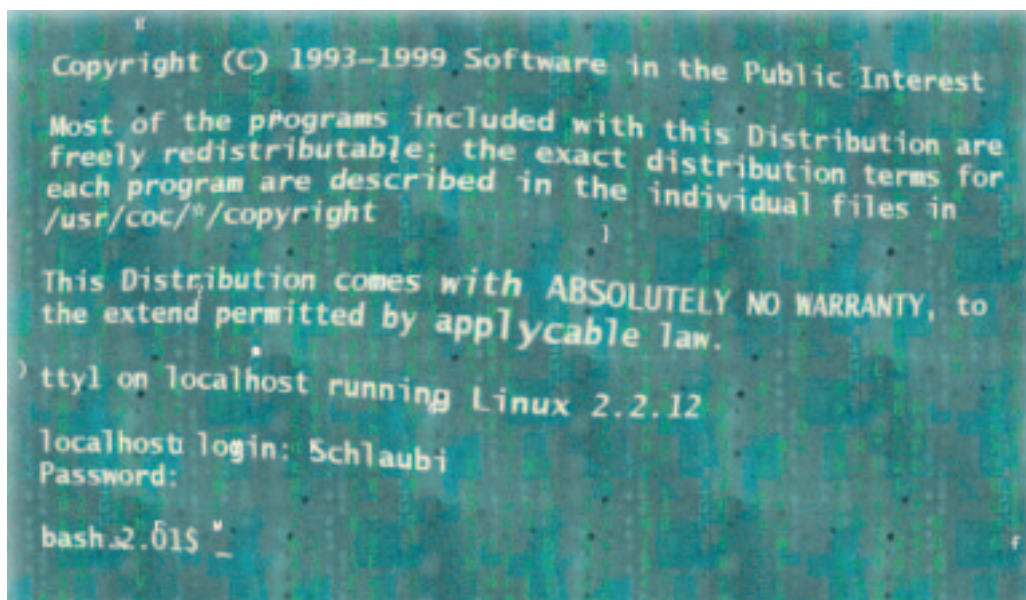## Lynx, links and w3m
SURFIN' ON THE COMMAND LINE

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Fast surfing in text mode, obtaining information from the World Wide Web without a graphical user interface or converting HTML documents into easily legible text files –all this and more is offered by programs such as lynx,

links and w3m. These resolve such problems as displaying frames or tables with varying degrees of success. There are also some differences in ease of use of the individual browsers. Here is an overview of what can be done with surf tools on the command line.

Taking that bit longer – *lynx*

The program can be started from an *xterm* or from the console. You can specify either a direct **URL** or local HTML file, so for example:

```
lynx www.linux-magazine.co.uk
lynx ~/linuxmagazine/atyourcommand.html
```

By default a short overview of the most important commands is included in the bottom three lines. With *h* or *?* you can go to the online help files for *lynx* at any time. The program can be used with or without mouse support; there is a whole range of key combinations available for

HTML: *Stands for **H**yper**T**ext **M**arkup **L**anguage and refers to the format for documents on the World Wide Web. HTML instructions, so-called tags, are shown in pointed brackets, e.g. <H1>Text</H1> for a first-level caption.*
frame: *This means a sub-division of the browser window into further smaller windows. Each of these sub-windows can display its own documents independently of the other windows.*
URL: *A World Wide Web address, the abbreviation stands for **U**niform **R**esource **L**ocator. Each of these addresses is a unique assignment to a page that is located on the net,(http://www.linux-magazine.co.uk/index.html for example). The simple syntax is: http://host/path, where host is the computer to which a connection is to be made, and path represents the document which will be displayed.*

BEGINNERS

AT YOUR COMMAND

Cookies are pieces of data that are transferred from a server to the browser. In plain English, this means that a special **Header** is delivered with the Web site, which the browser may or may not store. If you do store these pieces of information and access that Web site again, you send your own cookie together with the query back to the server. This mechanism makes many things possible: the user's default settings can be stored and this means individual web pages can be designed for the user.
Header: The Hypertext Transfer Protocol, by means of which documents of all kinds are transferred on the World Wide Web, adds a few bits of information to these, which are served up in the form of feature-value-pairs: A specific header thus receives a specified value. When the browser calls up a Web site, it receives, internally, e.g. the following reply:
Date: Thu, 21 Dec 2000 15:58:10 GMT,
Server: Apache/1.3.12 (Unix)...
etc.

this (see Table 1). Many commands are assigned several options: the Right Arrow key activates a link in the same way as pressing the Return key, for instance.

Apart from the interactive commands *lynx* can also be provided with a few parameters right at the start. The command *lynx -accept_all_cookies* does exactly what you would expect: All **Cookies** are accepted without any interaction by the user. Otherwise you will be asked when calling up such a page:

```
www.site-with-cookie.co.uk cookie: session-i↵
d=302-8162141-3688069  Allow?
(Y/N/Always/neVer)
```

Now you can decide whether you agree to accept this cookie (*Y*), refuse it (*N*), accept all cookies regardless during this session (*A*) or always refuse them all (*V*).

It is practical to start with the parameter *-book* – as starting page. You will see a list of your own personal bookmarks. If you want to test some home made HTML pages on the console, start *lynx* with the extension *-editor=vim* (or any other editor of your choice). If you now type in *e*, you can edit the just-displayed page directly in the editor. After closing the editor, you can reload the HTML file with Ctrl+r (for reload) and, if working on a local computer, you should add the option *-localhost*.

HTML files can be converted into easily legible text, by the way, with the *-dump* option. A command such as e.g. *lynx -dump http://www.linux-magazine.co.uk/output/2001/02/ index_html > linux-magazine.txt* produces a really clear document:

```
LinuxMagazine: February 2001

Title:The Great Notebook Test

34 COVER FEATURE:
   THE GREAT NOTEBOOK TEST

Take 10 of the latest and greatest notebook↵
s covering a range of prices and sizes. Add
[...]
```

Incidentally, you can define a whole range of settings so as not to have to set the parameters for lynx every time you start up – type o after starting the program to install the options. Watch out: Before going through all the settings, activate, right at the top of the menu, *Save options to disk: [ ]* (press the Return key, when you are over the link). Now page down with the arrow key and take a closer look at the individual points. With fields in pointed brackets ([ ]) you can use Return to reach a selection window in each case. In User mode: [Novice___] if you select *Advanced*, the automatically-displayed help functions of the program disappear – you then have an extra two lines in the window. In text fields, in *Editor: ____,* you enter something direct.

If everything has now been set to your liking, select either *Accept Changes to activate* or *Reset Changes*, to return everything to its original condition. All settings you make via this option menu land in the file *.lynxrc* in your home directory. Naturally, you can also make changes directly in this configuration file, but be careful: The next time you save new settings via the options menu, the file will simply be overwritten.

Table 1: The most important key combinations	
Command	**Function**
Arrow Up, Arrow Down	page back and forth through the links
Arrow Right or Return	follows a link
Arrow Left	goes back to the previous page
k	delivers a complete list of available commands
d	downloads the page invoked (with all graphics)
g	go to specified URL
G	go to last URL; also offers the options of editing this further
l	lists all links of the document
o	offers the facility of changing the options for *lynx*
p	print options, e.g. print out a page on a local printer
q	ends the program by asking whether you really want to leave *lynx*
Q	ends *lynx* without challenge
a	adds the pages called up to your own bookmarks
v	gives an overview of the bookmarks that have been stored
r	deletes a bookmark (with safety challenge)
z	stops the connection being made to the page
Ctrl+a	jumps to the start of the page
Ctrl+e	jumps to the end
Ctrl+r	reloads the page
!	allows a command to be input on the shell
/	allows a search for a term in the current document
Del	shows the History (the most recently visited pages)

Browsing with *links*

Immediately you start up this browser a configuration file is set up in your home directory. If you have not specified a URL or local HTML file when starting the program, at first you will see just an empty window. Press the Esc key, and a menu appears on the upper edge of the window. Use the right arrow key to reach the item *Setup/Settings* and configure the program according to your own wishes. *links* is capable, just like *lynx*, of displaying colours – always on the condition that your terminal supports this feature. When you have configured everything the way you like it, you must select, in the *Settings* menu, the last point *Save options*, or else *links* forgets all of your configurations after leaving the program.

You can completely control the program – as can the other browsers – using the keyboard commands. In addition to this, *links* can be used very easily with the mouse. To reach the menu you can bypass the use of the Esc key and instead click with the mouse in the top line in the terminal. One feature that is especially useful is that the keyboard command is listed for every function. After a while you will simply pick up all the most important abbreviations for the individual commands. But with the mouse, there's a lot more you can do: To follow a link, click on it with the left mouse key. If you click with the right key, a context menu opens, in which you have the option of following the link, of opening it in a new window or starting a download. If you want to mark text, hold down the Shift key and only then mark the text with the mouse.

Apart from the fact that *links* can display frames and tables properly (see Fig. 2), you can

[left]
Fig. 1: Correct Tables and Frames with neat menu control under *links*

[right]
Fig. 2: The same page with *lynx* – still some room for improvement here

Table 2: Control commands for w3m	
Command	**Function**
Spacebar	leaps forward a page at a time through the file
b	leaps back a page at a time through the file
>	lets the display move completely over to the right
<	lets the display move to the left
g	goes to the first line of the file
G	goes to the last line of the file
Tabulator	jumps to the next link
Esc Tabulator	jumps to the previous link
Return	follows the link
U	opens a URL
u	displays the URL of the link at the bottom of the window
v	displays the HTML source text of the document
V	loads a new local file
B	goes to the previous page/file
a (only in the link itself)	stores link in file
Esc a	adds the page to Bookmarks
Esc b	displays your own Bookmarks
R	reloads the page
s	displays the most recently visited sites in the History
Esc s	saves the file to your own hard disk
/	searches forwards for a term
?	searches backwards for a term
H	calls up Help, delivers a complete overview via the keyboard commands
o	switches to the Options menu

MIME-Type: *This means **M**ultipurpose **I**nternet **M**ail **E**xtension. MIME types are pre-defined file types with precisely defined file endings. This mechanism makes it possible to transport file types, via the World Wide Web or by e-mail. This only works where these types are known by both sender and receiver. Normally these items of information are stored in a file named mime.types (in most distributions under /etc/mime.types).*

Fig. 3: *w3m* – easy-to-use command line browser with neat features

also tell the browser how it should handle certain types of files (**MIME-Type**). While *lynx* accesses configurations from */etc/mailcap* and */etc/mime.types* or *.mailcap* and *.mime.types* in your own home directory, you can tell *links* in the *Setup/Settings* menu under *Associations*, how it should handle JPEG images etc. To do this, go to *Add*. The first field (*Label*) is just a name for the entry, so call it JPGs for instance. In *Content-Type(s)*, enter *image/jpeg*. Under *Program* the program then pops up, with which you wish to open the file, thus *xv %*. Confirm everything with *OK* and also remember at this point to save the new settings. By the way, if you would like to define different file endings for JPEG files such as e.g. *jpeg, jpg, jpe*, you can do this under *Settings/File extensions/ File endings*: Enter the individual endings in

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Careful with the Bookmarks for w3m

The first time you want to set a bookmark for this browser, you may receive an error message, saying the file ~/.w3m/bookmark.html could not be found. After a few investigations it became clear that when first making an entry in Bookmarks the field Section: [ ] has to be completed. Go to the text entry, press Return and enter a name – only after you have done this can w3m carry on working as it should, setting up the file and writing in it.

Extension(s) separated by commas, the *Content-Type* is again *image/jpeg*. If you now click on a JPEG shown as *[IMG]* with the right mouse key, under *display image* you will receive a new option: *[Open]*. If you select this, the image file will be displayed as desired with *xv*.

Off into the W3 with *w3m*

Here comes a sophisticated tool from Japan – *w3m* stands for 'WWW-to-Miru'. This is Japanese and means: 'Look at the WWW'. This browser can handle tables and frames just like *links* (see Options menu). Unlike the first two programs *w3m* wants to know a target file right at the start of the program. You must specify either a local HTML file or a URL otherwise the browser immediately shuts down again. What's missing here, at first glance, is an insert showing how to get help or how to close down the program – for this, just take a look at Table 2.

You must look at the Options menu before starting to surf for the first time. If you have switched on the option *Automatic rendering of frame*, *w3m* can cope splendidly with pages with frames. If you have a terminal with colours, you can switch on *Display with colour* – it's nice to be able to choose the colours in which the links, input fields, background, active link etc. are displayed.

There is no need to have an expensively designed graphical browser with 15 MB file size to look for information on the Internet. *w3m*, *links* and *lynx* can in many cases present Web content just as easily as their X-Window relatives, and usually at a higher speed, since cumbersome advertising banners are not loaded.

Info on the World Wide Web:

Homepage of lynx:
http://www.lynx.browser.org
Site for links:
http://artax.karlin.mff.cuni.cz/
~mikulas/links/
w3m homepage:
http://ei5nazha.yz.yamagatau.ac.jp/
~aito/w3m/eng/index.html
SSL for lynx:
http://www.moxienet.com/lynx/