Building wikis with MoinMoin Wiki

Creative Group Writing

The members of a project team can profit from collecting their ideas, or any loose ends, in a central repository. Wikis are tailor-made for this task.

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Way before content management systems started to appear for website management, Wikis provided a kind of "open door" to HTML pages, allowing any visitor to click and edit the HTML content.

Wiki is the abbreviation for WikiWiki-Web – "wiki wiki" is derived from Hawaiian and means "quick" or "quickly". And the open authoring system certainly is quick. The MoinMoin Wiki engine is one of the better-known implementations of this technology.

Users can click to launch the embedded editor and access the content and structure of the page they want to modify. Typically, an *Edit* link is provided to make things easier.

In contrast to "real" HTML, which uses format tags, wikis have a special syntax that needs only a few simple formatting commands.

The wiki web page version control systems ensure that older versions can be restored at any time, should a page be deleted or damaged by mistake. Also, wikis allow you to assign special access controls that can restrict editing to registered users, if required.

The first wiki website was published by Ward Cunningham in 1995, and it is still online [1]. At the time, Cunningham wrote an email message saying that he had programmed a new kind of database "I've put up a new database on my web server(…). It's a web of people, projects and patterns accessed through a **cgi**-bin script." [2].

This meant opening up his HTML pages to the general public. The foot of each wiki page contains a link that takes users to the editor where they can add to, or modify, pages. Fortunately, there is no need to write HTML code to do so. Cunningham wanted to make things easier for the authors and so chose a simpler syntax.

The Wiki engine stores the content input either as ASCII text, or externally using a relational database such as MySQL, Oracle, or PostgreSQL. The software then uses this data to create the public HTML pages.

Besides taking a look at the original wiki, you might like to visit what is currently the biggest wiki on the Web, the Wikipedia [3], which offers innumerable articles on pages in multiple languages. It is an example of how well information can be organized with a wiki.

If you are thinking of running a wiki yourself, you will be spoilt for choice of software – there are over 100 different wiki engines [4], most of which are Open Source. In this article we will be looking at the MoinMoin engine, and introducing its syntax.

Pre-Flight Check

Before we launch into the wiki installation, let's first ensure that a few other services are running on your machine. These include Apache [5], for example. Most current distributions include packages with versions 1 and 2 of the web server. You will not normally need to

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GLOSSARY

CGI: *CGI is the abbreviation for **C**ommon **G**ateway **I**nterface. It provides an interface between external programs, or scripts, and the web server. While HTML pages are static, CGIs allow for content generation at runtime. Programs in the web server's "cgi-bin" directory are run automatically by the server when requested by a browser. For example, CGI scripts process the input from forms on HTML pages.*
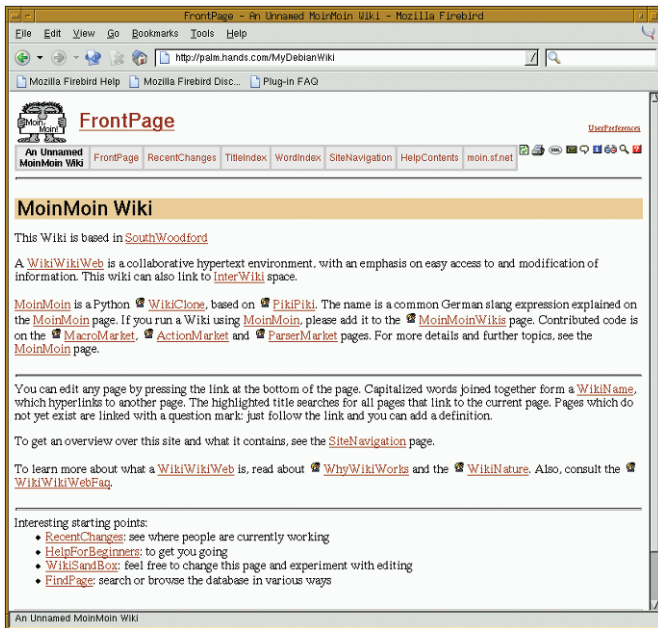
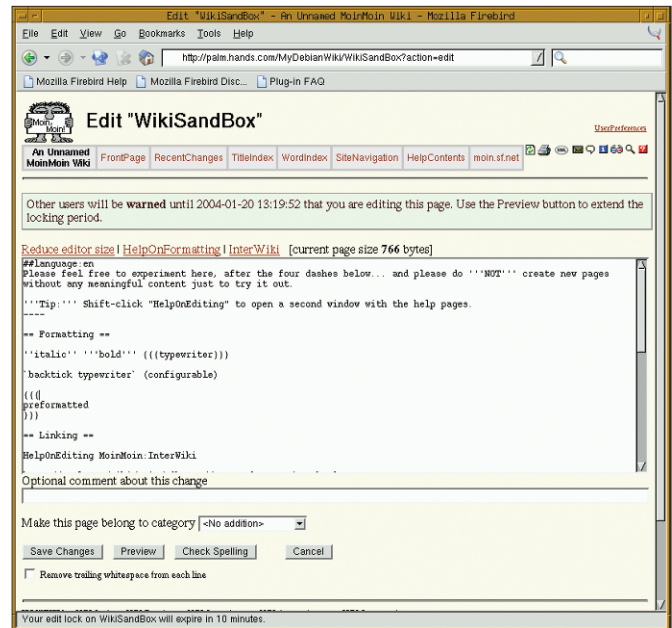Figure 1: Good morning – MoinMoin shortly after take off.

Figure 2: Using MoinMoin as a template.

compile the sources manually. Moin-Moin [6] is a Wiki based on the Python [7] scripting language. Make sure that Python is installed on your machine, by typing *python -V*, and if not, install the Python packages from your distribution's installation CDs.

MoinMoin Sources

The MoinMoin sources can be down-loaded from the project homepage. Type *tar xzvf moin-1.1.tar.gz* to unpack the archive, then change to the new directory created by this process (*cd moin-1.1*) and assume *root* privileges. Python can help you install the software. The command is as follows:

```
huhnix:/moin-1.1 # python setup⤷
.py install --record=install.log
running install
running build
running build_py
creating build
creating build/lib
creating build/lib/MoinMoin
[...]
```

The *--record = install.log* parameter writes an overview of the steps to the *install.log* file. The next step is to discover the user and group IDs that your Apache server uses. You can grep the Apache configuration file to find these values. On Suse Linux 8.2, for example, type the following:

```
huhnix:/moin-1.1 # egrep "^User⤷
|^Group" /etc/httpd/httpd.conf
User wwwrun
Group nogroup
```

Red Hat Linux users will need to parse */etc/httpd/conf/httpd.conf* instead, and Debian Linux uses */etc/apache/httpd.conf*.

Now change to the *moin* directory (*cd /usr/share/moin/* or *cd /usr/local/share/moin/*) to create a new Wiki instance:

```
mkdir mywiki
cp -r data mywiki
cp cgi-bin/* mywiki
chown -R wwwrun.nogroup mywiki
chmod a+rx mywiki/*.cgi
```

Debian users will need to change the IDs in the *chown* line to *www-data.www-data*, and Red Hat Linux users to *apache.apache*. The two entries then need to be added to the Apache configuration file (this is */etc/httpd/httpd.conf* for Apache 1 and */etc/apache2/httpd.conf* for Apache 2 on Suse Linux, */etc/apache/httpd.conf* for Debian, and */etc/httpd/conf/httpd.conf* for Red Hat Linux):

```
Alias /wiki/ ⤷
"/usr/share/moin/⤷
htdocs/"
```

```
ScriptAlias /mywiki "/usr/local⤷
/share/moin/mywiki/moin.cgi"
```

You only need the first line once in the configuration file; the second line is required for each wiki instance on the server – make sure you change the name and path. Avoid calling your wiki *wiki* if you can, as this can cause name conflicts with internal software components.

Finally, re-launch the web server (*/etc/init.d/apache2 restart* for Apache 2, */etc/init.d/apache restart* for Apache 1, and */etc/init.d/httpd restart* for Red Hat Linux). If you then access the URL *http://localhost/mywiki/* with your browser, you should see the wiki welcome page (see Figure 1).

Sandbox

When you are trying out your new wiki, it makes sense to take your first steps in

Table 1: MoinMoin Syntax

Wiki Syntax	HTML Syntax	Displays as
''italics''	italics	*italics*
'''bold'''	bold	**bold**
##comment	<!--comment<-->	not displayed as output
[[BR]]	 	hard newline
New line	<p>	Paragraph
= Heading =	Heading	Heading
== Subheading ==	Subheading	Subheading
=== Level 3 ===	Level 3	Level 3
==== Level 4 ====	Level 4	Level 4
===== Level 5 =====	Level 5	Level 5
—- (four dashes)	<hr>	horizontal line

the so-called sandbox, which you can access via a link on the welcome page (*http://local host/mywiki/WikiSand Box*). Click on the *Edit this page* link to open a window within the window. Most formatting commands are intuitive and you will soon discover that you have mastered them. Table 1 provides on overview of the most important commands.

There are different techniques for creating links. To refer to an external page on the Web, simply supply the URL, but make sure that you include *http://*. For example, *http://www. linux-magazine.com* is a valid reference, but not *www.linux-magazine.com*.

You can use straight brackets to provide an additional description of the link – *[http://www.linux-magazine.com Linux Magazine homepage]*. This would be written as *< a href = "http://www. linux-magazine.com" > Linux Magazine Homepage < /a >* in HTML.

Internal links to wiki pages use the so-called "CamelCase" notation with a capital letter at the start of, and somewhere inside the word. For example, you could easily use *LinuxMagazine* as a link to the page *http://localhost/mywiki/ LinuxMagazine*.

If this does not currently exist, MoinMoin will help you create it (see Figure 2). Incidentally, if you add the *Moin-Moin:* prefix to an internal link, the wiki engine will create a link to the official MoinMoin wiki. Thus, the following link, *MoinMoin:LinuxMagazine*, would take you to the following page *http:// purl.net/wiki/moin/LinuxMagazine*.

Under the Hood

/usr/share/moin/htdocs/img/ contains a number of GIF-formatted image files which the wiki uses. These include all kinds of smileys (emoticons). The wiki software uses these images if certain character strings appear in the text. The wiki also adds a few symbols of its own, such as the Python logo on each page, or
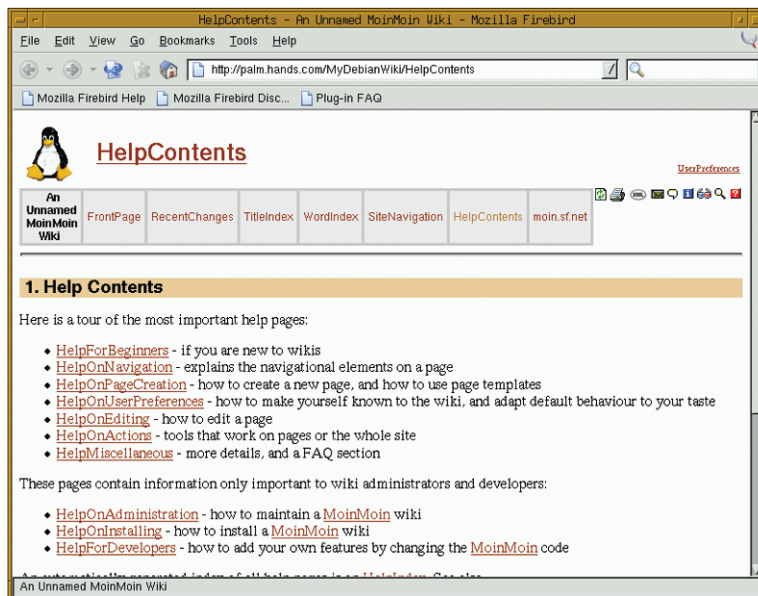

Figure 3: Using your own logo.

the warning sign. A table with the available smileys and a note on how to produce them is available at *http:// localhost/mywiki/HelpOnSmileys*.

/usr/share/moin/htdocs/img/ contains miscellaneous images, such as the MoinMoin logo, *moinmoin.gif*. If you want to use your own logo or image (see Figure 3) on your wiki pages, rather than the man with the "Moin, Moin!" sign, simply save the image file in */usr/share/ moin/htdocs/img/* and the edit the */usr/ share/moin/mywiki/moin_config.py* file. The entry will need to read:

```
logo_url = url_prefix + '/img↵
/Your_Imagefile'
```

This allows you to reflect corporate, or organizational, identity when designing a wiki site for a project or your organization's Intranet.

Use the */usr/share/moin/mywiki/moin _config.py* file to edit the name of your wiki instance. To do so, replace the default value, which is represented by the *sitename* variable, with your choice of name, as in *sitename = 'Brainstorming Special Issue*. This will display the name as a heading in your browser.

Open Wikis, Open Doors?

Wiki administrators have a few important tasks to take care of, such as maintaining the pages. Pages are located in the wiki's *data/text/* subdirectory. You can use the *rm* command to delete con-

tent directly from the server. Normal users are not allowed to delete pages, unless you explicitly allow them to do so in the configuration file, */usr/share/moin/ mywiki/moin_config.py*. Should you require this, add the following line:

```
allowed_actions=↵
['DeletePage']
```

This displays a *Delete Page* link to visitors of the wiki site. If a user clicks on the link, MoinMoin ask them to confirm and then enter a reason for this action.

To prevent pages disappearing mysteriously, the software saves backup copies of deleted pages in */usr/share/moin/ mywiki/data/backup/*. If you want to check on recent developments, you can click on *RecentChanges* at the top of any page to see where people are currently working.

The MoinMoin developers are working on individual user account based access privileges, and this feature is already available in the 1.1 version along with ACL support.

Wikis basically do not provide security – this is something all administrators should be aware of. If you run an open wiki on the Web, you are practically asking for graffiti.

However, a wiki on your Intranet can be a useful thing. The ease of use, and the fact that users do not need an account on the web server to edit a page, mean that a wiki software makes a lot of sense for non-technical users. ∎

INFO

[1] WikiWikiWeb: *http://c2.com/cgi/wiki*

[2] Email announcement: *http://c2.com/ wiki/mail-history.txt*

[3] Wikipedia: *http://en.wikipedia.org/*

[4] Wiki engines: *http://c2.com/cgi/ wiki?WikiEngines*

[5] Apache: *http://www.apache.org*

[6] MoinMoin: *http://moin.sourceforge.net*

[7] Python: *http://www.python.org*