



Simply create a MOOC on



Rene Pickhardt, Sebastian Schlicht, Steffen Staab

WeST 
People and Knowledge Networks



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Outline

- 1) Introduction to MOOCs and current trends
- 2) Our first “nightmare” experients on Wikiversity
- 3) Our new approach (New Frontend)
- 4) Summary



Introduction, MOOCs current trends

We are



Rene Pickhardt

Steffen's PhD
Student and driver
of this project



Sebastian Schlicht

Rene's student
assistant and main
javascript and lua
developer



Prof. Dr. Steffen Staab

Founder of the Institute
for Web Science and
Technologies



Robert Naumann

Video editor
responsible for
multimedia content



What about you? Who are you?

- Who is a
 - teacher?
 - Developer
 - Wikipedian
 - Politician
 - Publisher
- Who has created
 - Learning materials
 - OER
- Who has created a MOOC or is planning to do so?



Statement of apology

- Apparently I am not so happy about this talk
 - Chaotic structure
 - Political statements

Obviously the matter is political and those matters seem much harder to discuss and communicate than actual OER like a simple Web Science MOOC



What a Massive Open Online Course should be

- Accessible without barriers (for everyone, everywhere)
- Free of charge
- Give freedom to others to reuse / improve the content
- Make use of open formats
- Make use of free software
- Easy to use → let us do the reality check!

NOT Accessible without barriers

UDACITY

Sign up

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Password

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or

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NOT free of charge

<https://www.coursera.org/specialization/fundamentalscomputing>

Overview

Certificate

Courses

Instructors

FAQs

Start Specialization


Courses

This series introduces students to the basics of analyzing and solving computational problems. It will provide students with a solid foundation in the mathematical and programming techniques that support creating efficient ... [Show more »](#)

1 An Introduction to Interactive Programming in...

2 Principles of Computing

3 Algorithmic Thinking

 Capstone Exam

Course 1

An Introduction to Interactive Programming in Python

Start Now - \$49

Upcoming Session: Sep 15th 2014 ▾

Duration: 9 weeks

Estimated Workload: 7-10 hours/week

NO freedom to reuse / improve the content

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source: <https://www.udacity.com/legal/>



Little use of Open Formats and free software

- No source code for
 - Coursera
 - Udacity
 - Iversity
 - Itunes
 - ...

Ease of use

- Examples of great usability for courses
 - Coursera (proprietary)
 - ◆ Udacity (proprietary)
 - ◆ Iversity (proprietary)
 - ◆ Itunes (proprietary)
 - Khan Academy (OER? Curated...)
 - ...
- Examples for not so good usability
 - Wikiversity (OER)
 - Moodle (potentially OER)
 - ◆ OLAT (potentially OER)
 - ...

What a Massive Open Online Course are like

- ~~Accessible without barriers (for everyone, everywhere)~~
- ~~Free of charge~~
- ~~Give freedom to others to reuse / improve the content~~
- Make use of open formats (?)
- Make use of free software (?)
- Easy to use (YES)



Main Problems:

- Big difference / large gap between
 - what is
 - what should be
- Teaching is difficult in its own.
 - Almost no one creates high quality content
- Free platforms often lack usability (#oerde13)
 - Seems like the most important factor for adaption
- Publishers don't like the OER movement
 - Lobbying and pressure on politics



Our first “nightmare” on wikiversity



Our Motivation: Study the Web on the Web

- Be truly open
- Don't host it ourself
- Find a partner that will stay for more than 5 years
- Have a good reach to attract new students

→ Khan Academy or Wikiversity / wikimedia

c.f.: <http://www.rene-pickhardt.de/comparison-of-open-educational-resources-services-to-host-your-mooc/>

The role of Wikimedia (Deutschland)

- OER and education is a main focus for Wikimedia
- German Wikiversity has a Moodle installation
 - one is trying to provide tools for teachers
- Improving usability of Mediawiki
 - ◆ Winter (<http://unicorn.wmflabs.org/winter/index.html?page=MOOC>)
 - Visual editor

We decided for wikiversity

- **Pro:**
 - High trust in goals for openness and freedom
 - Collaborative: Chances for students to correct materials
 - Benefiting from the ecosystem and large user base of Wikipedia (our videos could also enhance wikipedia content)
 - A lot of great content already exists in commons, wikipedia, books and wikiversity and can be reused and mixed
- **Contra:**
 - Limitations from Mediawiki-Software
 - Low usability for students
 - Overhead for teachers when creating the course on the site
 - No analytics for students and teachers
 - Anyone could interfere

Page layout

Home | **Part1: Foundations of the web** | Part2: Emerging Web properties | Part3: Web & society | Flipped Classroom | Enroll | About the Web Science MOOC

Course elements

- **PART1:** Block1: Ethernet - Internet Protocol - Block2: Transmission Control Protocol - Domain Name System - Block3: Internet vs world wide web - HTTP - Block4: Web Content Block5: Dynamic Web Content
- **PART2:** Block1: Emerging structure of the Web - Block2: Search engine ecosystem - Block3: Ranking memes and user modelling - Block4: Collective intelligence & herding - Block5: Online Communities
- **PART3:** Block1: Law & Copyright - Block2: Ethics, Norms & Net Neutrality - Block3: Trust, Influence & Security

[New here? Check the introduction!](#)

[Show latest discussions](#)



Video and script	Associated Lesson
	Making HTTP requests
	A Simple Web Client
	A Simple Web Server
	The HTTP Header

Discussion on the page. What if I click on the blue button?

Discuss A simple HTTP client with others

Ask a question

Give an answer

Join the discussion: Ask and questions and provide answers

- If you click the **ask a question button** you're question will appear at the bottom of this list.
- If you click the **give an answer** you will be able to provide an answer to the questions that have been asked so far.

Notes on the video

I wanted to mention that you should please use an external keyboard or mic. But your typing does not seem to be in sync with the deep, loud and constant background noises. Whatever it was, its sound is prevalent thanks to my subwoofer. --Onse ([discuss](#) • [contribs](#)) 09:13, 12 November 2013 (UTC)

Check your understanding clarification

Q2: In the video I say You could get an UnknownHostException because someone might not

I come to the discussion page (edit mode)

[Renepick](#) 0 [My discussion](#) [Sandbox](#) [Preferences](#) [Beta](#) [Watchlist](#) [Contributions](#) [Log out](#)

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[\[dismiss\]](#)

Editing Talk:Web Science/Part1: Foundations of the web/Hypertext Transfer Protocol/A simple web client

Please remember to [sign and timestamp](#) your edits by using the button or by typing ~~~~

B *I* [Advanced](#) [Special characters](#) [Help](#)

```
{{Topic:Web_Science/Templates:LessonTalk}}
```

```
== Notes on the video ==
```

```
I wanted to mention that you should please use an external keyboard or mic. But your typing does not seem to be in sync with the deep, loud and constant background noises. Whatever it was, its sound is prevalent thanks to my subwoofer. --[[User:Onse|Onse]] ([[User talk:Onse|discuss]]) • [[Special:Contributions/Onse|contributes]]) 09:13, 12 November 2013 (UTC)
```

```
== Check your understanding clarification ==
```

```
<blockquote>Q2: In the video I say You could get an UnknownHostException because someone might not know our server studywebscience.org. What do I actually mean with this statement?</blockquote>
```

```
a) Why the following is true?
```

```
* The host name studywebscience.org could not be entered in my local host file.
```

```
We always will ask DNS external servers, if there is no such host in your /etc/hosts .
```

```
<br /><br />
```

```
b) Should be true:
```

```
* the computer might not be connected to the internet.
```

Saving I come to the discussion page (not where I was...)

 [Renepick](#) 0 [My discussion](#) [Sandbox](#) [Preferences](#) [Beta](#) [Watchlist](#) [Contributions](#) [Log out](#)

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Discuss and vote on [Dave Braunschweig](#) for full custodianship.

[\[dismiss\]](#)

Talk:Web Science/Part1: Foundations of the web/Hypertext Transfer Protocol/A simple web client

[< Talk:Web Science | Part1: Foundations of the web](#)

Join the discussion: Ask and questions and provide answers [\[edit\]](#)

- If you click the **ask a question button** you're question will appear at the bottom of this list.
- If you click the **give an answer** you will be able to provide an answer to the questions that have been asked so far.

Notes on the video [\[edit\]](#)

I wanted to mention that you should please use an external keyboard or mic. But your typing does not seem to be in sync with the deep, loud and constant background noises. Whatever it was, its sound is prevalent thanks to my subwoofer. --[Onse](#) ([discuss](#) • [contribs](#)) 09:13, 12 November 2013 (UTC)

Check your understanding clarification [\[edit\]](#)

Q2: In the video I say You could get an UnknownHostException because someone might not know our server studywebscience.org. What do I actually mean with this statement?

a) Why the following is true?

- The host name studywebscience.org could not be entered in my local host file.

We always will ask DNS external servers, if there is no such host in your `/etc/hosts` .

Videos in German wikipedia articles

Wikipedia:WikiTV/Projekte/Videos für Wikipedia-Artikel (VWA)

[< Wikipedia:WikiTV](#)

(Weitergeleitet von [Wikipedia:VWA](#))

[Hauptseite](#)

[Mitmachen](#)

[Themen](#)

[Workshops](#)

[Wettbewerb](#)

[Lehrmaterialien](#)

[Schnittserver](#)

[FAQ](#)

Von den 1,7 Millionen Artikeln der deutschsprachigen Wikipedia enthalten **nur etwas über 2000** ein Video. Das wollen wir ändern – vorerst, passend zum **Wissenschaftsjahr 2014**, zum Thema „Digitale Gesellschaft“.

Im Rahmen des Projekts **Videos für Wikipedia-Artikel (VWA)**

- werden daher **Workshops** angeboten, in denen Interessierte Grundlagen der Videoproduktion lernen bzw. Vorkenntnisse erweitern können;
- findet ein **Wettbewerb** statt, bei dem die mit dem Wissen aus den Workshops oder auch unabhängig davon entstandenen Videos eingereicht werden können und prämiert werden;
- werden **Lehr- und Lernmaterialien** entwickelt und als **Open Educational Resources** zur Verfügung gestellt;
- wird ein **Videoschnitt-Server** entwickelt, der die Handhabung großer Rohdatenmengen und die kollaborative Videoproduktion erleichtern soll;
- soll die Diskussion über eine der Wikipedia entsprechende Bildsprache angestoßen werden.



Videos in english wikipedia articles

Wikipedia:WikiProject Wiki Makes Video

From Wikipedia, the free encyclopedia



This is a **WikiProject**, an area for focused collaboration among Wikipedians.

[Guide to WikiProjects](#) · [Directory of WikiProjects](#)

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WIKI MAKES VIDEO

Did you know that while English Wikipedia has over 4 million articles, only 0.1% of them have video?



• (cur | prev) ● 19:00, 27 October 2013 Kbrose (talk | contribs) .. (5,319 bytes) (-176) .. (Undid revision 577448964 by Renepick (talk) rv, personal video spam) (undo | thank)

- Taken from:
https://en.wikipedia.org/wiki/Talk:Ethernet_frame#Videos
- A couple videos have been added to the article by Renepick.[...] I'm not convinced that addition of these is an improvement to the articles. Other opinions?...
- I think that how-to videos are not encyclopedic and should not be prominently positioned in Wikipedia articles...
- Sure, adding animations to Wikipedia is a good idea, but it doesn't follow that you have to add whole lecture videos. This falls under WP:NOTGUIDE: "The purpose of Wikipedia is to present facts, not to teach subject matter".

Conclusions from our first try

- Mooc by wikimedia hosted on third party site
- Other teachers not willing to learn our semi automated templating system to create similar courses
- High barrier for students to interact with the content
- We were considering moving our content to another platform
- Other Wikimedia projects did not value our “innovative” (?) content
- There was something we must have overseen
 - ◆ Yes proprietary solutions have great usability



Our new approach



Keep it stupid Simple

- Same features as coursera was not enough
- People want software that is easy to use
- People want to concentrate on their main task and not be distracted by thinking about software
- Point and Click instead of learning Mediawiki syntax and processes.

Requirements

- K.I.S.S (Keep it stupid simple)
 - For both teachers & students
- Social (learning is a collaborative approach)
 - Again both teachers & students
- Interactive / Feedback driven
 - Tell the learner what he knows & what he should know
- Extending Mediawiki
 - without asking the developer / maintainer for permission to do what we plan (create realities)



Features

- Discussion system for learning content
- Multiple choice quizzes
- Video embeddings
- Easy to use navigation
- Automatic process of maintaining course structure
- Easily compatible with mediawiki and other course formats

Overall Lesson layout

Learning goals Associated units Further reading Discussion

Learning goals

1. understand that ethernet is a nondeterministic protocol
2. be able to understand requirements for the link layer in the TCP/IP Protocol suite
3. understand the collision detection in ethernet
4. understand why randomization is a good idea in nondeterministic protocols
5. be able to name a deterministic link layer protocol

Associated units



Basic Problems of Communication Over a Shared Medium

Problems:

- Duration of increased voltage?
- Sender?
- Recipient?
- Transferring simultaneously

Communication over a shared Medium

1. understand the basic problems when communicating over a shared medium
2. understand the origins of ethernet

0 open questions



How to build an Ethernet Frame?

Ethernet type

- Data lengths

Ethernet header

Navigation

1. Ethernet

1. Communication over a shared Medium
 2. Ethernet header
 3. Minimum package length vs maximum cable length
 4. Collision detection
 5. Summary, further reading, homework
2. Internet Protocol
 3. Transmission Control Protocol
 4. Domain Name System
 5. Internet vs World Wide Web
 6. Hypertext Transfer Protocol
 7. Web content
 8. Dynamic Web Content

Overall Page layout

IP forwarding algorithm

[edit MOOC index](#)

[Learning goals](#) [Video](#) [Script](#) [Quiz](#) [Further reading](#) [Discussion](#)

Learning goals

1. review the definition and concept of an IP network
2. understand that IP routing works on the level of IP networks

[Read more](#)

Video



[Read more](#)

Script

Information from the video [edit](#)

[Read more](#)

Quiz



1. Read the following article on Classless Inter-Domain Routing. Which are valid entry in a routing table?
with CIDR without CIDR

[Read more](#)

Further reading

1. IP Forwarding algorithm
2. Address resolution protocol
3. Routing Table
4. Internet Protocol v4

Discussion

Question title:

[Read more](#)

Navigation

1. Ethernet
2. Internet Protocol
 1. Motivation for IP
 2. Classful IPv4 networks
 3. IP forwarding algorithm
 4. IP header
 5. Summary, further reading, homework
3. Transmission Control Protocol
4. Domain Name System
5. Internet vs World Wide Web
6. Hypertext Transfer Protocol
7. Web content
8. Dynamic Web Content



In place editing

 Learning goals  Video  Script  Quiz  Further reading  Discussion

Quiz



1. Read the following article on [Classless Inter-Domain Routing](#). Which are valid entry in a routing table?

with CIDR without CIDR

- | | | |
|--------------------------|--------------------------|-------------|
| <input type="checkbox"/> | <input type="checkbox"/> | 11.0.0.0 |
| <input type="checkbox"/> | <input type="checkbox"/> | 12.3.1.1 |
| <input type="checkbox"/> | <input type="checkbox"/> | 192.162.2.0 |
| <input type="checkbox"/> | <input type="checkbox"/> | 192.162.0.0 |
| <input type="checkbox"/> | <input type="checkbox"/> | 14.31.0.0 |
| <input type="checkbox"/> | <input type="checkbox"/> | 14.31.0.1 |

2. CIDR is backward compatible

- yes
- no
- it depends on the size of the routing table
- Only for entries in the routing table that go through class A and B networks

3. A network device from a class A network receives an IP package with the destination IP address in a class B network. Which of the following is true?

- The package will be send back to the source since no routing from class A to class B networks is possible
- The package will be dropped since no routing from class A to class B networks is possible
- If a route to the network of the destination adress exists the package will be routed.
- If no route to the destination network exists the package will be send to the default route.

Navigation

1. Ethernet
2. Internet Protocol
 1. Motivation for IP
 2. Classful IPv4 networks
 3. **IP forwarding algorithm**
 4. IP header
 5. Summary, further reading, homework
3. Transmission Control Protocol
4. Domain Name System
5. Internet vs World Wide Web
6. Hypertext Transfer Protocol
7. Web content
8. Dynamic Web Content

In place editing (2)

Learning goals Video Script Quiz Further reading Discussion

Quiz Navigation


Enter quiz:


```
<quiz display=simple>

{Read the following article on [[w:Classless_Inter-Domain_Routing|Classless Inter-Domain Routing]]. Which are valid entry in a routing table?
|type=""|}
| with CIDR | without CIDR
++ 11.0.0.0
+- 12.3.1.1
+- 192.162.2.0
++ 192.162.0.0
+- 14.31.0.0
+- 14.31.0.1

{CIDR is backward compatible
```

Enter edit summary:

 Hint: Use the following link to edit the quiz at its wiki page: [edit quiz externally](#)
Visit [Help:Quiz](#) for more information about quiz formats.

 Save

- The package will be dropped since no routing from class A to class B networks is possible
- If a route to the network of the destination address exists the package will be routed.

How to do it on your own:

- Go to <https://en.wikiversity.org/wiki/Category:MOOC>
- Or: <https://en.wikiversity.org/wiki/Wikiversity:MOOC-Interface>
- German Wikiversity users will have to wait until the end of the year.
 - Register for email notification right now!



Summary

What have we done?

- We created a social learning interface for Mediawiki
- It is from the User Experience comparable with proprietary solutions
- Effort needed
 - Half a year of experience how to not missuse media wiki
 - 1 Student assistent 6 Month 12 hours per week.
 - 1 person month of my time for conceptual work
- What I am saying: Creating something like this is cheap



Remaining problems

- Community is very slow
 - Code will break in the hand of the community
 - no possibility for software tests
- Video collaboration is still missing
- Analytics are still missing
- There is still a lot of know how required
- People don't care about the license

Our Roadmap for the project

- Obviously hold the Web Science MOOC and a second lecture at university of Koblenz
- Find more teachers (content creator)
- Deploy the scripts on Wikiversities (include communities)
- Try to hand the Maintenance over to Wikimedia Germany
 - Server side programming
 - Session handling
 - Privacy aware Analytics (for students and teachers)
- Import tools from open course and learning formats. Standardizing our MoocIndex format.



Conclusion: Continue to fight for free education

- Creating OER is hard due to license issues.
- Little problem awareness among teachers and students
- Creating OER has become a little bit more convenient.
- We need more tools to make creation of OER convenient.
- We need software that takes up the high standards of proprietary solutions.
- Policy makers need to be on board and promote OER
- OER is not expensive.
-

I am on the wrong venue: Our MOOC was not OER ether

- 22 flipped classroom lectures deleted on wikimedia commons
 - <http://www.rene-pickhardt.de/copyright-violations-videos-from-our-oer-web-science-mooc-deleted-from-wikimedia-commons/>
- Copyright violation in Screencasts recorded with microsoft windows
- Copyright violation for using proprietary classroom software while making screen casts.
- Sorry: We tried hard but have failed you. I am a physicist, mathematician who is doing a PhD in computer science.
 - I am not a lawyer :(



Dedicated to

Aaron Swartz (1986 - 2013)

**As a symbol for openness and freedom of
education for all citizens in the world**

**Aaron would have loved what we are doing
and died way too early because the people
benefiting from the injustice did not love his
fight for justice.**



Thank you very much!

Questions?

<http://www.rene-pickhardt.de>
<http://twitter.com/renepickhardt>
<http://github.com/renepickhardt>

WeST 
People and Knowledge Networks