

Extending and Embedding the MediaWiki Framework

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Who's this software for?

- MediaWiki is designed for encyclopedias:
 - Prose text
 - Cross-references
 - Photos



But... I'm not an encyclopedia

- Have you tried TWiki?

But I'm a *cool* encyclopedia

- Equations?
- Timelines?
- Advanced search?
- Extra import-export features?

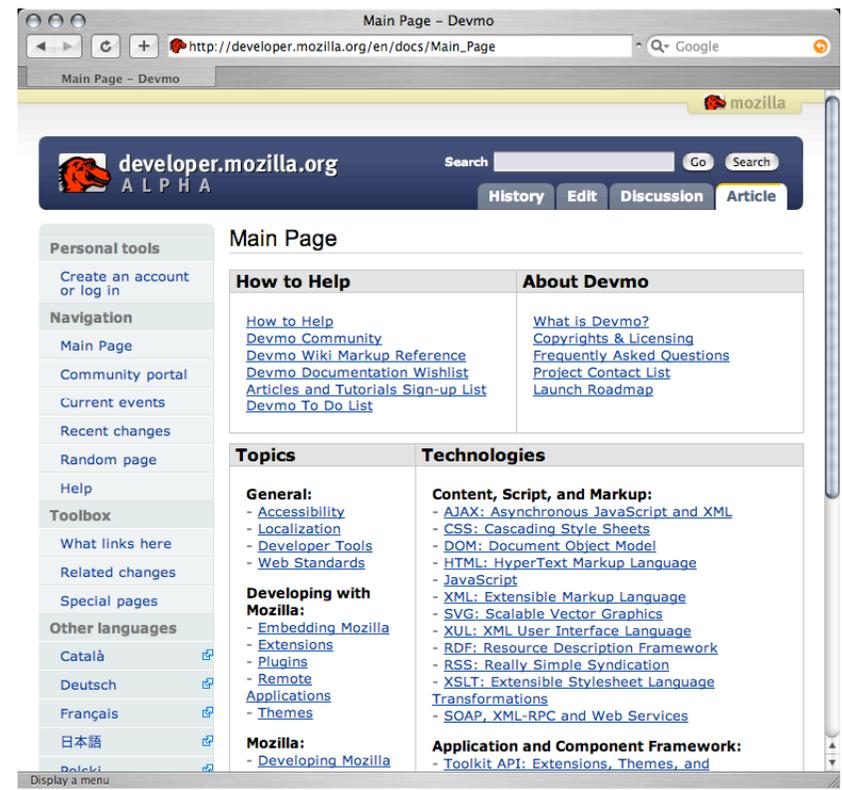
Wikipedia uses this extension stuff too!

What's extensible

- Skins: custom page layout
- Parser hooks: `<foo>...</foo>`
- Special pages: `[[Special:Rockinpage]]`
- Event hooks: `ArticleSaveHook`, etc

Skin different!

This is the easy part. Don't neglect it.



Skin different!

- Drop-in installation: skins/FooSkin.php
- Can wrap custom CSS on default skin easily
- Or complete alternate page layout

Catch an event hook

- We use these to update our external search engine on page edits and deletions
- Other exciting possibilities:
 - Handle `&action=foo`
 - Modify pages on save

Authentication plugin

- LDAP
- Use another web app's password database
- Create wiki user account records automatically on valid login

Parser hooks

- HTML/XML-style “tag”
- In 1.5, can take parameters:
`<source lang="php">foo()</source>`
- Should be functional-style...

Caching and You

- Depend only on your input
- No outside, changing data sources...
- Don't alter the page output or headers, you won't always be called on page view

How to cheat

- Disable the parser cache if you can afford the performance hit:
 - `$wgEnableParserCache = false;`
- Disable HTTP caching for the page:
 - `$wgOut->enableClientCache(false);`
- There are uglier hacks for now...

Everyone is `[[Special:]]`

- Special pages are code actions, not content
- Can accept POSTed forms
- Can override output -- RSS, XML, binary...
- Your cache is your own business

Non-wiki output

```
global $wgOut;  
$wgOut->disable();  
header( 'Content-type: application/xml' );  
echo "<myformat>.....</myformat>\n";
```

Safety first

- Security problems are rampant in PHP programs due to sloppy coding
- Treat HTML and SQL as protocols, not text!

htmlspecialchars()

Protect against injection of JavaScript or other HTML-based attacks:

```
return $skin->makeLinkObj($pageTitle,  
    htmlspecialchars($userSuppliedText));
```

SQL injection

```
$name = $params['category'];  
$result = $db->select(  
    "SELECT page_namespace,page_title  
    FROM page, categorylinks  
    WHERE page_id=cl_from  
    AND cl_to=$name");
```



pwn3d!

```
<list category="h4x0r'  
UNION SELECT user_password  
FROM user WHERE ''=' ">
```

```
...AND cl_to='h4x0r'  
UNION SELECT user_password  
FROM user WHERE ''=''
```

'\nevermore\'

```
$name = $params['category'];  
$result = $db->select(  
    "SELECT page_namespace,page_title  
    FROM page, categorylinks  
    WHERE page_id=cl_from  
    AND cl_to=" . $db->addQuotes($name) );
```



```
<list category="h4x0r'  
UNION SELECT user_password  
FROM user WHERE ''='">
```

```
...AND cl_to='h4x0r\  
UNION SELECT user_password  
FROM user WHERE '\'=\''
```

Database wrappers

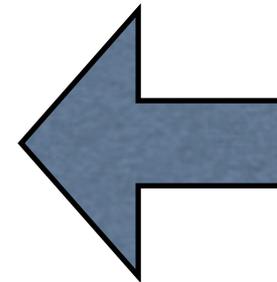
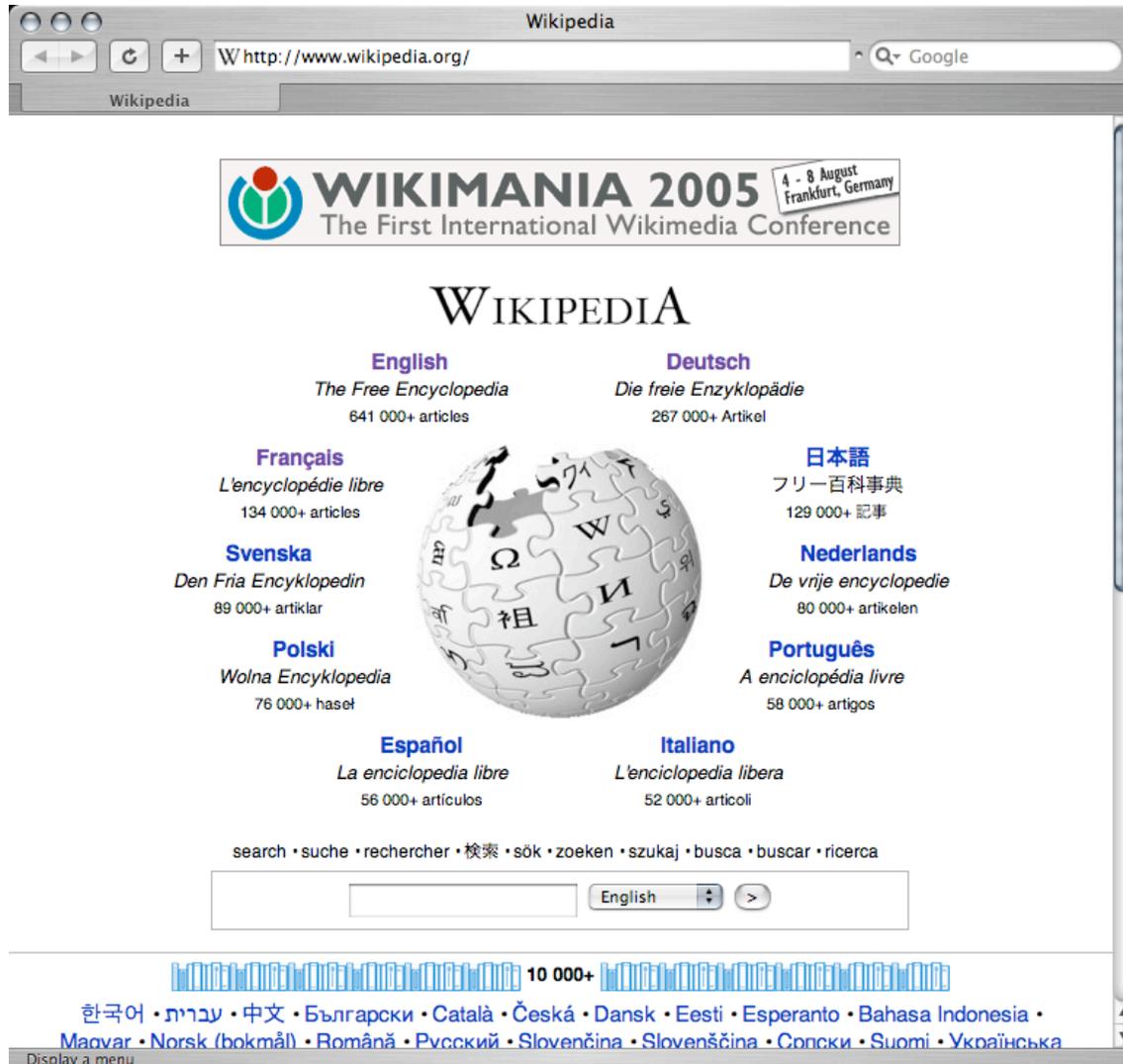
```
$name = $params['category'];  
$result = $db->select(  
    array('page', 'categorylinks'),  
    array('page_namespace', 'page_title'),  
    array('page_id=cl_from',  
        'cl_to' => $name));
```



```
<list category="h4x0r'  
UNION SELECT user_password  
FROM user WHERE ''='">
```

```
...AND cl_to='h4x0r\  
UNION SELECT user_password  
FROM user WHERE '\\=''
```

Embedding



Portal
HTML
stored in a
wiki page

Embedding

*It's not **that** hard...*

- Cut-n-paste initialization from index.php
- But do something else with it!

Command-line embedding

- Many scripts in maintenance/ subdirectory
- Great for non-GUI import/export jobs
- eval.php

Extending into the future

- Pre-parse and post-parse filters
- More hooks into the UI
- Friendlier no-cache handling
- Using the UI and parser cleanly in embedded stuff

www.mediawiki.org