All together

And the last will be first – as we learned from the Bible. With this in mind a new desktop environment has wended its way to Linux land, and its patron saint, the "Ultimate Window Manager", is now ready for a test run on your desktop.

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Once upon a time the world was full of competing computer systems. Some of them lived in the land of Atari, others were friends of the Commodore, and another little group kept a big Apple company. All of them were convinced they were doing the right thing – and you know what? They were right.

But one fine day, Bill, the demagogue took a journey. He visited numerous countries, on his way collecting a few subjects who had made life worth living in their old homelands, from each country. He invited them to perfect his own country. And finally in 1995, the gates to the country of "Windows 95" were opened. The lure of this country was heard in countries far afield, and thus more and more users rushed in to see this country's promise for themselves. And the applause was so loud that they stayed.

Strange Lands

Of course, there were consequences: The inhabitants of this country have been conditioned ever since. If a system does not offer known elements, such as a *taskbar* or *start menu*, window buttons or desktop icons, these poor users are incapable of imagining that they could operate the system.

However, there are still some users who are open to change, and since you would seem to be one of them – after all you are a Linux geek who reads deskTOPia – I would like to introduce you to a radically different concept from the one you are used to the major players providing. I'm talking about *UWM*, the slightly different **Window-Manager** of the "*Unix Desktop Environment*" UDE. The documentation starts with the words: "Starting UWM for the first time you might recognize that it doesn't only look different from other window managers but also behaves not quite the way most of you would first expect such a system to do. This fact alone might be a reason for some people to throw UWM away and go back to a conventional windowing user interface. Others might start thinking – Some of them might get used to it."

Mice for Power Users

UWM was not developed with the aim of attracting users on account of its ease of use, but aims to provide more power to the user after you have mastered the first few steps. After all, you do not stay a newbie for ever, and as a power user will soon be looking for ways of making your life simpler.

In contrast to other Window Managers also designed with this clientele in mind, UDE is clearly mouse oriented. If you are looking for a keyboard driven GUI, the current version of UDE is not where you want to be .

From the Archives

Installation should be fairly painless on any Linux distribution. The developers provide both RMPs and Debian package, as well as the normal source archives, at *http://udeproject.sourceforge.net/*. The packages available from this site are also on this issue's subscription CD.

You will definitely need to resort to the sources, if the pre-compiled packages do not work for you. This should not prove too much of an obstacle: UDE merely uses your X servers functionality and

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thus does not require any specialized packages. Users of older distributions may need to install a separate package to support XPM images. You will need the *make* tool, the *gcc* compiler, and the developer package for the **X Window System** (but you will probably already have installed these items, if you occasionally need to install graphics software off the Internet).

Starting Blocks

Before you can really profit from the UDE that you install, you will first need to take another hurdle: Launching your X Window System instead of your original Window Manager *uwm*. Unfortunately, the way to do that differs from distribution to distribution.

As a rule of thumb: If you launch the graphic interface manually, by typing the *startx* command, the ~/.*xinitrc* file is parsed. If you log on in graphic mode, this will be the ~/.*xsession* file. If you can't find these files, you can simply create them. Then contents of both files are identical. Since the Window Manager, UWM, is a core component of the UDE environment, you simply need a

Figure 1: A Start menu, but not a bar

Keyboard Shortcuts

It is not as if the creators of UDE think that mouseless operations are entirely irrelevant. There is even supposed to be a rudimentary – albeit non user definable – keyboard layout. But the author's attempts to get this running on his own system were a miserable failure. But still, if you want to try your luck, you can refer to *doc/ude-0.2.8/html/node11.html* for the theoretical keyboard layout.

single call to *uwm* – the program will take care of everything else itself.

The Listing (p78) shows an example of an X start file.

Don't forget to set the access privileges with *chmod 700 .xinitrc* or *chmod 700 .xsession*. Otherwise, the script will not run on some distributions. The next time you start your X

Figure 2: The Title Inside

Window System, you can expect to see the Unix Desktop Environment.

Clean

UDE displays a completely empty desktop at first. No buttons, no menus, and no icons saying "Click me!". The UDE developers insist that this is intentional, as your desktop should normally be filled with applications and not with a Window Manager.

UDE's control elements are hidden behind your mouse buttons, so look forward to some finger fuddling exercises. You simply press the right mouse button to open the start menu (Figure 1) and release the button, when you have found the application you want to launch.

The option for launching multiple applications with a single mouse action is neat: Keeping the middle button on your mouse held down, click on an application you want to to launch. Then move to the next entry and again left click to run it.

Windows are not surrounded by frames – there is merely a heading inside (!) the program window (Figure 2). If you move the mouse to the area with the heading, the heading will simply disappear, reappearing only when the window drops out of the mouse focus.

In Focus or in the Foreground?

When multiple applications begin to fill up your available desktop, you will notice that the interface provides for only "*sloppy focus*" behavior.

This is where the window you last moved the mouse across will automatically react to any keypresses (focus), but the window will remain in the back-

ground – hidden by other applications – until you raise it into the foreground. Focus and raising are two separate concepts in UWM.

A window is raised if you left click its frame, and the focus automatically switches to that window. If you use the middle mouse button instead, the window disappears behind all the other windows – without losing the focus.

The following approach is slightly more complex, but more comfortable in the long run. Click on the window you want to modify with the center key and hold the key down. Now click on the left key to raise the selected window above the others.

If you simply press the center or right mouse key, the window drops down the order. It often makes more sense to "lower" the current, and undesired, window than to raise the desired window. (If your mouse does not have a center button, you will not be able to use this function – and many others; UDE definitely requires a three-key mouse).

Push!

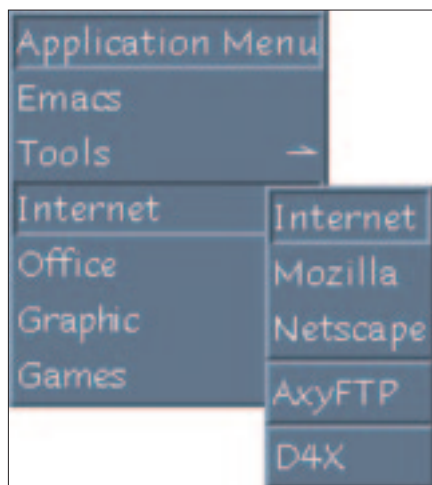While you hold down the middle mouse and change the order of your windows,

GLOSSARY

Window Manager: *This program is responsible for window dressing and window functionality – in short for anything that needs to drawn around an application. Window Managers often include a Start menu or allow you to set the desktop background. In contrast, a Desktop Environment not only contains a Window Manager but also influnces your applications.*

X Window System: *Provides Linux systems with a graphical user interface. Even desktop environments such as KDE or GNOME run as applications on this interface.*

.xinitrc/.xsession

```
#!/bin/sh

LANG=en_US; export LANG
exec uwm
```

you can simultaneously rearrange them. You automatically drag the window as long as you hold the mouse key down. All this functionality certainly takes some getting used to …

When you are placing applications on the desktop, it is quite useful to dock windows by moving one window so close to another that it snaps to the window frame pixel for pixel. UWM positions new windows wherever there is enough room for them: If there is not enough room on the desktop, you are asked where to place the new window.

Sweet

If you left click a window frame, the *Honeycomb*, which comprises a range of functions becomes available (Figure 3). Your mouse pointer is surrounded by six icons that replace the normal window buttons. The table on the right provide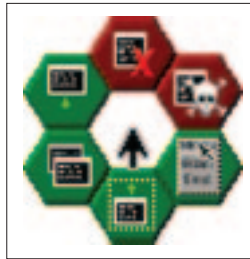s you with details on their assignments. So to close a window, you just left click a window frame, move the mouse up a bit, and then let go.

So that just leaves the function of the right mouse key when you click a window frame: You can change the window size by right clicking.

Variety of Features

After using the Honeycomb to shrink an application window, you will certainly miss the program icon to restore the window. Well.., there really are no icons! But, you will be okay, if you remember to use the left and center mouse keys on the desktop. Press the center key to open the so-called *Windows menu* (yes, they really do spell it with an *s*…).

At this point it is fairly obvious that UWM can handle **virtual desktops**, like the majority of X11 Window Managers: Each workspace provides a submenu that allows you to view and activate the

visible and minimized applications the workspace contains. Besides the virtual desktops the *Windows menu* also contains an entry for *Sticky Windows*. This submenu contains the applications that you have designated as sticky windows via the Honeycomb. If you switch to an application on another virtual desktop, the sticky window simply stays with you. In other words these windows are omnipresent in all your workspaces.

UDE à la Carte

If you want to configure your desktop, you should copy the files under */usr/local/share/ude/config/** to ~ */.ude/config/**:

```
mkdir -p $HOME/.ude/config
cp /usr/local/share/ude/⤵
config/* $HOME/.ude/config/
```


Figure 3: Window buttons in the honeycomb

(The path refers to a standard installation of the source code). UWM will first try to locate its configuration files in ~*/.ude/config/uwmrc*. If it cannot locate them, the Window Manager then queries the global settings in *usr/local/share/ude/config/uwmrc*. You can edit the copies in your own home directory to suit your needs.

However, an error in the configuration file can lead to UWM refusing to launch. To remedy that situation, (temporarily) change to another Window Manager, or repair the configuration file on the character based console. If you don't have a lot of modifications to lose, you can simply remove the damaged file and/or copy it again.

The copies represent a complete and documented basic configuration: The developers have added a helpful comment for each entry in these files.

The supplied *uwmrc* comprises only of links to other configuration files. If your prefer to do so, you can type the content of the external configuration files here, however, it does make sense to sort the configuration parameters by topic and store them in separate files, when you consider the sheer number of available options.

Honeycomb Assignments

Comb	Function
Up	Close Window (regular)
Upper right	Kill window (*kill* including safety prompt)
Lower right	Sticky Window, also opens the Workspace menu
Down	Maximize window or reset to original size
Lower left	Lower window – hide it behind other windows
Upper left	Shrink window

Virtuality

The default configuration first calls the *uwmrc-ws.hook* file, which configures the virtual desktops – three are defined by default. Each workspace is then processed individually. By the way the workspace numbers start at 0 and not at 1. The last valid workspace is always the default workspace, that is number 2 in the original configuration.

Workspace specific colors are somewhat daunting at first glance. they normally take the form *113;140;118*, that is a numeric RGB values between 0 and 255 for the colors red, green, and blue. However, instead of this notation, you can also use the hexadecimal values you may recognize from HTML (such as *#667788*), or even choose self-explanatory colors such as *black* or *plum4* using the *xcolorsel* tool.
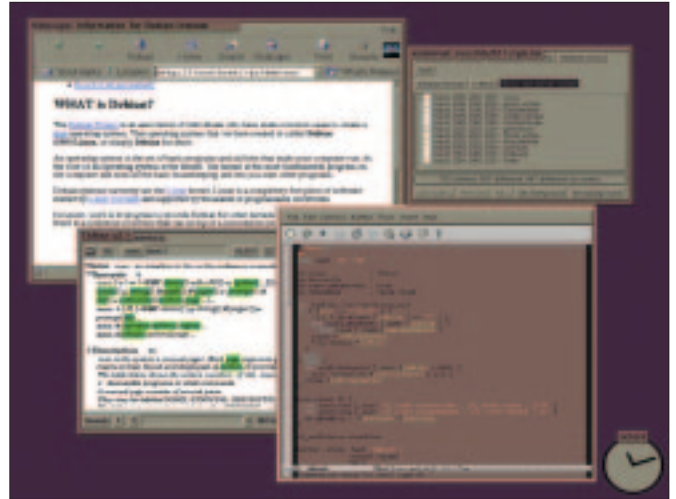
Background

If you want to prevent UDE installing a monochrome desktop background, you can comment out the *ScreenColor* line by placing an *%* at the start of the line, to make UWM ignore this entry. If you change your mind later, all you need to do is remove the comment character.

To place an image on your desktop you

GLOSSARY

Virtual Desktop: *If your desktop is full of applications, you may have to resort to a virtual desktop, or workspace. Only one workspace is visible on the desktop at any time. If you switch to another desktop, the applications in the original desktop are kept and reappear when you switch back.*

Xresources: *The traditional method of configuring an application's appearance. This only works if the toolkit the application is based on respects this method (which Qt and GTK+ do not); multi-application configurations are also possible.*

Figure 4a–c: Workspace specific themes by courtesy of urdb

can simply use one of the innumerable Linux tools for this purpose. One example is *display*, which belongs to the ubiquitous *ImageMagick* package. The command

```
display -geometry ⏎
1280x1024! -window ⏎
root image file &
```

will zoom your image to 1280x1024 Pixel and place it on the desktop background. However, this will not permit you to display different backgrounds for your individual workspaces.

You can add this command to *StartScript*, the autostart file for your Unix Desktop Environments. Make sure you terminate every command in this file with an *&*, as UWM will otherwise wait for the command to complete… By default the file contains a call to *xterm* with an informational text. If this starts to get on your nerves, you might like to delete the offending line. The counterpart of the *StartScript* is the *StopScript*, which is run when you quit the desktop and unmounts a number of standard devices in the default configuration.

Frames

The next configuration file, *uwmrc-layout.hook*, is responsible for the appearance of the windows and menus: You can adjust frame widths, 3D effects, and fonts. This area also includes the appearance of your applications, and for this reason you will find a reference to
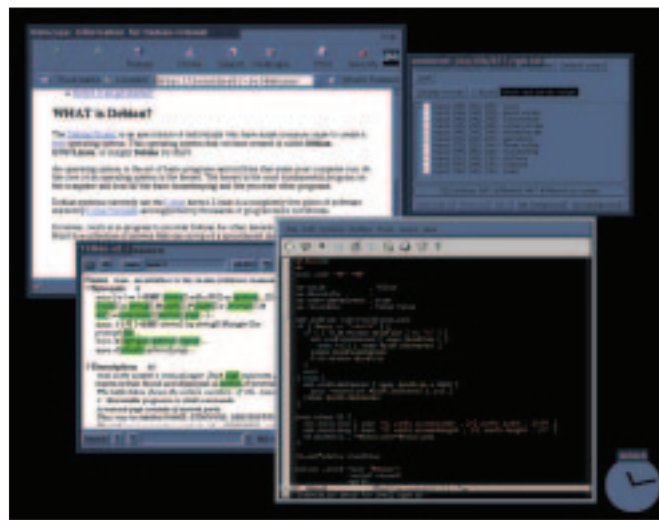
urdb in this file. This "*UDE Resource Database*" contains workspace specific **Xresources** (and thus the first clear indication that UDE is intended by be an Environment). If you have defined X resources of your own, or prefer to use your system's settings, you can disable this line by prepending a % sign.

appmenu is also called in *uwmrc-layout.hook*. This file describes the start menu available via the right mouse button. Entries take the form

```
ITEM "Name";"Command";
```

You can use *uwmrc-behaviour.hook* to influence your desktop's behavior. For example, if you set *TransientMenus* to *0*, your start menu will not simply disappear if you forget to hold down the mouse button. You can additionally adjust automatic window positioning in this file.

Cancelled

uwmrc finally refers to *uwmrc-user.hook* – a non-existant file, as it is reseverd for the (few) variant settings required by individual users. But, as you have already stored a whole set of configuration files in your home directory, you will not need this entry.

After saving the changes you made to the configuration files or the start menu, you can restart UDE – without needing to terminate any applications – using the *Restart UDE* entry in the context menu for the left mouse button.

UDE respects some, forgotten Unix concepts. It utilizes the three mouse buttons, supports and uses Xresources, and allows use of a text editor for configuration tasks. The developers are still capable of developing an innovative concept. The mouse jockeying involved is definitely revolutionary. ∎

THE AUTHOR

Jo Moskalewski missed out on the purported debauchery of student life and is now a master craftsman. He spends most of his free time trying to save the world, or just meeting up with friends and sun worshiping. On those rare occasions when he takes time out to relax, you will normally find him basking in the euphonic experience of a loudspeaker system that he built himself.