease.

### **C. ADVANTAGES OF THE TO-BE PROCESS**

As indicated above in the comparison of the current process to the TO-BE process, there were clear advantages identified with the newly re-engineered automated system. Automation provides new services that are either impossible or very difficult to offer by means of traditional manual methods. The main advantage to automating any process is the alleviation of countless manual labor and man-hours with maintaining the manual process. Other advantages include:

- Faster and more reliable processes,
- Improved decision making,
- Streamlining of operations,
- Reduction of redundant data and repeat entries,
- More accurate data stored in the database
- Removal of or decrease in the human error element
- Shorter decision cycles

With the move from a manually intensive environment to a more automated infrastructure, the CEU program becomes more reliable, produces faster processing of inputs, data consistency and efficiency as well as enabling the program managers to make solid decisions based on the data provided.

#### **D. DISADVANTAGES AND LIMITATIONS**

There are not as many disadvantages and limitations to automation as there are advantages, but those disadvantages can not be ignored. The success of most projects or process improvements within an organization depends on its employees overcoming the resistance to change. There are various reasons people resist change. According to Bellanca's article, *Managing Six Sigma Change Resistance*, there are six common reasons for the cause of this resistance:

1. Ignoring the new process
2. Disagreeing with the validity of the benefits
3. Delaying the implementation
4. Granting exceptions
5. Criticizing tools or software applications
6. Failing to completely or accurately comprehend

Once there is an understanding of the reasons for the resistance, it is crucial and very important to obtain that user buy-in so countering that resistance should be the company's main priority. It is believed by many of the employees that ignoring a new process will somehow make it go away. If it is not being used, then maybe management will decide that it is not a good process or product and want to quickly resort back to the original way of doing business. So the process must be made impossible to ignore and must be implemented in the company's personal training plans and annual business process reviews. Disagreeing with the validity of the benefits can be countered by employing an external source to provide insight to company employees to eliminate bias attitudes and ways of thinking providing the proof that similar companies are excelling with the same process. Another major resistance lies with those that believe "this is not the right time for this new process". When is the time right? Management must immediately acknowledge and explain to its employees or users of the system that change is inevitable and constant. Communicating to them what is going on can help with the buy-in process because it makes them more comfortable because they know what is

going on with the process. Allowing exceptions to the change process is a sure way for process failure. If there is a solid plan for the new process, one must remain consistent and not deviate from that plan. Everyone can not be made happy from all aspects of the change. Criticizing the tools or software applications is also evident with process changes. If users are given an opportunity to provide input or feedback on the new process, it will help to counter the resistance in the long run and possibly guarantee buy-in for the majority. Lastly, users tend to fail to completely or accurately comprehend to the new procedures or requirements of the new process. It is imperative that the lines of communication remain wide open from management to the employees to ensure there are no misconceptions or misunderstandings of the provisions and requirements of the new process. Posting of newsletters, flyers, sending of emails, checklists, one-on-one training and step by step procedures should be part of the implementation process for the new system. Countering the resistance to change successfully requires management to be ready to utilize many of the tools discussed above and planning to aggressively obtain the user buy-in early. Without the user buy-in for a new system or process, that process is almost guaranteed to fail.

Other disadvantages and limitations to automating a manual process include the capital cost of the system components, hardware and software expenses to include the maintenance cost after the system has been launched, initial and continuous user training, vandalism of the system by employees (prospective users of the system) who are against the change, and possibly the need for more specialized expertise depending on the complexity of the system. Believe it or not, lighting and harsh environment conditions could also become a disadvantage or limitation for an automated system. Back-ups of the data within the system and recovery plans must now be implemented so additional work must be incorporated that did not exist in a predominantly manual system. It is important that the disadvantages and limitations be considered and evaluated, but as long as the advantages and benefits of the system outweigh the downfalls, then the system should be automated to increase the overall efficiency within the organization.

## **V. IMPLEMENTATION**

### **A. REQUIREMENTS AND DESIGN**

The requirements and design of the Continuing Education Unit Tracking Tool originated from speaking with several officers within the IP Community, conducting user surveys, as well as speaking with the administrator of the CEU Program. The most frequent recommendations and desires were to have a mechanism that would allow the individual users to track and maintain their CEU credits and have a means of providing and receiving automatic feedback. From those recommendations and desires, it was determined that a web-enabled database would be the optimal solution. With that determination, the requirements had to be identified as well as the design of the database. The next sections will describe the requirements analysis, database design and the various database models available.

#### **1. Requirements Analysis**

Requirements analysis is the process of identifying all the tasks that go into defining the scope and definition of a new computer system or software design project. It is the most important part of the development process. If the requirements analysis phase is not accurately defined, the project has a very low chance of success. Within this phase, all the stakeholders should have the opportunity to identify their needs and requirements in order to assist the developers with the development of a successful product. The requirements analysis is actually a relatively easy process; however, being able to identify the stakeholders is not always feasible. It is imperative that top level management assist in identifying the stakeholders and those that may be potential stakeholders to alleviate dissatisfied clients at the end of the development process. Even after the stakeholders have been identified, there are other issues that could occur on the part of the stakeholders. The author of Rapid Development, Steve McConnell, describes several ways that stakeholders could inhibit the requirements gathering (McConnell, 1996). Those ways are:

- Users do not know what they want.
- Users insist on new requirements after the cost and schedule have been fixed.
- Users will not commit to a set of written requirements.
- Communication with users is slow.
- Users often do not participate in reviews or are incapable of doing so.
- Users are technically unsophisticated.
- Users are not familiar or do not understand the software development process.

There must be some control over the user requirements because they will continue to change even after the software development has started. The changes also affect technology, so it must be made very clear to the users to know their objectives and expectations before the development process commences.

Although the stakeholders have a key part in the delay of the software development process, developers can be equally blamed. Software developers and the end users often speak in different languages or more accurately stated; they have different vocabularies. They could believe they are in total agreement until the finished product has been delivered. It is the responsibility of the developers to ensure that each party are in complete agreement since the developers are the ones being paid to provide the user with a product. Software developers also tend to make the mistake of making the requirements fit an existing system instead of developing a system specific to the needs of the client as requested. This is a way of cutting corners that is not normally beneficial to the client. In some occasions, software programmers tend to carry out the analysis instead of business analysts often resulting in misunderstood requirements. Programmers lack the domain knowledge and people skills necessary to understand the business process correctly.

Additional problems that could occur with requirements analysis is that the right people with the right experience, technical expertise and language skills is not always

available to lead the requirements activities. Ideas about what is needed are often incomplete, highly unrealistic and ingrained in the minds of the people leading the acquisition process. Also, the difficulty with using complex tools and diverse methods associated with the requirements gathering may counteract the expectations for benefits of a complete and detailed approach.

The preliminary requirements gathering conducted for the CEU Tracking tool involved speaking with several of the senior officers in the IP Community. These were the decision makers of the community. They provided insight and concise ideas about what the tool should include and how it should benefit the IP Community. After the preliminary requirements were complete, a sample tool was developed to demo for an additional group of senior IP officers during the Information Professional Senior Officer Course (IPSOC) course held at the Naval Postgraduate School in April 2005. These officers were able to see what a sample tool would look like and what the users would be capable of doing. Using this spiral method of project development allowed the senior officers to make additional requests and provide further input prior to the delivery of the final product ultimately ensuring a successful project development. Their input was invaluable and some of their recommendations lead to further revision of the project development. The next phase of the CEU Tracking tool involved developing the design of the database.

## **2. Database Design Methodology**

Database design methodology is the process of modeling a real world enterprise or a real world business process. Database design has four phases. Requirements Specification and Analysis was discussed in paragraph A1 above and the remaining phases that will be discussed briefly are Conceptual Design, Implementation Design, Physical Schema and Optimization. Figure 9 depicts all phase of database design.

### ***a. Conceptual Design***

The conceptual design phase of database design is the process of structuring a model of the information used in a business or enterprise, autonomous of any physical considerations. The goal is to produce an abstract, global view of the data within the application known as the conceptual schema. In the conceptual phase,



software and hardware are independent and entity and spatial objects are described and defined. The conceptual phase allows designers and users to collaborate in collecting requirements and presents a high-level specification of the data that will be involved in the overall application. Moreover, in this phase, it incorporates the expectations and perspectives of the uses involved in the application. The final step of the conceptual phase is to construct a conceptual schema representing a high-level of the description requirements for the application. (Bantini, et al.1986)

***b. Implementation Design (Logical Design)***

The implementation design phase converts the conceptual schema into the logical schema of the Database Management System (DBMS). Some combine the second and third phases together. In this case, this phase would be called the logical database design. Logical schema design entails designing the conceptual schema and charting the schema into a schema definition language also known as the data definition language. Additionally, logical design is software specific yet, hardware independent and is determined by the DBMS. “The logical schema is the logical specifications such as the groupings of attributes and relationships among these groupings (logical schema), as well as physical specifications such as the type of access to records, indexes, ordering, and physical placement (physical schema)”. (Bantini, et al.1986). Physical schema is covered in the next section.

***c. Physical Schema Design and Optimization***

Physical Schema and optimization capitalizes on the previous logical design phase by incorporating the logical schema into an appropriately stored representation of the DBMS. This store representation includes any new physical parameters necessary to optimize the database performance. Within the physical schema design, both hardware and software are specific. This unit focuses mainly on the last stage and is related to issues of file structure, memory size and access requirements.

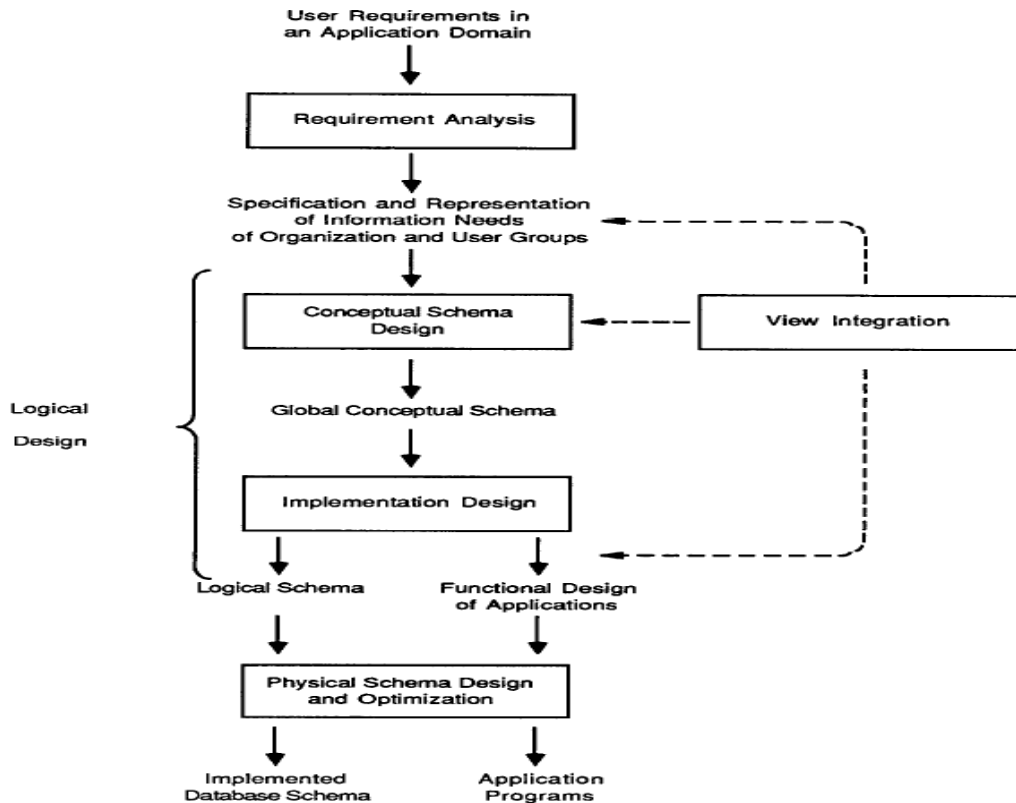


Figure 9. Phases of Database Design (From Bantini, et al. 1986)

The database design provides an inclusive framework for the database, identifies future problems and design alternatives, and allows the database to be considered in its entirety so the interaction between the database elements can be evaluated. There are a variety of potential problems that could occur without a good database design. Those problems include, but are not limited to:

- Omitted data
- Irrelevant data that will not or can not be used
- Inability to update the database
- Lack of integration with other parts of the database
- Unsupported applications
- Unacceptable representation of entities
- Possible additional costs to revise the database

Upon the completion of the database design, the next important step that proceeds is the design of the database model. There are a number of different database models and a few have been selected to solely identify the differences among them in paragraph 3 below.

### **3. Database Models**

The data model is the plan for building the database. It follows the conceptual, logical and physical database design phases. It should be considered as the most critical step in the design of the database to ensure that the plan is simple enough for the user to comprehend, still detailed enough for the developers to create the actual structure using any choice of database software. “Data models focus on required data elements and associations; most often they are expressed graphically using entity-relationship diagrams. On a more abstract level, the term is also used in describing a database's overall structure -- e.g., a relational or hierarchical data model”. (Kay, 2003) Before one can construct a database model, there are steps to this successful creation. According to Kay's Data Models article, those steps are:

- 1) Interview business users.
- 2) Define the data elements and their relationships.
- 3) Create a data model.
- 4) Select the database type and specific database management software (DBMS); often, it will be whatever you're already using.
- 5) Map data-model elements to tables, and normalize them.
- 6) Create data type definitions and a database structure.
- 7) Design the application.

In steps 1 through 3, this is the conceptual level and thoughts of what is being dealt with occur here. Steps 4 through 6 concerns how the model will be implemented. Step 5 is the transition from conceptual design to logical design and step 6 is the transition from logical to physical design. Step 7 is the implementation of the design. (Kay, 2003)

With a good understanding of the keys to a successful data model, next is to understand each of the available data models.

**a. *Relational Model***

The relational model was developed by E.F. Codd and there are twelve rules he identified that define a relational database. The purpose is to allow the definition of the data structures, storage and retrieval operations and integrity constraints. These relations are organized in tables (a collection of records where each record contains the same fields). Some relational table properties consist of values that are atomic, each row is unique, column values are the same kind, and sequence of columns and rows is insignificant. (Unix Models, 2005). In a relational model, the logical design is independent of the physical design. Some key advantages of a relational model/database: provides flexibility for easily making changes to the database structure; and allows combinations of data to be retrieved that were not anticipated at the time of the creation of the database. (Frick, 2005)

**b. *Hierarchical Model***

The hierarchical database model preceded the relational model and organizes data in a tree structure. Many commercial databases rarely uses this model. Hierarchical Database Management Systems (DBMS) were popular mostly in the late 1960's on through the 1970's during the introduction of the Information Management System (IMS) DBMS. (Unix Models, 2005). Within the hierarchical database model, data is structured with a series of parent/child relationships. Each child segment (a tree that consists of one or more grouping of fields) can only be linked to one parent and that child can only be reached by its parent. So any one-to-many relationships with a parent and child could result in redundant data. A solution used for cases like this is to have data stored in one place and reference the data with links or physical pointers in other places. This process differs from the relational database model where data can be accessed directly or can be linked with any other table and there is no hierarchy among tables. (Frick, 2005)

**c. *Network Model***

The network model is an extension of the hierarchical model except it permits modeling of many-to-many relationships with data and it eliminates most of the

inflexibility found in the hierarchical model. At the Conference on Data Systems Languages (CODASYL), the network model was formerly defined as the CODASYL Data Base Task Group which is based on a mathematical set theory. (Frick, 2005). The network model constructs data as the set construct which consists of an owner record type, a set name, and a member record type. The member record type can take on more than one role, thereby supporting a multi-parent concept. A owner record type can also take on additional roles; one role as an owner in one set or a member in another set. (Unix Models, 2005). The network model is not very practical and only supports simple network relationships that are implemented as chains connecting individual records without restrictions on the number of relations making the database overwhelmingly complex. (Frick, 2005).

*d. Object-Oriented Model*

The object-oriented model addresses some of the limitations of the relational model and is considered the “post-relational” model. The most significant limitation addressed by the object-oriented model is the relational model’s inability to deal with Binary Large Objects (BLOBs) which contain complex data types such as images, spreadsheets, e-mail messages, documents, CAD, and directory structures. Relational databases are able to store BLOBs, but they are stored outside of the database and are referenced using pointers. In the object-oriented database, everything is treated as an object and can be manipulated. The objects will inherit the characteristics of the class in which they belong and also have a set of behaviors as well as properties that can be manipulated. (Frick, 2005). Object-oriented DBMSs provide database programming functionality and a seamless data model and language environment by unifying the application and database development. This results in less code required for applications, natural data modeling and easier to maintain code bases. The relational DBMS data structure is compressed in order to fit into tables or otherwise is joined together from those tables forming the in-memory structure. However, with the object DBMSs, there is no overhead required to store or reclaim a web or hierarchy of interconnected objects known as one-to-one mapping of object programming language objects to database objects. Overall, object DBMSs are better suited to support applications similar to

hospital patient record systems, telecommunications service applications or world-wide web document structures that normally have more complex relationships between the data. (Unix Models, 2005)

*e. Context Model*

The context data model can be viewed as the incorporation of all of the above mentioned models. The ConteXt DBMS is a great example of the fundamental concepts of the context data model. It uses a class oriented database where the class contains methods that describe objects. The objects have fields and properties and the fields contain subfields. The context DBMS can be summarized as a combination of the characteristics and ideals found in the object-oriented, network and semi-structured models providing one of the most flexible data models available and enabling the use of any type of database structure

A developer of a database must understand the available models and select the best one that will support the needs of the users. It is a clear representation of the data requirements of the users. The data model selected must support the conceptual, logical and physical database design identified earlier prior to modeling the data. The information required to build an effective data model is gathered during the requirements analysis phase. Although not formally considered part of the data modeling stage by some methodologies, in reality the requirements analysis and the entity-relationship (ER) diagramming part of the data model are done at the same time. The database model again is an essential part of the database and is considered the blueprints for development.

**B. PROTOTYPE CONSTRUCTION**

Quality information is at the heart of decision-making and the running of all organizations. Information and data, as corporate resources, are shared between many groups and individuals. With that, there is a need for these resources to be properly administered and managed. A database system, including a Database Management System (DBMS), is the major component for enabling the achievement of these needs.

Prior to creating the Continuing Education Unit (CEU) Tracking tool, it was imperative to understand the basic principles, obtain the knowledge, understanding and

skills of a DBMS as well as web-enabled application structure to contribute to the success of the Information Professional Community's objective in ensuring that every IP Officer gain proficiency in the Information Technology field. The construction and design of the CEU Tracking tool followed a highly customized, scalable design that is able to grow and adapt with the IP Community regardless of the Navy's changing demands. The phases of the CEU Tool development involved the creation of the database after researching the various available commercial-off-the-shelf databases and choosing data access software for web implementation following review of five of the most-popular web-enabling software.

### **1. Database Creation**

In creating the CEU Tracking Tool database, there was a variety of database software to choose from. Five of the most popular database software is discussed below identifying their advantages and disadvantages. In summary, the chosen database software is identified and the reasons behind its selection.

#### *a. Adabas*

Adabas is very high speed and is considered by many as the fastest database in the world. Its reliability makes it an ideal database server for large, mission-critical applications that require sub-second response times for a large number of users even during peak operating times. (dBforums, 2005). Adabas is owned by a German software company and is sometimes referred to as Software AG. Adabas is an inverted list database management system that is used in applications that require a high volume of data processing. (BambooWeb, 2005) Some of the benefits in using Software AG:

- Performance advantages over relational DBMSs with its nested tables/relations features.
- Its architecture is specially designed to support many parallel users while giving sub-second response times.
- It occupies less disk storage than other DBMS due to its built-in data and index compression.

- Requires less Database Administrator (DBA) resources than other DBMSs because of its complete set of utilities and because many DBA tasks are already automated.
- Additionally benefits identified on Hallogram Publishing’s website promoting Software AG were (Hallogram, 2005):
  - “Higher performance through fewer -- expensive -- cross-table join operations
  - Less disk and main memory space consumption
  - Less backup tape/cartridge consumption
  - No extra costs for selecting, purchasing and training third-party tools
  - Higher (DBA) productivity through tailor-made tools
  - Higher (developer) productivity
  - Open to standard access languages
  - Extra-fast native access from Java
  - Text data available to business applications
  - Cost-efficient access from the Web”

Overall, Adabas is great database software for high performance online transaction processing and in other business processes that require high volumes of data processing.

***b. DB2 Universal Database (UDB)***

DB2 UDB has advantages of its own. It is an IBM high-end database that works well in an Online Transaction Processing (OLTP), Data Warehousing, and Decision Support environment. With DB2, the application programmer can focus on desired HyperText Markup Language (HTML) input/output forms and Structured Query Language (SQL) queries. The programmer is not laden with the translation of mechanisms and is a general purpose solution covering all of HTML and SQL. DB2’s Universal Database v8.1 supports most known platforms and has a powerful language.



On the contrary, DB2 has a large process startup overhead. Additionally, the software has application logic that cannot be expressed in HTML or SQL. Regardless of the disadvantages, there are many corporations that find DB2 very useful, totally efficient, well-priced and extremely scalable and capable of running on every platform from handhelds to mainframes. (dBforums, 2005)

*c. Microsoft SQL Server*

Microsoft SQL Server is the entry that led Microsoft into the database server market. It is extremely easy to manage and it contains a built in Online Analytical Processing (OLAP) engine. Along with its ease of manageability, it also has great support for web-enabled applications and other Microsoft products. SQL Server is a Windows only platform. (dBforums, 2005). SQL Server 2005 delivers immediate results for previous versions of SQL Server, improves existing applications, and delivers value in three key areas: enterprise data management, developer productivity, and business intelligence (McDowell, 2005).

With enterprise data management, SQL Server DBA productivity is enhanced with automation of routine tasks and administrator focus on high value activities. This new version also has increased and hardened security, exceptional data availability and manageability with added features of enterprise performance and business continuance. (McDowell, 2005)

SQL Server 2005 has many development features that enable developers to generate vigorous enterprise database applications. It also reduces developer's application time to market, interoperability and allows collaboration to produce more robust solutions. (McDowell, 2005)

Inside SQL Server 2005 are components and tools to help developers employ comprehensive, end-to-end business intelligent solutions. This feature facilitates developers in giving the users and business decision-makers access to the information they need. SQL Server's business intelligence capabilities enables organizations to quickly and easily integrate and analyze business data from diverse data sources that can help them gain crucial insight into markets allowing them to compete advantageously. (McDowell, 2005)

Microsoft SQL Server is an excellent solution for small or larger organizations making it possible to have the same level of performance, security, reliability and business value to all customers.

*d. MySQL*

MySQL is more of a cross-platform, open source database server software that is most commonly and extensively used for web development and implementation. It falls short of many of the advanced features seen in other database server software; however, those shortcomings are offset by MySQL's ease of use and striking speed. (dBforum, 2005)

MySQL is truly the world's most popular open source database management system because of its ability to manage high-volume web sites and embedded database applications. Some of the benefits from migrating to MySQL are the fact that it is a cross-platform, fast, free and that customers prefer open source. In contrast, one should not migrate to MySQL if the organization has any of the listed confines: single-user portable applications such as Microsoft Access and JET, applications with incompatible features, or large applications without database abstraction. (Hillyer, 2005)

With any decisions to migrate to MySQL or any other database management system, it is important to plan ahead, decide if migration is for your organization and understand the many factors that could delay your migration. Nonetheless, once the decision has been made to migrate to MySQL, your organization is sure to see results of increased performance, cross-platform capability and open source. (Hillyer, 2005)

*e. Oracle*

Oracle is one of the most widely used enterprise database servers out there. It can be seen working behind the scene's of eBay on the web and other myriad data warehouses and Very Large Data Bases (VLDBs) around the world. It is suitable for typically all OLTP to data warehousing applications. The latest version of Oracle has a built in OLAP engine. There are many comparisons of SQL Server to Oracle, but both of these products can be effectively used to build suitable and efficient systems. Oracle's

advantages are that it supports all known platforms and is not solely Windows based and that Programming Language (PL)/SQL is a very powerful language. (dBforums, 2005).

Oracle has specific advantages and disadvantages for Linux (Unix) and Windows operating systems. According to an article written by Don Burleson, he identified the following advantages and disadvantages for each acknowledging that it mainly depends on the configuration of your Oracle database and the skill level of your staff. (Burleson, 2005).

#### “Advantages of Oracle Unix

- Significant performance improvement
- Provides High Availability
- Contains in-depth system utilities and open-source code
- Highly respected by Oracle personnel

#### Disadvantages of Oracle Unix

- Required specialized skills (vi editor, shell scripting, etc.)
- Required highly-technical Systems Administrators and DBA
- Contains in-depth system utilities and open-source code
- Security Holes (if mis-configured)
- Susceptible to root kit attacks

#### Advantages of Oracle Windows

- Very easy to deploy and support
- Requires far less IT training
- Simple interface to Microsoft tools such as ODBC and .NET

## Disadvantages of Oracle Windows

- Slower than Linux
- Less glamorous for the SA and DBA
- History of poor reliability (bad reputation)
- Security Holes (if mis-configured)
- Susceptible to Internet viruses”

Regardless of the disadvantages presented here, Oracle remains the industry’s leading OLAP server enabling customers to benefit in areas of application performance, scalability, availability, manageability, query performance and unparalleled functionality.

### *f. Microsoft Access*

Microsoft Access is a database that comes with the Microsoft Office Professional suite and is capable of handling tens of thousands of rows of data with great ease and has vast connectivity support for traditional database servers. Microsoft Access has its share of advantages and disadvantages according to an evaluation conducted by Clearform Software. It was identified as easy to use. It could be used by the most inexperienced database user because of its simplified filtering, sorting, querying, form and report creation tasks. Data migration with Microsoft Access is by far the easiest way to share and move data on account of the single file system that makes it effortless to upload, download, or copy and paste an entire database to any computer. Lastly, with its one file system, it makes backups and archiving straightforward. (Clearform Software, 2005).

All great software has pitfalls. Microsoft Access is limited to mostly small databases because of its low capacity database system. It is designed for smaller numbers of database records. Performance of database tables tends to decrease once the volume has reached nearly 25,000 records and will continue to decrease with the addition of more records or concurrent users. Microsoft Access is also limited to low transaction rates with its prebuilt user-friendly tools that were designed with the primary goal of providing ease of use to inexperienced or experienced database users and developers. To

offset this disadvantage, Microsoft uses a one file system to embed the ease of use tools into the actual MDB file, data tables, and form objects still resulting in a sluggish performance in high production environments requiring larger volumes of data input per hour. Finally, Access is limited to low concurrent database usage due to the fact that it runs best as a single-user system or a small multi-user system with less than 50 concurrent users. (Clearsform Software, 2005).

In summary, Microsoft Access was the original database software chosen to develop the CEU Tracking Tool because the ease of use, flexibility, simplified tasks, many toolbars and helpful wizards and graphical interfaces. Since the CEU Tracking Tool will have well over 50 concurrent users at any one time, the data will eventually be migrated to Microsoft SQL or Microsoft SQL Desktop Edition (MSDE) once launched on the server in the IPCOE. It was very difficult to make a performance comparison and selection amongst all of the available database software, but the winning selection depended on the experience of the database developer and presumed database administrator, the inevitability of the database's future growth, Microsoft SQL Server's ease of manageability, and the fact that it has great support for web-enabled applications and other Microsoft products highly used within the DoD environment.

## **2. Web Application Development**

Prior to creating a web-enabled database, it was important to understand exactly what the terminology meant and what choices were already available in off-the-shelf products. The web is best at providing interactive access to business information, querying, placing orders, and updating records through the use of Net and browser services. It is the same as standard database facilities, but accessing them remotely. This is referred to as a web-enabled database. A good technical graphical description was found on the GBdirect website and is identified below in Figure 10. (GBdirect, 2005)

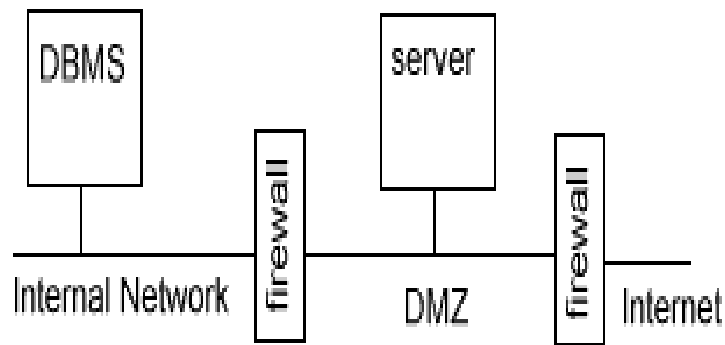


Figure 10. Typical Web-Enabled Database (From GBdirect, 2005)

In Figure 10, the DBMS is connected to the internal network which is using the Internet's Transmission Control Protocol (TCP)/Internet Protocol (IP). There are two firewalls in the example. The inner firewall adds an extra layer of security whereas the outer firewall is receiving web pages from an Internet web server delivered to the public Internet. An Intranet set-up is by far simpler. The demilitarized zone (DMZ) permits controlled public access to the server while simultaneously prohibiting any external access to the internal network. The fundamental components of a web-enabled database are similar to the ones in Figure 10. The components include a permanent link to the Internet, a firewall, web server, and web pages (static, pre-written, or unchanging) and software to deliver the active application. (GBdirect, 2005).

As the sub-heading indicates, this section will focus on the active web application development. Web application development consists of designing, coding, testing and deploying an application. This is the flow followed by typical software developers. There are a variety of software options available to effectively deliver the web pages to the Internet. Some of the more popular ones are Active Server Pages (ASP), Macromedia ColdFusion, Java, PHP and SQL. Each listed software application is briefly described along with the choice used for the CEU Tracking Tool development.

*a. Active Server Pages (ASP)*

Microsoft Active Server pages are a dynamic-server side scripting technology that can be used to create and run dynamic, interactive Web server

applications. A couple of advantages in using ASP are that ASP scripts can be used to build large, data-driven web sites and it is very easy to use and can build powerful, dynamic web sites quickly. These advantages can also become disadvantages. Because ASP scripting can allow rapid development of web applications, the classical software approach to development gets pushed to the way side and stages are rushed through. The result is developers tend to create hastily designed scripts which are a direct correlation to the amount of bugs and problems found in their programs later. (Mitchell, 2000).

***b. ColdFusion***

Cold Fusion is based on the ColdFusion Markup Language (CFML) which is executed by a ColdFusion application server that is capable of deploying powerful web applications and services, scripting and databasing. It was initially launched in 1995 by Allaire Corporation and was the only web server application available for Windows NT. ColdFusion has features that ensure web developers can easily harness the power of the Java Platform to deliver Internet applications to people worldwide. A mixture of HTML and ColdFusion instructions can be found within the CFM templates that return normal HTML to the requesting browser. Some of the well-known advantages of CFML range from the fact that the language is easy to learn, use and that it has a fast application development time. Additional advantages are that it is a cross-platform making it supported by Windows, Linux, Solaris, HP-UX; it has a comprehensive feature set; well documented and supported by authoring tools; and it scales well to heavy loads. On the contrary, extending ColdFusion's features can be very complex and it costs more than its competitors. (ASP, 2005).

***c. JAVA***

Java has evolved from a programming language designed to run client-side applications inside web browsers to server-side programming where web sites connect to databases creating other server-side applications or 'servlets'. Sun Systems developed Java Server Pages to facilitate writing servlets. Java stored procedures are supported in Oracle, DB2 and Sybase and are highly demanded by developers. Although in high demand, Java is not a language for beginners because working with the servlets is extremely difficult along with the complexity of the language and the complicated system design. (Orzech, 2001; dBforums, 2005)

**d. PHP**

PHP is extensively and greatly used data access software for implementing web applications. In addition to the HTML embedded server-side scripting language with native support for many popular databases feature that was specifically designed for the web, PHP has an extremely short learning curve, very high performance and a quick development time. Being a cross platform language enables it to be a competitive choice for web development. This language is not as complicated as some making it quite user-friendly and easy for beginners and non-programmers. (Orzech, 2001; dBforums, 2005)

**e. Structured Query Language (SQL)**

SQL is a language that is used to retrieve data from a database. It works for virtually all relational databases and has some strong features that have made it successful. A few of its renown features are it vendor independence, portability across computer systems, enterprise application support, dynamic data definition, client/server architecture, and Internet database access. It has become known as the standard tool for managing data for personal computers, mainframes and minicomputers. A great description of how SQL works was made available on the Dev Articles website. Figure 11 depicts this description. “The computer system in the figure has a database that stores important information. If the computer system is in a business, the database might store inventory, production, sales, or payroll data. On a personal computer, the database might store data about the checks you have written, lists of people and their phone numbers, or data extracted from a larger computer system. The computer program that controls the database is called a *database management system* or DBMS”. (SQL, 2005)



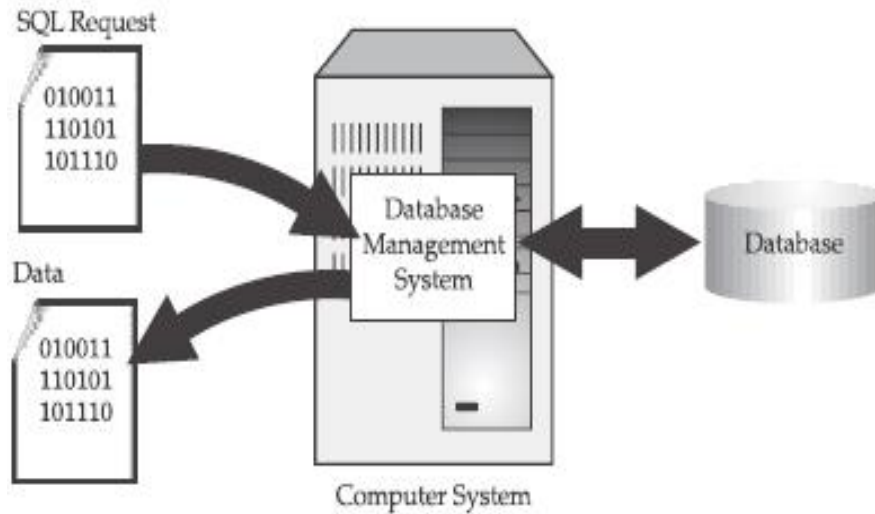


Figure 11. How SQL Works. (From SQL, 2005)

SQL, simply stated, is the language that controls and interacts with the DBMS.

Concisely, for the CEU Tracking Tool, the web-enabled application software of choice was Macromedia Dreamweaver MX 2004. There were many advantages and reasons for selecting this software. The main reason was because of familiarity with the software. The software enables developers to perform auto-indexing with Dreamweaver's integrated text editor and allows editing of non-HTML elements like JavaScript, XML and other text files. It contains a JavaScript debugging along with the O'Reilly reference. Another nice feature was the asset management feature that allows the developer to track images, scripts, Flash, Shockwave and Quick Time objects with ease. Creating templates that could be used throughout the remainder of the web site was also a handy tool. Macromedia contained site reporting capabilities that could fix some of the common problems like broken links, missing alt text and headlines. Most of all, the system was user friendly and extremely enjoyable to work with.

### C. TESTING

Within the System Testing phase of System Development Life Cycle (SDLC), the prototype developed is tested to ensure that it conforms to the solutions identified during the planning phase. The system must be tested to evaluate actual functionality in relation

to intended functionality. Old data from the current system must be converted for use in the new system. System end users will be a crucial determination in whether the developed system meets the expected requirements and to the extent the system will actually be used. In addition, a measure of the prototype must be taken to see how the users react to the solution, how difficult it is for them to understand, and to see how long it takes them to complete a simple task.

A Human Factors and Usability Analysis test was conducted in June 2005 at the NPS Human Systems Integration Laboratory (HSIL), Applied Warfighter Ergonomics (AWE) Center on the CEU Tracking Tool as part of a project assignment in Dr. R. Synder's *Managing Change in Complex Organization MN4125* class. Three students in the class, Capt R.P. Murphy, USMC, LT Jon Kaltwasser, USN, and Petra Alfred voluntarily selected the CEU Tracking Tool for this analysis to assess the usefulness of the tool and provided full feedback to the author.

To properly assess usability, research suggests that 3-5 members of the desired user population should be sampled and instructed to use the system in the context they would use it outside of the usability test (Nielsen, 1993). To meet this recommendation, the entire NPS IP community was contacted via email, and three volunteered to participate in the usability assessment. Two users were Navy IPs and one was a NPS IP Center of Excellence (IPCOE) administrator, responsible for tracking CEUs. The assessment was not to exceed 30 minutes in total duration.

To standardize the usability assessment, the users were provided specific instructions (see Appendix E), a satisfaction survey (Appendix F), and a complete a step-by-step standardized list of tasks (Appendix G) to perform on the CEU tracking website. Some tasks included:

- 1) Check the status of earned CEUs
- 2) Look up a course/program to see if it meets Navy CEU requirements
- 3) Add a course/ program for CEU credit

During the test, users were encouraged to think aloud as they went through the tasks, voicing what they were doing, as they were doing it, as well as stumbling points and things that they liked or disliked about the tool, as they came to mind. This beneficial usability technique enables researchers to capture the user’s cognitive processes during a usability test. The “think aloud process,” allows researchers to get inside the user’s head and capture cognitive processes throughout the exercise.

If users attempted a task three consecutive times during the test and still could not figure out how to proceed, the test administrators intervened by microphone and told the user how to accomplish the task. When this happened, the administrator noted the specific occurrence and context of the event.

### 1. Findings

After completing the usability test, users were asked to complete a survey about their satisfaction with using the CEU tracking website to perform a series of tasks. Specifically, they rated their level of satisfaction on a 4-point rating scale ranging from extremely dissatisfied to extremely satisfied. Due to the small sample size (n = 3), statistical inferences could not be made. Instead, results of the user satisfaction survey are reported as frequency counts in the Table 3 below:

How satisfied are you with...	Extremely Dissatisfied	Dissatisfied	Satisfied	Extremely Satisfied
Registering for an account	0	0	2	1
Adding courses for CEU credit	0	0	2	1
Looking at your current CEUs	0	0	2	1
Deleting CEUs	0	1	1	1
Adding courses from the approved list of CEUs	0	0	2	1
Requesting a waiver/extension	0	0	2	1
Your ability to check your shipboard and shore duty qualifications	0	0	2	1
Logging off the system	0	0	1	2
Your ability to navigate the system	0	2	1	0
The overall system	0	1	2	0

Table 3. User Satisfaction Survey Results

Following survey completion, users were asked to provide open-ended comments about their experience using the system. Strengths, weaknesses, and specific recommendations were elicited from the users. The resulting comments, sorted by topic and type are provided in Table 4 below:

<b>Comment</b>	<b>Topic</b>	<b>Type</b>
I would be interested in the routing process to see how CEUs were approved.	approval process	recommendation
Be sure to allow for OCONUS entries. This can be somewhat of a challenge, but maybe a checkbox for OCONUS that changes the format.	CEU type	recommendation
There is a requirement to do some CEUs outside of courses (4 of the 10 for me). How is this aspect tracked and implemented?	CEU type	recommendation
Distinguish between course and industry CEUs.	CEU type	recommendation
Dates should be drop down to avoid confusion.	date	recommendation
Need to know the QA (quality assurance) behind this (deleting CEUs).	deleting	recommendation
Have user double check before deletion.	deleting	recommendation
Some of the form entry was inconsistent and cumbersome.	form entry	weakness
Checking status of approved CEUs needs granularity into which requests were still pending.	CEU status	recommendation
Also (would be interested in knowing) how many more (CEUs) required to fulfill the year's requirement.	CEU status	recommendation
NKO status page should reflect quantity left/needed	CEU status	recommendation
I think a framed navigation scheme would be helpful. I was sometimes unsure of where things were.	navigation	recommendation
Navigation is mostly intuitive.	navigation	strength
Phone numbers should result in (###) ###-#### no matter how it was inputted.	phone number	recommendation
Area codes should be allowed.	phone number	recommendation

Table 4. User Comments

## **2. Discussion of Findings**

In review of the survey results, it appears that generally users were satisfied with using the IP tracking website to perform most of the required CEU tasks. The only exceptions were that users felt less strongly about their satisfaction with deleting CEUs, the system's navigation, and the overall system. Specific recommendations involved improvements in formatting (e.g., phone number, deleting), enhanced intuitiveness of the navigation system, consistency and ease of use of forms (e.g., more drop-down menus), and providing additional information that would be beneficial (e.g., how many more CEUs required, specifics on the CEU approval/routing process).

## **3. Criteria for Evaluating Alternatives**

To measure the usefulness of the tool in performing the realistic tasks, three metrics were collected: *productivity*, *effectiveness*, and *user satisfaction*. To measure productivity, the administrators recorded the time it took the user to complete each of the specified tasks. While task completion is an important metric, critical to the database's success is its effectiveness in facilitating particular tasks. Effectiveness was measured by collecting the total number and type of errors made by users for each of the tasks. In addition, the researchers collected user satisfaction with using the tool to perform each of the specific tasks, as well as their overall satisfaction with the tool. These measures of user satisfaction were assessed through a survey, which included both closed and open-ended questions (see Appendix F). The closed questions asked users to rate their satisfaction with using the website to perform various tasks on a four-point rating scale (extremely dissatisfied to extremely satisfied). The open-ended question asked users to provide additional feedback on the website, as well as any recommendations they may have for improvement.

## **4. Discussion of Alternatives**

Three alternatives were examined as potential solutions to the CEU tracking issue. Descriptions of each alternative, as well as their strengths and weaknesses are discussed in detail in the next section. The three alternatives of interest are the following:

- 1) Continue to use Fitness Reports
- 2) Use the functions inside NKO

- 3) Implement LT Andrews' website
- 4) Implement simplified status page

*a. Alternative 1: Continue to use Fitness Reports*

Navy Network Warfare Command (NNWC) Instruction 1520.2 governs the CEU program. This document denotes the procedures on how CEU credits are obtained, how many of each is required fiscally, as well as the command that is responsible for maintaining the program. Currently, this is the only CEU directive that has been signed into regulation by the parent command of the IP Community (NNWC).

Paragraph 5 of NNWC 1520.2 specifies that CEU achievement should be documented via the comments block of an individual's Fitness Report (FITREP). The block is of a fixed size with a mandated 10 or 12-point font. As such, space is limited on what can be listed inside this block. Any 1.0 or 5.0 reporting marks listed elsewhere on the form must be fully justified in the comments block. Additionally, since the Fitness Report is a Navy-wide form, the IP community has no ability to customize this form (such as adding a box for amount of CEU credits obtained during this Fitness Reporting period). Figure 12 below illustrates what the Fitness Report Comments Block looks like.

40. I recommend screening this individual for next career milestone(s) as follows: (maximum of two) Recommendations may be for competitive schools or duty assignments such as: LCPO, DEPT CPO, SEA, CMC, CWO, LDO, Dept Head, XO, OIC, CO, Major Command, War College, PG School.							
41. COMMENTS ON PERFORMANCE. * All 5.0 and 1.0 marks must be specifically substantiated in comments. No numerical ranking permitted. Comments must be verifiable. Bold, underlined, italic, or other highlighted type is prohibited. Font must be 10 or 12 pitch (10 to 12 point) only. Use upper and lower case.							
Promotion Recommendation	NOB	Significant Problems	Progressing	Promotable	Must Promote	Early Promote	44. Reporting Senior Address
42. INDIVIDUAL							
43. SUMMARY	X						
45. Signature of Reporting Senior							

Figure 12. Fitness Report Comments Block

**Strengths.** Fitness Reports are available to the board that determines eligibility for promotion. Names are stripped from the reports so impartiality is maintained. Since the goal is to reward those that complete CEU's and potentially punish those that do not complete their annual requirements, the board is in position to be untainted by personal feelings and still have the ability to enforce CEU regulations. They could use the comments in the block to assist their efforts to divide out those that should be promoted from those that should not.

Additionally, this is the regulation that any officer studying to be an IP will read and memorize. Changing from the published regulation will create confusion unless the regulation is updated.

**Weaknesses.** Fitness Reports contain information that is covered by the Privacy Act of 1974. The social security numbers of the individual as well as their reporting senior is listed on the form. As such, the reports must be strictly controlled. Joseph Sullivan, currently designated to track CEU's at NNWC, does not have access to all IP officer's Fitness Reports. Therefore, he does not have access to data that allows him to record training properly.

Space in the comments block is also highly contended; in addition to CEUs earned, raters are expected to provide explanations for ratings. An art has evolved over the past 20 years as to how to construct the information inside the comments block in order to maximize the chances for promotion. Comments like "recommended for promotion", "highly recommended for promotion", and "he has my highest possible recommendation for promotion" end up meaning vastly different things. The first is the standard blurb that ends up on every Fitness Report (and most of the time is like a kiss of death). The last has the highest chance of getting an individual promoted, but it takes up more of the coveted comments block space.

Lastly, the comments block is a free form. No enforcement of formatting or input validation is done to standardize the data. No feedback is given to the user to verify the training/learning counts for CEU credits.

***b. Alternative 2: Use the Functions inside NKO***

Navy Knowledge Online (NKO) is a system designed by the Navy training command to bring together communities of interest. While mainly focused on enlisted ratings, sections of the website are also available to officer communities such as the Information Professionals. Information Professionals have access to one page that is exclusively for the community managers to put forth content and/or direction relevant to IPs.

The IPCOE is in charge of the section of this page relating to CEUs. As such, they have access to the tools inherent in the NKO website. One of these tools is a free form text box for feedback. Directions on that website state that a more advanced tool is in development, but tell the user to document achievement of CEUs using the feedback form of the page.

**Strengths.** Since the Privacy Act of 1974 does not apply with this form, the data will go directly to Joe Sullivan. He can then use this data to manage the program. The use of NKO by Navy IPs is highly accessible and would make tracking CEUs easier and more rewarding to users. This location of a Navy CEU tracking system would be most intuitive as it is a location Navy IPs currently uses.

**Weaknesses.** Instructions on this page cause confusion as it directly contradicts what is set forth in the signed instruction governing CEUs. Like the Fitness Report comments block, the IP CEU Feedback Tool is a free form. No enforcement of formatting or input validation is done to standardize the data. Additionally, no feedback is given to the user to verify the training/learning counts for CEU credits.

***c. Alternative 3: Implement CEU Tracking Tool***

Another alternative is to implement the CEU Tracking Tool web-enabled database prototype developed from this thesis. This website could eventually grow into the tool the community managers hope to use as the standard for tracking all Navy IP CEUs.



**Strengths.** Since this is a tool developed for the IP community by a member of the IP community, it will have a higher chance of buy-in from the community and the chain of command. Greater buy-in will yield a higher chance of survivability for the system.

Data validation is being done to standardize data input. This will ease the capability of merging the data and forming detailed reports to make managing the tracking easier. Drop down menus make input easier for the user while at the same time providing the standardized input. Instant feedback is given to the user concerning the status of their request as well as how many courses they have to date.

The IPCOE will maintain direct control over the system. Any changes that need to be made can be done to the system without going through an enterprise change board (NKO).

**Weaknesses.** Users still do not know if they fulfill the annual requirements for CEU credits. By knowing the regulation, they can look at the courses they have completed and determine for themselves if they meet the criteria. This requires extra steps and could be misinterpreted easily. They see they have 10 credits and think they are complete, but did not satisfy the requirement for the credits to be from 2 different categories (this requirement is in the process of being revised). This requires extra steps for the user to complete in order to accomplish.

*d. Summary of Alternatives*

**Alternative 1.** Alternative 1 is not satisfactory for productivity, effectiveness nor does it achieve user satisfaction as a recording mechanism for tracking CEUs. In spite of this, it is the easiest to implement since it is a standardized form currently used by the Navy.

**Alternative 2.** Alternative 2 is marginally achieves productivity and effectiveness while bringing minimal satisfaction to the users. It is also marginal in the difficulty in implementing this as the sole accounting instrument for tracking CEUs.

**Alternative 3.** Alternative 3 would attain the highest results of productivity and effectiveness with minimal user satisfaction due to the unwillingness of people to change and having to learn a new system. It would also prove fairly easy to implement.

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## VI. CONCLUSIONS AND RECOMMENDATIONS

### A. INTRODUCTION

This chapter provides answers to the primary and secondary research questions identified in Chapter I, recommendation and delivery of a solution, ideas for future research, and a summary of the previous chapters concluding the thesis. The results of the examination of research and the formal usability assessment has allowed the author to design a prototype that enables the IP Officers and the Director, Information Professional Center of Excellence to effectively track and manage all aspects of the Continuing Education Unit program mandated by Naval Network Warfare Command (NETWARCOM) instruction 1520.2.

### B. RESEARCH QUESTIONS

The section will restate and answer the secondary research questions while the recommendation section will answer the primary research question.

#### 1. Secondary Research Questions

##### *a. What are the Current Requirements for the Administration of the CEU Program as Detailed in NETWARCOMINST 1520.2?*

NETWARCOMINST 1520.2 is the blueprint for the IP Community's CEU program. As identified in Chapter I of this thesis, the current requirements for the administration of the CEU program as well as the ingredients that make up a CEU were discussed at length. An officer is mandated to attain 10 CEUs per fiscal year at a minimum if they have achieved the qualification levels of Intermediate or Advanced. If an officer is only Basic qualified, one CEU is the fiscal year requirement.

There are three categories that make up a CEU: Formal Learning, Professional Organization and Professional Activity. As the instruction is currently written, an officer must obtain six from the Formal Learning category and four together from Professional Organization/Activity categories. During this research, a revision was submitted by the Director, IPCOE to amend this requirement to enable an officer to

obtain any number of CEUs from all categories totally deleting the limitations. At the completion of this thesis, the instruction has yet to be approved.

The Director, IPCOE is the authority delegated by NETWARCOM to manage and maintain the CEU program. The individual must receive, track and report the completion of the entire IP Community's CEU accomplishments. They are also directed to ensure an up-to-date list of the approved CEUs is published to the community.

***b. How does the Director, Information Professional Center of Excellence (IPCOE) Currently Track the IP Officer Community's Fiscal Year CEU Requirements?***

As stated in Chapter II of this thesis, the CEU program is not currently tracked at the IPCOE. The duties have been temporarily transferred to NETWARCOM representative, Joseph Sullivan until the completion and launch of a web-enabled capable database. Joseph Sullivan maintains a Microsoft Excel spreadsheet with all of the IP Officers in the Navy. As the IP Officers email him or use the IP CEU Feedback Tool found on the Navy Knowledge Online (NKO) website to provide CEU completion, he individually transfers each request to that officer's name within the spreadsheet creating a single entry for each request. Mr. Sullivan is the sole manager and point of contact for the entire IP Community for the CEU Program. In the event there are not accurate back-ups or the system is incapable of tracking for whatever reason, the only means of retrieving data lost is by contacting each member and requesting they report their earned CEUs for that fiscal year as documented in their Fitness Reports. This is clearly not the most effective means of tracking CEUs.

***c. How are the Tracked Requirements Reported to NETWARCOM for Each Individual?***

Within Chapter III, a step-by-step list of the current CEU process model can be found which identifies how the overall system processes occur. Step 6 states that the final report to NETWARCOM is non-existent. What this means is that once Joe Sullivan enters the information on the MS Excel spreadsheet, it remains until someone specifically asks for an individual's completed CEU status or for a full copy of the report.

***d. What Type of Feedback Process is Currently Available from the IPCOE to the IP Officer that Submits a Request?***

Since NETWARCOM is temporarily tracking CEUs, there is no feedback process in place from the IPCOE to the IP Officer. The feedback mechanism currently in place at NETWARCOM is provided in the same manner in which the request has been made. For instance, if an IP Officer sends an email to Joe Sullivan requesting CEU credits, upon completion of the CEU evaluation, the member is emailed back their CEU status. Similarly, if the IP Officer utilizes the NKO IP CEU Feedback Tool, their status is provided back in the same way.

***e. What are the “Best” Common-off-the-Shelf (COTS) Products Used by the Industry for Web-Enabling Databases?***

Chapter III elaborated on the advantages and disadvantages of COTS products. There were many benefits with COTS products such as its immediate availability, inexpensive development and maintenance, and rich functionality. However, the single most important shortfall with using COTS software in the military is that the software is not always designed to be interoperable with other military applications. The pre-existing software must be capable of co-existing with any newly installed COTS application and that is not always the case.

Additionally in Chapter III, Rapid Application Development (RAD), an alternative to a full System Development Life Cycle project, was another option for creating the CEU Tracking Tool. This option provided greater flexibility; reduced manual coding; and prototyping resulted in early visibility. Conversely, there are some disadvantages with the RAD process. It can be harder to gauge the progress, may not be as efficient since the code is not hand crafted, and some of the features may be reduced due to timeboxing and software reuse.

Chapter V provided research on some of the industry applications for database creation and web application development. There were six database creation applications discussed in detail. Some of the more popular applications were DB2 Universal Database, Microsoft SQL Server, Oracle and Microsoft Access. The initial development of the CEU Tracking Tool was done using Microsoft Access because it was very easy learn and use, flexible, and had helpful wizards and graphical interfaces. This

was not the optimal choice application because there would be a possibility of more than 50 simultaneous users at any given time and Microsoft Access is not capable of effectively handling that amount of large traffic. Although many of the industry applications had their fair share of advantages and disadvantages, Microsoft SQL was the chosen application for the final development. Microsoft SQL Server had many benefits, but the single most important one that led to its selection was its ease of manageability and great support for web-enabled applications and other Microsoft products that are highly used with the Department of Defense environment.

For web application development, the market was just as highly competitive as the database creation software available. You could practically use any of the applications to build a web site to your satisfaction. Some of those included Java, PHP, ColdFusion and Active Server Pages to name a few. The author's best choice for the CEU Tracking Tool was Macromedia Dreamweaver MX2004. It was a very familiar application that favored the experienced or inexperienced developers to achieve their goals. It has several nice features such as JavaScript debugging, the O'Reilly reference and the asset management feature enabling the developer to track images, scripts, Flash, etc objects with ease.

It is certain that if another individual was developing a web-enabled CEU tracking tool that they would probably use a different database as well as different web-enabling software. The choice strictly depends on what you want your application to achieve and how much flexibility you would also like it to have. It also depends on the experience level of the developer and what they may have used in the past or what they feel comfortable in using. So the choice remains with the developer and the developer's team of which applications would work "best" for their organization.

*f. What Would be a Feasible Technical Solution that the IP Community Could Implement?*

The best feasible solution that the IP Community could implement is the basis for this entire thesis. In understanding what the community already has in place, it is clear that a community that has founding principles on leading the technological revolution for the Navy should have a better technical solution in place to keep track of

the continuous technological training and education mandated by the community leaders. The most feasible technical solution would be a system that would allow every IP Officer to individually input, track and manage their Continuous Education Units via the Internet preferably from within the NKO website. Additionally, this technical solution would allow the Director, IPCOE or any other NETWARCOM designated representative to manage the entire CEU Program electronically and make official reports on the status of every IP Officer's CEU completions as delineated in the program. The solution would also be flexible enough to be upgraded or updated with the growing needs of the community and technological changes. That solution is a perfect lead into the next section which covers the author's recommended solution.

### **C. RECOMMENDATION**

This section will cover the answer to the primary research question; "What is the best solution to effectively web-enable and manage the manual tracking process for the U.S. Navy's Information Professional (IP) Continuing Education Unit (CEU) program?" hence the entire purpose for this thesis.

#### **1. Business Process Re-engineering and Implementing Change**

The issue of mandating a Continuous Education Unit program prior to implementing a formal method for recording and reporting the training has fostered a growing concern throughout the IP Community. In order to successfully correct this deficiency and create a more effective solution, it was important for the current process to be re-engineered ensuring that the community was getting the highest rate and value of return on knowledge and then and only then could the change be implemented.

Chapter II was full of information about the importance of El Sawy's principles for effective re-engineering. Those key principles were: principles and tactics for reconfiguring and restructuring a process; changing information flows around processes; and changing knowledge management around processes. Overall, for optimal results in any re-engineered process, the goal must be to maximize the value-adding content of a process and minimize everything else. In order to maximize the value-adding content of the current CEU process, the concept of Knowledge Value Added (KVA) became very



relevant. In using the KVA methodology, it was important to calculate how the current process was adding value (AS-IS) and how the re-engineered process would add value (TO-BE). As developed by Housel and Kanevsky, KVA is a framework for measuring the value of corporate knowledge assets and the redesigned process is expected to create more knowledge allowing the participants to continue to learn from the business process through their constant interaction.

Once buy-in was achieved from interviews, visits and in-depth discussions from the key leaders and decision makers in the Senior IP Community to develop a tool to track the CEUs, it was then time to implement change. The author chose to use a method taught from a course at the Naval Postgraduate School titled *Managing Change in Complex Organizations*. The method, *Jick's Ten Commandments for Implementing Change*, was analyzed and examined as relevant to the IP CEU tracking problems as well as in designing the solution to answer the thesis research question.

## **2. Jick's Ten Commandments for Implementing Change**

### ***a. Analyze the Organization and Its Need for Change***

Upon deciding to take on this challenge for creating the best solution to effectively web-enable and manage the CEU manual tracking process, the organization responsible for tracking CEUs, the IPCOE, had to be evaluated and determined whether there was an actual need to change the way the center was managing the tracking process. After speaking with the Administrative Assistant, Mary Bronzan, it was clear that the process currently in place was antiquated and inefficient through no fault of her own. She was new to the process and was continuing a process that was turned over to her. Her files were very well maintained, it was just not efficient enough to accomplish the goals of the CEU Program. Furthermore, Joe Sullivan's method for temporarily tracking CEUs at NETWARCOM using an MS Excel spreadsheet was not productive or efficient, ultimately confirming the necessity for an information technological change to improve the entire system.

### ***b. Create a Shared Vision and Common Direction***

Discussions with the IPCOE, NETWARCOM representatives, and other would-be users, IP Officers, ensured that a web-enabled database was the solution to the

problem. Developing this solution was not characteristic of the average projects when change will be implemented. All stakeholders in this case equally shared the same vision and wanted to ensure the success. This made it effortless for the author to ensure the requirements for the system were identified and met because cooperation was not a factor.

***c. Separate from the Past***

In order for business process re-engineering or a change project to be successful, the ties to the old way of doing things must be severed, and a future-oriented plan must be developed. Not to say that the old ways will not be analyzed and determined whether some stay or go, but for the most part, the desire to latch on to the ineffective processes must be removed. Since the past and current methods failed to proficiently track Navy IP CEUs, the focus had to shift to how this could be done far more efficiently in the near term vice dwelling on how ineffective it was in its present state. Normally, users and administrators had to be motivated or convinced that the new way is the “best or better way” to do business. In the case of developing a new tool to track the CEUs, resistance to change was minimal. Everyone was aware that the current process was not rendering the greatest results so any new more technical method had to be both productive and rewarding for all involved.

***d. Create a Sense of Urgency***

There was a pre-existing sense of urgency at the conception of the CEU Program’s establishment because the Senior Officers did not identify an instrument for tracking and reporting the mandatory uninterrupted career-long learning continuum for IP Officers. Due to the restricted time for the author to complete the Master’s thesis requirements and the immediate needs of the IP Community to resolve the problem, all stakeholders assisted eagerly with the urgency to find a feasible technical solution and expedite the implementation process.

***e. Support a Strong Leader Role***

The strong leader this solution supports is the Director, IPCOE who has been designated by NETWARCOM to manage the CEU program. This person along with the entire community has a vested interest in ensuring this project is successfully and expeditiously implemented.

***f. Line up Political Sponsorship***

Political support and sponsorship was acquired immediately upon deciding to take on this project. Initially it was obtained from the Director, IPCOE and then shared with a group of the Senior IP decision makers during a Senior Leadership Course taught at the Naval Postgraduate School. From that overwhelming success, others began to share the concepts of this idea with headquarters of the Navy's IP Community, NETWARCOM. Immediately after the news traveled throughout the walls of that command, decisions were made and the go ahead was given to develop this tool.

***g. Craft an Implementation Plan***

After creating a prototype from the recommendations of the IPCOE, Senior Leadership, NETWARCOM, other IP Officers, and results of the usability assessment, a plan to implement the changes had to be formed and set in motion. The plan to implement the project was reviewed and discussed first hand with the Acting IPCOE Director, LCDR Reese Zomar. The plan involved having the prototype launched from the NPS Intranet site for a trial run to be tested on actual IP Officers. With the success of that trial run, the goal would be to run the prototype from the IPCOE server with a link located on the NKO site under IP Continuing Education Units. The ultimate goal would be to have the database available for access under the Certifications and Qualifications vector of the 5 Vector Model (5VM). The 5VM is discussed more in detail under the Future Research section of this thesis.

***h. Develop Enabling Structures***

Ideally, at the conclusion of the trial run and correction to any discrepancies found at that time, NETWARCOM should release a new directive to specify that CEUs are to be tracked using the newly developed CEU Tracking Tool. This requirement would ensure that the Navy IPs and the administrators responsible for tracking the CEUs would use the developed tool. Although stakeholders appear to be motivated to see the tracking tool implemented, without the necessary directive from NETWARCOM, follow-through may fall by the wayside.

***i. Communicate, Involve People, and be Honest***

The outstanding usability assessment provided by the NPS Human Systems Integration Laboratory (HSIL) under the request of the three MN4125 students

was a clear stepping stone in the right direction to ensure the acceptance of the tracking tool. It assisted the author with the final product as a tool of objective analysis instead of as a tool of subjective criticism on the ability to effectively develop a database and webpage application. Open communication, stakeholder involvement and honesty were key characteristics to achieving the desired results.

*j. Reinforce and Institutionalize Change*

Since the author is a member of the IP Community and has a personal interest in ensuring that the CEU Tracking Tool gets implemented, even after the completion of the thesis, a continuous effort will be made to follow-up on the tool to fruition. Any support required will be provided to make certain the tool will become the future way all Navy IP Officers track their CEUs.

With the overwhelming interest in the need for a formalized CEU tracking system, which potentially would be a Navy-wide implementation across the IP Community, and the inefficiencies involved with the current tracking process, it was not very hard to determine the “best” solution to create a web-enabled database. Research and review of the available solutions in the market coupled with the author’s developing experience and community feedback also were key in creating the solution. The author would have chosen the primary residence for the database to be the 5VM; however, the model was not ready to be implemented for IP Officers at the time of development.

**D. FUTURE RESEARCH**

Information listed below has been identified as ideas for future research or possible modifications to the designed prototype.

**1. Incorporation onto Navy Knowledge Online (NKO)**

The CEU Tracking Tool database currently resides on a Naval Postgraduate School server and is managed by the Information Technology & Communication Services (ITACS) Office in conjunction with the Director, Information Professional Center of Excellence. The database should eventually be moved to the NKO website as a temporary location and then eventually on the Certification and Qualification vector of the 5VM. Figures 13-15 depict the screens in which the IP Officer would select to get to the location of the CEU Tracking Tool. Figure 13 is the screen each IP Officer will see

after logging in to the NKO Sea Warrior Portal. On the right hand side, there is a link that reads IP Officers (see red arrow pointing at selection), the officer would select this link. Figure 14 is the screen that will be seen next. On the left hand side of the screen, there are several links to choose from. The IP Continuing Education (see red arrow) is the choice that should be selected. Figure 15 depicts the best location for the CEU Tracking Tool. On the right hand side where there is the note **\*\*\*New\*\*\*Tracking CEU Credits** (area in circled in a red circle) is where the link for the CEU Tracking Tool would reside. The note would be removed and only a link entitled CEU TRACKING TOOL would be in that location.

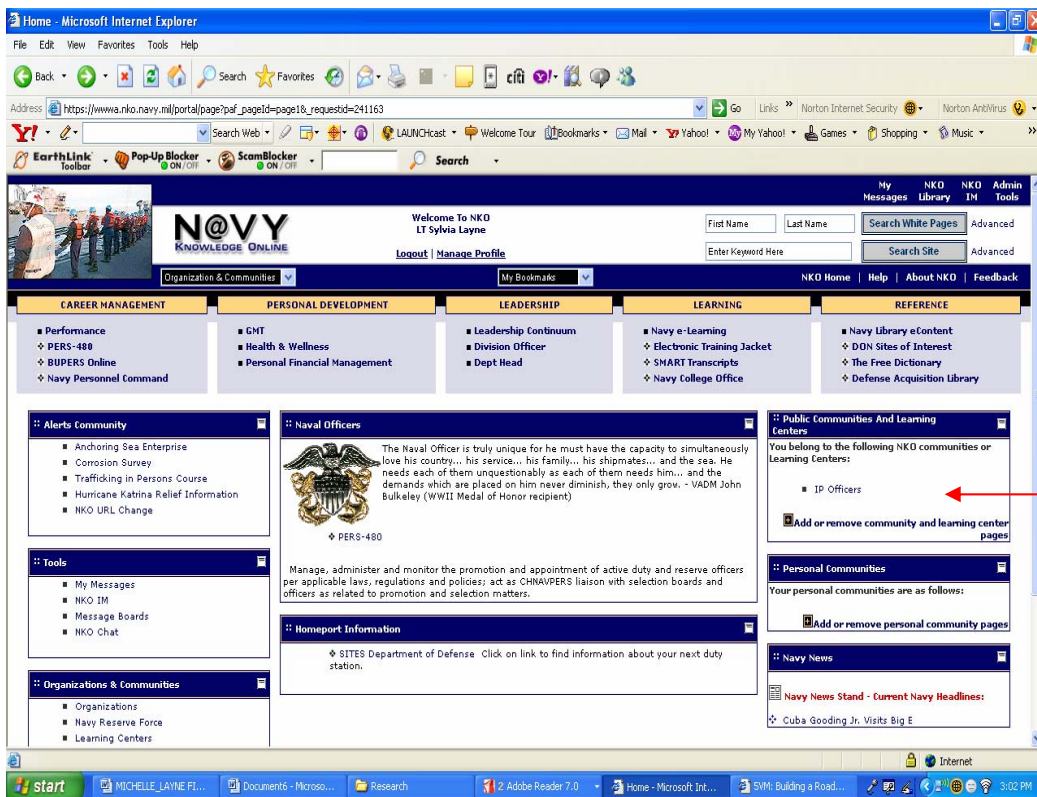


Figure 13. First Screen After Logging Into NKO

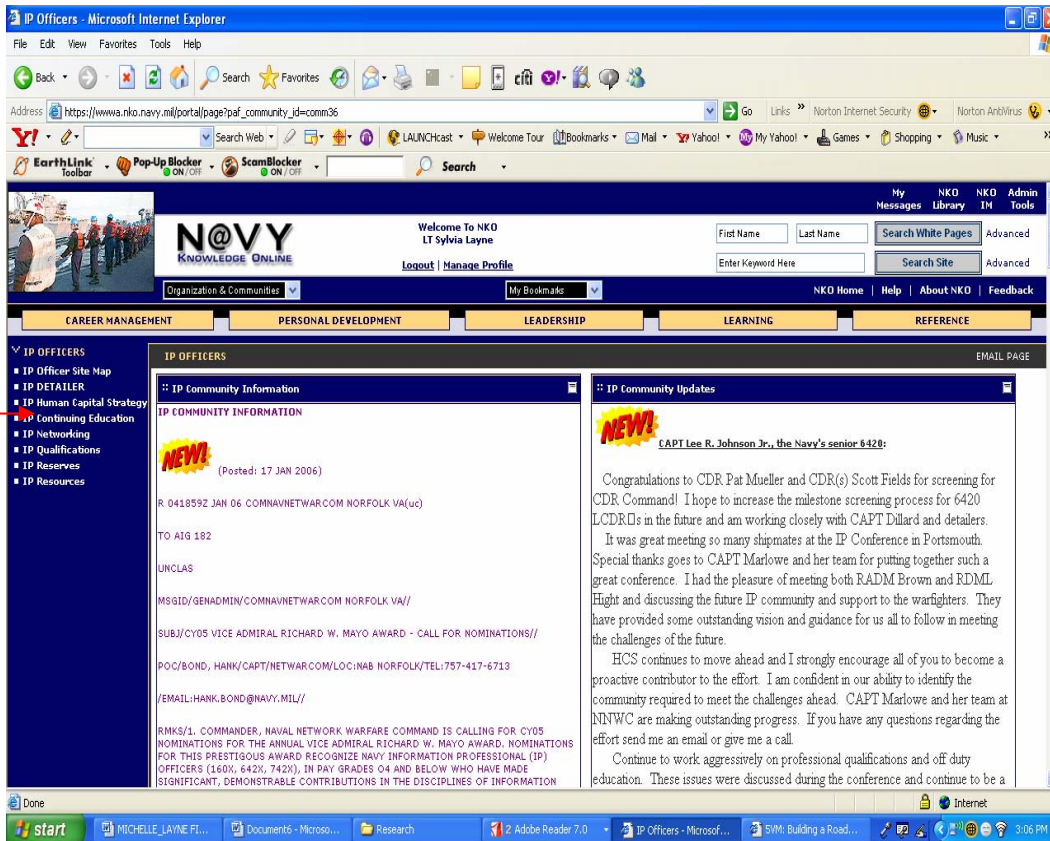


Figure 14. Screen After Selecting IP Officers

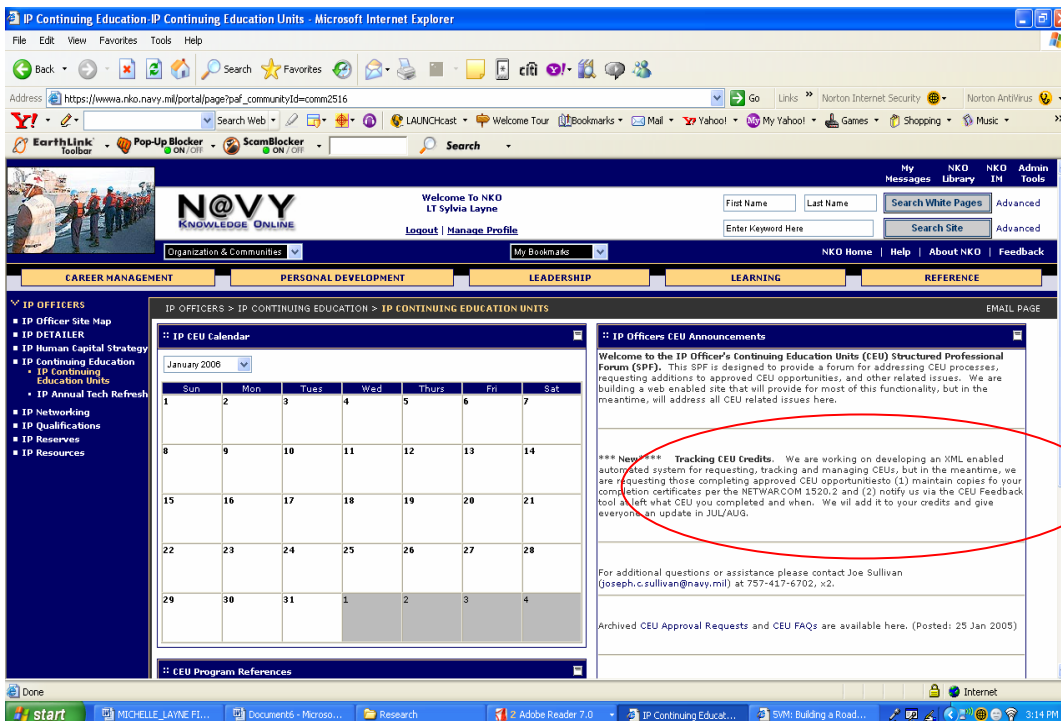


Figure 15. Location for CEU Tracking Tool

When making the connection to the NKO Sea Warrior Portal, the most feasible solution would be to ensure that the users could use their current NKO log-in names and passwords.

## 2. Implement a Simplified Status Page

An additional feature that could be added to the CEU Tracking Tool would be to develop a small status portal to demonstrate the capability of delivering a status update to the user without requiring user interaction. Figure 16 illustrates what the portal would look like inside the NKO IP Continuing Education Unit page.

The screenshot shows the NKO IP Continuing Education Unit page. The user is logged in as jonathan.kaltwasser on Thursday, May 12, 2005. The page features a navigation menu with options like Home, Personal Info, Leadership, Performance, Personal Development, Officers, NKO Library, and Inside NKO. A search bar is located at the top left. The main content area is titled "IP Officers >> IP Continuing Education-IP Continuing Education Units" and includes a "Page Opti" button. Below the title is a "IP Annual Tech Refresh" section. The "IP CEU Calendar" section shows a calendar for May 2005. The "Your CEU Status" section is highlighted with a red circle and shows "Your 2005 CEU Status: Yellow". A legend below explains the status: Green for "ALL" requirements, Yellow for "SOME" requirements, Red for "NO" requirements, and Orange for "CEU credits pending approval". The "IP CEU Feedback Gear" section includes a link to display/hide the feedback entry box. The right sidebar contains "IP Officers CEU Announcements" with a welcome message and contact information for the Director, IPCOE, CDR Susan Matusiak.

Figure 16. CEU Status Portal

This portal could be hosted along with the CEU Tracking Tool website and dynamically linked into other web pages (like NKO or BUPERS). The portal would look at the user being passed to it and do a database lookup to determine their status. For performance reasons, the status should be pre-computed and stored as just a field in the database (most people will look at the page more often than they actually enter CEU's for credit, so compute their status when something is added or changed).

An advantage to adding the status page would be a user would instantly have feedback with no ambiguity over their status. The data is delivered in-line with the rest of the NKO or BUPERS website and would not require the user to remember to log in to a different website (they have already been authenticated once). A couple of disadvantages also exist if the status page is implemented. This portal requires expertise that is more technical in order to implement. To do this properly, the web server hosted at the IP Center of Excellence would have to receive the credentials passed to it via a technique called single-sign-on (SSO). NKO already uses some sort of SSO solution but research must be done in order to determine which product they have chosen and how to interface with it. Additionally, the logic documented in NETWARCOMINST 1520.2 must be coded into the website. Based upon a user's PQS qualification level, the system must calculate the requirement for that individual (basic qualification requires one CEU per year, intermediate and advanced qualification requires 10 CEUs per year) and then add up all of their approved credits. Lastly, the exact definition of yellow must be clearly defined. A person could be given a yellow status if they have all the credits they need, but the IPCOE has not yet approved the credits. Yellow could also mean that they have four credits but not the 10 required per the instruction.

### **3. Incorporation onto the 5 Vector Model (5VM)**

The purpose of the IP Community obtaining CEUs is to continue the pursuit of education throughout an individual's career ensuring each individual is ready for the challenges of the changing technological environment along with meeting the needs of the Navy. On that note, the Navy has launched a new strategy for the training and education of its Navy sailors shifting to an apprentice-journeyman-master relationship. This new strategy is the Sea Warrior 5 Vector Model strategy. The five vectors are: Professional, Personal, Leadership, Certifications and Qualifications and Performance. Each vector represents a specific path in that sailor's career that is maintained by a database linking sailors to all facets of a Navy career in particular job areas. The 5VM will also link sailors to civilian and Navy certification programs in addition to other training opportunities (Dumestre, 2005). There is ongoing research to create the 5VM for the Officer community. An Officer 5VM summit was hosted by Naval Manpower and Analysis Center (NAVMAC) (Millington, TN) 24-25 January 2005 to discuss Officer Job



Analysis (JA). The Council of Captains (based on NAVMAC input) has decided that the initial Officer JA survey will be completed using Navy Occupational Billet Codes (NOBCs). NOBCs are being used because it is the best available data and they provide occupational work that is being performed by the Officer. Officer JA survey will not be done by designator because the NAVMAC representative stated that designators are primarily used for promotion purposes. Most of the 5VMs for the enlisted community have been completed. Figure 17 is an example of a 5VM for an Aerographer at the Journeyman level.

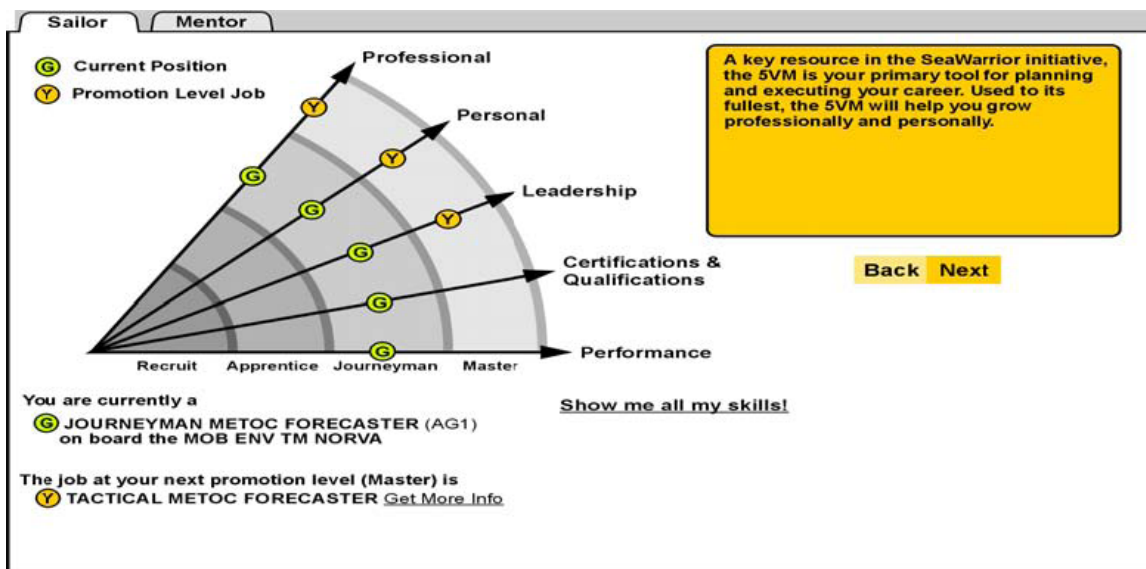


Figure 17. 5VM for an Aerographer at the Journeyman level (From Dumestre, 2004)

At the conclusion of the research and analysis of the creation of a 5VM for the Officers, it would be a great idea for the CEU Tracking Tool to be placed on the Certifications and Qualifications vector. Additional research would have to occur to make the connection to the database designated for that vector.

## E. CONCLUSION

There is an annual requirement in the Navy Information Professional (IP) community to continue the pursuit of education throughout an individual's career. This

additional training is documented in the form of Continuing Education Units. While there is a requirement to participate, there is no centralized formal method to track each individual's progress.

Ensuring the Navy IP community fulfills these continuing education requirements is critical for both sustainment and future growth of the Navy IP community. The community must be a source of subject matter experts in the fast moving field of information technology. If Navy IP Officers fail to maintain expertise in their field, the Navy may view them as not required and choose to eliminate their occupational specialty.

Current methods for tracking Continuing Education Unit (CEU) credits within the Information Professional community do not meet the requirements of the users and administrators. Key decision-makers have pushed for a more technical solution as the current mechanism is informal and convoluted at best. Interest from within the IP community was the driver for this thesis level research in an attempt to create a resolution that answers all facets of the formal tracking deficiency.

The entire process was analyzed and re-engineered using Business Process Re-engineering principles and the Knowledge Value Added (KVA) methodology. After the in-depth analysis of the "AS-IS" to determine a "TO-BE" environment, there were three alternatives taken under consideration. Chapter V discussed the strengths and weaknesses of those three alternatives that potentially met this requirement. They were:

- 1) Continue to use the comments block of an individual's Fitness Report
- 2) Work with the Navy Knowledge Online support team to custom build tools
- 3) Implement a site designed by a Naval Postgraduate School student

Based upon current budget and timelines set forth by the key decision-makers, a combination of the last two alternatives provides the most feasible solution that enforces and incorporates the CEU formal tracking process.

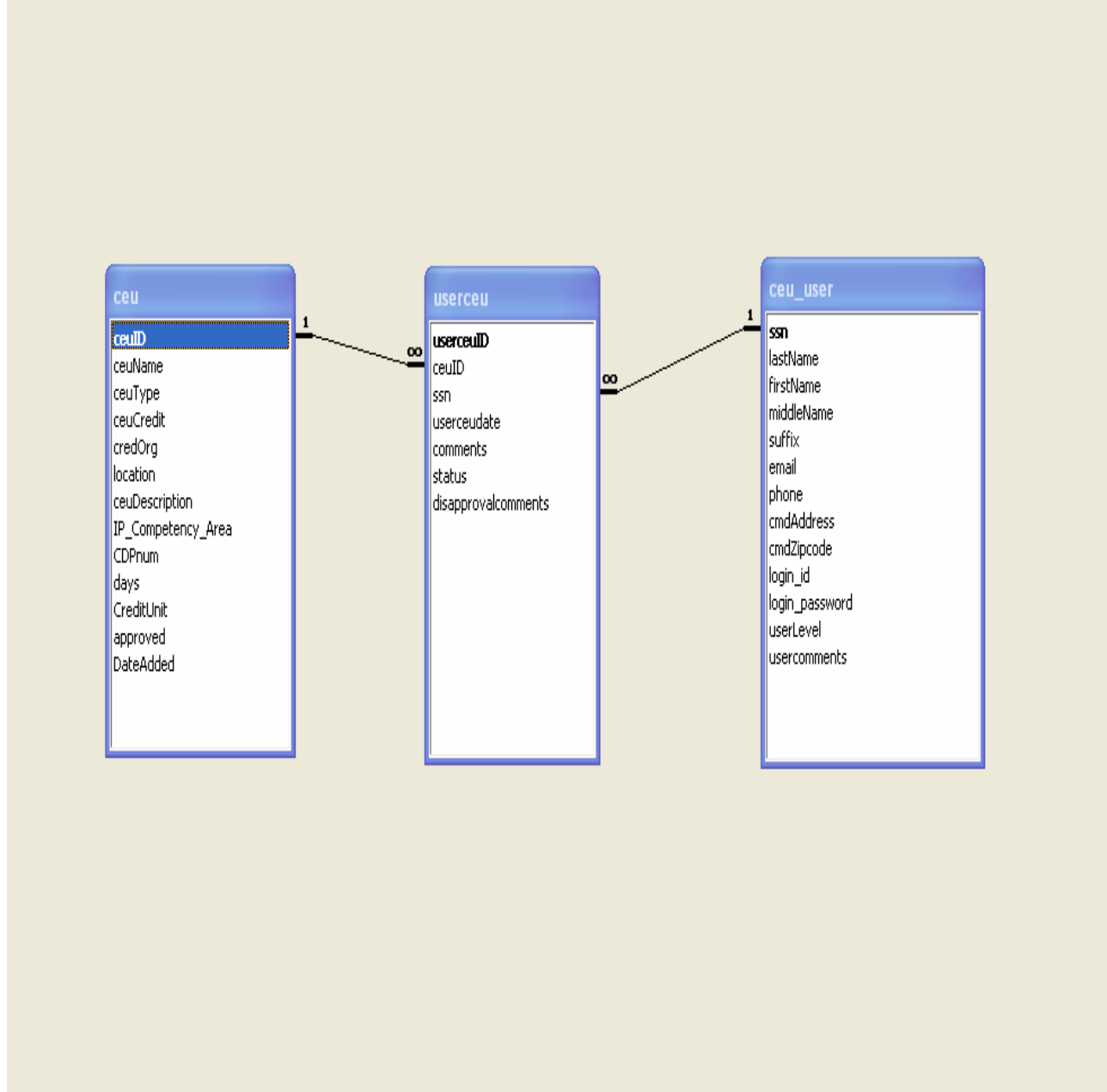
Human factors and usability analysis conducted against the formal CEU tracking system provided insight on subject performance. This allowed for a greater understanding and predictability as to the future success of such a program by creating

metrics around site navigation and ease of use. Results from the usability study were fully integrated into the final product as part of a spiral development plan that consisted of improvements in site navigation, input formatting and checks for record deleting.

The requirement and desire for a solution to the CEU Program's formal tracking problems has proven to be overwhelming, thereby making it a strong candidate for Business Process Re-engineering with high expectations of implementing change. Key IP decision-makers such as those at the IP Center of Excellence as well as the Captains (O-6's) in the community are anticipating this developed prototype and expect it to be implemented early in 2006 as the standard for tracking continuing education units.

## APPENDIX A. DATABASE TABLE RELATIONS

This is a copy of the database schema for the database table relations.



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## APPENDIX B. DATA DEFINITIONS

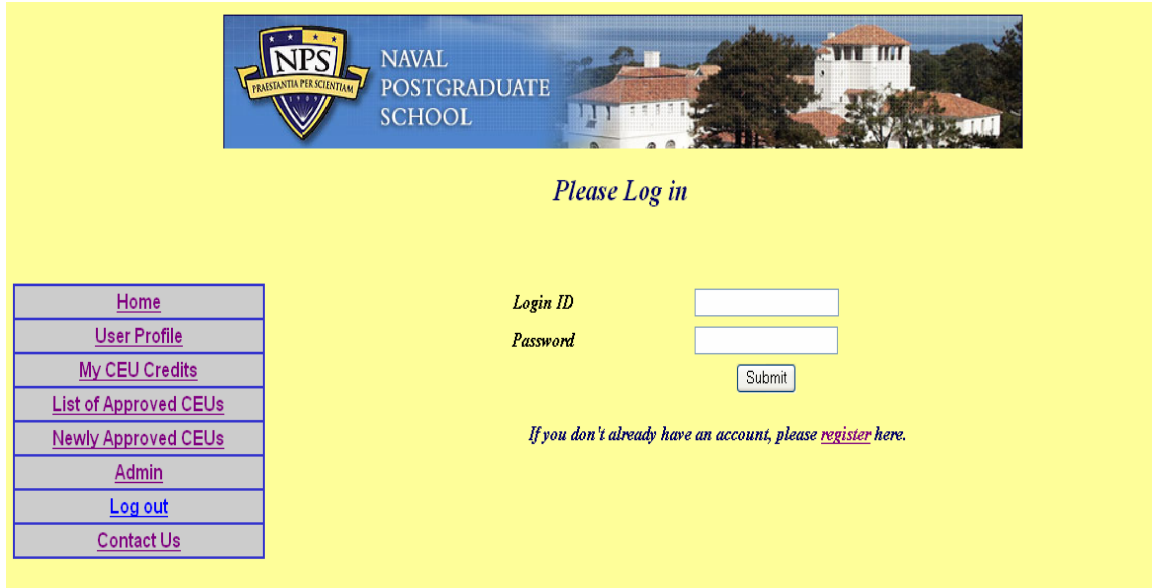
This appendix contains the data definition for the database schema for the CEU Tracking Tool.

TABLE	ATTRIBUTES	TYPE (SIZE)	KEY/FOREIGN KEY
CEU	ceuID ceuName ceuType ceuCred credOrg location ceuDescription IP_Competency_Area CDPnum days CreditUnit Approved DateAdded	AutoNumber Text Text Text Text Text Text Text Text Number Yes/No Date/Time	Key
USER CEU	userceuID ceuID ssn userceudate comments status disapprovalcomments	AutoNumber Number Text Date/Time Text Text Text	Key Foreign Key
CEU_USER	ssn lastName firstName middleName suffix email phone cmdAddress cmdZipcode login_id login_password userLevel usercomments	Text Text Text Text Text Text Text Text Text Text Text Text	Key

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## APPENDIX C. PROPOSED PROCESS SCREEN SHOTS

This appendix contains the screen shots from the proposed process web-enabled application.



The screenshot shows the initial log-in page for the Naval Postgraduate School. At the top left is the NPS logo with the motto "PRASANTIA PER SCIENTIAM" and the text "NAVAL POSTGRADUATE SCHOOL". To the right is a photograph of a large white building with a red roof. Below the header, the text "Please Log in" is centered. On the left side, there is a vertical menu with the following items: Home, User Profile, My CEU Credits, List of Approved CEUs, Newly Approved CEUs, Admin, Log out, and Contact Us. In the center, there are two input fields labeled "Login ID" and "Password", followed by a "Submit" button. Below the input fields, the text reads: "If you don't already have an account, please [register here](#)."

Initial Log-In/Log Out Page



The screenshot shows the welcome screen after a successful login. At the top left is the NPS logo and the text "NAVAL POSTGRADUATE SCHOOL". To the right is a photograph of a large white building with a red roof. Below the header, the text reads: "WELCOME TO THE IP OFFICER COMMUNITY'S CONTINUING EDUCATION UNIT (CEU) & ELECTRONIC QUALIFICATION CARD (EQC) WEBSITE". On the left side, there is a vertical menu with the following items: Home, User Profile, My CEU Credits, List of Approved CEUs, Newly Approved CEUs, Admin, Log out, and Contact Us. In the center, there is a photograph of a hand holding a globe of the Earth. To the right of the globe, there is a message from Michelle, the Director of the Information Professional Officer Center of Excellence (IPCOE). The message reads: "Michelle, here is the tool we have all been waiting for! Commander, Naval Network Warfare Command (NETWARCOM) mandated that IP Officers would obtain Continuing Education Units (CEUs) on an annual basis to maintain currency and proficiency in the Information Technology field as described in NETWARCOMINST 1520.2 in the CEU Program. This website was designed as your personal tool to keep track of all of your earned CEUs, provide you with a current listing of the available CEUs as well as an area for you to keep track of your shipboard and shore duty qualifications. As the Director of the Information Professional Officer Center of Excellence (IPCOE) here at the Naval Post Graduate School, Monterey, NETWARCOM has designated me as the approving authority for all your requests. I will review, approve or disapprove all requests. If your requests are disapproved, please [contact me](#)."

Welcome Screen after successfully logging in





### User Profile

- [Home](#)
- [User Profile](#)
- [My CEU Credits](#)
- [List of Approved CEUs](#)
- [Newly Approved CEUs](#)
- [Admin](#)
- [Log out](#)
- [Contact Us](#)

To update any field, click on the appropriate box, change the value, and click on the update button on the bottom of the page

SSN	<input type="text" value="444332211"/>
Last Name	<input type="text" value="Layne"/>
First Name	<input type="text" value="Sylvia"/>
Middle Name	<input type="text" value="Michelle"/>
Suffix	<input type="text"/>
Email	<input type="text" value="smlayne@nps.edu"/>
Phone	<input type="text" value="1234556678"/>
Command Address	<input type="text" value="1 University Blvd"/>
Command Postal/Zip Code	<input type="text" value="939400000"/>
Login ID	<input type="text" value="smlayne"/>
Password	<input type="password" value="••••••"/>

Partial view of User Profile Page



### My Continuing Education Units

- [Home](#)
- [User Profile](#)
- [My CEU Credits](#)
- [List of Approved CEUs](#)
- [Newly Approved CEUs](#)
- [Admin](#)
- [Log out](#)
- [Contact Us](#)

Select from the options below to display your previously entered CEU requests and waivers. You can also add new requests, update previous requests and delete records.

Total Credits this FY: 0

[DISPLAY this Fiscal Year's CEUs](#)

[DISPLAY All Your Previously Earned CEUs](#)



[Add New Request](#)  
[Add New Waiver](#)

My CEU Credits Page



*CEU search*

<a href="#">Home</a>
<a href="#">User Profile</a>
<a href="#">My CEU Credits</a>
<a href="#">List of Approved CEUs</a>
<a href="#">Newly Approved CEUs</a>
<a href="#">Admin</a>
<a href="#">Log out</a>
<a href="#">Contact Us</a>

*Display by Type*

- [\*CERT-Certification\*](#)
- [\*FL-Formal Learning\*](#)
- [\*PAO-Prof Activity/Org\*](#)

*Enter Search criteria*

  \*

[\*Display All\*](#)

*OR [Request new CEU be added to the list](#)*

*\*for optimal results use the "%" to act as a wildcard*

List of Approved CEUs Page



*Search Results*

<a href="#">Home</a>
<a href="#">User Profile</a>
<a href="#">My CEU Credits</a>
<a href="#">List of Approved CEUs</a>
<a href="#">Newly Approved CEUs</a>
<a href="#">Admin</a>
<a href="#">Log out</a>
<a href="#">Contact Us</a>

*Click on the Name to Request that CEU to be added to your record or [request new CEU be added to the list](#).*

Newly Approved CEUs Page



### Administration

<a href="#">Home</a>
<a href="#">User Profile</a>
<a href="#">My CEU Credits</a>
<a href="#">List of Approved CEUs</a>
<a href="#">Newly Approved CEUs</a>
<a href="#">Admin</a>
<a href="#">Log out</a>
<a href="#">Contact Us</a>

*This page will enable you to display all CEU requests requiring approval or disapproval.*

[Approve Submitted CEU](#)

[Approve Suggested CEU](#)

[Report of CEUs](#)

[Home](#)

### Admin Page



### Contact Us

<a href="#">Home</a>
<a href="#">User Profile</a>
<a href="#">My CEU Credits</a>
<a href="#">List of Approved CEUs</a>
<a href="#">Newly Approved CEUs</a>
<a href="#">Admin</a>
<a href="#">Log out</a>
<a href="#">Contact Us</a>

*If you need more information about this website or the CEU process please contact the IP center of Excellence:*

*If you would like to send us an email please use the following form.*

**Contact Information**

Your email address:

Subject

*Please type your message below (for questions about CEU requests please include Date of original request)*

### Contact Us Page

## APPENDIX D. WEB PAGE CODE

This appendix contains the code behind the web pages created for the implementation of the Reengineered Continuing Education Unit Tracking Tool.

### A. HOMEPAGE.ASP

```
<%@LANGUAGE="VBSCRIPT"%>
<%
' *** Logout the current user.
MM_Logout = CStr(Request.ServerVariables("URL")) & "?MM_Logoutnow=1"
If (CStr(Request("MM_Logoutnow")) = "1") Then
    Session.Contents.Remove("MM_Username")
    Session.Contents.Remove("MM_UserAuthorization")
    MM_logoutRedirectPage = "login.asp"
' redirect with URL parameters (remove the "MM_Logoutnow" query param).
if (MM_logoutRedirectPage = "") Then MM_logoutRedirectPage =
CStr(Request.ServerVariables("URL"))
If (InStr(1, UC_redirectPage, "?", vbTextCompare) = 0 And Request.QueryString <> "") Then
    MM_newQS = "?"
    For Each Item In Request.QueryString
        If (Item <> "MM_Logoutnow") Then
            If (Len(MM_newQS) > 1) Then MM_newQS = MM_newQS & "&"
            MM_newQS = MM_newQS & Item & "=" &
Server.URLEncode(Request.QueryString(Item))
        End If
    Next
    if (Len(MM_newQS) > 1) Then MM_logoutRedirectPage = MM_logoutRedirectPage &
MM_newQS
    End If
    Response.Redirect(MM_logoutRedirectPage)
End If
%>
<%
' *** Restrict Access To Page: Grant or deny access to this page
MM_authorizedUsers="admin,user"
MM_authFailedURL="login.asp"
MM_grantAccess=false
```



```

<!-- InstanceBeginEditable name="doctitle" -->
<title>CEU WEBSITE HOME PAGE</title>
<!-- InstanceEndEditable --><meta http-equiv="Content-Type" content="text/html; charset=iso-
8859-1">
<style type="text/css">
<!--
body,td,th {
    color: #000000;
}
body {
    background-color: #FFFF99;
}
.style1 { font-family: Geneva, Arial, Helvetica, sans-serif}
.style2 {
    color: #000066;
    font-weight: bold;
    font-style: italic;
}
.style4 {color: #000066}
-->
</style>
<!-- InstanceBeginEditable name="head" -->
<style type="text/css">
<!--
.style5 {
    font-family: Verdana, Arial, Helvetica, sans-serif;
    color: #000066;
}
-->
</style>
<!-- InstanceEndEditable -->
</head>

<body>
<h2 align="center"></h2>
<!-- InstanceBeginEditable name="title" -->

```

```
<h2 align="center"><span class="style2">WELCOME TO THE IP OFFICER COMMUNITY'S  
CONTINUING EDUCATION UNIT (CEU) & ELECTRONIC QUALIFICATION CARD (EQC)  
WEBSITE</span></h2>
```

```
<!-- InstanceEndEditable -->
```

```
<h3 align="center">&nbsp;</h3>
```

```
<table width="95%" height="780" border="0" cellpadding="2" cellspacing="0">
```

```
<tr>
```

```
<td width="22%" valign="top"><table width="100%" height="201" border="1"  
cellpadding="3" cellspacing="0" bordercolor="#3333CC" bgcolor="#CCCCCC">
```

```
<tr>
```

```
<td><div align="center" class="style1"><strong> <a  
href="homepage.asp">Home</a></strong></div></td>
```

```
</tr>
```

```
<tr>
```

```
<td><div align="center" class="style1"><strong> <a href="userprofile.asp">User  
Profile</a> </strong></div></td>
```

```
</tr>
```

```
<tr>
```

```
<td><div align="center" class="style1"><strong> <a href="myceu_credits.asp">My CEU  
Credits</a> </strong></div></td>
```

```
</tr>
```

```
<tr>
```

```
<td><div align="center" class="style1"><strong> <a href="approved_list.asp">List of  
Approved CEUs</a></strong></div></td>
```

```
</tr>
```

```
<tr>
```

```
<td><div align="center" class="style1"><strong><a  
href="viewallceu.asp?Last60=True">Newly
```

```
Approved CEUs</a> </strong></div></td>
```

```
</tr>
```

```
<tr>
```

```
<td><div align="center" class="style1"><a  
href="admin_ipcoe.asp"><strong>Admin</strong></a></div></td>
```

```
</tr>
```

```
<tr>
```

```
<td><!-- InstanceBeginEditable name="EditRegion5" -->
```

```
<div align="center"><span class="style1"><strong>&nbsp;<a href="<%= MM_Logout  
%>">Log
```

```
out</a></strong></span></div>
```

```
<!-- InstanceEndEditable --></td>
```

```

</tr>
<tr>
  <td><div align="center" class="style1"><strong> <a href="contact_us.asp">Contact Us</a>
</strong></div></td>
</tr>
</table></td>
<td width="78%" valign="top"><!-- InstanceBeginEditable name="paragraph" -->
  <table width="95%" border="0" cellspacing="0" cellpadding="3">
    <tr>
      <td width="34%" valign="top"></td>
      <td width="66%" align="left" valign="top"><p
class="style5"><%=rs_userfirstname.Fields.Item("firstName").Value%>, here is the tool we have all
been waiting for! Commander, Naval Network Warfare Command (NETWARCOM) mandated that IP
Officers would obtain Continuing Education Units (CEUs) on an annual basis to maintain currency and
proficiency in the Information Technology field as described in NETWARCOMINST 1520.2 in the CEU
Program. </p>
      <p class="style5">This website was designed as your personal tool to keep track of all of
your earned CEUs, provide you with a current listing of the available CEUs as well as an area for you to
keep track of your shipboard and shore duty qualifications. </p>
      <p class="style5">As the Director of the Information Professional Officer Center of
Excellence (IPCOE) here at the Naval Post Graduate School, Monterey, NETWARCOM has designated me
as the approving authority for all your requests. I will review, approve or disapprove all requests. If your
requests are disapproved, please <a href="contact_us.asp">contact </a>me for reasons why. The normal
turn around time for request approvals will be one week after your submission. </p>
      <p class="style5">Refer back to this page for updates on the CEU program. </p>
      <p align="center" class="style5">&nbsp;</p>
      <p class="style5">&nbsp;</p></td>
    </tr>
  </table>
  <td align="center" valign="top">&nbsp;</td>
  <td align="center" valign="top"><div align="center">
    <p class="style4"><em><strong>Helpful Community Links</strong></em></p>
  </div></td>
</tr>
<tr>
  <td align="right" valign="top">&nbsp;</td>
  <td align="center" valign="top"><a href="http://www.netwarcom.navy.mil">
NETWARCOM</a> <a href="http://www.npc.navy.mil/channels">BUPERS</a> <a
href="http://www.nko.navy.mil">NKO</a> </td>
</tr>

```



```

        </table>
        <!-- InstanceEndEditable --></td>
    </tr>
</table>
<div align="center">
</div>

</body>
<!-- InstanceEnd --></html>
<%
rs_userfirstname.Close()
Set rs_userfirstname = Nothing
%>

```

## B. USERPROFILE.ASP

```

<% @LANGUAGE="VBSCRIPT"%>
<%
' *** Logout the current user.
MM_Logout = CStr(Request.ServerVariables("URL")) & "?MM_Logoutnow=1"
If (CStr(Request("MM_Logoutnow")) = "1") Then
    Session.Contents.Remove("MM_Username")
    Session.Contents.Remove("MM_UserAuthorization")
    MM_logoutRedirectPage = "login.asp"
    ' redirect with URL parameters (remove the "MM_Logoutnow" query param).
    if (MM_logoutRedirectPage = "") Then MM_logoutRedirectPage =
CStr(Request.ServerVariables("URL"))
    If (InStr(1, UC_redirectPage, "?", vbTextCompare) = 0 And Request.QueryString <> "") Then
        MM_newQS = "?"
        For Each Item In Request.QueryString
            If (Item <> "MM_Logoutnow") Then
                If (Len(MM_newQS) > 1) Then MM_newQS = MM_newQS & "&"
                MM_newQS = MM_newQS & Item & "=" &
Server.URLEncode(Request.QueryString(Item))
            End If
        Next
        if (Len(MM_newQS) > 1) Then MM_logoutRedirectPage = MM_logoutRedirectPage &
MM_newQS

```

```

End If
Response.Redirect(MM_logoutRedirectPage)
End If
%>
<!--#include file="Connections/Group10.asp" -->
<%
' *** Restrict Access To Page: Grant or deny access to this page
MM_authorizedUsers="admin,user"
MM_authFailedURL="login.asp"
MM_grantAccess=false
If Session("MM_Username") <> "" Then
    If (false Or CStr(Session("MM_UserAuthorization"))="") Or _
        (InStr(1,MM_authorizedUsers,Session("MM_UserAuthorization"))>=1) Then
        MM_grantAccess = true
    End If
End If
If Not MM_grantAccess Then
    MM_qsChar = "?"
    If (InStr(1,MM_authFailedURL,"?") >= 1) Then MM_qsChar = "&"
    MM_referrer = Request.ServerVariables("URL")
    if (Len(Request.QueryString()) > 0) Then MM_referrer = MM_referrer & "?" &
Request.QueryString()
    MM_authFailedURL = MM_authFailedURL & MM_qsChar & "accessdenied=" &
Server.URLEncode(MM_referrer)
    Response.Redirect(MM_authFailedURL)
End If
%>
<%
Dim rs_user__MMColParam
rs_user__MMColParam = "1"
If (Session("mm_username") <> "") Then
    rs_user__MMColParam = Session("mm_username")
End If
%>
<%
Dim rs_user
Dim rs_user_numRows

```

```

Set rs_user = Server.CreateObject("ADODB.Recordset")
rs_user.ActiveConnection = MM_Group10_STRING
rs_user.Source = "SELECT * FROM ceu_user WHERE login_id = " +
Replace(rs_user__MMColParam, "", "") + ""
rs_user.CursorType = 0
rs_user.CursorLocation = 2
rs_user.LockType = 1
rs_user.Open()

rs_user_numRows = 0
%>
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html><!-- InstanceBegin template="/Templates/trackmasters%20template.asp"
codeOutsideHTMLOIsLocked="false" -->
<head>
<!-- InstanceBeginEditable name="doctype" -->
<title>CEU WEBSITE User Profile</title>
<!-- InstanceEndEditable --><meta http-equiv="Content-Type" content="text/html; charset=iso-
8859-1">
<style type="text/css">
<!--
body,td,th {
    color: #000000;
}
body {
    background-color: #FFFF99;
}
.style1 {font-family: Geneva, Arial, Helvetica, sans-serif}
.style2 {
    color: #000066;
    font-weight: bold;
    font-style: italic;
}
.style4 {color: #000066}
-->

```

```

</style>
<!-- InstanceBeginEditable name="head" --><!-- InstanceEndEditable -->
</head>

<body>
<h2 align="center"></h2>
<!-- InstanceBeginEditable name="title" -->
<h2 align="center"><span class="style2">User Profile </span></h2>
<!-- InstanceEndEditable -->
<h3 align="center">&nbsp;</h3>
<table width="95%" height="780" border="0" cellpadding="2" cellspacing="0">
<tr>
<td width="22%" valign="top"><table width="100%" height="201" border="1"
cellpadding="3" cellspacing="0" bordercolor="#3333CC" bgcolor="#CCCCCC">
<tr>
<td><div align="center" class="style1"><strong> <a
href="homepage.asp">Home</a></strong></div></td>
</tr>
<tr>
<td><div align="center" class="style1"><strong> <a href="userprofile.asp">User
Profile</a> </strong></div></td>
</tr>
<tr>
<td><div align="center" class="style1"><strong> <a href="myceu_credits.asp">My CEU
Credits</a> </strong></div></td>
</tr>
<tr>
<td><div align="center" class="style1"><strong> <a href="approved_list.asp">List of
Approved CEUs</a></strong></div></td>
</tr>
<tr>
<td><div align="center" class="style1"><strong> <a
href="viewallceu.asp?Last60=True">Newly
Approved CEUs</a></strong></div></td>
</tr>
<tr>
<td><div align="center" class="style1"><a
href="admin_ipcoe.asp"><strong>Admin</strong></a></div></td>

```

```

</tr>
<tr>
  <td><!-- InstanceBeginEditable name="EditRegion5" -->
    <div align="center"><a href="<%= MM_Logout %>" class="style1"><strong>Log
out</strong></a></div>
    <!-- InstanceEndEditable --></td>
</tr>
<tr>
  <td><div align="center" class="style1"><strong> <a href="contact_us.asp">Contact Us</a>
</strong></div></td>
</tr>
</table></td>
<td width="78%" valign="top"><!-- InstanceBeginEditable name="paragraph" -->
  <p class="style4"><em><strong>To update any field, click on the appropriate box, change the
value, and click on the update button on the bottom of the page </strong></em></p>
  <form name="frmUserupdate" class="style4" id="frmUserupdate">
    <table width="95%" border="0" cellspacing="0" cellpadding="1">
      <tr>
        <td width="8%">&nbsp;</td>
        <td width="37%" valign="top" class="style4"><strong><em>SSN</em></strong></td>
        <td width="55%" valign="top" class="style4"><input name="ssn" type="text" id="ssn"
value="<%= (rs_user.Fields.Item("ssn").Value)%>"></td>
      </tr>
      <tr>
        <td>&nbsp;</td>
        <td valign="top" class="style4"><em><strong>Last Name </strong></em></td>
        <td valign="top" class="style4"><input name="lastName" type="text" id="lastName"
value="<%= (rs_user.Fields.Item("lastName").Value)%>"></td>
      </tr>
      <tr>
        <td>&nbsp;</td>
        <td valign="top" class="style4"><em><strong>First Name </strong></em></td>
        <td valign="top" class="style4"><input name="firstName" type="text" id="firstName"
value="<%= (rs_user.Fields.Item("firstName").Value)%>"></td>
      </tr>
      <tr>
        <td>&nbsp;</td>

```

```

        <td valign="top" class="style4"><p><em><strong>Middle Name
</strong></em></p></td>
        <td valign="top" class="style4"><input name="middleName" type="text"
id="middleName" value="<%=rs_user.Fields.Item("middleName").Value%>"></td>
    </tr>
    <tr>
        <td>&nbsp;</td>
        <td valign="top" class="style4"><em><strong>Suffix</strong></em></td>
        <td valign="top" class="style4"><input name="suffix" type="text" id="suffix"
value="<%=rs_user.Fields.Item("suffix").Value%>"></td>
    </tr>
    <tr>
        <td>&nbsp;</td>
        <td valign="top" class="style4"><em><strong>Email</strong></em></td>
        <td valign="top" class="style4"><input name="email" type="text" id="email"
value="<%=rs_user.Fields.Item("email").Value%>"></td>
    </tr>
    <tr>
        <td>&nbsp;</td>
        <td valign="top" class="style4"><em><strong>Phone</strong></em></td>
        <td valign="top" class="style4"><input name="phone" type="text" id="phone"
value="<%=rs_user.Fields.Item("phone").Value%>"></td>
    </tr>
    <tr>
        <td>&nbsp;</td>
        <td valign="top" class="style4"><em><strong>Command Address </strong></em></td>
        <td valign="top" class="style4"><input name="cmdAddress" type="text"
id="cmdAddress" value="<%=rs_user.Fields.Item("cmdAddress").Value%>"></td>
    </tr>
    <tr>
        <td>&nbsp;</td>
        <td valign="top" class="style4"><em><strong>Command Postal/Zip Code
</strong></em></td>
        <td valign="top" class="style4"><input name="cmdZipcode" type="text"
id="cmdZipcode" value="<%=rs_user.Fields.Item("cmdZipcode").Value%>"></td>
    </tr>
    <tr>
        <td>&nbsp;</td>

```

```

        <td valign="top" class="style4"><em><strong>Login ID </strong></em></td>
        <td valign="top" class="style4"><input name="login" type="text" id="login"
value="<%=rs_user.Fields.Item("login_id").Value%>"></td>
    </tr>
    <tr>
        <td>&nbsp;</td>
        <td valign="top" class="style4"><em><strong>Password</strong></em></td>
        <td valign="top" class="style4"><input name="password" type="password"
id="password" value="<%=rs_user.Fields.Item("login_password").Value%>"></td>
    </tr>
    <tr>
        <td>&nbsp;</td>
        <td valign="top" class="style4"><em><strong>Comments</strong></em></td>
        <td valign="top" class="style4"><textarea name="usercomments"
id="usercomments"><%=rs_user.Fields.Item("usercomments").Value%></textarea></td>
    </tr>
    <tr>
        <td>&nbsp;</td>
        <td align="top" class="style4">&nbsp;</td>
        <td align="top" class="style4"><input name="update" type="submit" id="update"
value="Update">
            <input name="reset" type="reset" id="reset" value="Reset"></td>
    </tr>
</table>
</form>
<p align="center" class="style4"><em><strong><a
href="homepage.asp">Home</a></strong></em></p>
<!-- InstanceEndEditable --></td>
</tr>
</table>
<div align="center">
</div>

</body>
<!-- InstanceEnd --></html>
<%
rs_user.Close()
Set rs_user = Nothing

```

```
%>
```

### C. MYCEU\_CREDITS.ASP

```
<%@LANGUAGE="VBSCRIPT"%>
<%
' *** Logout the current user.
MM_Logout = CStr(Request.ServerVariables("URL")) & "?MM_Logoutnow=1"
If (CStr(Request("MM_Logoutnow")) = "1") Then
    Session.Contents.Remove("MM_Username")
    Session.Contents.Remove("MM_UserAuthorization")
    MM_logoutRedirectPage = "login.asp"
' redirect with URL parameters (remove the "MM_Logoutnow" query param).
if (MM_logoutRedirectPage = "") Then MM_logoutRedirectPage =
CStr(Request.ServerVariables("URL"))
If (InStr(1, UC_redirectPage, "?", vbTextCompare) = 0 And Request.QueryString <> "") Then
    MM_newQS = "?"
    For Each Item In Request.QueryString
        If (Item <> "MM_Logoutnow") Then
            If (Len(MM_newQS) > 1) Then MM_newQS = MM_newQS & "&"
            MM_newQS = MM_newQS & Item & "=" &
Server.URLEncode(Request.QueryString(Item))
        End If
    Next
    if (Len(MM_newQS) > 1) Then MM_logoutRedirectPage = MM_logoutRedirectPage &
MM_newQS
    End If
    Response.Redirect(MM_logoutRedirectPage)
End If
%>
<!--#include file="Connections/Group10.asp" -->
<%
' *** Edit Operations: declare variables

Dim MM_editAction
Dim MM_abortEdit
Dim MM_editQuery
Dim MM_editCmd
```



```
Dim MM_editConnection
Dim MM_editTable
Dim MM_editRedirectUrl
Dim MM_editColumn
Dim MM_recordId
```

```
Dim MM_fieldsStr
Dim MM_columnsStr
Dim MM_fields
Dim MM_columns
Dim MM_typeArray
Dim MM_formVal
Dim MM_delim
Dim MM_altVal
Dim MM_emptyVal
Dim MM_i
```

```
MM_editAction = CStr(Request.ServerVariables("SCRIPT_NAME"))
```

```
If (Request.QueryString <> "") Then
```

```
    MM_editAction = MM_editAction & "?" & Server.URLEncode(Request.QueryString)
```

```
End If
```

```
' boolean to abort record edit
```

```
MM_abortEdit = false
```

```
' query string to execute
```

```
MM_editQuery = ""
```

```
%>
```

```
<%
```

```
' *** Delete Record: declare variables
```

```
if (CStr(Request("MM_delete")) = "frmMyceu" And CStr(Request("MM_recordId")) <> "") Then
```

```
    MM_editConnection = MM_Group10_STRING
```

```
    MM_editTable = "userceu"
```

```

MM_editColumn = "userceuID"
MM_recordId = "" + Request.Form("MM_recordId") + ""
MM_editRedirectUrl = "myceu_display_current.asp"

' append the query string to the redirect URL
If (MM_editRedirectUrl <> "" And Request.QueryString <> "") Then
    If (InStr(1, MM_editRedirectUrl, "?", vbTextCompare) = 0 And Request.QueryString <> "")
Then
        MM_editRedirectUrl = MM_editRedirectUrl & "?" & Request.QueryString
    Else
        MM_editRedirectUrl = MM_editRedirectUrl & "&" & Request.QueryString
    End If
End If

End If
%>
<%
' *** Delete Record: construct a sql delete statement and execute it

If (CStr(Request("MM_delete")) <> "" And CStr(Request("MM_recordId")) <> "") Then

    ' create the sql delete statement
    MM_editQuery = "delete from " & MM_editTable & " where " & MM_editColumn & " = " &
MM_recordId

    If (Not MM_abortEdit) Then
        ' execute the delete
        Set MM_editCmd = Server.CreateObject("ADODB.Command")
        MM_editCmd.ActiveConnection = MM_editConnection
        MM_editCmd.CommandText = MM_editQuery
        MM_editCmd.Execute
        MM_editCmd.ActiveConnection.Close

        If (MM_editRedirectUrl <> "") Then
            Response.Redirect(MM_editRedirectUrl)
        End If
    End If
End If

```

```

End If
%>
<%
' *** Restrict Access To Page: Grant or deny access to this page
MM_authorizedUsers="admin,user"
MM_authFailedURL="login.asp"
MM_grantAccess=false
If Session("MM_Username") <> "" Then
    If (false Or CStr(Session("MM_UserAuthorization"))="") Or _
        (InStr(1,MM_authorizedUsers,Session("MM_UserAuthorization"))>=1) Then
        MM_grantAccess = true
    End If
End If
If Not MM_grantAccess Then
    MM_qsChar = "?"
    If (InStr(1,MM_authFailedURL,"?") >= 1) Then MM_qsChar = "&"
    MM_referrer = Request.ServerVariables("URL")
    if (Len(Request.QueryString()) > 0) Then MM_referrer = MM_referrer & "?" &
Request.QueryString()
    MM_authFailedURL = MM_authFailedURL & MM_qsChar & "accessdenied=" &
Server.URLEncode(MM_referrer)
    Response.Redirect(MM_authFailedURL)
End If
%>
<%
Dim rs_ceuDisplay__MMColParam
rs_ceuDisplay__MMColParam = "fish"
If (Session("mm_username") <> "") Then
    rs_ceuDisplay__MMColParam = Session("mm_username")
End If
%>
<%
Dim rs_ceuDisplay__FYDate
rs_ceuDisplay__FYDate = "10/1/2005"
If (Session("CurrentFY") <> "") Then
    rs_ceuDisplay__FYDate = Session("CurrentFY")

```

```

End If
%>
<%
Dim rs_ceuDisplay
Dim rs_ceuDisplay_numRows

Set rs_ceuDisplay = Server.CreateObject("ADODB.Recordset")
rs_ceuDisplay.ActiveConnection = MM_Group10_STRING
rs_ceuDisplay.Source = "SELECT userceu.*, ceu_user.*, ceu.* FROM (userceu INNER JOIN
ceu ON userceu.ceuID = ceu.ceuID) INNER JOIN ceu_user ON userceu.ssn = ceu_user.ssn WHERE
ceu_user.login_id = " + Replace(rs_ceuDisplay__MMColParam, "", "") + " and userceudate >= #" +
Replace(rs_ceuDisplay__FYDate, "", "") + "# ORDER BY userceudate desc"
rs_ceuDisplay.CursorType = 0
rs_ceuDisplay.CursorLocation = 2
rs_ceuDisplay.LockType = 1
rs_ceuDisplay.Open()
rs_ceuDisplay_numRows = 0
%>
<%
Dim Repeat1__numRows
Dim Repeat1__index

Repeat1__numRows = -1
Repeat1__index = 0
rs_ceuDisplay_numRows = rs_ceuDisplay_numRows + Repeat1__numRows
%>
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html><!-- InstanceBegin template="Templates/trackmasters%20template.dwt"
codeOutsideHTMLIsLocked="false" -->
<head>
<!-- InstanceBeginEditable name="doctitle" -->
<title>My Earned CEUs Displayed</title>
<!-- InstanceEndEditable --><meta http-equiv="Content-Type" content="text/html; charset=iso-
8859-1">
<style type="text/css">
<!--
body,td,th {

```

```

        color: #000000;
    }
    body {
        background-color: #FFFF99;
    }
    .style1 {font-family: Geneva, Arial, Helvetica, sans-serif}
    .style2 {
        color: #000066;
        font-weight: bold;
        font-style: italic;
    }
    .style4 {color: #000066}
-->
</style>
<!-- InstanceBeginEditable name="head" -->
<style type="text/css">
<!--
    .style5 {
        color: #FF0000;
        font-weight: bold;
    }
    .style8 {color: #000000; font-weight: bold; }
-->
</style>
<script type="text/javascript">
function ask() {
    if(confirm("Are you sure?")) {
        return true;
    } else {
        return false;
    }
}
</script>
<!-- InstanceEndEditable -->
</head>

```

```

<body>
  <h2 align="center"></h2>
  <!-- InstanceBeginEditable name="title" -->
  <h2 align="center"><span class="style2"><span class="style4"><em>My Earned
CEUs</em></span></span></h2>
  <!-- InstanceEndEditable -->
  <h3 align="center">&nbsp;</h3>
  <table width="95%" height="780" border="0" cellpadding="2" cellspacing="0">
  <tr>
    <td width="22%" valign="top"><table width="100%" height="201" border="1"
cellpadding="3" cellspacing="0" bordercolor="#3333CC" bgcolor="#CCCCCC">
      <tr>
        <td><div align="center" class="style1"><strong> <a
href="homepage.asp">Home</a></strong></div></td>
      </tr>
      <tr>
        <td><div align="center" class="style1"><strong> <a href="userprofile.asp">User
Profile</a> </strong></div></td>
      </tr>
      <tr>
        <td><div align="center" class="style1"><strong> <a href="myceu_credits.asp">My CEU
Credits</a> </strong></div></td>
      </tr>
      <tr>
        <td><div align="center" class="style1"><strong> <a href="approved_list.asp">List of
Approved CEUs</a></strong></div></td>
      </tr>
      <tr>
        <td><div align="center" class="style1"><strong><a
href="viewallceu.asp?Last60=True">Newly
Approved CEUs</a> </strong></div></td>
      </tr>
      <tr>
        <td><div align="center" class="style1"><a
href="admin_ipcoe.asp"><strong>Admin</strong></a></div></td>
      </tr>
      <tr>
        <td><!-- InstanceBeginEditable name="EditRegion5" -->

```

```

        <div align="center"><a href="<%= MM_Logout %>" class="style1"><strong>Log
out</strong></a></div>
        <!-- InstanceEndEditable --></td>
    </tr>
    <tr>
        <td><div align="center" class="style1"><strong> <a href="contact_us.asp">Contact Us</a>
</strong></div></td>
    </tr>
</table></td>
<td width="78%" valign="top"><!-- InstanceBeginEditable name="paragraph" -->
    <div align="center"><span class="style2">Previously Earned CEUs</span>    <%
While ((Repeat1__numRows <> 0) AND (NOT rs_ceuDisplay.EOF))
%>
</div>
<div align="center" class="style2">
    <div align="center">
        <hr align="center" width="95%">
        <br>
    </div>
</div>
<div align="center" class="style4">
    <div align="center">
        <table width="95%" border="0" cellpadding="3" cellspacing="0">
            <tr>
                <td width="54%" align="left"><strong>CEU NAME : </strong></td>
                <td width="46%"
align="left"><%= (rs_ceuDisplay.Fields.Item("ceuName").Value)%></td>
            </tr>
            <tr>
                <td align="left"><strong>CEU TYPE : </strong></td>
                <td align="left"><%= (rs_ceuDisplay.Fields.Item("ceuType").Value)%></td>
            </tr>
            <tr>
                <td align="left"><strong>NUMBER OF CREDITS: </strong></td>
                <td align="left"><%= (rs_ceuDisplay.Fields.Item("ceuCredit").Value)%></td>
            </tr>
            <tr>

```

```

        <td align="left"><strong>CREDITABLE ORGANIZATION: </strong></td>
        <td align="left"><%=rs_ceuDisplay.Fields.Item("credOrg").Value%></td>
    </tr>
    <tr>
        <td align="left"><strong>LOCATION:</strong></td>
        <td align="left"><%=rs_ceuDisplay.Fields.Item("location").Value%></td>
    </tr>
    <tr>
        <td align="left"><strong>DESCRIPTION:</strong></td>
        <td align="left"><%=rs_ceuDisplay.Fields.Item("ceuDescription").Value%></td>
    </tr>
    <tr>
        <td align="left"><strong>IP CORE COMPETENCY: </strong></td>
        <td align="left"><%=rs_ceuDisplay.Fields.Item("IP_Competency_Area").Value%></td>
    </tr>
    <tr>
        <td align="left"><span class="style8">STATUS</span></td>
        <td align="left"><span class="style5"><%=rs_ceuDisplay.Fields.Item("status").Value%></span></td>
    </tr>
    <tr>
        <td align="left"><span class="style8">IPCOE Comments </span></td>
        <td>
            <%=rs_ceuDisplay.Fields.Item("disapprovalcomments").Value%>
        </td>
    </tr>
</table>
</div>
<form ACTION="<%=MM_editAction%>" METHOD="POST" name="frmMyceu"
id="frmMyceu">
    <div align="center">
        <table width="96%" border="0" cellspacing="0" cellpadding="3">
            <tr>
                <td width="166" align="left"><strong>DATE:</strong></td>
                <td width="277" align="left"><%=rs_ceuDisplay.Fields.Item("userceudate").Value%></td>
            </tr>
        </table>
    </div>

```



```

        </tr>
        <tr>
            <td>&nbsp;</td>
            <td align="left"><label>
                <input type="submit" name="Submit" value="Delete This Record" onClick="return
ask()">
            </label></td>
        </tr>
        <tr>
            <td>&nbsp;</td>
            <td align="left">&nbsp;</td>
        </tr>
    </table>
    <input type="hidden" name="MM_delete" value="frmMyceu">
    <input type="hidden" name="MM_recordId" value="<%=
rs_ceuDisplay.Fields.Item("userceuID").Value %>">
    </div>
</form>
</div>
<div align="center">
    <p>
        <%
Repeat1__index=Repeat1__index+1
Repeat1__numRows=Repeat1__numRows-1
rs_ceuDisplay.MoveNext()
Wend
%>
    </p>
    <p><a href="homepage.asp" class="style2">Home</a> </p>
</div>
    <!-- InstanceEndEditable --></td>
</tr>
</table>
<div align="center">
</div>
</body>

```

```

<!-- InstanceEnd --></html>
<%
rs_ceuDisplay.Close()
Set rs_ceuDisplay = Nothing
%>

```

#### D. MYCEU\_DISPLAY\_CURRENT.ASP

```

<%@LANGUAGE="VBSCRIPT"%>
<%
' *** Logout the current user.
MM_Logout = CStr(Request.ServerVariables("URL")) & "?MM_Logoutnow=1"
If (CStr(Request("MM_Logoutnow")) = "1") Then
    Session.Contents.Remove("MM_Username")
    Session.Contents.Remove("MM_UserAuthorization")
    MM_logoutRedirectPage = "login.asp"
    ' redirect with URL parameters (remove the "MM_Logoutnow" query param).
    if (MM_logoutRedirectPage = "") Then MM_logoutRedirectPage =
CStr(Request.ServerVariables("URL"))
    If (InStr(1, UC_redirectPage, "?", vbTextCompare) = 0 And Request.QueryString <> "") Then
        MM_newQS = "?"
        For Each Item In Request.QueryString
            If (Item <> "MM_Logoutnow") Then
                If (Len(MM_newQS) > 1) Then MM_newQS = MM_newQS & "&"
                MM_newQS = MM_newQS & Item & "=" &
Server.URLEncode(Request.QueryString(Item))
            End If
        Next
        if (Len(MM_newQS) > 1) Then MM_logoutRedirectPage = MM_logoutRedirectPage &
MM_newQS
    End If
    Response.Redirect(MM_logoutRedirectPage)
End If
%>
<!--#include file="Connections/Group10.asp" -->
<%
' *** Edit Operations: declare variables

```

```
Dim MM_editAction
Dim MM_abortEdit
Dim MM_editQuery
Dim MM_editCmd
```

```
Dim MM_editConnection
Dim MM_editTable
Dim MM_editRedirectUrl
Dim MM_editColumn
Dim MM_recordId
```

```
Dim MM_fieldsStr
Dim MM_columnsStr
Dim MM_fields
Dim MM_columns
Dim MM_typeArray
Dim MM_formVal
Dim MM_delim
Dim MM_altVal
Dim MM_emptyVal
Dim MM_i
```

```
MM_editAction = CStr(Request.ServerVariables("SCRIPT_NAME"))
```

```
If (Request.QueryString <> "") Then
```

```
    MM_editAction = MM_editAction & "?" & Server.URLEncode(Request.QueryString)
```

```
End If
```

```
' boolean to abort record edit
```

```
MM_abortEdit = false
```

```
' query string to execute
```

```
MM_editQuery = ""
```

```
%>
```

```
<%
```

```
' *** Delete Record: declare variables
```

```

if (CStr(Request("MM_delete")) = "frmMyceu" And CStr(Request("MM_recordId")) <> "") Then

    MM_editConnection = MM_Group10_STRING
    MM_editTable = "userceu"
    MM_editColumn = "userceuID"
    MM_recordId = "" + Request.Form("MM_recordId") + ""
    MM_editRedirectUrl = "myceu_display.asp"

    ' append the query string to the redirect URL
    If (MM_editRedirectUrl <> "" And Request.QueryString <> "") Then
        If (InStr(1, MM_editRedirectUrl, "?", vbTextCompare) = 0 And Request.QueryString <> "")
Then
            MM_editRedirectUrl = MM_editRedirectUrl & "?" & Request.QueryString
        Else
            MM_editRedirectUrl = MM_editRedirectUrl & "&" & Request.QueryString
        End If
    End If

End If

%>
<%
' *** Delete Record: construct a sql delete statement and execute it

If (CStr(Request("MM_delete")) <> "" And CStr(Request("MM_recordId")) <> "") Then

    ' create the sql delete statement
    MM_editQuery = "delete from " & MM_editTable & " where " & MM_editColumn & " = " &
MM_recordId

    If (Not MM_abortEdit) Then
        ' execute the delete
        Set MM_editCmd = Server.CreateObject("ADODB.Command")
        MM_editCmd.ActiveConnection = MM_editConnection
        MM_editCmd.CommandText = MM_editQuery
        MM_editCmd.Execute
        MM_editCmd.ActiveConnection.Close

```

```

    If (MM_editRedirectUrl <> "") Then
        Response.Redirect(MM_editRedirectUrl)
    End If
End If

End If
%>
<%
' *** Restrict Access To Page: Grant or deny access to this page
MM_authorizedUsers="admin,user"
MM_authFailedURL="login.asp"
MM_grantAccess=false
If Session("MM_Username") <> "" Then
    If (false Or CStr(Session("MM_UserAuthorization"))="") Or _
        (InStr(1,MM_authorizedUsers,Session("MM_UserAuthorization"))>=1) Then
        MM_grantAccess = true
    End If
End If
If Not MM_grantAccess Then
    MM_qsChar = "?"
    If (InStr(1,MM_authFailedURL,"?") >= 1) Then MM_qsChar = "&"
    MM_referrer = Request.ServerVariables("URL")
    if (Len(Request.QueryString()) > 0) Then MM_referrer = MM_referrer & "?" &
Request.QueryString()
    MM_authFailedURL = MM_authFailedURL & MM_qsChar & "accessdenied=" &
Server.URLEncode(MM_referrer)
    Response.Redirect(MM_authFailedURL)
End If
%>
<%
Dim rs_ceuDisplay__MMColParam
rs_ceuDisplay__MMColParam = "1"
If (Session("mm_username") <> "") Then
    rs_ceuDisplay__MMColParam = Session("mm_username")
End If
%>
<%

```

```

Dim rs_ceuDisplay
Dim rs_ceuDisplay_numRows

Set rs_ceuDisplay = Server.CreateObject("ADODB.Recordset")
rs_ceuDisplay.ActiveConnection = MM_Group10_STRING
rs_ceuDisplay.Source = "SELECT userceu.*, ceu_user.*, ceu.* FROM (userceu INNER JOIN
ceu ON userceu.ceuID = ceu.ceuID) INNER JOIN ceu_user ON userceu.ssn = ceu_user.ssn WHERE
ceu_user.login_id = '" + Replace(rs_ceuDisplay__MMColParam, "'", "''") + "' ORDER BY userceudate"
rs_ceuDisplay.CursorType = 0
rs_ceuDisplay.CursorLocation = 2
rs_ceuDisplay.LockType = 1
rs_ceuDisplay.Open()

rs_ceuDisplay_numRows = 0
%>
<%
Dim Repeat1__numRows
Dim Repeat1__index

Repeat1__numRows = -1
Repeat1__index = 0
rs_ceuDisplay_numRows = rs_ceuDisplay_numRows + Repeat1__numRows
%>
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html><!-- InstanceBegin template="Templates/trackmasters%20template.dwt"
codeOutsideHTMLIsLocked="false" -->
<head>
<!-- InstanceBeginEditable name="doctitle" -->
<title>My Earned CEUs Displayed</title>
<!-- InstanceEndEditable --><meta http-equiv="Content-Type" content="text/html; charset=iso-
8859-1">
<style type="text/css">
<!--
body,td,th {
    color: #000000;
}

```

```

body {
    background-color: #FFFF99;
}
.style1 {font-family: Geneva, Arial, Helvetica, sans-serif}
.style2 {
    color: #000066;
    font-weight: bold;
    font-style: italic;
}
.style4 {color: #000066}
-->
</style>
<!-- InstanceBeginEditable name="head" -->
<style type="text/css">
<!--
.style5 {
    color: #FF0000;
    font-weight: bold;
}
.style8 {color: #000000; font-weight: bold; }
-->
</style>
<script type="text/javascript">
function ask() {
    if(confirm("Are you sure?")) {
        return true;
    } else {
        return false;
    }
}
</script>
<!-- InstanceEndEditable -->
</head>

<body>

```

```

    <h2 align="center"></h2>
    <!-- InstanceBeginEditable name="title" -->
    <h2 align="center"><span class="style2"><span class="style4"><em>My Earned
CEUs</em></span></span></h2>
    <!-- InstanceEndEditable -->
    <h3 align="center">&nbsp;</h3>
    <table width="95%" height="780" border="0" cellpadding="2" cellspacing="0">
    <tr>
        <td width="22%" valign="top"><table width="100%" height="201" border="1"
cellpadding="3" cellspacing="0" bordercolor="#3333CC" bgcolor="#CCCCCC">
            <tr>
                <td><div align="center" class="style1"><strong> <a
href="homepage.asp">Home</a></strong></div></td>
            </tr>
            <tr>
                <td><div align="center" class="style1"><strong> <a href="userprofile.asp">User
Profile</a> </strong></div></td>
            </tr>
            <tr>
                <td><div align="center" class="style1"><strong> <a href="myceu_credits.asp">My CEU
Credits</a> </strong></div></td>
            </tr>
            <tr>
                <td><div align="center" class="style1"><strong> <a href="approved_list.asp">List of
Approved CEUs</a></strong></div></td>
            </tr>
            <tr>
                <td><div align="center" class="style1"><strong><a
href="viewallceu.asp?Last60=True">Newly
Approved CEUs</a> </strong></div></td>
            </tr>
            <tr>
                <td><div align="center" class="style1"><a
href="admin_ipcoe.asp"><strong>Admin</strong></a></div></td>
            </tr>
            <tr>
                <td><!-- InstanceBeginEditable name="EditRegion5" -->
                <div align="center"><a href="<%= MM_Logout %%" class="style1"><strong>Log
out</strong></a></div>

```



```

        <!-- InstanceEndEditable --></td>
    </tr>
    <tr>
        <td><div align="center" class="style1"><strong> <a href="contact_us.asp">Contact Us</a>
</strong></div></td>
    </tr>
</table></td>
<td width="78%" valign="top"><!-- InstanceBeginEditable name="paragraph" -->
    <div align="center"><span class="style2">Previously Earned CEUs</span>    <%
While ((Repeat1__numRows <> 0) AND (NOT rs_ceuDisplay.EOF))
%>
    </div>
    <div align="center" class="style2">
        <div align="center">
            <hr align="center" width="95%">
            <br>
        </div>
    </div>
    <div align="center" class="style4">
        <div align="center">
            <table width="95%" border="0" cellpadding="3" cellspacing="0">
                <tr>
                    <td width="54%" align="left"><strong>CEU NAME : </strong></td>
                    <td width="46%"
align="left"><%=rs_ceuDisplay.Fields.Item("ceuName").Value%></td>
                </tr>
                <tr>
                    <td align="left"><strong>CEU TYPE : </strong></td>
                    <td align="left"><%=rs_ceuDisplay.Fields.Item("ceuType").Value%></td>
                </tr>
                <tr>
                    <td align="left"><strong>NUMBER OF CREDITS: </strong></td>
                    <td align="left"><%=rs_ceuDisplay.Fields.Item("ceuCredit").Value%></td>
                </tr>
                <tr>
                    <td align="left"><strong>CREDITABLE ORGANIZATION: </strong></td>
                    <td align="left"><%=rs_ceuDisplay.Fields.Item("credOrg").Value%></td>

```

```

</tr>
<tr>
  <td align="left"><strong>LOCATION:</strong></td>
  <td align="left"><%=rs_ceuDisplay.Fields.Item("location").Value%></td>
</tr>
<tr>
  <td align="left"><strong>DESCRIPTION:</strong></td>
  <td align="left"><%=rs_ceuDisplay.Fields.Item("ceuDescription").Value%></td>
</tr>
<tr>
  <td align="left"><strong>IP CORE COMPETENCY: </strong></td>
  <td align="left"><%=rs_ceuDisplay.Fields.Item("IP_Competency_Area").Value%></td>
</tr>
<tr>
  <td align="left"><span class="style8">STATUS</span></td>
  <td align="left"><span class="style5"><%=rs_ceuDisplay.Fields.Item("status").Value%></span></td>
</tr>
<tr>
  <td align="left"><span class="style8">IPCOE Comments </span></td>
  <td><%=rs_ceuDisplay.Fields.Item("disapprovalcomments").Value%></td>
</tr>
</table>
</div>
<form ACTION="<%=MM_editAction%>" METHOD="POST" name="frmMyceu" id="frmMyceu">
  <div align="center">
    <table width="96%" border="0" cellspacing="0" cellpadding="3">
      <tr>
        <td width="166" align="left"><strong>DATE:</strong></td>
        <td width="277" align="left"><%=rs_ceuDisplay.Fields.Item("userceudate").Value%></td>
      </tr>
      <tr>
        <td>&nbsp;</td>
        <td align="left"><label>

```

```

ask(">
        <input type="submit" name="Submit" value="Delete This Record" onClick="return
ask(">
        </label></td>
        </tr>
        <tr>
        <td>&nbsp;</td>
        <td align="left">&nbsp;</td>
        </tr>
    </table>
    <input type="hidden" name="MM_delete" value="frmMyceu">
    <input type="hidden" name="MM_recordId" value="<%=
rs_ceuDisplay.Fields.Item("userceuID").Value %>">
    </div>
</form>
</div>
<div align="center">
    <p>
    <%
Repeat1__index=Repeat1__index+1
Repeat1__numRows=Repeat1__numRows-1
rs_ceuDisplay.MoveNext()
Wend
%>
    </p>
    <p><a href="homepage.asp" class="style2">Home</a> </p>
</div>
<!-- InstanceEndEditable --></td>
</tr>
</table>
<div align="center">
</div>

</body>
<!-- InstanceEnd --></html>
<%
rs_ceuDisplay.Close()
Set rs_ceuDisplay = Nothing

```

```
%>
```

## E. MYCEU\_DISPLAY.ASP

```
<% @LANGUAGE="VBSCRIPT"%>
<%
' *** Logout the current user.
MM_Logout = CStr(Request.ServerVariables("URL")) & "?MM_Logoutnow=1"
If (CStr(Request("MM_Logoutnow")) = "1") Then
    Session.Contents.Remove("MM_Username")
    Session.Contents.Remove("MM_UserAuthorization")
    MM_logoutRedirectPage = "login.asp"
    ' redirect with URL parameters (remove the "MM_Logoutnow" query param).
    if (MM_logoutRedirectPage = "") Then MM_logoutRedirectPage =
CStr(Request.ServerVariables("URL"))
    If (InStr(1, UC_redirectPage, "?", vbTextCompare) = 0 And Request.QueryString <> "") Then
        MM_newQS = "?"
        For Each Item In Request.QueryString
            If (Item <> "MM_Logoutnow") Then
                If (Len(MM_newQS) > 1) Then MM_newQS = MM_newQS & "&"
                MM_newQS = MM_newQS & Item & "=" &
Server.URLEncode(Request.QueryString(Item))
            End If
        Next
        if (Len(MM_newQS) > 1) Then MM_logoutRedirectPage = MM_logoutRedirectPage &
MM_newQS
    End If
    Response.Redirect(MM_logoutRedirectPage)
End If
%>
<!--#include file="Connections/Group10.asp" -->
<%
' *** Edit Operations: declare variables

Dim MM_editAction
Dim MM_abortEdit
Dim MM_editQuery
Dim MM_editCmd
```

```

Dim MM_editConnection
Dim MM_editTable
Dim MM_editRedirectUrl
Dim MM_editColumn
Dim MM_recordId

Dim MM_fieldsStr
Dim MM_columnsStr
Dim MM_fields
Dim MM_columns
Dim MM_typeArray
Dim MM_formVal
Dim MM_delim
Dim MM_altVal
Dim MM_emptyVal
Dim MM_i

MM_editAction = CStr(Request.ServerVariables("SCRIPT_NAME"))
If (Request.QueryString <> "") Then
    MM_editAction = MM_editAction & "?" & Server.URLEncode(Request.QueryString)
End If

' boolean to abort record edit
MM_abortEdit = false

' query string to execute
MM_editQuery = ""
%>
<%
' *** Delete Record: declare variables

if (CStr(Request("MM_delete")) = "frmMyceu" And CStr(Request("MM_recordId")) <> "") Then

    MM_editConnection = MM_Group10_STRING
    MM_editTable = "userceu"

```

```

MM_editColumn = "userceuID"
MM_recordId = "" + Request.Form("MM_recordId") + ""
MM_editRedirectUrl = "myceu_display.asp"

' append the query string to the redirect URL
If (MM_editRedirectUrl <> "" And Request.QueryString <> "") Then
    If (Instr(1, MM_editRedirectUrl, "?", vbTextCompare) = 0 And Request.QueryString <> "")
Then
        MM_editRedirectUrl = MM_editRedirectUrl & "?" & Request.QueryString
    Else
        MM_editRedirectUrl = MM_editRedirectUrl & "&" & Request.QueryString
    End If
End If

End If
%>
<%
' *** Delete Record: construct a sql delete statement and execute it

If (CStr(Request("MM_delete")) <> "" And CStr(Request("MM_recordId")) <> "") Then

    ' create the sql delete statement
    MM_editQuery = "delete from " & MM_editTable & " where " & MM_editColumn & " = " &
MM_recordId

    If (Not MM_abortEdit) Then
        ' execute the delete
        Set MM_editCmd = Server.CreateObject("ADODB.Command")
        MM_editCmd.ActiveConnection = MM_editConnection
        MM_editCmd.CommandText = MM_editQuery
        MM_editCmd.Execute
        MM_editCmd.ActiveConnection.Close

        If (MM_editRedirectUrl <> "") Then
            Response.Redirect(MM_editRedirectUrl)
        End If
    End If
End If

```

```

End If
%>
<%
' *** Restrict Access To Page: Grant or deny access to this page
MM_authorizedUsers="admin,user"
MM_authFailedURL="login.asp"
MM_grantAccess=false
If Session("MM_Username") <> "" Then
    If (false Or CStr(Session("MM_UserAuthorization"))="") Or _
        (InStr(1,MM_authorizedUsers,Session("MM_UserAuthorization"))>=1) Then
        MM_grantAccess = true
    End If
End If
If Not MM_grantAccess Then
    MM_qsChar = "?"
    If (InStr(1,MM_authFailedURL,"?") >= 1) Then MM_qsChar = "&"
    MM_referrer = Request.ServerVariables("URL")
    if (Len(Request.QueryString()) > 0) Then MM_referrer = MM_referrer & "?" &
Request.QueryString()
    MM_authFailedURL = MM_authFailedURL & MM_qsChar & "accessdenied=" &
Server.URLEncode(MM_referrer)
    Response.Redirect(MM_authFailedURL)
End If
%>
<%
Dim rs_ceuDisplay__MMColParam
rs_ceuDisplay__MMColParam = "1"
If (Session("mm_username") <> "") Then
    rs_ceuDisplay__MMColParam = Session("mm_username")
End If
%>
<%
Dim rs_ceuDisplay
Dim rs_ceuDisplay_numRows

Set rs_ceuDisplay = Server.CreateObject("ADODB.Recordset")

```

```

rs_ceuDisplay.ActiveConnection = MM_Group10_STRING

rs_ceuDisplay.Source = "SELECT userceu.*, ceu_user.*, ceu.* FROM (userceu INNER JOIN
ceu ON userceu.ceuID = ceu.ceuID) INNER JOIN ceu_user ON userceu.ssn = ceu_user.ssn WHERE
ceu_user.login_id = " + Replace(rs_ceuDisplay__MMColParam, "", "") + "" ORDER BY userceudate"

rs_ceuDisplay.CursorType = 0
rs_ceuDisplay.CursorLocation = 2
rs_ceuDisplay.LockType = 1
rs_ceuDisplay.Open()

rs_ceuDisplay_numRows = 0
%>
<%
Dim Repeat1__numRows
Dim Repeat1__index

Repeat1__numRows = -1
Repeat1__index = 0
rs_ceuDisplay_numRows = rs_ceuDisplay_numRows + Repeat1__numRows
%>
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html><!-- InstanceBegin template="Templates/trackmasters%20template.dwt"
codeOutsideHTMLOIsLocked="false" -->
<head>
<!-- InstanceBeginEditable name="doctitle" -->
<title>My Earned CEUs Displayed</title>
<!-- InstanceEndEditable --><meta http-equiv="Content-Type" content="text/html; charset=iso-
8859-1">
<style type="text/css">
<!--
body,td,th {
    color: #000000;
}
body {
    background-color: #FFFF99;
}
.style1 { font-family: Geneva, Arial, Helvetica, sans-serif}

```



```

.style2 {
    color: #000066;
    font-weight: bold;
    font-style: italic;
}
.style4 {color: #000066}
-->
</style>
<!-- InstanceBeginEditable name="head" -->
<style type="text/css">
<!--
.style5 {
    color: #FF0000;
    font-weight: bold;
}
.style8 {color: #000000; font-weight: bold; }
-->
</style>
<script type="text/javascript">
function ask() {
    if(confirm("Are you sure?")) {
        return true;
    } else {
        return false;
    }
}
</script>
<!-- InstanceEndEditable -->
</head>

<body>
<h2 align="center"></h2>
<!-- InstanceBeginEditable name="title" -->
<h2 align="center"><span class="style2"><span class="style4"><em>My Earned
CEUs</em></span></span></h2>
<!-- InstanceEndEditable -->

```

```

<h3 align="center">&nbsp;</h3>
<table width="95%" height="780" border="0" cellpadding="2" cellspacing="0">
  <tr>
    <td width="22%" valign="top"><table width="100%" height="201" border="1"
cellpadding="3" cellspacing="0" bordercolor="#3333CC" bgcolor="#CCCCCC">
      <tr>
        <td align="center" class="style1"><strong> <a
href="homepage.asp">Home</a></strong></div></td>
      </tr>
      <tr>
        <td align="center" class="style1"><strong> <a href="userprofile.asp">User
Profile</a> </strong></div></td>
      </tr>
      <tr>
        <td align="center" class="style1"><strong> <a href="myceu_credits.asp">My CEU
Credits</a> </strong></div></td>
      </tr>
      <tr>
        <td align="center" class="style1"><strong> <a href="approved_list.asp">List of
Approved CEUs</a></strong></div></td>
      </tr>
      <tr>
        <td align="center" class="style1"><strong><a
href="viewallceu.asp?Last60=True">Newly
Approved CEUs</a> </strong></div></td>
      </tr>
      <tr>
        <td align="center" class="style1"><strong><a
href="admin_ipcoe.asp"><strong>Admin</strong></a></div></td>
      </tr>
      <tr>
        <td><!-- InstanceBeginEditable name="EditRegion5" -->
          <div align="center"><a href="<%= MM_Logout %>" class="style1"><strong>Log
out</strong></a></div>
          <!-- InstanceEndEditable --></td>
      </tr>
      <tr>
        <td align="center" class="style1"><strong> <a href="contact_us.asp">Contact Us</a>
</strong></div></td>

```

```

        </tr>
    </table></td>
    <td width="78%" valign="top"><!-- InstanceBeginEditable name="paragraph" -->
        <div align="center"><span class="style2">Previously Earned CEUs</span>    <%
While ((Repeat1__numRows <> 0) AND (NOT rs_ceduDisplay.EOF))
%>
        </div>
        <div align="center" class="style2">
            <div align="center">
                <hr align="center" width="95%">
                <br>
            </div>
        </div>
        <div align="center" class="style4">
            <div align="center">
                <table width="95%" border="0" cellpadding="3" cellspacing="0">
                    <tr>
                        <td width="54%" align="left"><strong>CEU NAME : </strong></td>
                        <td width="46%"
align="left"><%=rs_ceduDisplay.Fields.Item("ceuName").Value%></td>
                    </tr>
                    <tr>
                        <td align="left"><strong>CEU TYPE : </strong></td>
                        <td align="left"><%=rs_ceduDisplay.Fields.Item("ceuType").Value%></td>
                    </tr>
                    <tr>
                        <td align="left"><strong>NUMBER OF CREDITS: </strong></td>
                        <td align="left"><%=rs_ceduDisplay.Fields.Item("ceuCredit").Value%></td>
                    </tr>
                    <tr>
                        <td align="left"><strong>CREDITABLE ORGANIZATION: </strong></td>
                        <td align="left"><%=rs_ceduDisplay.Fields.Item("credOrg").Value%></td>
                    </tr>
                    <tr>
                        <td align="left"><strong>LOCATION:</strong></td>
                        <td align="left"><%=rs_ceduDisplay.Fields.Item("location").Value%></td>

```

```

        </tr>
        <tr>
            <td align="left"><strong>DESCRIPTION:</strong></td>
            <td align="left"><%=rs_ceuDisplay.Fields.Item("ceuDescription").Value%></td>
        </tr>
        <tr>
            <td align="left"><strong>IP CORE COMPETENCY: </strong></td>
            <td align="left"><%=rs_ceuDisplay.Fields.Item("IP_Competency_Area").Value%></td>
        </tr>
        <tr>
            <td align="left"><span class="style8">STATUS</span></td>
            <td align="left"><span class="style5"><%=rs_ceuDisplay.Fields.Item("status").Value%></span></td>
        </tr>
        <tr>
            <td align="left"><span class="style8">IPCOE Comments </span></td>
            <td><%=rs_ceuDisplay.Fields.Item("disapprovalcomments").Value%></td>
        </tr>
    </table>
</div>
<form ACTION="<%=MM_editAction%>" METHOD="POST" name="frmMyceuu" id="frmMyceuu">
    <div align="center">
        <table width="96%" border="0" cellspacing="0" cellpadding="3">
            <tr>
                <td width="166" align="left"><strong>DATE:</strong></td>
                <td width="277" align="left"><%=rs_ceuDisplay.Fields.Item("userceudate").Value%></td>
            </tr>
            <tr>
                <td>&nbsp;</td>
                <td align="left"><label>
                    <input type="submit" name="Submit" value="Delete This Record" onClick="return
ask()">
                </label></td>
            </tr>
        </table>
    </div>

```

```

        <td>&nbsp;</td>
        <td align="left">&nbsp;</td>
    </tr>
</table>
    <input type="hidden" name="MM_delete" value="frmMyceu">
    <input type="hidden" name="MM_recordId" value="<%=
rs_ceuDisplay.Fields.Item("userceuID").Value %>">
</div>
</form>
</div>
<div align="center">
    <p>
        <%
Repeat1__index=Repeat1__index+1
Repeat1__numRows=Repeat1__numRows-1
rs_ceuDisplay.MoveNext()
Wend
%>
    </p>
    <p><a href="homepage.asp" class="style2">Home</a> </p>
</div>
<!-- InstanceEndEditable --></td>
</tr>
</table>
<div align="center">
</div>

</body>
<!-- InstanceEnd --></html>
<%
rs_ceuDisplay.Close()
Set rs_ceuDisplay = Nothing
%>

```

## F. ADD\_NEWREQUEST.ASP

```

<% @LANGUAGE="VBSCRIPT"%>
<%

```

```

' *** Logout the current user.
MM_Logout = CStr(Request.ServerVariables("URL")) & "?MM_Logoutnow=1"
If (CStr(Request("MM_Logoutnow")) = "1") Then
    Session.Contents.Remove("MM_Username")
    Session.Contents.Remove("MM_UserAuthorization")
    MM_logoutRedirectPage = "login.asp"
    ' redirect with URL parameters (remove the "MM_Logoutnow" query param).
    if (MM_logoutRedirectPage = "") Then MM_logoutRedirectPage =
CStr(Request.ServerVariables("URL"))
    If (InStr(1, UC_redirectPage, "?", vbTextCompare) = 0 And Request.QueryString <> "") Then
        MM_newQS = "?"
        For Each Item In Request.QueryString
            If (Item <> "MM_Logoutnow") Then
                If (Len(MM_newQS) > 1) Then MM_newQS = MM_newQS & "&"
                MM_newQS = MM_newQS & Item & "=" &
Server.URLEncode(Request.QueryString(Item))
            End If
        Next
        if (Len(MM_newQS) > 1) Then MM_logoutRedirectPage = MM_logoutRedirectPage &
MM_newQS
    End If
    Response.Redirect(MM_logoutRedirectPage)
End If
%>
<!--#include file="Connections/Group10.asp" -->
<%
' *** Restrict Access To Page: Grant or deny access to this page
MM_authorizedUsers="admin,user"
MM_authFailedURL="login.asp"
MM_grantAccess=false
If Session("MM_Username") <> "" Then
    If (false Or CStr(Session("MM_UserAuthorization"))="") Or _
        (InStr(1,MM_authorizedUsers,Session("MM_UserAuthorization"))>=1) Then
        MM_grantAccess = true
    End If
End If
If Not MM_grantAccess Then

```

```

MM_qsChar = "?"
If (InStr(1,MM_authFailedURL,"?") >= 1) Then MM_qsChar = "&"
MM_referrer = Request.ServerVariables("URL")
if (Len(Request.QueryString()) > 0) Then MM_referrer = MM_referrer & "?" &
Request.QueryString()
MM_authFailedURL = MM_authFailedURL & MM_qsChar & "accessdenied=" &
Server.URLEncode(MM_referrer)
Response.Redirect(MM_authFailedURL)
End If
%>
<%
' *** Edit Operations: declare variables

Dim MM_editAction
Dim MM_abortEdit
Dim MM_editQuery
Dim MM_editCmd

Dim MM_editConnection
Dim MM_editTable
Dim MM_editRedirectUrl
Dim MM_editColumn
Dim MM_recordId

Dim MM_fieldsStr
Dim MM_columnsStr
Dim MM_fields
Dim MM_columns
Dim MM_typeArray
Dim MM_formVal
Dim MM_delim
Dim MM_altVal
Dim MM_emptyVal
Dim MM_i

MM_editAction = CStr(Request.ServerVariables("SCRIPT_NAME"))
If (Request.QueryString <> "") Then

```

```

MM_editAction = MM_editAction & "?" & Server.URLEncode(Request.QueryString)
End If

' boolean to abort record edit
MM_abortEdit = false

' query string to execute
MM_editQuery = ""
%>
<%
' *** Insert Record: set variables

If (CStr(Request("MM_insert")) = "frm_addnewRequest") Then

    MM_editConnection = MM_Group10_STRING
    MM_editTable = "userceu"
    MM_editRedirectUrl = "newrequestprocessed.asp"
    MM_fieldsStr = "ceuID|value|ssn|value|userceudate|value|description|value|status|value"
    MM_columnsStr =
"ceuID|none,none,NULL|ssn|,none,|"userceudate|,none,|"comments|,none,|"status|,none,|"
' create the MM_fields and MM_columns arrays
MM_fields = Split(MM_fieldsStr, "|")
MM_columns = Split(MM_columnsStr, "|")

' set the form values
For MM_i = LBound(MM_fields) To UBound(MM_fields) Step 2
    MM_fields(MM_i+1) = CStr(Request.Form(MM_fields(MM_i)))
Next

' append the query string to the redirect URL
If (MM_editRedirectUrl <> "" And Request.QueryString <> "") Then
    If (InStr(1, MM_editRedirectUrl, "?", vbTextCompare) = 0 And Request.QueryString <> "")
Then
        MM_editRedirectUrl = MM_editRedirectUrl & "?" & Request.QueryString
    Else
        MM_editRedirectUrl = MM_editRedirectUrl & "&" & Request.QueryString

```



```

    End If
End If

End If
%>
<%
' *** Insert Record: construct a sql insert statement and execute it

Dim MM_tableValues
Dim MM_dbValues

If (CStr(Request("MM_insert")) <> "") Then

' create the sql insert statement
MM_tableValues = ""
MM_dbValues = ""
For MM_i = LBound(MM_fields) To UBound(MM_fields) Step 2
    MM_formVal = MM_fields(MM_i+1)
    MM_typeArray = Split(MM_columns(MM_i+1),",")
    MM_delim = MM_typeArray(0)
    If (MM_delim = "none") Then MM_delim = ""
    MM_altVal = MM_typeArray(1)
    If (MM_altVal = "none") Then MM_altVal = ""
    MM_emptyVal = MM_typeArray(2)
    If (MM_emptyVal = "none") Then MM_emptyVal = ""
    If (MM_formVal = "") Then
        MM_formVal = MM_emptyVal
    Else
        If (MM_altVal <> "") Then
            MM_formVal = MM_altVal
        ElseIf (MM_delim = "") Then ' escape quotes
            MM_formVal = "" & Replace(MM_formVal,"","") & ""
        Else
            MM_formVal = MM_delim + MM_formVal + MM_delim
        End If
    End If
End If

```

```

If (MM_i <> LBound(MM_fields)) Then
    MM_tableValues = MM_tableValues & ","
    MM_dbValues = MM_dbValues & ","
End If
MM_tableValues = MM_tableValues & MM_columns(MM_i)
MM_dbValues = MM_dbValues & MM_formVal
Next
MM_editQuery = "insert into " & MM_editTable & " (" & MM_tableValues & ") values (" &
MM_dbValues & ")"

```

```

If (Not MM_abortEdit) Then
    ' execute the insert
    Set MM_editCmd = Server.CreateObject("ADODB.Command")
    MM_editCmd.ActiveConnection = MM_editConnection
    MM_editCmd.CommandText = MM_editQuery
    MM_editCmd.Execute
    MM_editCmd.ActiveConnection.Close

```

```

If (MM_editRedirectUrl <> "") Then
    Response.Redirect(MM_editRedirectUrl)
End If
End If

```

End If

%>

<%

```
Dim rs_newrequest
```

```
Dim rs_newrequest_numRows
```

```

Set rs_newrequest = Server.CreateObject("ADODB.Recordset")
rs_newrequest.ActiveConnection = MM_Group10_STRING
rs_newrequest.Source = "SELECT * FROM userceu"
rs_newrequest.CursorType = 0
rs_newrequest.CursorLocation = 2
rs_newrequest.LockType = 3
rs_newrequest.Open()

```

```

rs_newrequest_numRows = 0
%>
<%
Dim rs_ceu
Dim rs_ceu_numRows

Set rs_ceu = Server.CreateObject("ADODB.Recordset")
rs_ceu.ActiveConnection = MM_Group10_STRING

If IsEmpty(Request.QueryString("ceuID")) Then
    rs_ceu.Source = "SELECT * FROM ceu"
ELSE
    rs_ceu.Source = "SELECT * FROM ceu WHERE ceuID=" &
Request.QueryString("ceuID") & " ORDER BY ceuName"
END IF

rs_ceu.CursorType = 0
rs_ceu.CursorLocation = 2
rs_ceu.LockType = 1
rs_ceu.Open()

rs_ceu_numRows = 0
%>
<%
Dim rs_user__MMColParam
rs_user__MMColParam = "1"
If (Session("mm_username") <> "") Then
    rs_user__MMColParam = Session("mm_username")
End If
%>
<%
Dim rs_user
Dim rs_user_numRows

Set rs_user = Server.CreateObject("ADODB.Recordset")

```

```

rs_user.ActiveConnection = MM_Group10_STRING
rs_user.Source = "SELECT * FROM ceu_user WHERE login_id = " +
Replace(rs_user__MMColParam, "", "") + ""
rs_user.CursorType = 0
rs_user.CursorLocation = 2
rs_user.LockType = 1
rs_user.Open()

rs_user_numRows = 0
%>
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html><!-- InstanceBegin template="/Templates/trackmasters template.dwt"
codeOutsideHTMLOIsLocked="false" -->
<head>
<!-- InstanceBeginEditable name="doctitle" -->
<title>Add a New Request</title>
<!-- InstanceEndEditable --><meta http-equiv="Content-Type" content="text/html; charset=iso-
8859-1">
<style type="text/css">
<!--
body,td,th {
    color: #000000;
}
body {
    background-color: #FFFF99;
}
.style1 {font-family: Geneva, Arial, Helvetica, sans-serif}
.style2 {
    color: #000066;
    font-weight: bold;
    font-style: italic;
}
.style4 {color: #000066}
-->
</style>
<!-- InstanceBeginEditable name="head" -->

```

```

<script language="JavaScript" type="text/JavaScript">
<!--
function MM_findObj(n, d) { //v4.01
    var p,i,x; if(!d) d=document; if((p=n.indexOf("?"))>0&&parent.frames.length) {
        d=parent.frames[n.substring(p+1)].document; n=n.substring(0,p);}
    if(!(x=d[n])&&d.all) x=d.all[n]; for (i=0;!x&&i<d.forms.length;i++) x=d.forms[i][n];
    for(i=0;!x&&d.layers&&i<d.layers.length;i++) x=MM_findObj(n,d.layers[i].document);
    if(!x && d.getElementById) x=d.getElementById(n); return x;
}

function YY_checkform() { //v4.66
//copyright (c)1998,2002 Yaromat.com
    var args = YY_checkform.arguments; var myDot=true; var myV=""; var myErr="";var
addErr=false;var myReq;
    for (var i=1; i<args.length;i=i+4){
        if (args[i+1].charAt(0)=='#'){ myReq=true;
args[i+1]=args[i+1].substring(1);}else{ myReq=false }
        var myObj = MM_findObj(args[i].replace(/\[d+\]/ig, ""));
        myV=myObj.value;
        if (myObj.type=='text'||myObj.type=='password'||myObj.type=='hidden'){
            if (myReq&&myObj.value.length==0){ addErr=true }
            if ((myV.length>0)&&(args[i+2]==1)){ //fromto
                var myMa=args[i+1].split('_');if(isNaN(myV)||myV<myMa[0]/1||myV >
myMa[1]/1){ addErr=true }
            } else if ((myV.length>0)&&(args[i+2]==2)){
                var rx=new RegExp("^[\w\.-]+@[[\w\.-]+\.[a-z]{2,4}$");if(!rx.test(myV))addErr=true;
            } else if ((myV.length>0)&&(args[i+2]==3)){ // date
                var myMa=args[i+1].split("#"); var myAt=myV.match(myMa[0]);
                if(myAt){
                    var myD=(myAt[myMa[1]])?myAt[myMa[1]]:1; var myM=myAt[myMa[2]]-1; var
myY=myAt[myMa[3]];
                    var myDate=new Date(myY,myM,myD);

if(myDate.getFullYear()!=myY||myDate.getDate()!=myD||myDate.getMonth()!=myM){ addErr=true };
                } else { addErr=true }
            } else if ((myV.length>0)&&(args[i+2]==4)){ // time
                var myMa=args[i+1].split("#"); var myAt=myV.match(myMa[0]);if(!myAt){ addErr=true }
            } else if (myV.length>0&&args[i+2]==5){ // check this 2

```



```

</head>

<body>
  <h2 align="center"></h2>
  <!-- InstanceBeginEditable name="title" -->
  <h2 align="center" class="style4"><em>Add a New Request </em></h2>
  <!-- InstanceEndEditable -->
  <h3 align="center">&nbsp;</h3>
  <table width="95%" height="780" border="0" cellpadding="2" cellspacing="0">
  <tr>
    <td width="22%" valign="top"><table width="100%" height="201" border="1"
cellpadding="3" cellspacing="0" bordercolor="#3333CC" bgcolor="#CCCCCC">
      <tr>
        <td><div align="center" class="style1"><strong> <a
href="homepage.asp">Home</a></strong></div></td>
      </tr>
      <tr>
        <td><div align="center" class="style1"><strong> <a href="userprofile.asp">User
Profile</a> </strong></div></td>
      </tr>
      <tr>
        <td><div align="center" class="style1"><strong> <a href="myceu_credits.asp">My CEU
Credits</a> </strong></div></td>
      </tr>
      <tr>
        <td><div align="center" class="style1"><strong> <a href="approved_list.asp">List of
Approved CEUs</a></strong></div></td>
      </tr>
      <tr>
        <td><div align="center" class="style1"><strong><a
href="viewallceu.asp?Last60=True">Newly
Approved CEUs</a> </strong></div></td>
      </tr>
      <tr>
        <td><div align="center" class="style1"><a
href="admin_ipcoe.asp"><strong>Admin</strong></a></div></td>
      </tr>
      <tr>

```

```

        <td><!-- InstanceBeginEditable name="EditRegion5" -->
            <div align="center"><a href="<%= MM_Logout %>" class="style1"><strong>Log
out</strong></a></div>
        <!-- InstanceEndEditable --></td>
    </tr>
    <tr>
        <td><div align="center" class="style1"><strong> <a href="contact_us.asp">Contact Us</a>
</strong></div></td>
    </tr>
</table></td>
<td width="78%" valign="top"><!-- InstanceBeginEditable name="paragraph" -->
    <div align="center" class="style2">
        <p align="left">Please add new CEU requests below by completing the boxes below. Ensure
you include any amplifying information in the description box.</p>
        <p align="left">&nbsp;</p>
    </div>
    <div align="center" class="style4">
        <form action="<%=MM_editAction%>" method="POST" name="frm_addnewRequest"
id="frm_addnewRequest">
            <table width="95%" border="0" cellspacing="0" cellpadding="3">
                <tr>
                    <td>CEU NAME:</td>
                    <td><label>

                        <span class="style2">
                            <select name="ceuID" size="1" id="ceuID">
                                <%
While (NOT rs_ceu.EOF)
    %>
                                <option value="<%= (rs_ceu.Fields.Item("ceuID").Value)%>" <%If (Not
isNull("ceuID")) Then If (CStr(rs_ceu.Fields.Item("ceuID").Value) = CStr("ceuID")) Then
Response.Write("SELECTED") : Response.Write("")%>
                                ><%= (rs_ceu.Fields.Item("ceuName").Value)%></option>
                                <%
rs_ceu.MoveNext()
Wend
If (rs_ceu.CursorType > 0) Then
rs_ceu.MoveFirst

```



```

Else
  rs_ceu.Requery
End If
%>
      </select>
      </span>
      <input name="ssn" type="hidden" id="ssn"
value="<%=rs_user.Fields.Item("ssn").Value%>">
    </label></td>
  </tr>
  <tr>
    <td>DATE:</td>
    <td><label>
      <input name="userceudate" type="text" id="userceudate">
    </label></td>
  </tr>
  <tr>
    <td>DESCRIPTION: (Include other information here such as course provider's name,
email or website, etc that could help assist in approving your request.) </td>
    <td><label>
      <textarea name="description" cols="35" rows="10" id="textarea"></textarea>
    </label></td>
  </tr>
  <tr>
    <td><input name="status" type="hidden" id="status" value="pending"></td>
    <td align="left"><label>
      <input name="Submit" type="submit"
onClick="YY_checkform('frm_addnewRequest','userceudate','^([0-9]{0-9})\([([0-9]{0-9})\)\([([0-9]{4})\)$#2#1#3','3','The DATE must be formatted as MM/DD/YYYY');return
document.MM_returnValue" value="Insert">
    </label></td>
  </tr>
</table>

  <input type="hidden" name="MM_insert" value="frm_addnewRequest">
</form>
</div>
<!-- InstanceEndEditable --></td>

```

```

</tr>
</table>
<div align="center">
</div>

</body>
<!-- InstanceEnd --></html>
<%
rs_newrequest.Close()
Set rs_newrequest = Nothing
%>
<%
rs_ceu.Close()
Set rs_ceu = Nothing
%>
<%
rs_user.Close()
Set rs_user = Nothing
%>

```

## **G. CEU\_WAIVERREQUEST.ASP**

```

<%@LANGUAGE="VBSCRIPT"%>
<%
' *** Logout the current user.
MM_Logout = CStr(Request.ServerVariables("URL")) & "?MM_Logoutnow=1"
If (CStr(Request("MM_Logoutnow")) = "1") Then
    Session.Contents.Remove("MM_Username")
    Session.Contents.Remove("MM_UserAuthorization")
    MM_logoutRedirectPage = "login.asp"
    ' redirect with URL parameters (remove the "MM_Logoutnow" query param).
    if (MM_logoutRedirectPage = "") Then MM_logoutRedirectPage =
CStr(Request.ServerVariables("URL"))
    If (InStr(1, UC_redirectPage, "?", vbTextCompare) = 0 And Request.QueryString <> "") Then
        MM_newQS = "?"
        For Each Item In Request.QueryString
            If (Item <> "MM_Logoutnow") Then
                If (Len(MM_newQS) > 1) Then MM_newQS = MM_newQS & "&"

```

```

        MM_newQS = MM_newQS & Item & "=" &
Server.URLEncode(Request.QueryString(Item))
    End If
Next
    if (Len(MM_newQS) > 1) Then MM_logoutRedirectPage = MM_logoutRedirectPage &
MM_newQS
    End If
    Response.Redirect(MM_logoutRedirectPage)
End If
%>
<!--#include file="Connections/Group10.asp" -->
<%
Dim UserInfo__MMColParam
UserInfo__MMColParam = "1"
If (Session("mm_username") <> "") Then
    UserInfo__MMColParam = Session("mm_username")
End If
%>
<%
Dim UserInfo
Dim UserInfo_numRows

Set UserInfo = Server.CreateObject("ADODB.Recordset")
UserInfo.ActiveConnection = MM_Group10_STRING
UserInfo.Source = "SELECT * FROM ceu_user WHERE login_id = " +
Replace(UserInfo__MMColParam, "", "") + ""
UserInfo.CursorType = 0
UserInfo.CursorLocation = 2
UserInfo.LockType = 1
UserInfo.Open()

UserInfo_numRows = 0
%>
<%
'send email
if Request.Form("Submitted") = "Done" Then

```



```

}
.style1 {font-family: Geneva, Arial, Helvetica, sans-serif}
.style2 {
    color: #000066;
    font-weight: bold;
    font-style: italic;
}
.style4 {color: #000066}
-->
</style>
<!-- InstanceBeginEditable name="head" --><!-- InstanceEndEditable -->
</head>

<body>
<h2 align="center"></h2>
<!-- InstanceBeginEditable name="title" -->
<h2 align="center" class="style4"><em>CEU Waiver Request </em></h2>
<!-- InstanceEndEditable -->
<h3 align="center">&nbsp;</h3>
<table width="95%" height="780" border="0" cellpadding="2" cellspacing="0">
<tr>
<td width="22%" valign="top"><table width="100%" height="201" border="1"
cellpadding="3" cellspacing="0" bordercolor="#3333CC" bgcolor="#CCCCCC">
<tr>
<td><div align="center" class="style1"><strong> <a
href="homepage.asp">Home</a></strong></div></td>
</tr>
<tr>
<td><div align="center" class="style1"><strong> <a href="userprofile.asp">User
Profile</a> </strong></div></td>
</tr>
<tr>
<td><div align="center" class="style1"><strong> <a href="myceu_credits.asp">My CEU
Credits</a> </strong></div></td>
</tr>
<tr>

```

```

        <td><div align="center" class="style1"><strong> <a href="approved_list.asp">List of
Approved CEUs</a></strong></div></td>
    </tr>
    <tr>
        <td><div align="center" class="style1"><strong><a
href="viewallceu.asp?Last60=True">Newly
Approved CEUs</a> </strong></div></td>
    </tr>
    <tr>
        <td><div align="center" class="style1"><a
href="admin_ipcoe.asp"><strong>Admin</strong></a></div></td>
    </tr>
    <tr>
        <td><!-- InstanceBeginEditable name="EditRegion5" -->
        <div align="center"><a href="<%= MM_Logout %%" class="style1"><strong>Log
out</strong></a></div>
        <!-- InstanceEndEditable --></td>
    </tr>
    <tr>
        <td><div align="center" class="style1"><strong> <a href="contact_us.asp">Contact Us</a>
</strong></div></td>
    </tr>
</table></td>
<td width="78%" valign="top"><!-- InstanceBeginEditable name="paragraph" -->
<div align="center" class="style2">Please complete all the blocks below. </div>
<div align="center" class="style4">
<form method="post" name="WaiverForm" id="WaiverForm">
<table width="100%" border="0" cellpadding="3" cellspacing="0" id="Waiver">
<tr>
<td>Waiver Type </td>
<td align="left"><p>
<label>
<input type="radio" name="WaiverRequests" value="Extension">
Extension</label>
<br>
<label>
<input type="radio" name="WaiverRequests" value="Incomplete">
Incomplete</label>

```

```

        <br>
        </p>        </td>
</tr>
<tr>
<td>Fiscal Year </td>
<td align="left"><label>
<input name="CalYear" type="text" id="CalYear">
(Ex. 2005) </label></td>
</tr>
<tr>
<td>Please indicate reason for your request </td>
<td align="left"><label>
<textarea name="WaiverReason" cols="50" id="WaiverReason"></textarea>
</label></td>
</tr>
<tr>
<td>Reporting Senior </td>
<td align="left"><label>
<input name="RptSeniorName" type="text" id="RptSeniorName" size="40">
(Rank, First, Last Name)
</label></td>
</tr>
<tr>
<td>&nbsp;</td>
<td align="left"><label>
<input name="emailSenior" type="text" id="emailSenior" size="50">
</label>
(email)</td>
</tr>
<tr>
<td>&nbsp;</td>
<td align="left"><label>
<input name="phoneSenior" type="text" id="phoneSenior">
</label>
(phone)</td>
</tr>

```

```

<tr>
  <td>&nbsp;</td>
  <td align="right"><label>
    <input name="submitted" type="hidden" id="submitted" value="Done">
    <input type="submit" name="Submit" value="Submit">
  </label>
  <label>
    <input name="Reset" type="reset" id="Reset" value="Reset">
  </label></td>
</tr>
</table>
<p align="left">&nbsp;</p>
<p>&nbsp;</p>
<p>&nbsp;</p>
<p>&nbsp;</p>
<p>&nbsp;</p>
<p>&nbsp;</p>
<p align="left">&nbsp;</p>
</form>
<p align="left">&nbsp;</p>
<p>&nbsp;</p>
<p>&nbsp;</p>
<p align="left">&nbsp;</p>
</div>
<!-- InstanceEndEditable --></td>
</tr>
</table>
<div align="center">
</div>

</body>
<!-- InstanceEnd --></html>
<%
UserInfo.Close()
Set UserInfo = Nothing
%>

```



## H. APPROVED\_LIST.ASP

```
<% @LANGUAGE="VBSCRIPT"%>
<%
' *** Logout the current user.
MM_Logout = CStr(Request.ServerVariables("URL")) & "?MM_Logoutnow=1"
If (CStr(Request("MM_Logoutnow")) = "1") Then
    Session.Contents.Remove("MM_Username")
    Session.Contents.Remove("MM_UserAuthorization")
    MM_logoutRedirectPage = "login.asp"
' redirect with URL parameters (remove the "MM_Logoutnow" query param).
if (MM_logoutRedirectPage = "") Then MM_logoutRedirectPage =
CStr(Request.ServerVariables("URL"))
If (InStr(1, UC_redirectPage, "?", vbTextCompare) = 0 And Request.QueryString <> "") Then
    MM_newQS = "?"
    For Each Item In Request.QueryString
        If (Item <> "MM_Logoutnow") Then
            If (Len(MM_newQS) > 1) Then MM_newQS = MM_newQS & "&"
            MM_newQS = MM_newQS & Item & "=" &
Server.URLEncode(Request.QueryString(Item))
        End If
    Next
    if (Len(MM_newQS) > 1) Then MM_logoutRedirectPage = MM_logoutRedirectPage &
MM_newQS
    End If
    Response.Redirect(MM_logoutRedirectPage)
End If
%>
<!--#include file="Connections/Group10.asp" -->
<%
' *** Restrict Access To Page: Grant or deny access to this page
MM_authorizedUsers="admin,user"
MM_authFailedURL="login.asp"
MM_grantAccess=false
If Session("MM_Username") <> "" Then
    If (false Or CStr(Session("MM_UserAuthorization"))="") Or _
        (InStr(1,MM_authorizedUsers,Session("MM_UserAuthorization"))>=1) Then
        MM_grantAccess = true
```

```

    End If
End If
If Not MM_grantAccess Then
    MM_qsChar = "?"
    If (InStr(1,MM_authFailedURL,"?") >= 1) Then MM_qsChar = "&"
    MM_referrer = Request.ServerVariables("URL")
    if (Len(Request.QueryString()) > 0) Then MM_referrer = MM_referrer & "?" &
Request.QueryString()
    MM_authFailedURL = MM_authFailedURL & MM_qsChar & "accessdenied=" &
Server.URLEncode(MM_referrer)
    Response.Redirect(MM_authFailedURL)
End If
%>
<%
Dim rs_ceutype
Dim rs_ceutype_numRows

Set rs_ceutype = Server.CreateObject("ADODB.Recordset")
rs_ceutype.ActiveConnection = MM_Group10_STRING
rs_ceutype.Source = "SELECT DISTINCT ceuType FROM ceu ORDER BY ceuType ASC"
rs_ceutype.CursorType = 0
rs_ceutype.CursorLocation = 2
rs_ceutype.LockType = 1
rs_ceutype.Open()

rs_ceutype_numRows = 0
%>
<%
Dim rs_comp
Dim rs_comp_numRows

Set rs_comp = Server.CreateObject("ADODB.Recordset")
rs_comp.ActiveConnection = MM_Group10_STRING
rs_comp.Source = "SELECT DISTINCT IP_Competency_Area FROM ceu"
rs_comp.CursorType = 0
rs_comp.CursorLocation = 2
rs_comp.LockType = 1

```

```

rs_comp.Open()

rs_comp_numRows = 0
%>
<%
Dim Repeat1__numRows
Dim Repeat1__index

Repeat1__numRows = -1
Repeat1__index = 0
rs_ceutype_numRows = rs_ceutype_numRows + Repeat1__numRows
%>
<%
Dim Repeat2__numRows
Dim Repeat2__index

Repeat2__numRows = -1
Repeat2__index = 0
rs_comp_numRows = rs_comp_numRows + Repeat2__numRows
%>
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html><!-- InstanceBegin template="/Templates/trackmasters template.dwt"
codeOutsideHTMLOIsLocked="false" -->
<head>
<!-- InstanceBeginEditable name="doctitle" -->
<title>CEU Search</title>
<!-- InstanceEndEditable --><meta http-equiv="Content-Type" content="text/html; charset=iso-
8859-1">
<style type="text/css">
<!--
body,td,th {
    color: #000000;
}
body {
    background-color: #FFFF99;
}

```

```

.style1 { font-family: Geneva, Arial, Helvetica, sans-serif}
.style2 {
    color: #000066;
    font-weight: bold;
    font-style: italic;
}
.style4 {color: #000066}
-->
</style>
<!-- InstanceBeginEditable name="head" --><!-- InstanceEndEditable -->
</head>

<body>
<h2 align="center"></h2>
<!-- InstanceBeginEditable name="title" -->
<h2 align="center"><span class="style2">CEU search </span></h2>
<!-- InstanceEndEditable -->
<h3 align="center">&nbsp;</h3>
<table width="95%" height="780" border="0" cellpadding="2" cellspacing="0">
<tr>
<td width="22%" valign="top"><table width="100%" height="201" border="1"
cellpadding="3" cellspacing="0" bordercolor="#3333CC" bgcolor="#CCCCCC">
<tr>
<td><div align="center" class="style1"><strong> <a
href="homepage.asp">Home</a></strong></div></td>
</tr>
<tr>
<td><div align="center" class="style1"><strong> <a href="userprofile.asp">User
Profile</a> </strong></div></td>
</tr>
<tr>
<td><div align="center" class="style1"><strong> <a href="myceu_credits.asp">My CEU
Credits</a> </strong></div></td>
</tr>
<tr>
<td><div align="center" class="style1"><strong> <a href="approved_list.asp">List of
Approved CEUs</a></strong></div></td>

```

```

</tr>
<tr>
  <td><div align="center" class="style1"><strong><a
href="viewallceu.asp?Last60=True">Newly
  Approved CEUs</a> </strong></div></td>
</tr>
<tr>
  <td><div align="center" class="style1"><a
href="admin_ipcoe.asp"><strong>Admin</strong></a></div></td>
</tr>
<tr>
  <td><!-- InstanceBeginEditable name="EditRegion5" -->
  <div align="center"><a href="<%= MM_Logout %>" class="style1"><strong>Log
out</strong></a></div>
  <!-- InstanceEndEditable --></td>
</tr>
<tr>
  <td><div align="center" class="style1"><strong> <a href="contact_us.asp">Contact Us</a>
</strong></div></td>
</tr>
</table></td>
<td width="78%" valign="top"><!-- InstanceBeginEditable name="paragraph" -->
<div align="center" class="style2">
<table width="95%" border="0" cellspacing="0" cellpadding="3">
  <tr>
    <td valign="top">Display by Type </td>
    <td>
      <p>
        <%
While ((Repeat1__numRows <> 0) AND (NOT rs_ceutype.EOF))
%>
        <a
href="viewallceu.asp?ceuType=<%= (rs_ceutype.Fields.Item("ceuType").Value)%>"><%= (rs_ceutype.Fiel
ds.Item("ceuType").Value)%></a><br/>
        <%
Repeat1__index=Repeat1__index+1
Repeat1__numRows=Repeat1__numRows-1
rs_ceutype.MoveNext()

```

```

Wend
%>
        <br>
        </p>        </td>
</tr>
<tr>
        <td valign="top">Enter Search criteria</td>
        <td><form action="viewallceu.asp" method="post" name="frm_search" id="frm_search">
                <input name="search" type="text" id="search">
                <input type="submit" name="Submit" value="Search">
        *
        </form></td>
</tr>
<tr>
        <td valign="top"><a href="viewallceu.asp">Display All </a></td>
        <td>&nbsp;</td>
</tr>
</table>
<p>OR <span class="style7 style8"><a href="add_approvedceu.asp">Request new CEU be
added to the list</a></span></p>
<p align="left">*for optimal results use the &quot;%&quot; to act as a wildcard <br>
</p>
<p>&nbsp;</p>
</div>
<!-- InstanceEndEditable --></td>
</tr>
</table>
<div align="center">
</div>

</body>
<!-- InstanceEnd --></html>
<%
rs_ceutype.Close()
Set rs_ceutype = Nothing
%>

```

```

<%
rs_comp.Close()
Set rs_comp = Nothing
%>

```

## I. VIEWALLCEU.ASP

```

<% @LANGUAGE="VBSCRIPT"%>
<%
' *** Logout the current user.
MM_Logout = CStr(Request.ServerVariables("URL")) & "?MM_Logoutnow=1"
If (CStr(Request("MM_Logoutnow")) = "1") Then
    Session.Contents.Remove("MM_Username")
    Session.Contents.Remove("MM_UserAuthorization")
    MM_logoutRedirectPage = "login.asp"
' redirect with URL parameters (remove the "MM_Logoutnow" query param).
if (MM_logoutRedirectPage = "") Then MM_logoutRedirectPage =
CStr(Request.ServerVariables("URL"))
If (InStr(1, UC_redirectPage, "?", vbTextCompare) = 0 And Request.QueryString <> "") Then
    MM_newQS = "?"
    For Each Item In Request.QueryString
        If (Item <> "MM_Logoutnow") Then
            If (Len(MM_newQS) > 1) Then MM_newQS = MM_newQS & "&"
            MM_newQS = MM_newQS & Item & "=" &
Server.URLEncode(Request.QueryString(Item))
        End If
    Next
    if (Len(MM_newQS) > 1) Then MM_logoutRedirectPage = MM_logoutRedirectPage &
MM_newQS
    End If
    Response.Redirect(MM_logoutRedirectPage)
End If
%>
<!--#include file="Connections/Group10.asp" -->
<%
Dim rs_ceuview
Dim rs_ceuview_numRows

Set rs_ceuview = Server.CreateObject("ADODB.Recordset")

```

```

rs_ceuview.ActiveConnection = MM_Group10_STRING
'checking for ceuType querystring and using appropriate sql statement
If IsEmpty(Request.Form("search")) Then
    If IsEmpty(Request.QueryString("ceuType")) Then
        rs_ceuview.Source = "SELECT * FROM ceu where approved = True"
    Else
        rs_ceuview.Source = "SELECT * FROM ceu WHERE approved = True and
ceuType ='" & Request.QueryString("ceuType") & "'"
    End if
Else
    rs_ceuview.Source = "SELECT * FROM ceu WHERE approved = True and (ceuName
LIKE '" & Request.Form("search") & "' OR ceuName='" & Request.form("search") & "' OR location LIKE
'" & Request.Form("search") & "' OR location='" & Request.form("search") & "' OR CeuType LIKE '" &
Request.Form("search") & "' OR ceuType='" & Request.form("search") & "' OR CeuCredit LIKE '" &
Request.Form("search") & "' OR ceuCredit='" & Request.form("search") & "' OR credOrg LIKE '" &
Request.Form("search") & "' OR credOrg='" & Request.form("search") & "' OR IP_Competency_Area
LIKE '" & Request.Form("search") & "' OR IP_Competency_Area='" & Request.form("search") & "' OR
ceuID LIKE '" & Request.Form("search") & "'"
End If
if not IsEmpty(Request.QueryString("last60")) then rs_ceuview.Source = rs_ceuview.Source & "
and dateadded >=#" + CSTR(DATEADD("d",-60,Now()))+ "#"
rs_ceuview.Source = rs_ceuview.Source + " Order by ceuname"
rs_ceuview.CursorType = 0
rs_ceuview.CursorLocation = 2
rs_ceuview.LockType = 1
rs_ceuview.Open()

rs_ceuview_numRows = 0
%>
<%
Dim Repeat1__numRows
Dim Repeat1__index

Repeat1__numRows = 5
Repeat1__index = 0
rs_ceuview_numRows = rs_ceuview_numRows + Repeat1__numRows
%>
<%
' *** Recordset Stats, Move To Record, and Go To Record: declare stats variables

```



```

Dim rs_ceuview_total
Dim rs_ceuview_first
Dim rs_ceuview_last

' set the record count
rs_ceuview_total = rs_ceuview.RecordCount

' set the number of rows displayed on this page
If (rs_ceuview_numRows < 0) Then
    rs_ceuview_numRows = rs_ceuview_total
Elseif (rs_ceuview_numRows = 0) Then
    rs_ceuview_numRows = 1
End If

' set the first and last displayed record
rs_ceuview_first = 1
rs_ceuview_last = rs_ceuview_first + rs_ceuview_numRows - 1

' if we have the correct record count, check the other stats
If (rs_ceuview_total <> -1) Then
    If (rs_ceuview_first > rs_ceuview_total) Then
        rs_ceuview_first = rs_ceuview_total
    End If
    If (rs_ceuview_last > rs_ceuview_total) Then
        rs_ceuview_last = rs_ceuview_total
    End If
    If (rs_ceuview_numRows > rs_ceuview_total) Then
        rs_ceuview_numRows = rs_ceuview_total
    End If
End If

%>
<%
Dim MM_paramName
%>
<%

```

```

' *** Move To Record and Go To Record: declare variables

Dim MM_rs
Dim MM_rsCount
Dim MM_size
Dim MM_uniqueCol
Dim MM_offset
Dim MM_atTotal
Dim MM_paramIsDefined

Dim MM_param
Dim MM_index

Set MM_rs = rs_ceuview
MM_rsCount = rs_ceuview_total
MM_size = rs_ceuview_numRows
MM_uniqueCol = ""
MM_paramName = ""
MM_offset = 0
MM_atTotal = false
MM_paramIsDefined = false
If (MM_paramName <> "") Then
    MM_paramIsDefined = (Request.QueryString(MM_paramName) <> "")
End If
%>
<%
' *** Move To Record: handle 'index' or 'offset' parameter

if (Not MM_paramIsDefined And MM_rsCount <> 0) then

    ' use index parameter if defined, otherwise use offset parameter
    MM_param = Request.QueryString("index")
    If (MM_param = "") Then
        MM_param = Request.QueryString("offset")
    End If
    If (MM_param <> "") Then

```

```

    MM_offset = Int(MM_param)
End If

' if we have a record count, check if we are past the end of the recordset
If (MM_rsCount <> -1) Then
    If (MM_offset >= MM_rsCount Or MM_offset = -1) Then ' past end or move last
        If ((MM_rsCount Mod MM_size) > 0) Then ' last page not a full repeat region
            MM_offset = MM_rsCount - (MM_rsCount Mod MM_size)
        Else
            MM_offset = MM_rsCount - MM_size
        End If
    End If
End If

' move the cursor to the selected record
MM_index = 0
While ((Not MM_rs.EOF) And (MM_index < MM_offset Or MM_offset = -1))
    MM_rs.MoveNext
    MM_index = MM_index + 1
Wend
If (MM_rs.EOF) Then
    MM_offset = MM_index ' set MM_offset to the last possible record
End If

End If
%>
<%
' *** Move To Record: if we dont know the record count, check the display range

If (MM_rsCount = -1) Then

    ' walk to the end of the display range for this page
    MM_index = MM_offset
    While (Not MM_rs.EOF And (MM_size < 0 Or MM_index < MM_offset + MM_size))
        MM_rs.MoveNext
        MM_index = MM_index + 1

```

Wend

' if we walked off the end of the recordset, set MM\_rsCount and MM\_size

If (MM\_rs.EOF) Then

MM\_rsCount = MM\_index

If (MM\_size < 0 Or MM\_size > MM\_rsCount) Then

MM\_size = MM\_rsCount

End If

End If

' if we walked off the end, set the offset based on page size

If (MM\_rs.EOF And Not MM\_paramIsDefined) Then

If (MM\_offset > MM\_rsCount - MM\_size Or MM\_offset = -1) Then

If ((MM\_rsCount Mod MM\_size) > 0) Then

MM\_offset = MM\_rsCount - (MM\_rsCount Mod MM\_size)

Else

MM\_offset = MM\_rsCount - MM\_size

End If

End If

End If

' reset the cursor to the beginning

If (MM\_rs.CursorType > 0) Then

MM\_rs.MoveFirst

Else

MM\_rs.Requery

End If

' move the cursor to the selected record

MM\_index = 0

While (Not MM\_rs.EOF And MM\_index < MM\_offset)

MM\_rs.MoveNext

MM\_index = MM\_index + 1

Wend

End If

%>

```

<%
' *** Move To Record: update recordset stats

' set the first and last displayed record
rs_ceuview_first = MM_offset + 1
rs_ceuview_last = MM_offset + MM_size

If (MM_rsCount <> -1) Then
  If (rs_ceuview_first > MM_rsCount) Then
    rs_ceuview_first = MM_rsCount
  End If
  If (rs_ceuview_last > MM_rsCount) Then
    rs_ceuview_last = MM_rsCount
  End If
End If

' set the boolean used by hide region to check if we are on the last record
MM_atTotal = (MM_rsCount <> -1 And MM_offset + MM_size >= MM_rsCount)
%>
<%
' *** Go To Record and Move To Record: create strings for maintaining URL and Form
parameters

Dim MM_keepNone
Dim MM_keepURL
Dim MM_keepForm
Dim MM_keepBoth

Dim MM_removeList
Dim MM_item
Dim MM_nextItem

' create the list of parameters which should not be maintained
MM_removeList = "&index="
If (MM_paramName <> "") Then
  MM_removeList = MM_removeList & "&" & MM_paramName & "="

```

```

End If

MM_keepURL=""
MM_keepForm=""
MM_keepBoth=""
MM_keepNone=""

' add the URL parameters to the MM_keepURL string
For Each MM_item In Request.QueryString
    MM_nextItem = "&" & MM_item & "="
    If (InStr(1,MM_removeList,MM_nextItem,1) = 0) Then
        MM_keepURL = MM_keepURL & MM_nextItem &
Server.URLEncode(Request.QueryString(MM_item))
    End If
Next

' add the Form variables to the MM_keepForm string
For Each MM_item In Request.Form
    MM_nextItem = "&" & MM_item & "="
    If (InStr(1,MM_removeList,MM_nextItem,1) = 0) Then
        MM_keepForm = MM_keepForm & MM_nextItem &
Server.URLEncode(Request.Form(MM_item))
    End If
Next

' create the Form + URL string and remove the initial '&' from each of the strings
MM_keepBoth = MM_keepURL & MM_keepForm
If (MM_keepBoth <> "") Then
    MM_keepBoth = Right(MM_keepBoth, Len(MM_keepBoth) - 1)
End If
If (MM_keepURL <> "") Then
    MM_keepURL = Right(MM_keepURL, Len(MM_keepURL) - 1)
End If
If (MM_keepForm <> "") Then
    MM_keepForm = Right(MM_keepForm, Len(MM_keepForm) - 1)
End If

```

```

' a utility function used for adding additional parameters to these strings
Function MM_joinChar(firstItem)
    If (firstItem <> "") Then
        MM_joinChar = "&"
    Else
        MM_joinChar = ""
    End If
End Function

%>
<%
' *** Move To Record: set the strings for the first, last, next, and previous links

Dim MM_keepMove
Dim MM_moveParam
Dim MM_moveFirst
Dim MM_moveLast
Dim MM_moveNext
Dim MM_movePrev

Dim MM_urlStr
Dim MM_paramList
Dim MM_paramIndex
Dim MM_nextParam

MM_keepMove = MM_keepBoth
MM_moveParam = "index"

' if the page has a repeated region, remove 'offset' from the maintained parameters
If (MM_size > 1) Then
    MM_moveParam = "offset"
    If (MM_keepMove <> "") Then
        MM_paramList = Split(MM_keepMove, "&")
        MM_keepMove = ""
        For MM_paramIndex = 0 To UBound(MM_paramList)
            MM_nextParam = Left(MM_paramList(MM_paramIndex),
InStr(MM_paramList(MM_paramIndex), "=") - 1)

```

```

    If (StrComp(MM_nextParam,MM_moveParam,1) <> 0) Then
        MM_keepMove = MM_keepMove & "&" & MM_paramList(MM_paramIndex)
    End If
Next
If (MM_keepMove <> "") Then
    MM_keepMove = Right(MM_keepMove, Len(MM_keepMove) - 1)
End If
End If
End If

' set the strings for the move to links
If (MM_keepMove <> "") Then
    MM_keepMove = Server.URLEncode(MM_keepMove) & "&"
End If

MM_urlStr = Request.ServerVariables("URL") & "?" & MM_keepMove & MM_moveParam &
"_"

MM_moveFirst = MM_urlStr & "0"
MM_moveLast = MM_urlStr & "-1"
MM_moveNext = MM_urlStr & CStr(MM_offset + MM_size)
If (MM_offset - MM_size < 0) Then
    MM_movePrev = MM_urlStr & "0"
Else
    MM_movePrev = MM_urlStr & CStr(MM_offset - MM_size)
End If

%><!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html><!-- InstanceBegin template="/Templates/trackmasters template.dwt.asp"
codeOutsideHTMLIsLocked="false" -->
<head>
<!-- InstanceBeginEditable name="doctitle" -->
<title>CEU WEBSITE HOME PAGE</title>
<!-- InstanceEndEditable --><meta http-equiv="Content-Type" content="text/html; charset=iso-
8859-1">
<style type="text/css">
<!--

```



```

body,td,th {
    color: #000000;
}
body {
    background-color: #FFFF99;
}
.style1 { font-family: Geneva, Arial, Helvetica, sans-serif}
.style2 {
    color: #000066;
    font-weight: bold;
    font-style: italic;
}
.style4 {color: #000066}
-->
</style>
<!-- InstanceBeginEditable name="head" --><!-- InstanceEndEditable -->
</head>

<body>
<h2 align="center"></h2>
<!-- InstanceBeginEditable name="title" -->
<h2 align="center"><span class="style2">Search Results</span></h2>
<!-- InstanceEndEditable -->
<h3 align="center">&nbsp;</h3>
<table width="95%" height="780" border="0" cellpadding="2" cellspacing="0">
<tr>
<td width="22%" valign="top"><table width="100%" height="201" border="1"
cellpadding="3" cellspacing="0" bordercolor="#3333CC" bgcolor="#CCCCCC">
<tr>
<td><div align="center" class="style1"><strong> <a
href="homepage.asp">Home</a></strong></div></td>
</tr>
<tr>
<td><div align="center" class="style1"><strong> <a href="userprofile.asp">User
Profile</a> </strong></div></td>
</tr>

```

```

        <tr>
            <td><div align="center" class="style1"><strong> <a href="myceu_credits.asp">My CEU
Credits</a> </strong></div></td>
        </tr>
        <tr>
            <td><div align="center" class="style1"><strong> <a href="approved_list.asp">List of
Approved CEUs</a></strong></div></td>
        </tr>
        <tr>
            <td><div align="center" class="style1"><strong> <a
href="viewallceu.asp?Last60=True">Newly
Approved CEUs</a></strong></div></td>
        </tr>
        <tr>
            <td><div align="center" class="style1"><a
href="admin_ipcoe.asp"><strong>Admin</strong></a></div></td>
        </tr>
        <tr>
            <td><!-- InstanceBeginEditable name="EditRegion5" -->
            <div align="center"><a href="%= MM_Logout %" class="style1"><strong>Log
out</strong></a></div>
            <!-- InstanceEndEditable --></td>
        </tr>
        <tr>
            <td><div align="center" class="style1"><strong> <a href="contact_us.asp">Contact Us</a>
</strong></div></td>
        </tr>
    </table></td>
    <td width="78%" valign="top"><!-- InstanceBeginEditable name="paragraph" -->
        <p class="style4"><em><strong>Click on the Name to Request that CEU to be added to your
record or <span class="style7 style8"><a href="add_approvedceu.asp">request new CEU be added to the
list</a></span></strong></em><em><strong>.</strong></em></p>
        <div align="center" class="style4">
            <div align="left">
                <%
While ((Repeat1__numRows <> 0) AND (NOT rs_ceuview.EOF))
%>

                <table width="95%" border="0" cellspacing="0" cellpadding="3">

```

```

<tr class="style2">
  <td colspan="2"><h3 class="style4">Name:<a
href="add_newrequest.asp?ceuID=<%=rs_ceuview.Fields.Item("ceuID").Value%>"><%=rs_ceuview.Fi
elds.Item("ceuName").Value%></a></h3>    </td>
</tr>
<tr class="style2">
  <td width="9%"><span class="style4"></span></td>
  <td width="91%"><span
class="style4">Type:<%=rs_ceuview.Fields.Item("ceuType").Value%></span></td>
</tr>
<tr class="style2">
  <td><span class="style4"></span></td>
  <td><span
class="style4">Credits:<%=rs_ceuview.Fields.Item("ceuCredit").Value%></span></td>
</tr>
<tr class="style2">
  <td><span class="style4"></span></td>
  <td><span class="style4"> Organization: <%=rs_ceuview.Fields.Item("credOrg").Value%>
</span></td>
</tr>
<tr class="style2">
  <td><span class="style4"></span></td>
  <td><span class="style4">Core area:
<%=rs_ceuview.Fields.Item("IP_Competency_Area").Value%></span></td>
</tr>
<tr class="style2">
  <td>&nbsp;</td>
  <td class="style4">Location:<%=rs_ceuview.Fields.Item("location").Value%></td>
</tr>
<tr class="style2">
  <td><span class="style4"></span></td>
  <td><span class="style4">CEU ID:
<%=rs_ceuview.Fields.Item("ceuID").Value%></span></td>
</tr>
</table>
<br>
<%

```

Repeat1\_\_index=Repeat1\_\_index+1

```

Repeat1__numRows=Repeat1__numRows-1
rs_ceuview.MoveNext()
Wend
%>
    </div>
</div>
<p align="center">&nbsp;</p>
<div align="left">
    <table width="50%" border="0" align="left" cellpadding="3" cellspacing="0">
        <tr>
            <td width="23%" align="center">
                <% If MM_offset <> 0 Then %>
                <a href="<%=MM_moveFirst%>">First</a>
                <% End If ' end MM_offset <> 0 %>
            &nbsp;</td>
            <td width="31%" align="center">
                <% If MM_offset <> 0 Then %>
                <a href="<%=MM_movePrev%>">Previous</a>
                <% End If ' end MM_offset <> 0 %>
            &nbsp;</td>
            <td width="23%" align="center">
                <% If Not MM_atTotal Then %>
                <a href="<%=MM_moveNext%>">Next</a>
                <% End If ' end Not MM_atTotal %>
            &nbsp;</td>
            <td width="23%" align="center">
                <% If Not MM_atTotal Then %>
                <a href="<%=MM_moveLast%>">Last</a>
                <% End If ' end Not MM_atTotal %>
            &nbsp;</td>
        </tr>
    </table>
</div>
<p align="left">&nbsp;</p>
<p align="left"><span class="style7 style8"></span></p>
<!-- InstanceEndEditable --></td>

```

```

</tr>
</table>
<div align="center">
</div>

</body>
<!-- InstanceEnd --></html>
<%
rs_ceuview.Close()
Set rs_ceuview = Nothing
%>

```

## J. ADD\_APPROVEDCEU.ASP

```

<% @LANGUAGE="VBSCRIPT"%>
<%
' *** Logout the current user.
MM_Logout = CStr(Request.ServerVariables("URL")) & "?MM_Logoutnow=1"
If (CStr(Request("MM_Logoutnow")) = "1") Then
    Session.Contents.Remove("MM_Username")
    Session.Contents.Remove("MM_UserAuthorization")
    MM_logoutRedirectPage = "login.asp"
    ' redirect with URL parameters (remove the "MM_Logoutnow" query param).
    if (MM_logoutRedirectPage = "") Then MM_logoutRedirectPage =
CStr(Request.ServerVariables("URL"))
    If (InStr(1, UC_redirectPage, "?", vbTextCompare) = 0 And Request.QueryString <> "") Then
        MM_newQS = "?"
        For Each Item In Request.QueryString
            If (Item <> "MM_Logoutnow") Then
                If (Len(MM_newQS) > 1) Then MM_newQS = MM_newQS & "&"
                MM_newQS = MM_newQS & Item & "=" &
Server.URLEncode(Request.QueryString(Item))
            End If
        Next
        if (Len(MM_newQS) > 1) Then MM_logoutRedirectPage = MM_logoutRedirectPage &
MM_newQS
    End If
    Response.Redirect(MM_logoutRedirectPage)
End If

```

```

%>
<!--#include file="Connections/Group10.asp" -->
<%
' *** Restrict Access To Page: Grant or deny access to this page
MM_authorizedUsers="admin,user"
MM_authFailedURL="login.asp"
MM_grantAccess=false
If Session("MM_Username") <> "" Then
    If (false Or CStr(Session("MM_UserAuthorization"))="") Or _
        (InStr(1,MM_authorizedUsers,Session("MM_UserAuthorization"))>=1) Then
        MM_grantAccess = true
    End If
End If
If Not MM_grantAccess Then
    MM_qsChar = "?"
    If (InStr(1,MM_authFailedURL,"?") >= 1) Then MM_qsChar = "&"
    MM_referrer = Request.ServerVariables("URL")
    if (Len(Request.QueryString()) > 0) Then MM_referrer = MM_referrer & "?" &
Request.QueryString()
    MM_authFailedURL = MM_authFailedURL & MM_qsChar & "accessdenied=" &
Server.URLEncode(MM_referrer)
    Response.Redirect(MM_authFailedURL)
End If
%>
<%
' *** Edit Operations: declare variables

Dim MM_editAction
Dim MM_abortEdit
Dim MM_editQuery
Dim MM_editCmd

Dim MM_editConnection
Dim MM_editTable
Dim MM_editRedirectUrl
Dim MM_editColumn
Dim MM_recordId

```

```

Dim MM_fieldsStr
Dim MM_columnsStr
Dim MM_fields
Dim MM_columns
Dim MM_typeArray
Dim MM_formVal
Dim MM_delim
Dim MM_altVal
Dim MM_emptyVal
Dim MM_i

MM_editAction = CStr(Request.ServerVariables("SCRIPT_NAME"))
If (Request.QueryString <> "") Then
    MM_editAction = MM_editAction & "?" & Server.URLEncode(Request.QueryString)
End If

' boolean to abort record edit
MM_abortEdit = false

' query string to execute
MM_editQuery = ""
%>
<%
' *** Insert Record: set variables

If (CStr(Request("MM_insert")) = "frmAddceu") Then

    MM_editConnection = MM_Group10_STRING
    MM_editTable = "ceu"
    MM_editRedirectUrl = "add_approvedceuprocessed.asp"
    MM_fieldsStr =
"CeuName|value|ip_competency_area|value|CeuType|value|credOrg|value|location|value|cdpnum|value|days|value|ceuCredit|value|ceuDescription|value"
    MM_columnsStr =
"ceuName|,none,|IP_Competency_Area|,none,|ceuType|,none,|credOrg|,none,|location|,none,|CDPnum|,none,|days|,none,|ceuCredit|,none,|ceuDescription|,none,|"

```

```

' create the MM_fields and MM_columns arrays
MM_fields = Split(MM_fieldsStr, "|")
MM_columns = Split(MM_columnsStr, "|")

' set the form values
For MM_i = LBound(MM_fields) To UBound(MM_fields) Step 2
  MM_fields(MM_i+1) = CStr(Request.Form(MM_fields(MM_i)))
Next

' append the query string to the redirect URL
If (MM_editRedirectUrl <> "" And Request.QueryString <> "") Then
  If (InStr(1, MM_editRedirectUrl, "?", vbTextCompare) = 0 And Request.QueryString <> "")
Then
    MM_editRedirectUrl = MM_editRedirectUrl & "?" & Request.QueryString
  Else
    MM_editRedirectUrl = MM_editRedirectUrl & "&" & Request.QueryString
  End If
End If

End If

%>
<%
' *** Insert Record: construct a sql insert statement and execute it

Dim MM_tableValues
Dim MM_dbValues

If (CStr(Request("MM_insert")) <> "") Then

' create the sql insert statement
MM_tableValues = ""
MM_dbValues = ""
For MM_i = LBound(MM_fields) To UBound(MM_fields) Step 2
  MM_formVal = MM_fields(MM_i+1)
  MM_typeArray = Split(MM_columns(MM_i+1),",")

```



```

MM_delim = MM_typeArray(0)
If (MM_delim = "none") Then MM_delim = ""
MM_altVal = MM_typeArray(1)
If (MM_altVal = "none") Then MM_altVal = ""
MM_emptyVal = MM_typeArray(2)
If (MM_emptyVal = "none") Then MM_emptyVal = ""
If (MM_formVal = "") Then
    MM_formVal = MM_emptyVal
Else
    If (MM_altVal <> "") Then
        MM_formVal = MM_altVal
    ElseIf (MM_delim = "") Then ' escape quotes
        MM_formVal = "" & Replace(MM_formVal, "", "") & ""
    Else
        MM_formVal = MM_delim + MM_formVal + MM_delim
    End If
End If
If (MM_i <> LBound(MM_fields)) Then
    MM_tableValues = MM_tableValues & ","
    MM_dbValues = MM_dbValues & ","
End If
MM_tableValues = MM_tableValues & MM_columns(MM_i)
MM_dbValues = MM_dbValues & MM_formVal
Next
MM_editQuery = "insert into " & MM_editTable & " (" & MM_tableValues & ") values (" &
MM_dbValues & ")"

```

```

If (Not MM_abortEdit) Then
    ' execute the insert
    Set MM_editCmd = Server.CreateObject("ADODB.Command")
    MM_editCmd.ActiveConnection = MM_editConnection
    MM_editCmd.CommandText = MM_editQuery
    MM_editCmd.Execute
    MM_editCmd.ActiveConnection.Close

```

```

If (MM_editRedirectUrl <> "") Then

```

```

        Response.Redirect(MM_editRedirectUrl)
    End If
End If

End If
%>
<%
Dim rs_addceu
Dim rs_addceu_numRows

Set rs_addceu = Server.CreateObject("ADODB.Recordset")
rs_addceu.ActiveConnection = MM_Group10_STRING
rs_addceu.Source = "SELECT * FROM ceu"
rs_addceu.CursorType = 0
rs_addceu.CursorLocation = 2
rs_addceu.LockType = 1
rs_addceu.Open()

rs_addceu_numRows = 0
%>
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html><!-- InstanceBegin template="/Templates/trackmasters template.dwt"
codeOutsideHTMLOIsLocked="false" -->
<head>
<!-- InstanceBeginEditable name="doctitle" -->
<title>Add to Approved CEU List</title>
<!-- InstanceEndEditable --><meta http-equiv="Content-Type" content="text/html; charset=iso-
8859-1">
<style type="text/css">
<!--
body,td,th {
    color: #000000;
}
body {
    background-color: #FFFF99;
}

```

```

.style1 { font-family: Geneva, Arial, Helvetica, sans-serif}
.style2 {
    color: #000066;
    font-weight: bold;
    font-style: italic;
}
.style4 {color: #000066}
-->
</style>
<!-- InstanceBeginEditable name="head" --><!-- InstanceEndEditable -->
</head>

<body>
<h2 align="center"></h2>
<!-- InstanceBeginEditable name="title" -->
<h2 align="center"><span class="style2">Add to Approved CEU List</span></h2>
<!-- InstanceEndEditable -->
<h3 align="center">&nbsp;</h3>
<table width="95%" height="780" border="0" cellpadding="2" cellspacing="0">
<tr>
<td width="22%" valign="top"><table width="100%" height="201" border="1"
cellpadding="3" cellspacing="0" bordercolor="#3333CC" bgcolor="#CCCCCC">
<tr>
<td><div align="center" class="style1"><strong> <a
href="homepage.asp">Home</a></strong></div></td>
</tr>
<tr>
<td><div align="center" class="style1"><strong> <a href="userprofile.asp">User
Profile</a> </strong></div></td>
</tr>
<tr>
<td><div align="center" class="style1"><strong> <a href="myceu_credits.asp">My CEU
Credits</a> </strong></div></td>
</tr>
<tr>
<td><div align="center" class="style1"><strong> <a href="approved_list.asp">List of
Approved CEUs</a></strong></div></td>

```



```

                <option value="Comms Sys Mgmt">Comms Sys Mgmt</option>
                <option value="Computer Network Defense (CND)">Computer Network Defense
(CND)</option>
                <option value="C2">C2</option>
                <option value="Joint C4">Joint C4</option>
                <option value="Intel, Surv & Recon">Intel, Surv & Recon</option>
                <option value="IT Acquisition">IT Acquisition</option>
                <option value="Space Sys Ops">Space Sys Ops</option>
                <option value="IT Standards & Contract Mgmt">IT Standards & Contract
Mgmt</option>
            </select>
        </span></td>
    </tr>
    <tr>
        <td>CEU Type </td>
        <td><label>
            <input type="radio" name="CeuType" value="FL-Formal Learning">
Formal Learning</label>
            <br>
            <label>
                <input type="radio" name="CeuType" value="PAO-Prof Activity/Org">
Prof Activity/Organization</label>
            <br>
            <label>
                <input type="radio" name="CeuType" value="CERT-Certifications">
Certification</label>
            <br></td>
    </tr>
    <tr>
        <td>Organization </td>
        <td><input name="credOrg" type="text" id="credOrg2" size="50"
maxlength="50"></td>
    </tr>
    <tr>
        <td>Location</td>
        <td><input name="location" type="text" id="location2" size="50"
maxlength="50"></td>
    </tr>

```

```

</tr>
<tr>
  <td>CDP Number </td>
  <td><input name="cdpnum" type="text" id="cdp2" size="50" maxlength="50"></td>
</tr>
<tr>
  <td>Days to complete </td>
  <td><input name="days" type="text" id="days2" size="50" maxlength="50"></td>
</tr>
<tr>
  <td>CEU Credits </td>
  <td><input name="ceuCredit" type="text" id="ceuCredit2" size="50"
maxlength="50"></td>
</tr>
<tr>
  <td>Description(please include contact information) </td>
  <td><textarea name="ceuDescription" cols="45" wrap="VIRTUAL"
id="textarea"></textarea></td>
</tr>
<tr>
  <td>&nbsp; </td>
  <td><input name="Submit" type="submit" id="Submit" value="Submit"></td>
</tr>
</table>
<input type="hidden" name="MM_insert" value="frmAddceu">
</form>
<p><a href="homepage.asp">Return to Home page</a> </p>
</div>
<div align="center" class="style4"></div>
<!-- InstanceEndEditable --></td>
</tr>
</table>
<div align="center">
</div>

</body>
<!-- InstanceEnd --></html>

```

```

<%
rs_addceu.Close()
Set rs_addceu = Nothing
%>

```

## **K. ADD\_APPROVEDCEUPROCESSED.ASP**

```

<% @LANGUAGE="VBSCRIPT"%>
<%
' *** Logout the current user.
MM_Logout = CStr(Request.ServerVariables("URL")) & "?MM_Logoutnow=1"
If (CStr(Request("MM_Logoutnow")) = "1") Then
    Session.Contents.Remove("MM_Username")
    Session.Contents.Remove("MM_UserAuthorization")
    MM_logoutRedirectPage = "login.asp"
' redirect with URL parameters (remove the "MM_Logoutnow" query param).
if (MM_logoutRedirectPage = "") Then MM_logoutRedirectPage =
CStr(Request.ServerVariables("URL"))
If (InStr(1, UC_redirectPage, "?", vbTextCompare) = 0 And Request.QueryString <> "") Then
    MM_newQS = "?"
    For Each Item In Request.QueryString
        If (Item <> "MM_Logoutnow") Then
            If (Len(MM_newQS) > 1) Then MM_newQS = MM_newQS & "&"
            MM_newQS = MM_newQS & Item & "=" &
Server.URLEncode(Request.QueryString(Item))
        End If
    Next
    if (Len(MM_newQS) > 1) Then MM_logoutRedirectPage = MM_logoutRedirectPage &
MM_newQS
    End If
    Response.Redirect(MM_logoutRedirectPage)
End If
%>
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html><!-- InstanceBegin template="/Templates/trackmasters template.dwt"
codeOutsideHTMLOIsLocked="false" -->
<head>
<!-- InstanceBeginEditable name="doctitle" -->

```

```

<title>Processed Add to List of Approved CEUs</title>
<!-- InstanceEndEditable --><meta http-equiv="Content-Type" content="text/html; charset=iso-
8859-1">
<style type="text/css">
<!--
body,td,th {
    color: #000000;
}
body {
    background-color: #FFFF99;
}
.style1 { font-family: Geneva, Arial, Helvetica, sans-serif}
.style2 {
    color: #000066;
    font-weight: bold;
    font-style: italic;
}
.style4 {color: #000066}
-->
</style>
<!-- InstanceBeginEditable name="head" --><!-- InstanceEndEditable -->
</head>

<body>
<h2 align="center"></h2>
<!-- InstanceBeginEditable name="title" -->
<h2 align="center"><span class="style2">Your Request has been processed </span></h2>
<!-- InstanceEndEditable -->
<h3 align="center">&nbsp;</h3>
<table width="95%" height="780" border="0" cellpadding="2" cellspacing="0">
<tr>
<td width="22%" valign="top"><table width="100%" height="201" border="1"
cellpadding="3" cellspacing="0" bordercolor="#3333CC" bgcolor="#CCCCCC">
<tr>
<td><div align="center" class="style1"><strong> <a
href="homepage.asp">Home</a></strong></div></td>

```



```

        </tr>
        <tr>
            <td><div align="center" class="style1"><strong> <a href="userprofile.asp">User
Profile</a> </strong></div></td>
        </tr>
        <tr>
            <td><div align="center" class="style1"><strong> <a href="myceu_credits.asp">My CEU
Credits</a> </strong></div></td>
        </tr>
        <tr>
            <td><div align="center" class="style1"><strong> <a href="approved_list.asp">List of
Approved CEUs</a></strong></div></td>
        </tr>
        <tr>
            <td><div align="center" class="style1"><strong><a
href="viewallceu.asp?Last60=True">Newly
Approved CEUs</a> </strong></div></td>
        </tr>
        <tr>
            <td><div align="center" class="style1"><a
href="admin_ipcoe.asp"><strong>Admin</strong></a></div></td>
        </tr>
        <tr>
            <td><!-- InstanceBeginEditable name="EditRegion5" -->
            <div align="center"><a href="<%= MM_Logout %>" class="style1"><strong>Log
out</strong></a></div>
            <!-- InstanceEndEditable --></td>
        </tr>
        <tr>
            <td><div align="center" class="style1"><strong> <a href="contact_us.asp">Contact Us</a>
</strong></div></td>
        </tr>
    </table></td>
    <td width="78%" valign="top"><!-- InstanceBeginEditable name="paragraph" -->
        <p class="style4"><em><strong>Thank you for your submission. Your request to add a CEU
to the Database has been processed.</strong></em></p>
        <p class="style4"><em><strong>Do you want to <a href="add_approvedceu.asp">add
another CEU to the list</a> or return to the <a href="homepage.asp">home page</a>?
</strong></em></p>
        <div align="center" class="style4"></div>

```

```

        <!-- InstanceEndEditable --></td>
    </tr>
</table>
<div align="center">
</div>

</body>
<!-- InstanceEnd --></html>

```

## L. ADMIN\_IPCOE.ASP

```

<% @LANGUAGE="VBSCRIPT"%>
<%
' *** Logout the current user.
MM_Logout = CStr(Request.ServerVariables("URL")) & "?MM_Logoutnow=1"
If (CStr(Request("MM_Logoutnow")) = "1") Then
    Session.Contents.Remove("MM_Username")
    Session.Contents.Remove("MM_UserAuthorization")
    MM_logoutRedirectPage = "login.asp"
' redirect with URL parameters (remove the "MM_Logoutnow" query param).
if (MM_logoutRedirectPage = "") Then MM_logoutRedirectPage =
CStr(Request.ServerVariables("URL"))
If (InStr(1, UC_redirectPage, "?", vbTextCompare) = 0 And Request.QueryString <> "") Then
    MM_newQS = "?"
    For Each Item In Request.QueryString
        If (Item <> "MM_Logoutnow") Then
            If (Len(MM_newQS) > 1) Then MM_newQS = MM_newQS & "&"
            MM_newQS = MM_newQS & Item & "=" &
Server.URLEncode(Request.QueryString(Item))
        End If
    Next
    if (Len(MM_newQS) > 1) Then MM_logoutRedirectPage = MM_logoutRedirectPage &
MM_newQS
    End If
    Response.Redirect(MM_logoutRedirectPage)
End If
%>
<%
' *** Restrict Access To Page: Grant or deny access to this page

```

```

MM_authorizedUsers="admin"
MM_authFailedURL="accessdenied.asp"
MM_grantAccess=false
If Session("MM_Username") <> "" Then
  If (false Or CStr(Session("MM_UserAuthorization"))="") Or _
    (InStr(1,MM_authorizedUsers,Session("MM_UserAuthorization"))>=1) Then
    MM_grantAccess = true
  End If
End If
If Not MM_grantAccess Then
  MM_qsChar = "?"
  If (InStr(1,MM_authFailedURL,"?") >= 1) Then MM_qsChar = "&"
  MM_referrer = Request.ServerVariables("URL")
  if (Len(Request.QueryString()) > 0) Then MM_referrer = MM_referrer & "?" &
Request.QueryString()
  MM_authFailedURL = MM_authFailedURL & MM_qsChar & "accessdenied=" &
Server.URLEncode(MM_referrer)
  Response.Redirect(MM_authFailedURL)
End If
%>
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html><!-- InstanceBegin template="/Templates/trackmasters template.dwt"
codeOutsideHTMLIsLocked="false" -->
<head>
<!-- InstanceBeginEditable name="doctitle" -->
<title>IPCOE Admin Page</title>
<!-- InstanceEndEditable --><meta http-equiv="Content-Type" content="text/html; charset=iso-
8859-1">
<style type="text/css">
<!--
body,td,th {
    color: #000000;
}
body {
    background-color: #FFFF99;
}

```

```

.style1 { font-family: Geneva, Arial, Helvetica, sans-serif}
.style2 {
    color: #000066;
    font-weight: bold;
    font-style: italic;
}
.style4 {color: #000066}
-->
</style>
<!-- InstanceBeginEditable name="head" --><!-- InstanceEndEditable -->
</head>

<body>
<h2 align="center"></h2>
<!-- InstanceBeginEditable name="title" -->
<h2 align="center" class="style4"><strong><em>Administration</em></strong></h2>
<!-- InstanceEndEditable -->
<h3 align="center">&nbsp;</h3>
<table width="95%" height="780" border="0" cellpadding="2" cellspacing="0">
<tr>
<td width="22%" valign="top"><table width="100%" height="201" border="1"
cellpadding="3" cellspacing="0" bordercolor="#3333CC" bgcolor="#CCCCCC">
<tr>
<td><div align="center" class="style1"><strong> <a
href="homepage.asp">Home</a></strong></div></td>
</tr>
<tr>
<td><div align="center" class="style1"><strong> <a href="userprofile.asp">User
Profile</a> </strong></div></td>
</tr>
<tr>
<td><div align="center" class="style1"><strong> <a href="myceu_credits.asp">My CEU
Credits</a> </strong></div></td>
</tr>
<tr>
<td><div align="center" class="style1"><strong> <a href="approved_list.asp">List of
Approved CEUs</a></strong></div></td>

```

```

        </tr>
        <tr>
            <td><div align="center" class="style1"><strong><a
href="viewallceu.asp?Last60=True">Newly
                Approved CEUs</a> </strong></div></td>
        </tr>
        <tr>
            <td><div align="center" class="style1"><a
href="admin_ipcoe.asp"><strong>Admin</strong></a></div></td>
        </tr>
        <tr>
            <td><!-- InstanceBeginEditable name="EditRegion5" -->
                <div align="center"><a href="<%= MM_Logout %>" class="style1"><strong>Log
out</strong></a></div>
                <!-- InstanceEndEditable --></td>
        </tr>
        <tr>
            <td><div align="center" class="style1"><strong> <a href="contact_us.asp">Contact Us</a>
</strong></div></td>
        </tr>
    </table></td>
    <td width="78%" valign="top"><!-- InstanceBeginEditable name="paragraph" -->
        <div align="center" class="style2">
            <p>This page will enable you to display all CEU requests requiring approval or
dissapproval.</p>
            <p><a href="approve_ceu.asp">Approve Submitted CEU</a></p>
            <p><a href="update_approvedceu.asp">Approve Suggested CEU</a></p>
            <p><a href="ceu_report.asp">Report of CEUs</a></p>
            <a href="homepage.asp">Home</a>
            <p align="center">&nbsp; </p>
        </div>
        <div align="center" class="style4"></div>
    <!-- InstanceEndEditable --></td>
</tr>
</table>
<div align="center">
</div>

```

```
</body>
<!-- InstanceEnd --></html>
```

## M. APPROVE\_CEU.ASP

```
<% @LANGUAGE="VBSCRIPT"%>
<%
' *** Logout the current user.
MM_Logout = CStr(Request.ServerVariables("URL")) & "?MM_Logoutnow=1"
If (CStr(Request("MM_Logoutnow")) = "1") Then
    Session.Contents.Remove("MM_Username")
    Session.Contents.Remove("MM_UserAuthorization")
    MM_logoutRedirectPage = "login.asp"
' redirect with URL parameters (remove the "MM_Logoutnow" query param).
if (MM_logoutRedirectPage = "") Then MM_logoutRedirectPage =
CStr(Request.ServerVariables("URL"))
If (InStr(1, UC_redirectPage, "?", vbTextCompare) = 0 And Request.QueryString <> "") Then
    MM_newQS = "?"
    For Each Item In Request.QueryString
        If (Item <> "MM_Logoutnow") Then
            If (Len(MM_newQS) > 1) Then MM_newQS = MM_newQS & "&"
            MM_newQS = MM_newQS & Item & "=" &
Server.URLEncode(Request.QueryString(Item))
        End If
    Next
    if (Len(MM_newQS) > 1) Then MM_logoutRedirectPage = MM_logoutRedirectPage &
MM_newQS
    End If
    Response.Redirect(MM_logoutRedirectPage)
End If
%>
<%
' *** Restrict Access To Page: Grant or deny access to this page
MM_authorizedUsers="admin"
MM_authFailedURL="accessdenied.asp"
MM_grantAccess=false
If Session("MM_Username") <> "" Then
    If (false Or CStr(Session("MM_UserAuthorization"))="") Or _
```

```

        (InStr(1,MM_authorizedUsers,Session("MM_UserAuthorization"))>=1) Then
        MM_grantAccess = true
    End If
End If
If Not MM_grantAccess Then
    MM_qsChar = "?"
    If (InStr(1,MM_authFailedURL,"?") >= 1) Then MM_qsChar = "&"
    MM_referrer = Request.ServerVariables("URL")
    if (Len(Request.QueryString()) > 0) Then MM_referrer = MM_referrer & "?" &
Request.QueryString()
    MM_authFailedURL = MM_authFailedURL & MM_qsChar & "accessdenied=" &
Server.URLEncode(MM_referrer)
    Response.Redirect(MM_authFailedURL)
End If
%>
<!--#include file="Connections/Group10.asp" -->
<%
Dim rs_adminipcoe
Dim rs_adminipcoe_numRows

Set rs_adminipcoe = Server.CreateObject("ADODB.Recordset")
rs_adminipcoe.ActiveConnection = MM_Group10_STRING
rs_adminipcoe.Source = "SELECT userceu.*, ceu_user.*, ceu.* FROM (userceu INNER JOIN
ceu ON userceu.ceuID = ceu.ceuID) INNER JOIN ceu_user ON userceu.ssn = ceu_user.ssn WHERE
userceu.status='pending' ORDER BY ceu_user.lastname"
rs_adminipcoe.CursorType = 0
rs_adminipcoe.CursorLocation = 2
rs_adminipcoe.LockType = 1
rs_adminipcoe.Open()
rs_adminipcoe_numRows = 0
%>
<%
Dim Repeat1__numRows
Dim Repeat1__index

Repeat1__numRows = -1
Repeat1__index = 0

```

```

rs_adminipcoe_numRows = rs_adminipcoe_numRows + Repeat1__numRows
%>
<%
' Updated submitted records
if request.form("Submitted") = "done" then
    Set Custom_editCmd = Server.CreateObject("ADODB.Command")
    Custom_editCmd.ActiveConnection = MM_Group10_STRING
    while not rs_adminipcoe.eof
        CurrentRecord = CSTR(rs_adminipcoe.fields.item("userceuid"))
        CurrentStatus = Request.Form("approve"+CurrentRecord)
        CurrentComments = Request.Form("disapprovalcomments"+CurrentRecord)
        Custom_editCmd.CommandText = "update userceu set status =
"+CurrentStatus+", disapprovalcomments = '"+CurrentComments+"' where userceuid = "+CurrentRecord
        Custom_editCmd.Execute
        rs_adminipcoe.movenext
    wend
    Custom_editCmd.ActiveConnection.Close
    response.Redirect("approve_ceu.asp")
    rs_adminipcoe.requery
end if
%>
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html><!-- InstanceBegin template="/Templates/trackmasters template.dwt"
codeOutsideHTMLOIsLocked="false" -->
<head>
<!-- InstanceBeginEditable name="doctitle" -->
<title>IPCOE Admin Page</title>
<!-- InstanceEndEditable --><meta http-equiv="Content-Type" content="text/html; charset=iso-
8859-1">
<style type="text/css">
<!--
body,td,th {
    color: #000000;
}
body {
    background-color: #FFFF99;

```



```

}
.style1 { font-family: Geneva, Arial, Helvetica, sans-serif}
.style2 {
    color: #000066;
    font-weight: bold;
    font-style: italic;
}
.style4 {color: #000066}
-->
</style>
<!-- InstanceBeginEditable name="head" --><!-- InstanceEndEditable -->
</head>

<body>
<h2 align="center"></h2>
<!-- InstanceBeginEditable name="title" -->
<h2 align="center" class="style4"><strong><em>Administration</em></strong></h2>
<!-- InstanceEndEditable -->
<h3 align="center">&nbsp;</h3>
<table width="95%" height="780" border="0" cellpadding="2" cellspacing="0">
<tr>
<td width="22%" valign="top"><table width="100%" height="201" border="1"
cellpadding="3" cellspacing="0" bordercolor="#3333CC" bgcolor="#CCCCCC">
<tr>
<td><div align="center" class="style1"><strong> <a
href="homepage.asp">Home</a></strong></div></td>
</tr>
<tr>
<td><div align="center" class="style1"><strong> <a href="userprofile.asp">User
Profile</a> </strong></div></td>
</tr>
<tr>
<td><div align="center" class="style1"><strong> <a href="myceu_credits.asp">My CEU
Credits</a> </strong></div></td>
</tr>
<tr>

```

```

        <td><div align="center" class="style1"><strong> <a href="approved_list.asp">List of
Approved CEUs</a></strong></div></td>
    </tr>
    <tr>
        <td><div align="center" class="style1"><strong><a
href="viewallceu.asp?Last60=True">Newly
Approved CEUs</a> </strong></div></td>
    </tr>
    <tr>
        <td><div align="center" class="style1"><a
href="admin_ipcoe.asp"><strong>Admin</strong></a></div></td>
    </tr>
    <tr>
        <td><!-- InstanceBeginEditable name="EditRegion5" -->
        <div align="center"><a href="<%= MM_Logout %>" class="style1"><strong>Log
out</strong></a></div>
        <!-- InstanceEndEditable --></td>
    </tr>
    <tr>
        <td><div align="center" class="style1"><strong> <a href="contact_us.asp">Contact Us</a>
</strong></div></td>
    </tr>
</table></td>
<td width="78%" valign="top"><!-- InstanceBeginEditable name="paragraph" -->
<div align="center" class="style2">
<p>This page will enable you to display all CEU requests requiring approval
or disapproval.</p>
<form action="" method="post" name="Approve CEU" id="Approve CEU">
<table width="600" border="1">
    <tr>
        <td width="110"><strong>IP Officer</strong></td>
        <td width="32"><strong>CEU</strong></td>
        <td width="143"><strong>Date</strong></td>
        <td width="57"><strong>Approve</strong></td>
        <td width="224"><strong>Comments</strong></td>
    </tr>
</div>
<%

```

While ((Repeat1\_\_numRows <> 0) AND (NOT rs\_adminipcoe.EOF))

```

%>
    <tr>
        <td><font size="2"><%=rs_adminipcoe.Fields.Item("lastName").Value%>,
<%=rs_adminipcoe.Fields.Item("firstName").Value%>
            <input name="userceuid" type="hidden" id="userceuid"
value="<%=rs_adminipcoe.Fields.Item("userceuid").Value%>">
            </font></td>
        <td><font
size="2"><%=rs_adminipcoe.Fields.Item("ceuName").Value%></font></td>
        <td><font
size="2"><%=rs_adminipcoe.Fields.Item("userceudate").Value%></font></td>
        <td> <font size="2">
            <select name="approve<%=rs_adminipcoe.Fields.Item("userceuid").Value%>"
id="approve<%=rs_adminipcoe.Fields.Item("userceuid").Value%>">
                <option value="approved" selected>Approved</option>
                <option value="disapproved">Disapproved</option>
                <option value="pending">Defer</option>
            </select>
            </font></td>
        <td> <font size="2">
            <input
name="disapprovalcomments<%=rs_adminipcoe.Fields.Item("userceuid").Value%>" type="text"
id="disapprovalcomments<%=rs_adminipcoe.Fields.Item("userceuid").Value%>">
            </font></td>
    </tr>
<%
Repeat1__index=Repeat1__index+1
Repeat1__numRows=Repeat1__numRows-1
rs_adminipcoe.MoveNext()
Wend
%>
</table>
<input name="submitted" type="hidden" id="submitted" value="done">
<input type="submit" name="Submit" value="Apply">
</form>
<p>&nbsp;</p>
<a href="homepage.asp">Home</a>
<p align="center">&nbsp;</p>

```

```

    </div>
    <div align="center" class="style4"></div>
    <!-- InstanceEndEditable --></td>
</tr>
</table>
<div align="center">
</div>

```

```

</body>
<!-- InstanceEnd --></html>
<%
rs_adminipcoe.Close()
Set rs_adminipcoe = Nothing
%>

```

## N. UPDATE\_APPROVEDCEU.ASP

```

<% @LANGUAGE="VBSCRIPT" CODEPAGE="1252"%>
<%
' *** Logout the current user.
MM_Logout = CStr(Request.ServerVariables("URL")) & "?MM_Logoutnow=1"
If (CStr(Request("MM_Logoutnow")) = "1") Then
    Session.Contents.Remove("MM_Username")
    Session.Contents.Remove("MM_UserAuthorization")
    MM_logoutRedirectPage = "login.asp"
' redirect with URL parameters (remove the "MM_Logoutnow" query param).
if (MM_logoutRedirectPage = "") Then MM_logoutRedirectPage =
CStr(Request.ServerVariables("URL"))
If (InStr(1, UC_redirectPage, "?", vbTextCompare) = 0 And Request.QueryString <> "") Then
    MM_newQS = "?"
    For Each Item In Request.QueryString
        If (Item <> "MM_Logoutnow") Then
            If (Len(MM_newQS) > 1) Then MM_newQS = MM_newQS & "&"
            MM_newQS = MM_newQS & Item & "=" &
Server.URLEncode(Request.QueryString(Item))
        End If
    Next
    if (Len(MM_newQS) > 1) Then MM_logoutRedirectPage = MM_logoutRedirectPage &
MM_newQS

```

```

End If
Response.Redirect(MM_logoutRedirectPage)
End If
%>
<!--#include file="Connections/Group10.asp" -->
<%
Dim rs_addceu__MMColParam
rs_addceu__MMColParam = "False"
If (Request("MM_EmptyValue") <> "") Then
    rs_addceu__MMColParam = Request("MM_EmptyValue")
End If
%>
<%
' *** Restrict Access To Page: Grant or deny access to this page
MM_authorizedUsers="admin,user"
MM_authFailedURL="login.asp"
MM_grantAccess=false
If Session("MM_Username") <> "" Then
    If (false Or CStr(Session("MM_UserAuthorization"))="") Or _
        (InStr(1,MM_authorizedUsers,Session("MM_UserAuthorization"))>=1) Then
        MM_grantAccess = true
    End If
End If
If Not MM_grantAccess Then
    MM_qsChar = "?"
    If (InStr(1,MM_authFailedURL,"?") >= 1) Then MM_qsChar = "&"
    MM_referrer = Request.ServerVariables("URL")
    if (Len(Request.QueryString()) > 0) Then MM_referrer = MM_referrer & "?" &
Request.QueryString()
    MM_authFailedURL = MM_authFailedURL & MM_qsChar & "accessdenied=" &
Server.URLEncode(MM_referrer)
    Response.Redirect(MM_authFailedURL)
End If
%>
<%
Dim rs_addceu
Dim rs_addceu_numRows

```

```

Set rs_addceu = Server.CreateObject("ADODB.Recordset")
rs_addceu.ActiveConnection = MM_Group10_STRING
rs_addceu.Source = "SELECT * FROM ceu WHERE approved = " +
Replace(rs_addceu__MMColParam, "", "") + ""
rs_addceu.CursorType = 0
rs_addceu.CursorLocation = 2
rs_addceu.LockType = 1
rs_addceu.Open()

rs_addceu_numRows = 0
%>
<%
' Updated submitted records
if request.form("Submitted") = "Done" then
    Set Custom_editCmd = Server.CreateObject("ADODB.Command")
    Custom_editCmd.ActiveConnection = MM_Group10_STRING
    CurrentDate = CSTR(Now())
    while not rs_addceu.eof
        CurrentRecord = CSTR(rs_addceu.fields.item("ceuid"))
        CurrentCredit = Request.Form("Credit"+CurrentRecord)
        CurrentDescription = Request.Form("Description"+CurrentRecord)
        CurrentApprove = Request.Form("Approve"+CurrentRecord)
        if Instr(CurrentCredit, " ") > 0 then NumericCredit =
Left(CurrentCredit,Instr(CurrentCredit, " ")-1) else NumericCredit = CurrentCredit
        if CurrentApprove = "Approve" then Custom_editCmd.CommandText =
"update ceu set CEUCredit = '"+CurrentCredit+"', CEUDescription = '"+CurrentDescription+"', approved =
True, CreditUnit = '"+NumericCredit+"', DateAdded = '"+CurrentDate+"# where ceuid = '"+CurrentRecord
        if CurrentApprove = "Delete" then Custom_editCmd.CommandText = "delete from
ceu where ceuid = " + CurrentRecord
        Custom_editCmd.Execute
        rs_addceu.movenext
    wend
    Custom_editCmd.ActiveConnection.Close
    response.Redirect("approve_ceu.asp")
    rs_addceu.requery
end if
%>

```

```

<%
Dim Repeat1__numRows
Dim Repeat1__index

Repeat1__numRows = -1
Repeat1__index = 0
rs_addceu_numRows = rs_addceu_numRows + Repeat1__numRows
%>
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html><!-- InstanceBegin template="/Templates/trackmasters template.dwt"
codeOutsideHTMLOutsideHTMLIsLocked="false" -->
<head>
<!-- InstanceBeginEditable name="doctitle" -->
<title>Add to Approved CEU List</title>
<!-- InstanceEndEditable --><meta http-equiv="Content-Type" content="text/html; charset=iso-
8859-1">
<style type="text/css">
<!--
body,td,th {
    color: #000000;
}
body {
    background-color: #FFFF99;
}
.style1 { font-family: Geneva, Arial, Helvetica, sans-serif}
.style2 {
    color: #000066;
    font-weight: bold;
    font-style: italic;
}
.style4 {color: #000066}
-->
</style>
<!-- InstanceBeginEditable name="head" --><!-- InstanceEndEditable -->
</head>

```

```

<body>
  <h2 align="center"></h2>
  <!-- InstanceBeginEditable name="title" -->
  <h2 align="center"><span class="style2">Add to Approved CEU List</span></h2>
  <!-- InstanceEndEditable -->
  <h3 align="center">&nbsp;</h3>
  <table width="95%" height="780" border="0" cellpadding="2" cellspacing="0">
    <tr>
      <td width="22%" valign="top"><table width="100%" height="201" border="1"
cellpadding="3" cellspacing="0" bordercolor="#3333CC" bgcolor="#CCCCCC">
        <tr>
          <td><div align="center" class="style1"><strong> <a
href="homepage.asp">Home</a></strong></div></td>
        </tr>
        <tr>
          <td><div align="center" class="style1"><strong> <a href="userprofile.asp">User
Profile</a> </strong></div></td>
        </tr>
        <tr>
          <td><div align="center" class="style1"><strong> <a href="myceu_credits.asp">My CEU
Credits</a> </strong></div></td>
        </tr>
        <tr>
          <td><div align="center" class="style1"><strong> <a href="approved_list.asp">List of
Approved CEUs</a></strong></div></td>
        </tr>
        <tr>
          <td><div align="center" class="style1"><strong><a
href="viewallceu.asp?Last60=True">Newly
Approved CEUs</a> </strong></div></td>
        </tr>
        <tr>
          <td><div align="center" class="style1"><a
href="admin_ipcoe.asp"><strong>Admin</strong></a></div></td>
        </tr>
        <tr>
          <td><!-- InstanceBeginEditable name="EditRegion5" -->

```



```

        <div align="center"><a href="<%= MM_Logout %>" class="style1"><strong>Log
out</strong></a></div>
        <!-- InstanceEndEditable --></td>
    </tr>
    <tr>
        <td><div align="center" class="style1"><strong> <a href="contact_us.asp">Contact Us</a>
</strong></div></td>
    </tr>
</table></td>
<td width="78%" valign="top"><!-- InstanceBeginEditable name="paragraph" -->
    <div align="center" class="style2">
        <p>&nbsp;</p>
        <form method="post" name="frmAddceu" id="frmAddceu">
            <table width="700" border="1">

                <tr>
                    <td><strong>Name</strong></td>
                    <td><strong>Type</strong></td>
                    <td><strong>Credit</strong></td>
                    <td><strong>Description</strong></td>
                    <td><strong>Approve</strong></td>
                </tr>
            <%
                While ((Repeat1__numRows <> 0) AND (NOT rs_addceu.EOF))
                %>
                <tr>
                    <td><%=rs_addceu.Fields.Item("ceuName").Value%></td>
                    <td><%=rs_addceu.Fields.Item("ceuType").Value%></td>
                    <td> <input name="credit<%=rs_addceu.Fields.Item("ceuID")%>" type="text"
id="credit<%=rs_addceu.Fields.Item("ceuID")%>"
value="<%=rs_addceu.Fields.Item("ceuCredit").Value%>">
                    </td>
                    <td> <input name="Description<%=rs_addceu.Fields.Item("ceuID")%>" type="text"
value="<%=rs_addceu.Fields.Item("ceuDescription").Value%>"></td>
                    <td> <select name="Approve<%=rs_addceu.Fields.Item("ceuID")%>">
                        <option value="Approve" selected>Approve</option>
                        <option value="Delete">Delete</option>
                        <option value="Defer">Defer</option>

```

```

        </select></td>
    </tr>
<%
Repeat1__index=Repeat1__index+1
Repeat1__numRows=Repeat1__numRows-1
rs_addceu.MoveNext()
Wend
%>
</table>
<input name="submitted" type="hidden" id="submitted" value="Done">
<input type="submit" name="Submit" value="Update">
</form>
<p><a href="homepage.asp">Return to Home page</a> </p>
</div>
<div align="center" class="style4"></div>

<!-- InstanceEndEditable --></td>
</tr>
</table>
<div align="center">
</div>

</body>
<!-- InstanceEnd --></html>
<%
rs_addceu.Close()
Set rs_addceu = Nothing
%>

```

## O. CEU\_REPORT.ASP

```

<% @LANGUAGE="VBSCRIPT" CODEPAGE="1252"%>
<%
' *** Logout the current user.
MM_Logout = CStr(Request.ServerVariables("URL")) & "?MM_Logoutnow=1"
If (CStr(Request("MM_Logoutnow")) = "1") Then
    Session.Contents.Remove("MM_Username")
    Session.Contents.Remove("MM_UserAuthorization")

```

```

MM_logoutRedirectPage = "login.asp"
' redirect with URL parameters (remove the "MM_Logoutnow" query param).
if (MM_logoutRedirectPage = "") Then MM_logoutRedirectPage =
CStr(Request.ServerVariables("URL"))
If (InStr(1, UC_redirectPage, "?", vbTextCompare) = 0 And Request.QueryString <> "") Then
MM_newQS = "?"
For Each Item In Request.QueryString
If (Item <> "MM_Logoutnow") Then
If (Len(MM_newQS) > 1) Then MM_newQS = MM_newQS & "&"
MM_newQS = MM_newQS & Item & "=" &
Server.URLEncode(Request.QueryString(Item))
End If
Next
if (Len(MM_newQS) > 1) Then MM_logoutRedirectPage = MM_logoutRedirectPage &
MM_newQS
End If
Response.Redirect(MM_logoutRedirectPage)
End If
%>
<!--#include file="Connections/Group10.asp" -->
<%
Dim rs_addceu__CurrentFY
rs_addceu__CurrentFY = "10/1/2005"
If (Session("CurrentFY") <> "") Then
rs_addceu__CurrentFY = Session("CurrentFY")
End If
%>
<%
' *** Restrict Access To Page: Grant or deny access to this page
MM_authorizedUsers="admin,user"
MM_authFailedURL="login.asp"
MM_grantAccess=false
If Session("MM_Username") <> "" Then
If (false Or CStr(Session("MM_UserAuthorization"))="") Or _
(InStr(1,MM_authorizedUsers,Session("MM_UserAuthorization"))>=1) Then
MM_grantAccess = true
End If

```

```

End If
If Not MM_grantAccess Then
    MM_qsChar = "?"
    If (InStr(1,MM_authFailedURL,"?") >= 1) Then MM_qsChar = "&"
    MM_referrer = Request.ServerVariables("URL")
    if (Len(Request.QueryString()) > 0) Then MM_referrer = MM_referrer & "?" &
Request.QueryString()
    MM_authFailedURL = MM_authFailedURL & MM_qsChar & "accessdenied=" &
Server.URLEncode(MM_referrer)
    Response.Redirect(MM_authFailedURL)
End If
%>
<%
Dim rs_addceu
Dim rs_addceu_numRows

Set rs_addceu = Server.CreateObject("ADODB.Recordset")
rs_addceu.ActiveConnection = MM_Group10_STRING
rs_addceu.Source = "SELECT distinct ceu_user2.lastName, ceu_user2.firstName, (select
sum(ceu1.CreditUnit) FROM ceu as ceu1 inner join userceu as userceu1 on userceu1.ceuid = ceu1.ceuid
where userceu1.ssn = ceu_user2.ssn and userceudate >= #" + Replace(rs_addceu__CurrentFY, "'", "'") +
"# and userceu1.status = 'Approved') as Total_Credits FROM ceu_user as ceu_user2 order by
ceu_user2.lastname asc"

rs_addceu.CursorType = 0
rs_addceu.CursorLocation = 2
rs_addceu.LockType = 1
rs_addceu.Open()

rs_addceu_numRows = 0
%>
<%
Dim Repeat1__numRows
Dim Repeat1__index

Repeat1__numRows = -1
Repeat1__index = 0
rs_addceu_numRows = rs_addceu_numRows + Repeat1__numRows
%>

```

```

<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html><!-- InstanceBegin template="/Templates/trackmasters template.dwt"
codeOutsideHTMLIsLocked="false" -->
<head>
<!-- InstanceBeginEditable name="doctitle" -->
<title>Add to Approved CEU List</title>
<!-- InstanceEndEditable --><meta http-equiv="Content-Type" content="text/html; charset=iso-
8859-1">
<style type="text/css">
<!--
body,td,th {
    color: #000000;
}
body {
    background-color: #FFFF99;
}
.style1 {font-family: Geneva, Arial, Helvetica, sans-serif}
.style2 {
    color: #000066;
    font-weight: bold;
    font-style: italic;
}
.style4 {color: #000066}
-->
</style>
<!-- InstanceBeginEditable name="head" --><!-- InstanceEndEditable -->
</head>

<body>
<h2 align="center"></h2>
<!-- InstanceBeginEditable name="title" -->
<h2 align="center"><span class="style2">CEU Report</span></h2>
<!-- InstanceEndEditable -->
<h3 align="center">&nbsp;</h3>
<table width="95%" height="780" border="0" cellpadding="2" cellspacing="0">

```

```

<tr>
  <td width="22%" valign="top"><table width="100%" height="201" border="1"
cellpadding="3" cellspacing="0" bordercolor="#3333CC" bgcolor="#CCCCCC">
  <tr>
    <td><div align="center" class="style1"><strong> <a
href="homepage.asp">Home</a></strong></div></td>
  </tr>
  <tr>
    <td><div align="center" class="style1"><strong> <a href="userprofile.asp">User
Profile</a> </strong></div></td>
  </tr>
  <tr>
    <td><div align="center" class="style1"><strong> <a href="myceu_credits.asp">My CEU
Credits</a> </strong></div></td>
  </tr>
  <tr>
    <td><div align="center" class="style1"><strong> <a href="approved_list.asp">List of
Approved CEUs</a></strong></div></td>
  </tr>
  <tr>
    <td><div align="center" class="style1"><strong><a
href="viewallceu.asp?Last60=True">Newly
Approved CEUs</a> </strong></div></td>
  </tr>
  <tr>
    <td><div align="center" class="style1"><a
href="admin_ipcoe.asp"><strong>Admin</strong></a></div></td>
  </tr>
  <tr>
    <td><!-- InstanceBeginEditable name="EditRegion5" -->
    <div align="center"><a href="<%= MM_Logout %>" class="style1"><strong>Log
out</strong></a></div>
    <!-- InstanceEndEditable --></td>
  </tr>
  <tr>
    <td><div align="center" class="style1"><strong> <a href="contact_us.asp">Contact Us</a>
</strong></div></td>
  </tr>
</table></td>

```

```

<td width="78%" valign="top"><!-- InstanceBeginEditable name="paragraph" -->
  <div align="center" class="style2">
    <p>&nbsp;</p>
    <form method="post" name="frmAddceu" id="frmAddceu">
      <table width="600" border="1">
        <tr>
          <td><strong>Name</strong></td>
          <td><strong>Credits Earned This FY</strong></td>
        </tr>
      <%
While ((Repeat1__numRows <> 0) AND (NOT rs_addceu.EOF))
%>
        <tr>
          <td><%=rs_addceu.Fields.Item("lastName").Value%>,<br>
<%=rs_addceu.Fields.Item("firstName").Value%></td>
          <td><%if (rs_addceu.Fields.Item("Total_Credits").Value) > 0 then CurrentCEU =
(rs_addceu.Fields.Item("Total_Credits").Value) else CurrentCEU = "0" %><%=CurrentCEU%></td>
        </tr>
      <%
Repeat1__index=Repeat1__index+1
Repeat1__numRows=Repeat1__numRows-1
rs_addceu.MoveNext()
Wend
%>
    </table>
    </form>
    <p><a href="homepage.asp">Return to Home page</a> </p>
  </div>
  <div align="center" class="style4"></div>

  <!-- InstanceEndEditable --></td>
</tr>
</table>
<div align="center">
</div>

</body>

```

```
<!-- InstanceEnd --></html>
```

```
<%
```

```
rs_addceu.Close()
```

```
Set rs_addceu = Nothing
```

```
%>
```

## P. ACCESSDENIED.ASP

```
<%@LANGUAGE="VBSCRIPT"%>
```

```
<%
```

```
' *** Logout the current user.
```

```
MM_Logout = CStr(Request.ServerVariables("URL")) & "?MM_Logoutnow=1"
```

```
If (CStr(Request("MM_Logoutnow")) = "1") Then
```

```
    Session.Contents.Remove("MM_Username")
```

```
    Session.Contents.Remove("MM_UserAuthorization")
```

```
    MM_logoutRedirectPage = "login.asp"
```

```
    ' redirect with URL parameters (remove the "MM_Logoutnow" query param).
```

```
    if (MM_logoutRedirectPage = "") Then MM_logoutRedirectPage =
```

```
CStr(Request.ServerVariables("URL"))
```

```
    If (InStr(1, UC_redirectPage, "?", vbTextCompare) = 0 And Request.QueryString <> "") Then
```

```
        MM_newQS = "?"
```

```
        For Each Item In Request.QueryString
```

```
            If (Item <> "MM_Logoutnow") Then
```

```
                If (Len(MM_newQS) > 1) Then MM_newQS = MM_newQS & "&"
```

```
                MM_newQS = MM_newQS & Item & "=" &
```

```
Server.URLEncode(Request.QueryString(Item))
```

```
            End If
```

```
        Next
```

```
        if (Len(MM_newQS) > 1) Then MM_logoutRedirectPage = MM_logoutRedirectPage &  
MM_newQS
```

```
    End If
```

```
    Response.Redirect(MM_logoutRedirectPage)
```

```
End If
```

```
%>
```

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
```

```
"http://www.w3.org/TR/html4/loose.dtd">
```

```
<html><!-- InstanceBegin template="/Templates/trackmasters template.dwt"  
codeOutsideHTMLIsLocked="false" -->
```

```
<head>
```



```

<!-- InstanceBeginEditable name="doctitle" -->
<title>Unauthorized Access Page</title>
<!-- InstanceEndEditable --><meta http-equiv="Content-Type" content="text/html; charset=iso-
8859-1">
<style type="text/css">
<!--
body,td,th {
    color: #000000;
}
body {
    background-color: #FFFF99;
}
.style1 {font-family: Geneva, Arial, Helvetica, sans-serif}
.style2 {
    color: #000066;
    font-weight: bold;
    font-style: italic;
}
.style4 {color: #000066}
-->
</style>
<!-- InstanceBeginEditable name="head" --><!-- InstanceEndEditable -->
</head>

<body>
<h2 align="center"></h2>
<!-- InstanceBeginEditable name="title" -->
<h2 align="center"><span class="style2">Unauthorized Access</span></h2>
<!-- InstanceEndEditable -->
<h3 align="center">&nbsp;</h3>
<table width="95%" height="780" border="0" cellpadding="2" cellspacing="0">
<tr>
<td width="22%" valign="top"><table width="100%" height="201" border="1"
cellpadding="3" cellspacing="0" bordercolor="#3333CC" bgcolor="#CCCCCC">
<tr>

```

```

        <td><div align="center" class="style1"><strong> <a
href="homepage.asp">Home</a></strong></div></td>
    </tr>
    <tr>
        <td><div align="center" class="style1"><strong> <a href="userprofile.asp">User
Profile</a> </strong></div></td>
    </tr>
    <tr>
        <td><div align="center" class="style1"><strong> <a href="myceu_credits.asp">My CEU
Credits</a> </strong></div></td>
    </tr>
    <tr>
        <td><div align="center" class="style1"><strong> <a href="approved_list.asp">List of
Approved CEUs</a></strong></div></td>
    </tr>
    <tr>
        <td><div align="center" class="style1"><strong><a
href="viewallceu.asp?Last60=True">Newly
Approved CEUs</a> </strong></div></td>
    </tr>
    <tr>
        <td><div align="center" class="style1"><a
href="admin_ipcoe.asp"><strong>Admin</strong></a></div></td>
    </tr>
    <tr>
        <td><!-- InstanceBeginEditable name="EditRegion5" -->
        <div align="center"><a href="<%= MM_Logout %%" class="style1"><strong>Log
out</strong></a></div>
        <!-- InstanceEndEditable --></td>
    </tr>
    <tr>
        <td><div align="center" class="style1"><strong> <a href="contact_us.asp">Contact Us</a>
</strong></div></td>
    </tr>
</table></td>
<td width="78%" valign="top"><!-- InstanceBeginEditable name="paragraph" -->
    <div align="center" class="style2">You do not have access to this page. Contact your
administrator to gain access.</div>
    <div align="center" class="style4"></div>

```

```

        <!-- InstanceEndEditable --></td>
    </tr>
</table>
<div align="center">
</div>

</body>
<!-- InstanceEnd --></html>

```

## Q. CONTACT\_US.ASP

```

<% @LANGUAGE="VBSCRIPT"%>
<%
' *** Logout the current user.
MM_Logout = CStr(Request.ServerVariables("URL")) & "?MM_Logoutnow=1"
If (CStr(Request("MM_Logoutnow")) = "1") Then
    Session.Contents.Remove("MM_Username")
    Session.Contents.Remove("MM_UserAuthorization")
    MM_logoutRedirectPage = "login.asp"
' redirect with URL parameters (remove the "MM_Logoutnow" query param).
if (MM_logoutRedirectPage = "") Then MM_logoutRedirectPage =
CStr(Request.ServerVariables("URL"))
If (InStr(1, UC_redirectPage, "?", vbTextCompare) = 0 And Request.QueryString <> "") Then
    MM_newQS = "?"
    For Each Item In Request.QueryString
        If (Item <> "MM_Logoutnow") Then
            If (Len(MM_newQS) > 1) Then MM_newQS = MM_newQS & "&"
            MM_newQS = MM_newQS & Item & "=" &
Server.URLEncode(Request.QueryString(Item))
        End If
    Next
    if (Len(MM_newQS) > 1) Then MM_logoutRedirectPage = MM_logoutRedirectPage &
MM_newQS
    End If
    Response.Redirect(MM_logoutRedirectPage)
End If
%>
<%
'send email

```

```

if Request.Form("Submitted") = "Done" Then
    Set MyCDONTSMail2 = CreateObject("CDONTS.NewMail")
    MyCDONTSMail2.From=Request.Form("emailAddress")
    MyCDONTSMail2.To="ipcoe@nps.edu"
    MyCDONTSMail2.Subject=Request.Form("subject")
    MyCDONTSMail2.BodyFormat=0
    MyCDONTSMail2.MailFormat=0
    MyCDONTSMail2.Body=Request.Form("body")
    MyCDONTSMail2.Send

    response.Redirect("msgsent.asp")
End if
%>
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html><!-- InstanceBegin template="/Templates/trackmasters template.dwt"
codeOutsideHTMLIsLocked="false" -->
<head>
<!-- InstanceBeginEditable name="doctitle" -->
<title>Contact Us Page</title>
<!-- InstanceEndEditable --><meta http-equiv="Content-Type" content="text/html; charset=iso-
8859-1">
<style type="text/css">
<!--
body,td,th {
    color: #000000;
}
body {
    background-color: #FFFF99;
}
.style1 { font-family: Geneva, Arial, Helvetica, sans-serif}
.style2 {
    color: #000066;
    font-weight: bold;
    font-style: italic;
}
.style4 {color: #000066}

```

```

-->
</style>
<!-- InstanceBeginEditable name="head" -->
<style type="text/css">
<!--
.style6 { font-family: Geneva, Arial, Helvetica, sans-serif;
        font-weight: bold;
        font-style: italic;
}
-->
</style>
<script language="JavaScript" type="text/JavaScript">
<!--
function MM_findObj(n, d) { //v4.01
    var p,i,x; if(!d) d=document; if((p=n.indexOf("?"))>0&&parent.frames.length) {
        d=parent.frames[n.substring(p+1)].document; n=n.substring(0,p);}
    if(!(x=d[n])&&d.all) x=d.all[n]; for (i=0;!x&&i<d.forms.length;i++) x=d.forms[i][n];
    for(i=0;!x&&d.layers&&i<d.layers.length;i++) x=MM_findObj(n,d.layers[i].document);
    if(!x && d.getElementById) x=d.getElementById(n); return x;
}

function MM_validateForm() { //v4.0
    var i,p,q,nm,test,num,min,max,errors="",args=MM_validateForm.arguments;
    for (i=0; i<(args.length-2); i+=3) { test=args[i+2]; val=MM_findObj(args[i]);
    if (val) { nm=val.name; if ((val=val.value)!="") {
        if (test.indexOf('isEmail')!=-1) { p=val.indexOf('@');
            if (p<1 || p==(val.length-1)) errors+="- "+nm+" must contain an e-mail address.\n";
        } else if (test!='R') { num = parseFloat(val);
            if (isNaN(val)) errors+="- "+nm+" must contain a number.\n";
            if (test.indexOf('inRange') != -1) { p=test.indexOf(':');
                min=test.substring(8,p); max=test.substring(p+1);
                if (num<min || max<num) errors+="- "+nm+" must contain a number between '+min+' and
'+max+'.\n";
            } } } else if (test.charAt(0) == 'R') errors += " - "+nm+" is required.\n"; }
    } if (errors) alert("The following error(s) occurred:\n"+errors);
    document.MM_returnValue = (errors == "");
}

```

```

}
//-->
</script>
<!-- InstanceEndEditable -->
</head>

<body>
<h2 align="center"></h2>
<!-- InstanceBeginEditable name="title" -->
<h2 align="center"><span class="style2">Contact Us </span></h2>
<!-- InstanceEndEditable -->
<h3 align="center">&nbsp;</h3>
<table width="95%" height="780" border="0" cellpadding="2" cellspacing="0">
<tr>
<td width="22%" valign="top"><table width="100%" height="201" border="1"
cellpadding="3" cellspacing="0" bordercolor="#3333CC" bgcolor="#CCCCCC">
<tr>
<td align="center" class="style1"><strong> <a
href="homepage.asp">Home</a></strong></div></td>
</tr>
<tr>
<td align="center" class="style1"><strong> <a href="userprofile.asp">User
Profile</a> </strong></div></td>
</tr>
<tr>
<td align="center" class="style1"><strong> <a href="myceu_credits.asp">My CEU
Credits</a> </strong></div></td>
</tr>
<tr>
<td align="center" class="style1"><strong> <a href="approved_list.asp">List of
Approved CEUs</a></strong></div></td>
</tr>
<tr>
<td align="center" class="style1"><strong><a
href="viewallceu.asp?Last60=True">Newly
Approved CEUs</a> </strong></div></td>
</tr>

```

```

        <tr>
            <td><div align="center" class="style1"><a
href="admin_ipcoe.asp"><strong>Admin</strong></a></div></td>
        </tr>
        <tr>
            <td><!-- InstanceBeginEditable name="EditRegion5" -->
                <div align="center"><a href="<%= MM_Logout %>" class="style1"><strong>Log
out</strong></a></div>
            <!-- InstanceEndEditable --></td>
        </tr>
        <tr>
            <td><div align="center" class="style1"><strong> <a href="contact_us.asp">Contact Us</a>
</strong></div></td>
        </tr>
    </table></td>
    <td width="78%" valign="top"><!-- InstanceBeginEditable name="paragraph" -->
        <div align="center" class="style2">
            <div align="left">
                <p>If you need more information about this website or the CEU process please contact the
IP center of Excellence:</p>
                <p>If you would like to send us an email please use the following form.</p>
                <form method="post" name="frm_message" id="frm_message">
                    <fieldset>
                        <legend><span class="style6">Contact Information</span></legend>
                        <p>
                            <label>Your email address:</label>
                            <br>
                            <label>
                                <input name="emailAddress" type="text" id="emailAddress" size="55"
maxlength="55">
                            </label>
                        </p>
                        <p>
                            <label>Subject<br>
                                <input name="subject" type="text" id="subject" size="55" maxlength="55">
                            </label>
                        </p>
                        <p>

```

```

        </label></label>
        </label></label>
        <label> Please type your message below(for questions about CEU requests please
include Date of original request) <br>
        <textarea name="body" cols="55" rows="6" wrap="VIRTUAL" id="body"></textarea>
        </label>
        </p>
        <p>
        <label><span class="style6"> </span></label>
        </label></label>
        <label>
        <input name="submit" type="submit" id="submit"
onClick="MM_validateForm('emailAddress','RisEmail','subject','R','body','R');return
document.MM_returnValue" value="Submit">
        <input name="reset" type="reset" id="reset" value="Clear Form">
        <input name="submitted" type="hidden" id="submitted" value="Done">
        </label>
        </p>
        </fieldset>
    </form>
    <p>&nbsp;</p>
</div>
</div>
<div align="center" class="style4"></div>
<!-- InstanceEndEditable --></td>
</tr>
</table>
<div align="center">
</div>

</body>
<!-- InstanceEnd --></html>

```

## R. LOGIN.ASP

```

<% @LANGUAGE="VBSCRIPT"%>
<%
'Define Session Variables

```



```

        if DatePart("m",Date()) < 10 then Session("CurrentFY") =
"10/1/"+CSTR(DATEPART("yyyy",DATEADD("yyyy",-1,NOW()))) else Session("CurrentFY") =
"10/1/"+CSTR(DATEPART("yyyy",Now()))
    %>
<%
' *** Logout the current user.
MM_Logout = CStr(Request.ServerVariables("URL")) & "?MM_Logoutnow=1"
If (CStr(Request("MM_Logoutnow")) = "1") Then
    Session.Contents.Remove("MM_Username")
    Session.Contents.Remove("MM_UserAuthorization")
    MM_logoutRedirectPage = "login.asp"
' redirect with URL parameters (remove the "MM_Logoutnow" query param).
if (MM_logoutRedirectPage = "") Then MM_logoutRedirectPage =
CStr(Request.ServerVariables("URL"))
If (InStr(1, UC_redirectPage, "?", vbTextCompare) = 0 And Request.QueryString <> "") Then
    MM_newQS = "?"
    For Each Item In Request.QueryString
        If (Item <> "MM_Logoutnow") Then
            If (Len(MM_newQS) > 1) Then MM_newQS = MM_newQS & "&"
            MM_newQS = MM_newQS & Item & "=" &
Server.URLEncode(Request.QueryString(Item))
        End If
    Next
    if (Len(MM_newQS) > 1) Then MM_logoutRedirectPage = MM_logoutRedirectPage &
MM_newQS
    End If
    Response.Redirect(MM_logoutRedirectPage)
End If
%>
<!--#include file="Connections/Group10.asp" -->
<%
' *** Validate request to log in to this site.
MM_LoginAction = Request.ServerVariables("URL")
If Request.QueryString<>"" Then MM_LoginAction = MM_LoginAction + "?" +
Request.QueryString
MM_valUsername=CStr(Request.Form("login"))
If MM_valUsername <> "" Then
    MM_fldUserAuthorization="userLevel"

```

```

MM_redirectLoginSuccess="homepage.asp"
MM_redirectLoginFailed="login_failed.asp"
MM_flag="ADODB.Recordset"
set MM_rsUser = Server.CreateObject(MM_flag)
MM_rsUser.ActiveConnection = MM_Group10_STRING
MM_rsUser.Source = "SELECT login_id, login_password"
If MM_fldUserAuthorization <> "" Then MM_rsUser.Source = MM_rsUser.Source & "," &
MM_fldUserAuthorization
MM_rsUser.Source = MM_rsUser.Source & " FROM ceu_user WHERE login_id=" &
Replace(MM_valUsername,"","'") & " AND login_password=" &
Replace(Request.Form("password"),"","'") & ""
MM_rsUser.CursorType = 0
MM_rsUser.CursorLocation = 2
MM_rsUser.LockType = 3
MM_rsUser.Open
If Not MM_rsUser.EOF Or Not MM_rsUser.BOF Then
' username and password match - this is a valid user
Session("MM_Username") = MM_valUsername
If (MM_fldUserAuthorization <> "") Then
Session("MM_UserAuthorization") =
CStr(MM_rsUser.Fields.Item(MM_fldUserAuthorization).Value)
Else
Session("MM_UserAuthorization") = ""
End If
if CStr(Request.QueryString("accessdenied")) <> "" And false Then
MM_redirectLoginSuccess = Request.QueryString("accessdenied")
End If
MM_rsUser.Close
Response.Redirect(MM_redirectLoginSuccess)
End If
MM_rsUser.Close
Response.Redirect(MM_redirectLoginFailed)
End If
%>
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html><!-- InstanceBegin template="/Templates/trackmasters template.dwt"
codeOutsideHTMLIsLocked="false" -->

```

```

<head>
<!-- InstanceBeginEditable name="doctype" -->
<title> Login page</title>
<!-- InstanceEndEditable --><meta http-equiv="Content-Type" content="text/html; charset=iso-
8859-1">
<style type="text/css">
<!--
body,td,th {
    color: #000000;
}
body {
    background-color: #FFFF99;
}
.style1 { font-family: Geneva, Arial, Helvetica, sans-serif}
.style2 {
    color: #000066;
    font-weight: bold;
    font-style: italic;
}
.style4 {color: #000066}
-->
</style>
<!-- InstanceBeginEditable name="head" -->
<script language="JavaScript" type="text/JavaScript">
<!--
function MM_findObj(n, d) { //v4.01
    var p,i,x; if(!d) d=document; if((p=n.indexOf("?"))>0&&parent.frames.length) {
        d=parent.frames[n.substring(p+1)].document; n=n.substring(0,p);}
    if(!(x=d[n])&&d.all) x=d.all[n]; for (i=0;!x&&i<d.forms.length;i++) x=d.forms[i][n];
    for(i=0;!x&&d.layers&&i<d.layers.length;i++) x=MM_findObj(n,d.layers[i].document);
    if(!x && d.getElementById) x=d.getElementById(n); return x;
}

function MM_validateForm() { //v4.0
    var i,p,q,nm,test,num,min,max,errors="",args=MM_validateForm.arguments;
    for (i=0; i<(args.length-2); i+=3) { test=args[i+2]; val=MM_findObj(args[i]);

```

```

if (val) { nm=val.name; if ((val=val.value)!="") {
  if (test.indexOf('isEmail')!=-1) { p=val.indexOf('@');
    if (p<1 || p==(val.length-1)) errors+="- '+nm+' must contain an e-mail address.\n";
  } else if (test!='R') { num = parseFloat(val);
    if (isNaN(val)) errors+="- '+nm+' must contain a number.\n";
    if (test.indexOf('inRange') != -1) { p=test.indexOf(':');
      min=test.substring(8,p); max=test.substring(p+1);
      if (num<min || max<num) errors+="- '+nm+' must contain a number between '+min+' and
'+max+'.\n";
    } } } else if (test.charAt(0) == 'R') errors += ' - '+nm+' is required.\n'; }
} if (errors) alert("The following error(s) occurred:\n'+errors);
document.MM_returnValue = (errors == "");
}
//-->
</script>
<!-- InstanceEndEditable -->
</head>

<body>
<h2 align="center"></h2>
<!-- InstanceBeginEditable name="title" -->
<h2 align="center"><span class="style2">Please Log in</span></h2>
<!-- InstanceEndEditable -->
<h3 align="center">&nbsp;</h3>
<table width="95%" height="780" border="0" cellpadding="2" cellspacing="0">
<tr>
<td width="22%" valign="top"><table width="100%" height="201" border="1"
cellpadding="3" cellspacing="0" bordercolor="#3333CC" bgcolor="#CCCCCC">
<tr>
<td><div align="center" class="style1"><strong> <a
href="homepage.asp">Home</a></strong></div></td>
</tr>
<tr>
<td><div align="center" class="style1"><strong> <a href="userprofile.asp">User
Profile</a> </strong></div></td>
</tr>
<tr>

```

```

        <td><div align="center" class="style1"><strong> <a href="myceu_credits.asp">My CEU
Credits</a> </strong></div></td>
    </tr>
    <tr>
        <td><div align="center" class="style1"><strong> <a href="approved_list.asp">List of
Approved CEUs</a></strong></div></td>
    </tr>
    <tr>
        <td><div align="center" class="style1"><strong><a
href="viewallceu.asp?Last60=True">Newly
Approved CEUs</a> </strong></div></td>
    </tr>
    <tr>
        <td><div align="center" class="style1"><a
href="admin_ipcoe.asp"><strong>Admin</strong></a></div></td>
    </tr>
    <tr>
        <td><!-- InstanceBeginEditable name="EditRegion5" -->
        <div align="center"><a href="<%= MM_Logout %>" class="style1"><strong>Log
out</strong></a></div>
        <!-- InstanceEndEditable --></td>
    </tr>
    <tr>
        <td><div align="center" class="style1"><strong> <a href="contact_us.asp">Contact Us</a>
</strong></div></td>
    </tr>
</table></td>
<td width="78%" valign="top"><!-- InstanceBeginEditable name="paragraph" -->
<div align="center" class="style2">
    <form ACTION="<%=MM_LoginAction%>" method="POST" name="frmLogin"
id="frmLogin">
    <table width="49%" border="0" cellspacing="0" cellpadding="3">
        <tr>
            <td width="21%">Login ID </td>
            <td width="79%"><input name="login" type="text" id="login"></td>
        </tr>
        <tr>
            <td>Password</td>

```

```

        <td><input name="password" type="password" id="password"></td>
    </tr>
    <tr>
        <td>&nbsp;</td>
        <td><input name="Submit" type="submit"
onClick="MM_validateForm('login','R','password','R');return document.MM_returnValue"
value="Submit"></td>
    </tr>
</table>
</form>
<p>
If you don't already have an account, please <a href="register.asp">register</a> here. </p>
</div>
<!-- InstanceEndEditable --></td>
</tr>
</table>
<div align="center">
</div>

</body>
<!-- InstanceEnd --></html>

```

## S. LOGIN\_FAILED.ASP

```

<% @LANGUAGE="VBSCRIPT"%>
<%
' *** Logout the current user.
MM_Logout = CStr(Request.ServerVariables("URL")) & "?MM_Logoutnow=1"
If (CStr(Request("MM_Logoutnow")) = "1") Then
    Session.Contents.Remove("MM_Username")
    Session.Contents.Remove("MM_UserAuthorization")
    MM_logoutRedirectPage = "login.asp"
' redirect with URL parameters (remove the "MM_Logoutnow" query param).
if (MM_logoutRedirectPage = "") Then MM_logoutRedirectPage =
CStr(Request.ServerVariables("URL"))
If (InStr(1, UC_redirectPage, "?", vbTextCompare) = 0 And Request.QueryString <> "") Then
    MM_newQS = "?"
    For Each Item In Request.QueryString
        If (Item <> "MM_Logoutnow") Then

```

```

        If (Len(MM_newQS) > 1) Then MM_newQS = MM_newQS & "&"
        MM_newQS = MM_newQS & Item & "=" &
Server.URLEncode(Request.QueryString(Item))
        End If
    Next
    if (Len(MM_newQS) > 1) Then MM_logoutRedirectPage = MM_logoutRedirectPage &
MM_newQS
    End If
    Response.Redirect(MM_logoutRedirectPage)
End If
%>
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html><!-- InstanceBegin template="/Templates/trackmasters template.dwt"
codeOutsideHTMLOIsLocked="false" -->
<head>
<!-- InstanceBeginEditable name="doctitle" -->
<title>Login Failed</title>
<!-- InstanceEndEditable --><meta http-equiv="Content-Type" content="text/html; charset=iso-
8859-1">
<style type="text/css">
<!--
body,td,th {
    color: #000000;
}
body {
    background-color: #FFFF99;
}
.style1 {font-family: Geneva, Arial, Helvetica, sans-serif}
.style2 {
    color: #000066;
    font-weight: bold;
    font-style: italic;
}
.style4 {color: #000066}
-->
</style>

```

```

<!-- InstanceBeginEditable name="head" --><!-- InstanceEndEditable -->
</head>

<body>
<h2 align="center"></h2>
<!-- InstanceBeginEditable name="title" -->
<h2 align="center"><span class="style2">Log in Failed!</span></h2>
<!-- InstanceEndEditable -->
<h3 align="center">&nbsp;</h3>
<table width="95%" height="780" border="0" cellpadding="2" cellspacing="0">
<tr>
<td width="22%" valign="top"><table width="100%" height="201" border="1"
cellpadding="3" cellspacing="0" bordercolor="#3333CC" bgcolor="#CCCCCC">
<tr>
<td><div align="center" class="style1"><strong> <a
href="homepage.asp">Home</a></strong></div></td>
</tr>
<tr>
<td><div align="center" class="style1"><strong> <a href="userprofile.asp">User
Profile</a> </strong></div></td>
</tr>
<tr>
<td><div align="center" class="style1"><strong> <a href="myceu_credits.asp">My CEU
Credits</a> </strong></div></td>
</tr>
<tr>
<td><div align="center" class="style1"><strong> <a href="approved_list.asp">List of
Approved CEUs</a></strong></div></td>
</tr>
<tr>
<td><div align="center" class="style1"><strong><a
href="viewallceu.asp?Last60=True">Newly
Approved CEUs</a> </strong></div></td>
</tr>
<tr>
<td><div align="center" class="style1"><a
href="admin_ipcoe.asp"><strong>Admin</strong></a></div></td>
</tr>

```



```

        <tr>
            <td><!-- InstanceBeginEditable name="EditRegion5" -->
                <div align="center"><a href="<%= MM_Logout %%" class="style1"><strong>Log
out</strong></a></div>
                <!-- InstanceEndEditable --></td>
        </tr>
        <tr>
            <td><div align="center" class="style1"><strong> <a href="contact_us.asp">Contact Us</a>
</strong></div></td>
        </tr>
</table></td>
<td width="78%" valign="top"><!-- InstanceBeginEditable name="paragraph" -->
    <div align="center" class="style2">
        <div align="left">Your username and password combination was not recognized. <a
href="login.asp">Try again</a> or send us an <a href="contact_us.asp">email</a>.</div>
        </div>
        <div align="center" class="style4"></div>
    <!-- InstanceEndEditable --></td>
</tr>
</table>
<div align="center">
</div>

</body>
<!-- InstanceEnd --></html>

```

## T. REGISTER.ASP

```

<% @LANGUAGE="VBSCRIPT"%>
<%
' *** Logout the current user.
MM_Logout = CStr(Request.ServerVariables("URL")) & "?MM_Logoutnow=1"
If (CStr(Request("MM_Logoutnow")) = "1") Then
    Session.Contents.Remove("MM_Username")
    Session.Contents.Remove("MM_UserAuthorization")
    MM_logoutRedirectPage = "login.asp"
' redirect with URL parameters (remove the "MM_Logoutnow" query param).

```

```

        if (MM_logoutRedirectPage = "") Then MM_logoutRedirectPage =
CStr(Request.ServerVariables("URL"))
        If (InStr(1, UC_redirectPage, "?", vbTextCompare) = 0 And Request.QueryString <> "") Then
            MM_newQS = "?"
            For Each Item In Request.QueryString
                If (Item <> "MM_Logoutnow") Then
                    If (Len(MM_newQS) > 1) Then MM_newQS = MM_newQS & "&"
                    MM_newQS = MM_newQS & Item & "=" &
Server.URLEncode(Request.QueryString(Item))
                End If
            Next
            if (Len(MM_newQS) > 1) Then MM_logoutRedirectPage = MM_logoutRedirectPage &
MM_newQS
        End If
        Response.Redirect(MM_logoutRedirectPage)
    End If
%>
<!--#include file="Connections/Group10.asp" -->
<%
' *** Edit Operations: declare variables

Dim MM_editAction
Dim MM_abortEdit
Dim MM_editQuery
Dim MM_editCmd

Dim MM_editConnection
Dim MM_editTable
Dim MM_editRedirectUrl
Dim MM_editColumn
Dim MM_recordId

Dim MM_fieldsStr
Dim MM_columnsStr
Dim MM_fields
Dim MM_columns
Dim MM_typeArray

```

```

Dim MM_formVal
Dim MM_delim
Dim MM_altVal
Dim MM_emptyVal
Dim MM_i

MM_editAction = CStr(Request.ServerVariables("SCRIPT_NAME"))
If (Request.QueryString <> "") Then
    MM_editAction = MM_editAction & "?" & Request.QueryString
End If

' boolean to abort record edit
MM_abortEdit = false

' query string to execute
MM_editQuery = ""
%>
<%
' *** Redirect if username exists
MM_flag="MM_insert"
If (CStr(Request(MM_flag)) <> "") Then
    MM_dupKeyRedirect="registration_failed.asp"
    MM_rsKeyConnection=MM_Group10_STRING
    MM_dupKeyUsernameValue = CStr(Request.Form("login_id"))
    MM_dupKeySQL="SELECT login_id FROM ceu_user WHERE login_id=" &
MM_dupKeyUsernameValue & ""
    MM_adodbRecordset="ADODB.Recordset"
    set MM_rsKey=Server.CreateObject(MM_adodbRecordset)
    MM_rsKey.ActiveConnection=MM_rsKeyConnection
    MM_rsKey.Source=MM_dupKeySQL
    MM_rsKey.CursorType=0
    MM_rsKey.CursorLocation=2
    MM_rsKey.LockType=3
    MM_rsKey.Open
    If Not MM_rsKey.EOF Or Not MM_rsKey.BOF Then
        ' the username was found - can not add the requested username

```

```

MM_qsChar = "?"
If (InStr(1,MM_dupKeyRedirect,"?") >= 1) Then MM_qsChar = "&"
MM_dupKeyRedirect = MM_dupKeyRedirect & MM_qsChar & "requestname=" &
MM_dupKeyUsernameValue
Response.Redirect(MM_dupKeyRedirect)
End If
MM_rsKey.Close
End If
%>
<%
' *** Insert Record: set variables

If (CStr(Request("MM_insert")) = "frmUserreg") Then

MM_editConnection = MM_Group10_STRING
MM_editTable = "ceu_user"
MM_editRedirectUrl = "login.asp"

MM_fieldsStr =
"ssn|value|lastname|value|firstname|value|middlename|value|suffix|value|email|value|phone|value|cmdAddre
ss|value|cmdZipcode|value|login_id|value|login_password|value|comments|value|userlevel|value"

MM_columnsStr =
"ssn|,none,|"lastName|,none,|"firstName|,none,|"middleName|,none,|"suffix|,none,|"email|,none,|"phone|,n
one,|"cmdAddress|,none,|"cmdZipcode|,none,|"login_id|,none,|"login_password|,none,|"usercomments|,no
ne,|"userLevel|,none,""

' create the MM_fields and MM_columns arrays
MM_fields = Split(MM_fieldsStr, "|")
MM_columns = Split(MM_columnsStr, "|")

' set the form values
For MM_i = LBound(MM_fields) To UBound(MM_fields) Step 2
MM_fields(MM_i+1) = CStr(Request.Form(MM_fields(MM_i)))
Next

' append the query string to the redirect URL
If (MM_editRedirectUrl <> "" And Request.QueryString <> "") Then
If (InStr(1, MM_editRedirectUrl, "?", vbTextCompare) = 0 And Request.QueryString <> "")
Then

```

```

    MM_editRedirectUrl = MM_editRedirectUrl & "?" & Request.QueryString
Else
    MM_editRedirectUrl = MM_editRedirectUrl & "&" & Request.QueryString
End If
End If

End If

%>
<%
' *** Insert Record: construct a sql insert statement and execute it

Dim MM_tableValues
Dim MM_dbValues

If (CStr(Request("MM_insert")) <> "") Then

    ' create the sql insert statement
    MM_tableValues = ""
    MM_dbValues = ""
    For MM_i = LBound(MM_fields) To UBound(MM_fields) Step 2
        MM_formVal = MM_fields(MM_i+1)
        MM_typeArray = Split(MM_columns(MM_i+1),",")
        MM_delim = MM_typeArray(0)
        If (MM_delim = "none") Then MM_delim = ""
        MM_altVal = MM_typeArray(1)
        If (MM_altVal = "none") Then MM_altVal = ""
        MM_emptyVal = MM_typeArray(2)
        If (MM_emptyVal = "none") Then MM_emptyVal = ""
        If (MM_formVal = "") Then
            MM_formVal = MM_emptyVal
        Else
            If (MM_altVal <> "") Then
                MM_formVal = MM_altVal
            ElseIf (MM_delim = "") Then ' escape quotes
                MM_formVal = "" & Replace(MM_formVal,"'", "'") & ""
            Else

```

```

        MM_formVal = MM_delim + MM_formVal + MM_delim
    End If
End If
If (MM_i <> LBound(MM_fields)) Then
    MM_tableValues = MM_tableValues & ","
    MM_dbValues = MM_dbValues & ","
End If
MM_tableValues = MM_tableValues & MM_columns(MM_i)
MM_dbValues = MM_dbValues & MM_formVal
Next
MM_editQuery = "insert into " & MM_editTable & " (" & MM_tableValues & ") values (" &
MM_dbValues & ")"

If (Not MM_abortEdit) Then
    ' execute the insert
    Set MM_editCmd = Server.CreateObject("ADODB.Command")
    MM_editCmd.ActiveConnection = MM_editConnection
    MM_editCmd.CommandText = MM_editQuery
    MM_editCmd.Execute
    MM_editCmd.ActiveConnection.Close

    If (MM_editRedirectUrl <> "") Then
        Response.Redirect(MM_editRedirectUrl)
    End If
End If

End If
%>
<%
Dim rs_user
Dim rs_user_numRows

Set rs_user = Server.CreateObject("ADODB.Recordset")
rs_user.ActiveConnection = MM_Group10_STRING
rs_user.Source = "SELECT * FROM ceu_user"
rs_user.CursorType = 0

```

```

rs_user.CursorLocation = 2
rs_user.LockType = 1
rs_user.Open()

rs_user_numRows = 0
%>

<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html><!-- InstanceBegin template="/Templates/trackmasters%20template.asp"
codeOutsideHTMLOIsLocked="false" -->
<head>
<!-- InstanceBeginEditable name="doctype" -->
<title>CEU WEBSITE REGISTRATION</title>
<!-- InstanceEndEditable --><meta http-equiv="Content-Type" content="text/html; charset=iso-
8859-1">
<style type="text/css">
<!--
body,td,th {
    color: #000000;
}
body {
    background-color: #FFFF99;
}
.style1 { font-family: Geneva, Arial, Helvetica, sans-serif}
.style2 {
    color: #000066;
    font-weight: bold;
    font-style: italic;
}
.style4 {color: #000066}
-->
</style>
<!-- InstanceBeginEditable name="head" -->
<script language="JavaScript" type="text/JavaScript">
<!--
function MM_findObj(n, d) { //v4.01

```

```

var p,i,x; if(!d) d=document; if((p=n.indexOf("?"))>0&&parent.frames.length) {
    d=parent.frames[n.substring(p+1)].document; n=n.substring(0,p);}
if(!(x=d[n])&&d.all) x=d.all[n]; for (i=0;!x&&i<d.forms.length;i++) x=d.forms[i][n];
for(i=0;!x&&d.layers&&i<d.layers.length;i++) x=MM_findObj(n,d.layers[i].document);
if(!x && d.getElementById) x=d.getElementById(n); return x;
}

function MM_validateForm() { //v4.0
var i,p,q,nm,test,num,min,max,errors="",args=MM_validateForm.arguments;
for (i=0; i<(args.length-2); i+=3) { test=args[i+2]; val=MM_findObj(args[i]);
if (val) { nm=val.name; if ((val=val.value)!="") {
if (test.indexOf('isEmail')!=-1) { p=val.indexOf('@');
if (p<1 || p==(val.length-1)) errors+="- "+nm+" must contain an e-mail address.\n";
} else if (test!='R') { num = parseFloat(val);
if (isNaN(val)) errors+="- "+nm+" must contain a number.\n";
if (test.indexOf('inRange') != -1) { p=test.indexOf(':');
min=test.substring(8,p); max=test.substring(p+1);
if (num<min || max<num) errors+="- "+nm+" must contain a number between '+min+' and
'+max+'.\n";
} } } else if (test.charAt(0) == 'R') errors += '- '+nm+' is required.\n'; }
if (errors) alert("The following error(s) occurred:\n"+errors);
document.MM_returnValue = (errors == "");
}
//-->
</script>
<!-- InstanceEndEditable -->
</head>

<body>
<h2 align="center"></h2>
<!-- InstanceBeginEditable name="title" -->
<h2 align="center"><span class="style2">Register here to use the Site. </span></h2>
<!-- InstanceEndEditable -->
<h3 align="center">&nbsp;</h3>
<table width="95%" height="780" border="0" cellpadding="2" cellspacing="0">
<tr>

```



```

        <td width="22%" valign="top"><table width="100%" height="201" border="1"
cellpadding="3" cellspacing="0" bordercolor="#3333CC" bgcolor="#CCCCCC">
    <tr>
        <td><div align="center" class="style1"><strong> <a
href="homepage.asp">Home</a></strong></div></td>
    </tr>
    <tr>
        <td><div align="center" class="style1"><strong> <a href="userprofile.asp">User
Profile</a> </strong></div></td>
    </tr>
    <tr>
        <td><div align="center" class="style1"><strong> <a href="myceu_credits.asp">My CEU
Credits</a> </strong></div></td>
    </tr>
    <tr>
        <td><div align="center" class="style1"><strong> <a href="approved_list.asp">List of
Approved CEUs</a></strong></div></td>
    </tr>
    <tr>
        <td><div align="center" class="style1"><strong> <a
href="qual_search_results.asp">Qualifications</a></strong></div></td>
    </tr>
    <tr>
        <td><div align="center" class="style1"><a
href="admin_ipcoe.asp"><strong>Admin</strong></a></div></td>
    </tr>
    <tr>
        <td><!-- InstanceBeginEditable name="EditRegion5" -->
            <div align="center"><a href="<%= MM_Logout %>" class="style1"><strong>Log
out</strong></a></div>
        <!-- InstanceEndEditable --></td>
    </tr>
    <tr>
        <td><div align="center" class="style1"><strong> <a href="contact_us.asp">Contact Us</a>
</strong></div></td>
    </tr>
</table></td>
<td width="78%" valign="top"><!-- InstanceBeginEditable name="paragraph" -->
    <div align="center" class="style2">

```

```

    <form ACTION="<%=MM_editAction%>" METHOD="POST" name="frmUserreg"
id="frmUserreg">
    <div align="left">
        <table width="95%" border="0" cellspacing="0" cellpadding="1">
            <tr>
                <td width="8%">&nbsp;</td>
                <td width="36%" valign="top" class="style4">SSN</td>
                <td width="56%" valign="top" class="style4"><input name="ssn" type="text" id="ssn"
maxlength="9"></td>
            </tr>
            <tr>
                <td>&nbsp;</td>
                <td valign="top" class="style4">Last Name </td>
                <td valign="top" class="style4"><input name="lastname" type="text"
id="lastname"></td>
            </tr>
            <tr>
                <td>&nbsp;</td>
                <td valign="top" class="style4">First Name </td>
                <td valign="top" class="style4"><input name="firstname" type="text"
id="firstname"></td>
            </tr>
            <tr>
                <td>&nbsp;</td>
                <td valign="top" class="style4"><p>Middle Name </p></td>
                <td valign="top" class="style4"><input name="middlename" type="text"
id="middlename"></td>
            </tr>
            <tr>
                <td>&nbsp;</td>
                <td valign="top" class="style4">Suffix</td>
                <td valign="top" class="style4"><input name="suffix" type="text" id="suffix"></td>
            </tr>
            <tr>
                <td>&nbsp;</td>
                <td valign="top" class="style4">Email</td>
                <td valign="top" class="style4"><input name="email" type="text" id="email"></td>
            </tr>
        </table>
    </div>

```

```

<tr>
  <td>&nbsp;</td>
  <td valign="top" class="style4">Phone</td>
  <td valign="top" class="style4"><input name="phone" type="text" id="phone"
maxlength="20"></td>
</tr>
<tr>
  <td>&nbsp;</td>
  <td valign="top" class="style4">Command Address </td>
  <td valign="top" class="style4"><textarea name="cmdAddress"
id="cmdAddress"></textarea></td>
</tr>
<tr>
  <td>&nbsp;</td>
  <td valign="top" class="style4">Command Postal/Zip Code </td>
  <td valign="top" class="style4"><input name="cmdZipcode" type="text"
id="cmdZipcode"></td>
</tr>
<tr>
  <td>&nbsp;</td>
  <td valign="top" class="style4">Login ID </td>
  <td valign="top" class="style4"><input name="login_id" type="text"
id="login_id"></td>
</tr>
<tr>
  <td>&nbsp;</td>
  <td valign="top" class="style4">Password</td>
  <td valign="top" class="style4"><input name="login_password" type="password"
id="login_password"></td>
</tr>
<tr>
  <td>&nbsp;</td>
  <td valign="top" class="style4">Comments</td>
  <td valign="top" class="style4"><textarea name="comments"
id="comments"></textarea>
</td>
</tr>
<tr>

```

```

        <td>&nbsp;</td>
        <td valign="top" class="style4"><input name="userlevel" type="hidden" id="userlevel"
value="user"></td>
        <td valign="top" class="style4"><input name="Submit" type="submit"
onClick="MM_validateForm('ssn','RisNum','lastname','R','firstname','R','email','RisEmail','phone','R
','cmdZipcode','R','login','R','cmdAddress','R','password','R');return document.MM_returnValue"
value="Submit">
        <input type="reset" name="Submit2" value="Clear Form"></td>
    </tr>
</table>
</div>
<input type="hidden" name="MM_insert" value="frmUserreg">
</form>
</div>
<!-- InstanceEndEditable --></td>
</tr>
</table>
<div align="center">
</div>

</body>
<!-- InstanceEnd --></html>
<%
rs_user.Close()
Set rs_user = Nothing
%>

```

## U. REGISTRATION\_FAILED.ASP

```

<% @LANGUAGE="VBSCRIPT"%>
<%
' *** Logout the current user.
MM_Logout = CStr(Request.ServerVariables("URL")) & "?MM_Logoutnow=1"
If (CStr(Request("MM_Logoutnow")) = "1") Then
    Session.Contents.Remove("MM_Username")
    Session.Contents.Remove("MM_UserAuthorization")
    MM_logoutRedirectPage = "Login.asp"
    ' redirect with URL parameters (remove the "MM_Logoutnow" query param).
    if (MM_logoutRedirectPage = "") Then MM_logoutRedirectPage =
CStr(Request.ServerVariables("URL"))

```

```

If (InStr(1, UC_redirectPage, "?", vbTextCompare) = 0 And Request.QueryString <> "") Then
    MM_newQS = "?"
    For Each Item In Request.QueryString
        If (Item <> "MM_Logoutnow") Then
            If (Len(MM_newQS) > 1) Then MM_newQS = MM_newQS & "&"
            MM_newQS = MM_newQS & Item & "=" &
Server.URLEncode(Request.QueryString(Item))
        End If
    Next
    if (Len(MM_newQS) > 1) Then MM_logoutRedirectPage = MM_logoutRedirectPage &
MM_newQS
    End If
    Response.Redirect(MM_logoutRedirectPage)
End If
%>
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html><!-- InstanceBegin template="/Templates/trackmasters%20template.asp"
codeOutsideHTMLIsLocked="false" -->
<head>
<!-- InstanceBeginEditable name="doctitle" -->
<title>CEU WEBSITE Registration Failure</title>
<!-- InstanceEndEditable --><meta http-equiv="Content-Type" content="text/html; charset=iso-
8859-1">
<style type="text/css">
<!--
body,td,th {
    color: #000000;
}
body {
    background-color: #FFFF99;
}
.style1 { font-family: Geneva, Arial, Helvetica, sans-serif}
.style2 {
    color: #000066;
    font-weight: bold;
    font-style: italic;

```

```

}
.style4 {color: #000066}
-->
</style>
<!-- InstanceBeginEditable name="head" --><!-- InstanceEndEditable -->
</head>

<body>
<h2 align="center"></h2>
<!-- InstanceBeginEditable name="title" -->
<h2 align="center"><span class="style2">Registration Failed! </span></h2>
<!-- InstanceEndEditable -->
<h3 align="center">&nbsp;</h3>
<table width="95%" height="780" border="0" cellpadding="2" cellspacing="0">
<tr>
<td width="22%" valign="top"><table width="100%" height="201" border="1"
cellpadding="3" cellspacing="0" bordercolor="#3333CC" bgcolor="#CCCCCC">
<tr>
<td><div align="center" class="style1"><strong> <a
href="homepage.asp">Home</a></strong></div></td>
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<tr>
<td><div align="center" class="style1"><strong> <a href="userprofile.asp">User
Profile</a> </strong></div></td>
</tr>
<tr>
<td><div align="center" class="style1"><strong> <a href="myceu_credits.asp">My CEU
Credits</a> </strong></div></td>
</tr>
<tr>
<td><div align="center" class="style1"><strong> <a href="approved_list.asp">List of
Approved CEUs</a></strong></div></td>
</tr>
<tr>
<td><div align="center" class="style1"><strong> <a
href="qual_search_results.asp">Qualifications</a></strong></div></td>
</tr>

```

```

        <tr>
            <td><div align="center" class="style1"><a
href="admin_ipcoe.asp"><strong>Admin</strong></a></div></td>
        </tr>
        <tr>
            <td><!-- InstanceBeginEditable name="EditRegion5" -->
                <div align="center"><a href="<%= MM_Logout %%" class="style1"><strong>Log
out</strong></a></div>
            <!-- InstanceEndEditable --></td>
        </tr>
        <tr>
            <td><div align="center" class="style1"><strong> <a href="contact_us.asp">Contact Us</a>
</strong></div></td>
        </tr>
    </table></td>
    <td width="78%" valign="top"><!-- InstanceBeginEditable name="paragraph" -->
        <div align="center" class="style4">
            <div align="left" class="style2">
                <p>The Login ID you chose has already been taken. Please <a href="register.asp">return to
the registration page</a> and register again, using a different username or send us an <a
href="contact_us.asp">email</a>.</p>
            </div>
        </div>
    <!-- InstanceEndEditable --></td>
</tr>
</table>
<div align="center">
</div>

</body>
<!-- InstanceEnd --></html>

```

## **APPENDIX E. USABILITY INSTRUCTIONS**

Instructions:

Thank you for volunteering to participate in this usability assessment of the Navy IP CEU Tracking Database.

First off, take some time to navigate and familiarize yourself with the website, and all the various functions.

Next, you will complete a series of tasks. Indicate to the administrator by verbalizing when you have started and finished each task.

While you are going through the tasks, please think aloud. Tell us what you are doing, thinking, and parts you are stumbling through, as they are occurring. This is a common usability practice and will help us in troubleshooting the database. If at any point you are stuck and need assistance, please use the microphone to call upon the administrator for help. Only do so after making at least three attempts at the task without success.

After completing the tasks, go to the CEU Status portal (should be minimized at bottom of screen). We would appreciate any comments you have on this as a possible alternative/addition to what you have seen above.

Almost done! Please complete the User Satisfaction Survey, and provide any feedback/comments you may have about your interaction with the tool (e.g, things you liked, did not like, recommendations, improvements, etc.).

Thanks again for your participation!



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## APPENDIX F. USER SATISFACTION SURVEY

Please indicate your level of satisfaction with various aspects of the IP CEU tracking database using a 5-point rating scale (extremely dissatisfied to extremely satisfied). Space for comments provided on page 2.

After using the IP CEU tracking database, how satisfied are you with...

1. Registering for an account?

\_\_\_\_ Extremely dissatisfied \_\_\_\_ Dissatisfied \_\_\_\_ Satisfied \_\_\_\_ Extremely satisfied

2. Adding courses for CEU credit?

\_\_\_\_ Extremely dissatisfied \_\_\_\_ Dissatisfied \_\_\_\_ Satisfied \_\_\_\_ Extremely satisfied

3. Looking at your current CEU credits?

\_\_\_\_ Extremely dissatisfied \_\_\_\_ Dissatisfied \_\_\_\_ Satisfied \_\_\_\_ Extremely satisfied

4. Deleting CEU's?

\_\_\_\_ Extremely dissatisfied \_\_\_\_ Dissatisfied \_\_\_\_ Satisfied \_\_\_\_ Extremely satisfied

5. Adding course from the list of approved CEUs.

\_\_\_\_ Extremely dissatisfied \_\_\_\_ Dissatisfied \_\_\_\_ Satisfied \_\_\_\_ Extremely satisfied

6. Requesting a waiver/extension'?

\_\_\_\_ Extremely dissatisfied \_\_\_\_ Dissatisfied \_\_\_\_ Satisfied \_\_\_\_ Extremely satisfied

7. Ability to check your shipboard and shore duty qualifications?

\_\_\_\_ Extremely dissatisfied \_\_\_\_ Dissatisfied \_\_\_\_ Satisfied \_\_\_\_ Extremely satisfied

8. Logging off the system?

\_\_\_\_ Extremely dissatisfied \_\_\_\_ Dissatisfied \_\_\_\_ Satisfied \_\_\_\_ Extremely satisfied

9. Ability to navigate the system?

\_\_\_\_ Extremely dissatisfied \_\_\_\_ Dissatisfied \_\_\_\_ Satisfied \_\_\_\_ Extremely satisfied

10. The overall system?

\_\_\_\_ Extremely dissatisfied \_\_\_\_ Dissatisfied \_\_\_\_ Satisfied \_\_\_\_ Extremely satisfied



## APPENDIX G. USABILITY TEST TASKS

*Please complete the following tasks using the IP CEU Tracking Database. Assume the information provided is your information.*

1. Register for an account. Please do **not** use your actual social security number, but the one provided.
2. Add 2 requests for CEU credit.
3. Check your CEU credits to date.
4. Delete a CEU credit.
5. Add 1 course from the list of approved CEUs.
6. Request a waiver/extension.
7. Add a shipboard and shore duty qualification.
8. Log off the system.

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## APPENDIX H. AS-IS CEU ANALYSIS

CEU "AS-IS" PROCESS												
COG	Subprocess	# Command Units Involved	Average # People Involved (per unit)	Times Fired (occurrence per week)	Times Fired (per hour)	Time to Complete (hours)	ALT (hours)	NLT (hours)	Total Benefits (\$Units Involved*\$Ppeople Fired*ALT)	Total Cost (Manhours Expended) (\$ of Units*\$Ppeople Involved*Time to complete)	ROK	
<b>ACCOUNTING</b>												
IP OFF	IP OFFICER COMPLETES CEU	250	83	21	0.525	1	0.1	1	1089.375	10893.75	0.40%	
IP OFF	IP OFFICER REPORTS COMPLETED CEU (EMAIL OR NKO)	250	83	21	0.525	0.5	1	1.5	10893.75	5446.875	8.00%	
IP OFF	IP OFFICER PLACES APPROVED/COMPLETED CEU IN FITREP	250	83	17	0.425	0.01	0.5	1	4409.375	88.1875	200.00%	
CEUMGR	CEU MGR RECEIVES CEU APPROVAL REQUESTS (EMAIL OR NKO)	1	1	2	0.05	0.5	1	1.5	0.05	0.025	8.00%	
CEUMGR	APPROVED CEUs ARE ADDED TO MS EXCEL SPREADSHEET FOR EACH REQUEST	1	1	2	0.05	1	1	1.5	0.05	0.05	4.00%	
CEUMGR	CEU MGR PROVIDES FEEDBACK TO IP OFFICER MAKING REQUEST.	1	1	2	0.05	0.5	0.1	0.5	0.005	0.025	0.80%	
<b>PRODUCTION</b>												
IPCOE	IP SENIOR OFFICER COURSE (IPSOC)	1	15	5	0.125	1	8	16	15	1.875	32.00%	
NPS	MASTER'S LEVEL COURSE, DISTANT LEARNING, ONLINE	1	23	5	0.125	0.5	8	14	23	1.4375	64.00%	
SPAWAR	NAVY TRAINING COURSE	1	11	5	0.125	0.5	8	14	11	0.6875	64.00%	
<b>DELIVERY</b>												
NETWAR COM	IP SUMMIT/IP MTG CONFERENCE (HOST)	1	100	3	0.075	1	6	12	45	7.5	24.00%	
IP OFF	IP SUMMIT/IP MTG CONFERENCE (ATTENDEE)	250	83	3	0.075	0.01	1	4	1556.25	15.5625	400.00%	
AFCEA	CONFERENCE/SEMINAR (HOST)	1	100	3	0.075	1	6	12	45	7.5	24.00%	
IP OFF	CONFERENCE/SEMINAR (ATTENDEE)	250	83	3	0.075	0.01	1	4	1556.25	15.5625	400.00%	
MILCOM	CONFERENCE/SYMPOSIUM (HOST)	1	100	3	0.075	1	6	12	45	7.5	24.00%	
IP OFF	CONFERENCE/SYMPOSIUM (ATTENDEE)	250	83	3	0.075	0.01	1	4	1556.25	15.5625	400.00%	
<b>MARKETING</b>												
DETAILER	PCS ADVERTISING AND ROAD TRIP BRIEFS	1	76	60	1.5	2	1	1	114	228	2.00%	
<b>TOTALS</b>								<b>100</b>	<b>21359.355</b>	<b>16730.1</b>	<b>5.11%</b>	
							<b>CORR</b>	<b>98%</b>				
<b>Condition Formatting color Legend for</b> red is number < 10% yellow is number 10% >= 20% green is number > 20%												

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