The evolution of the Tclers Wiki

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Origins
• 1999 - second oldest Wiki still going
• wikit - written by Jean-Claude Wippler
• minimal markup
• Web + Tk renderer
• self-contained
• Metakit database

Transitions
• used for embedded documentation
• Metakit to TDBC + SQLite
• embedded web server to Wub
• searching from internal to Google to internal
• added markup
• styling

Issues
• page numbers
• searching
• curation
• spam
• look and feel
• code maintenance
Opportunities

- modern look
- developer support
- 3rd party solutions for web, cache, security, search
- spam mitigation
- curation support
- improved markup

Nikit

- modern look based on Bootstrap
- NGINX load balancing, proxying web server
- Wiki running as an SCGI
- SQLite for database
- CloudFlare for cache, security, acceleration
- Google search

Nikit Architecture

Database

- SQLite3
- schema based on 2007 rewrite by Kevin and Colin
- primary key is now page name (not integer)
- writes serialized via single writer process
- multiple readers
Schema

```
includes -> pages -> refs

users

pages_content

changes

binary

diffs
```

Database conversion

- page name as primary key
- removed empty pages
- old page-ids retained to support existing links
- new pages not created until first edit

Page stats

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of pages</td>
<td>44385</td>
</tr>
<tr>
<td>Text pages with date</td>
<td>13396</td>
</tr>
<tr>
<td>Binary pages with date</td>
<td>1634</td>
</tr>
<tr>
<td>Pages without date</td>
<td>27442</td>
</tr>
<tr>
<td>Text pages without content</td>
<td>1891</td>
</tr>
<tr>
<td>Missing</td>
<td>22</td>
</tr>
<tr>
<td>Skipped</td>
<td>28</td>
</tr>
</tbody>
</table>

SCGI

- Single thread programming
- Multiprocessing
- Pool of pre-started scripts
- Load balancing by nginx
- Based on Tclib's cgi and [http://wiki.tcl.tk/19760](http://wiki.tcl.tk/19760)
NGINX

- scalable and performant
- easy to configure
- large and growing user base
- lots of info/help available

CloudFlare

- performance
  - distributed cache + CDN
  - content optimization
  - DNS
- security
  - DDoS protection
  - web application firewall
  - SSL + IPV6
- analytics

Styling

- bootstrap based
- responsive layout
- adaptive menu on top
Changes Page

- last edit per page
- minor edits hidden by default
- minor edit / spam flags
- geo-located region

Minor Edits

- “Save as minor edit” button
- not listed in default Changes page
- listed in page history
Access Rules

• based on roles
• per page
• per area (e.g. admin pages, CSS templates)

Roles

• read
• write (username supplied)
• trusted (authenticated via username / password)
• gnome (edit not shown in default Changes)
• admin

Introspection

• user activity
• page history
• spam

Maintenance

• rename pages
• delete pages (no trace left)
Robot / Spam Detection

- reCAPTCHA
- bayesian filter
- spam hidden by default
- posting prevented from "spammy" IP addresses
- trusted users can mark as spam or ham

Markup

- full rewrite
- compatible with Wikit markup
- optional
  - HTML
  - Markdown
  - TCL (in safe interp with CPU limit)

Markup

- document types
- special pages
- page templates
- directives
- tables
- special characters
## Document Types

<table>
<thead>
<tr>
<th>Document Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;DOCTYPWIKIT&gt;</td>
<td>page content written in wikit markup</td>
</tr>
<tr>
<td>&lt;DOCTYPMARKDOWN&gt;</td>
<td>page content written in markdown</td>
</tr>
<tr>
<td>&lt;DOCTYPHTMLPART&gt;</td>
<td>page content written in HTML</td>
</tr>
<tr>
<td>&lt;DOCTYPETCL&gt;</td>
<td>page generated by Tcl script</td>
</tr>
<tr>
<td>&lt;DOCTYPHTML&gt;</td>
<td>page written in HTML</td>
</tr>
</tbody>
</table>

## Special Pages

<table>
<thead>
<tr>
<th>Special Page</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADMIN:WELCOME</td>
<td>Welcome page, in wikit markup</td>
</tr>
<tr>
<td>ADMIN:MOTD</td>
<td>Message of the day, in HTML</td>
</tr>
<tr>
<td>ADMIN:ACCESSRULES</td>
<td>Access rules</td>
</tr>
<tr>
<td>ADMIN:PRIVACY</td>
<td>Privacy statement</td>
</tr>
</tbody>
</table>

## Page Templates

<table>
<thead>
<tr>
<th>Template Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEMPLATE:page</td>
<td>Default page template</td>
</tr>
<tr>
<td>TEMPLATE:preview</td>
<td>Page preview template</td>
</tr>
<tr>
<td>TEMPLATE:gsearch</td>
<td>Google custom search template</td>
</tr>
<tr>
<td>TEMPLATE:content</td>
<td>HTML page template</td>
</tr>
<tr>
<td>TEMPLATE:CSS</td>
<td>Nikit specific CSS</td>
</tr>
<tr>
<td>TEMPLATE:JS</td>
<td>Nikit specific JS</td>
</tr>
</tbody>
</table>

## Directives

<table>
<thead>
<tr>
<th>Directive</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;<a href="">include:page</a>&gt;</td>
<td>include another page</td>
</tr>
<tr>
<td>&lt;&lt;redirect ?reason?&gt;&gt;</td>
<td>redirect to another page</td>
</tr>
<tr>
<td>&lt;&lt;motd&gt;&gt;</td>
<td>display message of the day</td>
</tr>
<tr>
<td>&lt;&lt;changes&gt;&gt;</td>
<td>include 10 most recent changes</td>
</tr>
<tr>
<td>&lt;&lt;categories&gt;&gt;</td>
<td>page categories</td>
</tr>
<tr>
<td>&lt;&lt;discussion&gt;&gt;</td>
<td>show/hide part of page</td>
</tr>
<tr>
<td>&lt;&lt;inlinehtml&gt;&gt;</td>
<td>insert HTML within Wiki markup</td>
</tr>
<tr>
<td>&lt;&lt;backrefs?:name?&gt;&gt;</td>
<td>include page references for this or specified page</td>
</tr>
</tbody>
</table>
Tables

- one row per line
  - header | % | ... | ... | %
  - row | ... | ... | or & | ... | ... | &
- one field per line
  - start header row | %
  - start row + or | &
  - start field |%

Special Characters

- % | 1 | 2 | 3 | %
- | 4 | 5 | 6 |
- | 7 | 8 | 9 |
- | 1 |
- | 2 |
- | 3 |
- | 4 |
- | 5 |
- | 6 |
- | 7 |
- | 8 |
- | 9 |

- <br>
- &nbsp
- &
Cookie Consent

- complies with EU cookie regulations
- shows contents of ADMIN:PRIVACY