XView for the NeXT an Overview

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A software report

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About this Software Report

This software report describes the XView v.3.1 Toolkit for the NeXT-computers. It should in short explain what the toolkit does, how it is used, and what benefits it provides.

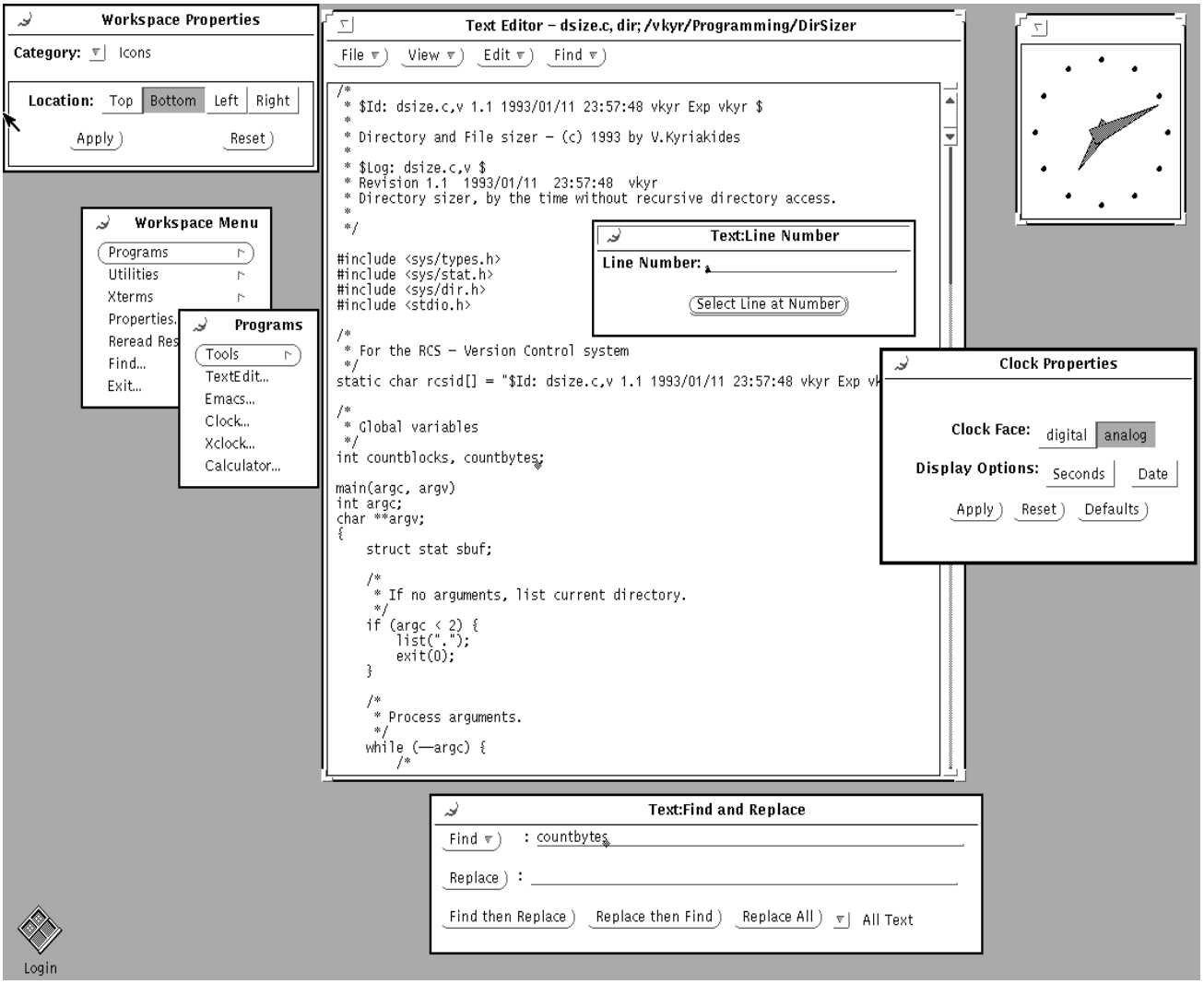

FIGURE 1. XView's Look & Feel on a NeXTstation under Cub'X Window

Introduction

XView (**X** Window-System-based **V**isual/**I**ntegrated **E**nvironment for **W**orkstations) is a user-interface toolkit to support interactive, graphics-based applications running under the X Window System. This Toolkit, developed by Sun Microsystem, Inc., is derived from earlier toolkits for the SunView windowing system. With over 2000 SunView applications in the workstation market, there are many programmers already familiar with the SunView application programmer's interface (API).

XView has many advantages for programmers developing new applications in X, such as a mature and proven API based on the development experience of SunView programmers. It features an object-oriented style interface that is straightforward and simple to learn.

Like any X toolkit, XView provides a set of pre-built, user-interface objects such as canvases, scrollbars, menus, and control panels. The appearance and functionality of these objects follow the OPEN LOOK Graphical User Interface (GUI) specification. Jointly developed by Sun Microsystems and AT&T as the graphical user interface standard for System V Release 4, OPEN LOOK provides users with a simple, consistent, and efficient interface for performing tasks within an application.

XView for the NeXT

The XView Version 3.1 Toolkit for the NeXTcomputers is now released. In conjuntion with an X Window Display Server, such as *Cub'X- Window™* from Cub'x systemes, it offers the same familiar Look & Feel on NeXTcomputers as on Sun Workstations.

With XView for the NeXT it is possible to port OpenWindows applications to the NeXTcomputer, or to develop and crossdevelop OpenLook compatible applications.

XView will also offer NeXTcomputers a better integration into heterogenous networks, because it uses a Sun compatible OpenLook GUI.

Now it is possible for the NeXT community, to use and work with NeXTcomputers, in a similar way as with the worldwide industry leading Sun Workstations.

Implementation notes

The XView Version 3.1 Toolkit has been ported and developed under Cub'X Window™ - Version 2.11-3.10 on a monochrome NeXTcomputer running NeXTstep 2.1. Testing has be done (by the time) only under Cub'X Window™ - Version 4.15 for NeXTstep 3.1. The good news is, that it seems to work too. So it might work with other X Window servers too ?!

XView Toolkit Components

The following shows in short the contents of the XView3 Toolkit. I tried to use a similar overview style (for clearness), as it can be found in the Cub'X Window™ "*User's Guide*".

XView Applications

In this case the letter before each name means:

(X) : XView Client Application
(U) : A XView utility program
(C) : XView contrib or demo
(S) : A program specially created or ported by me

(X) olwm	The OpenLook Window Manager.
(X) olwmslave	Slave for the OpenLook Window Manager.
(S) olvwm	A virtuell OpenLook Window Manager with many advantages over olwm.
(X) props	Program to set Workspace Properties.
(X) textedit	A powerfull Texteditor with many features.
(X) cmdtool	A comand and terminal program.
(X) shelltool	A shellprogram which is a special link on cmdtool.
(X) clock	A more powerfull clockprogram than xclock with its own properties setting panel.
(C) *.c examples	Too much to list here, there are over 100 example and demo files in the XView toolkit.

(S) dvitool	A TeX-Dvi-previewer developed under XView.
(S) installXView	A script which installs XView.
(S) uninstallXView	A script which deinstalls XView.
(S) setupXView	A script which setups a default env. for XView.
(S) xvcc	A script which acts as a compilerdriver for cc.
(U) soelim	Used to expand .so filename lines in *roff sources.
(U) msgfmt	Program to create a message object from a message file, used to support different languages.
(U) xgettext	Conditionally extract strings from C programs, used to automate the creation of potable message files.
(U) cv2xview	A script that convert SunView1 source programs to Xview source.
(U) cv2Xdefs	A script that convert SunView1 defaults to X defaults (X11 Recource format) for Xview.
(U) *.sed	A list of sed files used by the conversion scripts.

Libraries and include files

The XView libraries have been build as *ar* format libraries. By the time there are no problems with the NeXT *ld* linker, but if needed, it should make no problem to build the libraries also as MACH-O relocatable ones. A future plan will be to build shared libraries, if NeXT integrates shared libs in a future release, this will left program sizes in a reasonable manner.

These are the XView libraries:

libxview.a	The Xview library is the main OpenLook library.
libolgx.a	The OpenLook Graphics library will be used by the XView library, olgx is an X11 drawing engine for 2-D and 3-D objects.

Include files:

All the XView related include files are supplied in a */xview/include* directory. These are too many to list here.

Other used files as images, icons, man pages etc.

The XView Toolkit contains also a lot of support files, these are:

images	These are supplied in the *xview/include/image* directory.
icons	Are also supplied in the *xview/include/image* directory.
bitmaps	Are supplied in a */xview/include/*bitmaps directory.
docs	Docs and Infos are supplied in a */xview/doc* directory.
man pages	The man pages are supplied in a */xview/man* directory.
online help	Online help files are supplied in a */xview/lib/help* directory.

XView for the NeXT in Action

Now it's time to show some screenshots of XView, which were produced on the NeXTcomputer with the help of Cub'X Window and NeXT's Grab utility. These screenshots show some typical Xview client applications and their Look & Feel.

But before we start, lets have first a look on the below table for a list of used Applications which were used to produce the screenshots.

TABLE 1. Used Software on a NeXTstation

NeXTstep	**System Release 3.0**
Cub'X Window	**Version 3.01**
XView	**Version 3.1**
Grab	**Release 3.0 (v020)**

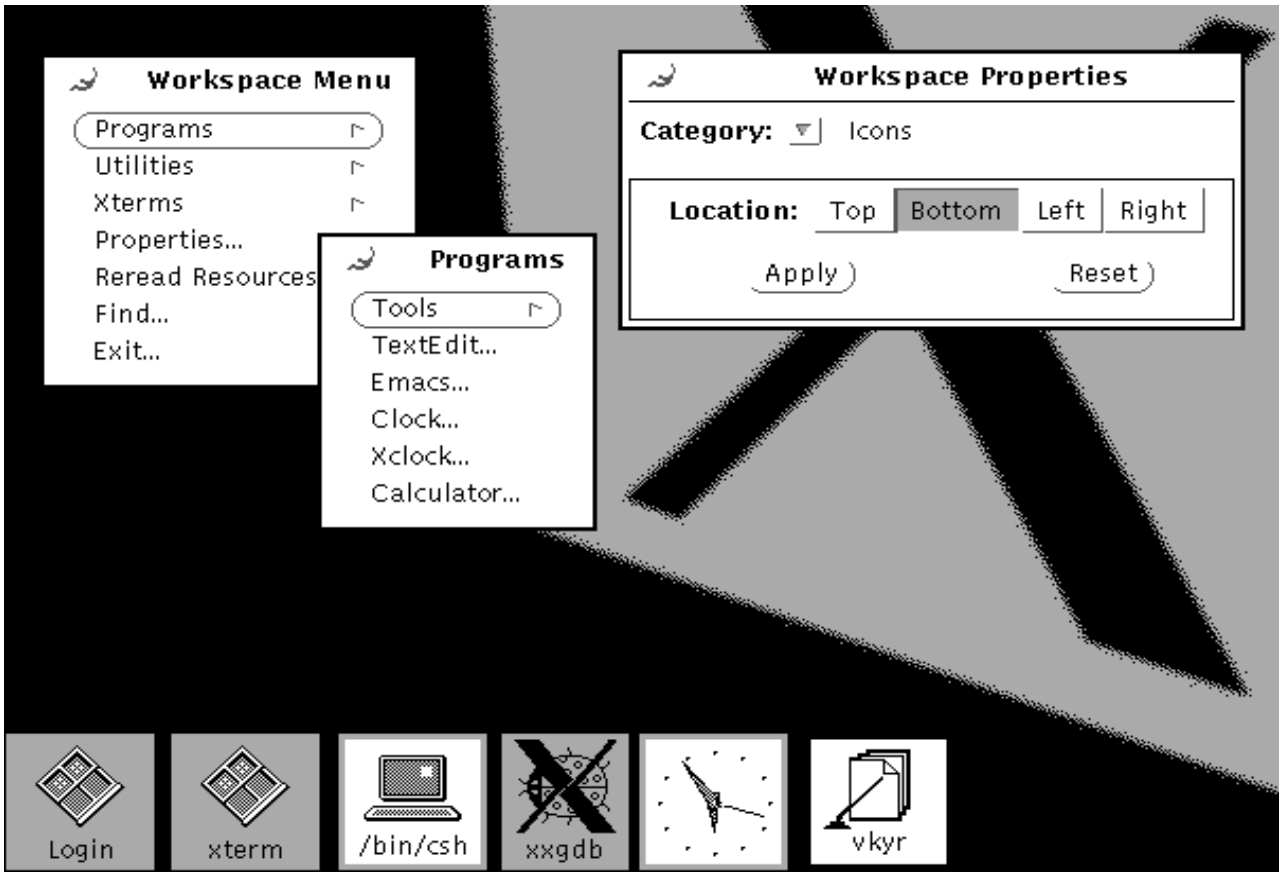

FIGURE 1. The Workspace under the OpenLook WindowManager

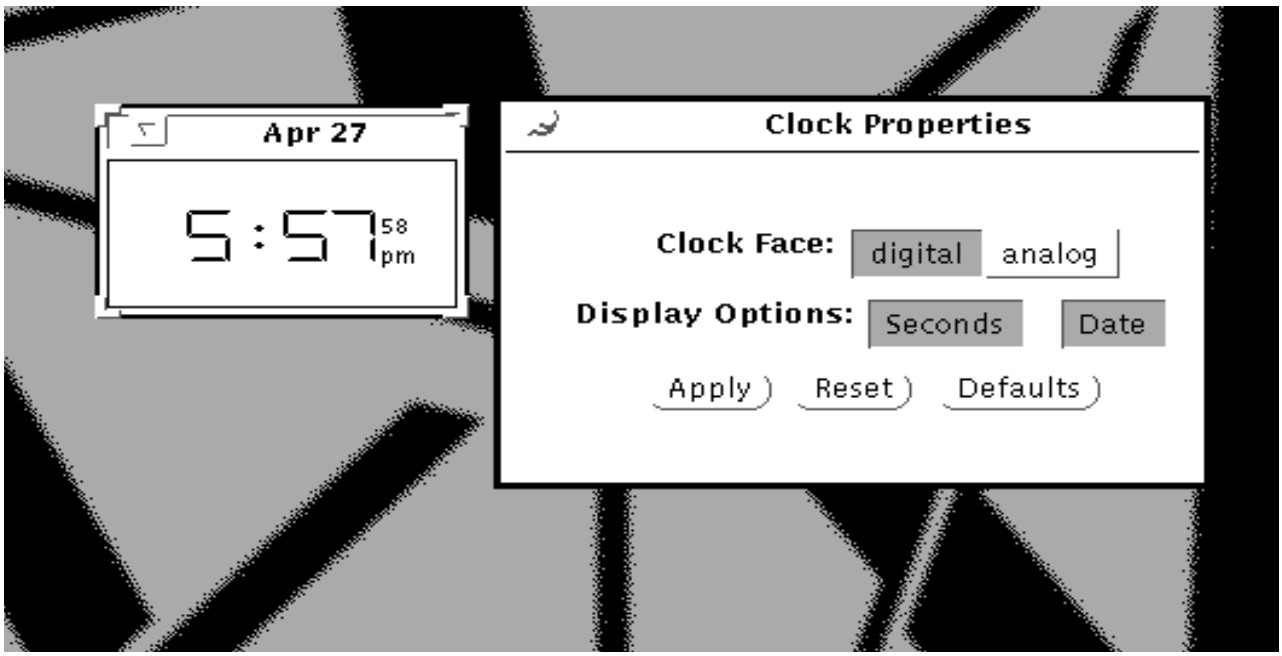

FIGURE 2. The clock application and it's properties panel

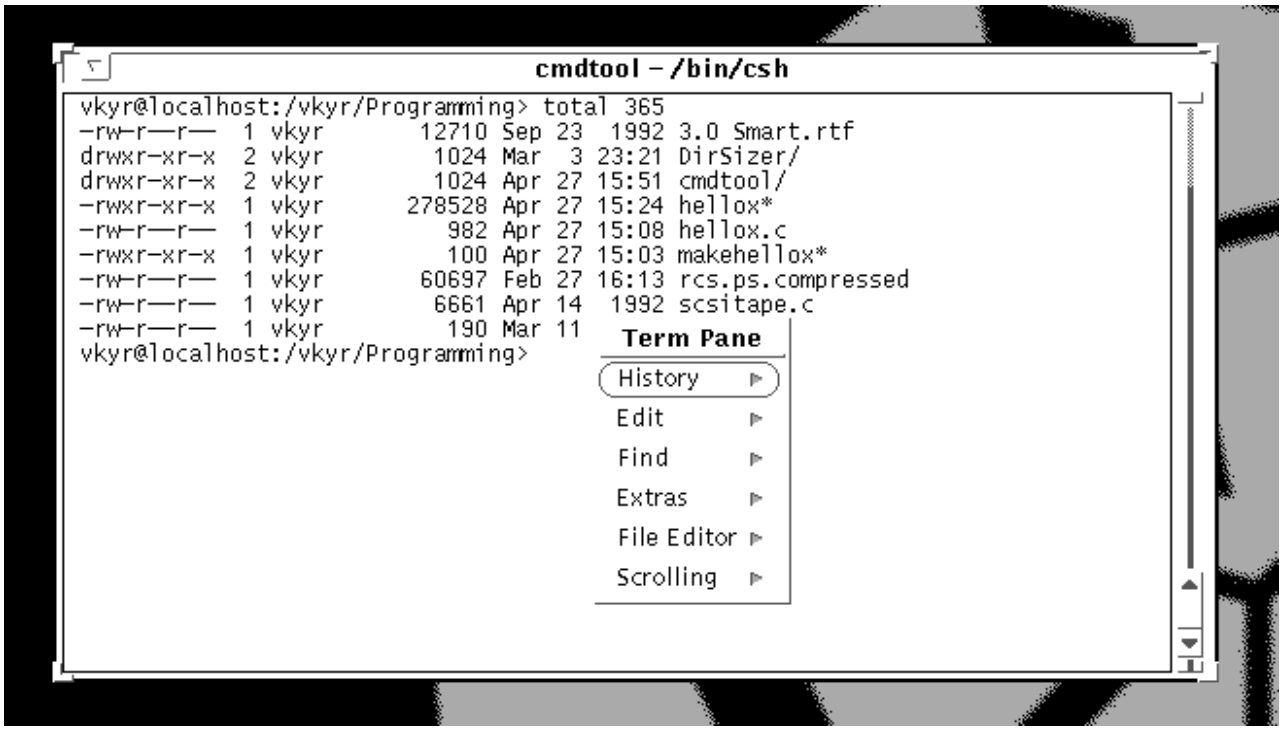

FIGURE 3. The cmdtool application

The OpenLook Virtual WindowManager has also been ported to the NeXT. This WindowManager has many advantages over the normal one, one of the main features for example, is the ability to control and share *virtual* screens (thus the name). This is an important feature on graphical user systems. The limited screensizes of most user's monitors, forces the users not to overfill their desktop areas with too many open windows or applications. This common problem doesn't belong to the OLVWM, which can nearly handle endless virtual screenareas. And in fact a user has many cluttered windows, or applications across his virtual screens, OLVWM can guide the user (through some special menus) to find again everything he lost on his screens.

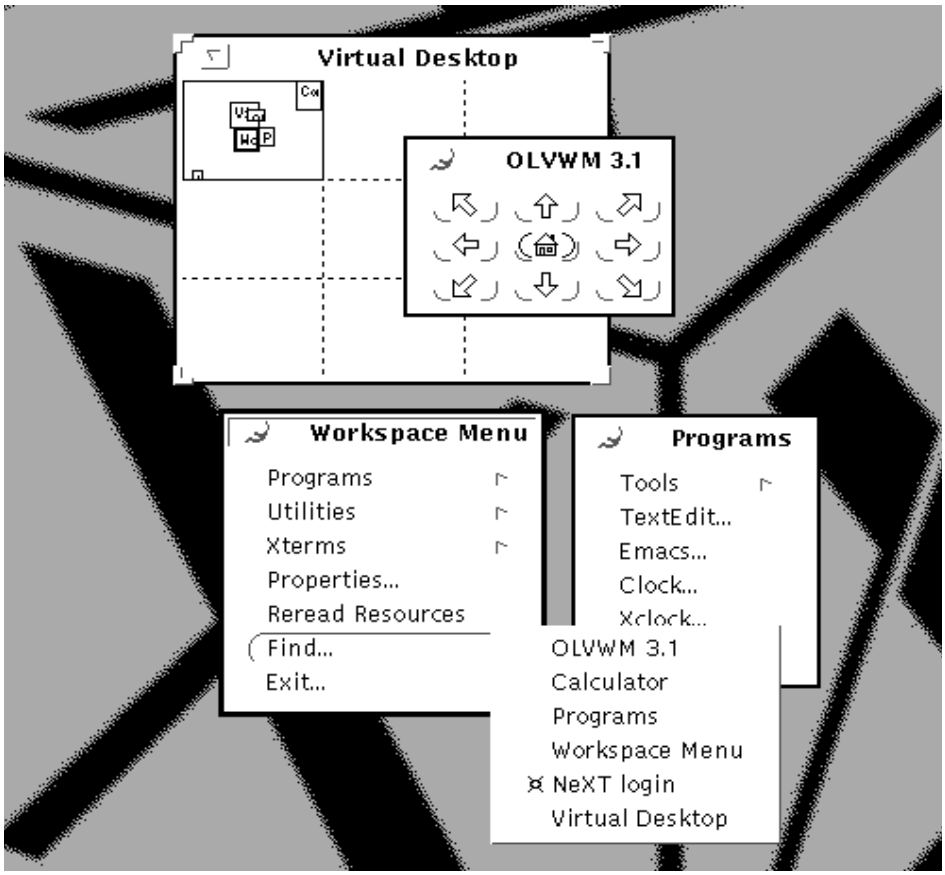

FIGURE 4. The OpenLook Virtual WindowManager

A User's View

From a user's view, the XView Toolkit offers the normal OpenLook based desktop capabilities. These are the common User Interface with its WindowManagers and the ability to be able to work in a similar way as on a Sun workstation.

A possible user's desktop might look like this, see next page

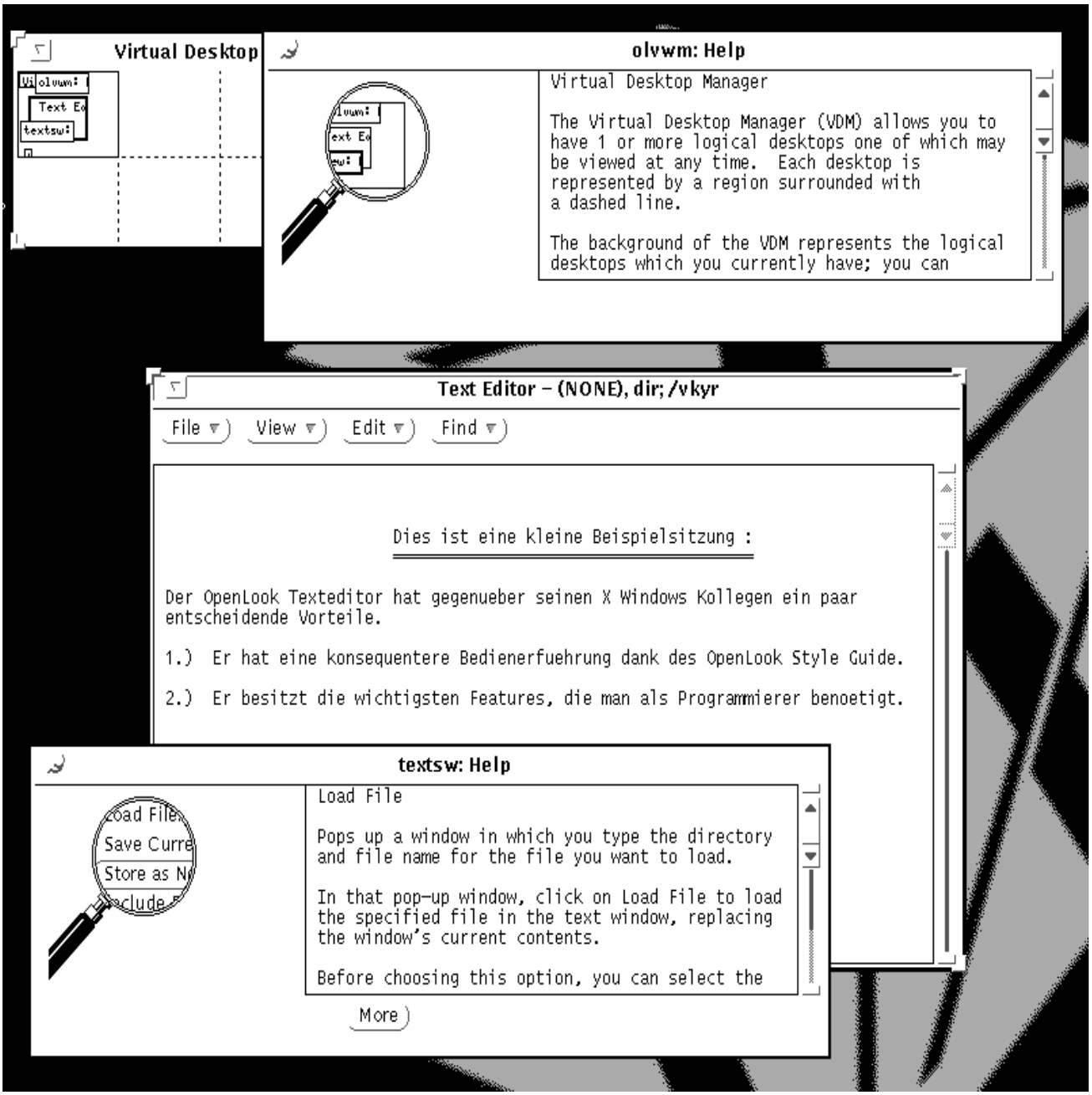

FIGURE 5. The XView Online-help

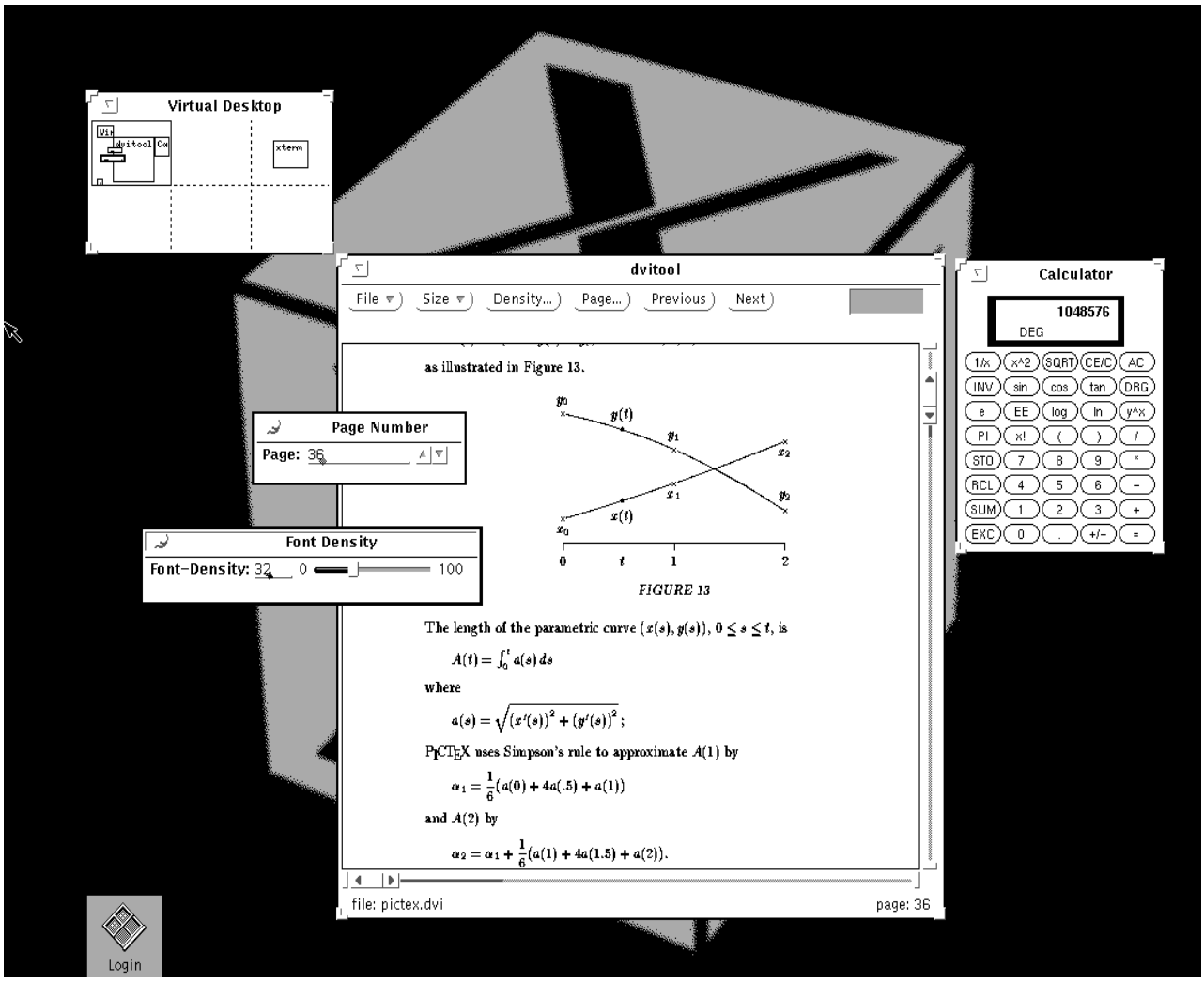

FIGURE 6. A User's workspace

A Developer's view

From a developer's point of view the Xview Toolkit contains, the libraries, include files and a lot of contribution example files, docs such as release notes and common bug reports etc.. I've included also a cc compiler-driver called *xvcc*, which might be usefull for compiling XView apps.

A possible developer's desktop might look like this, see next page

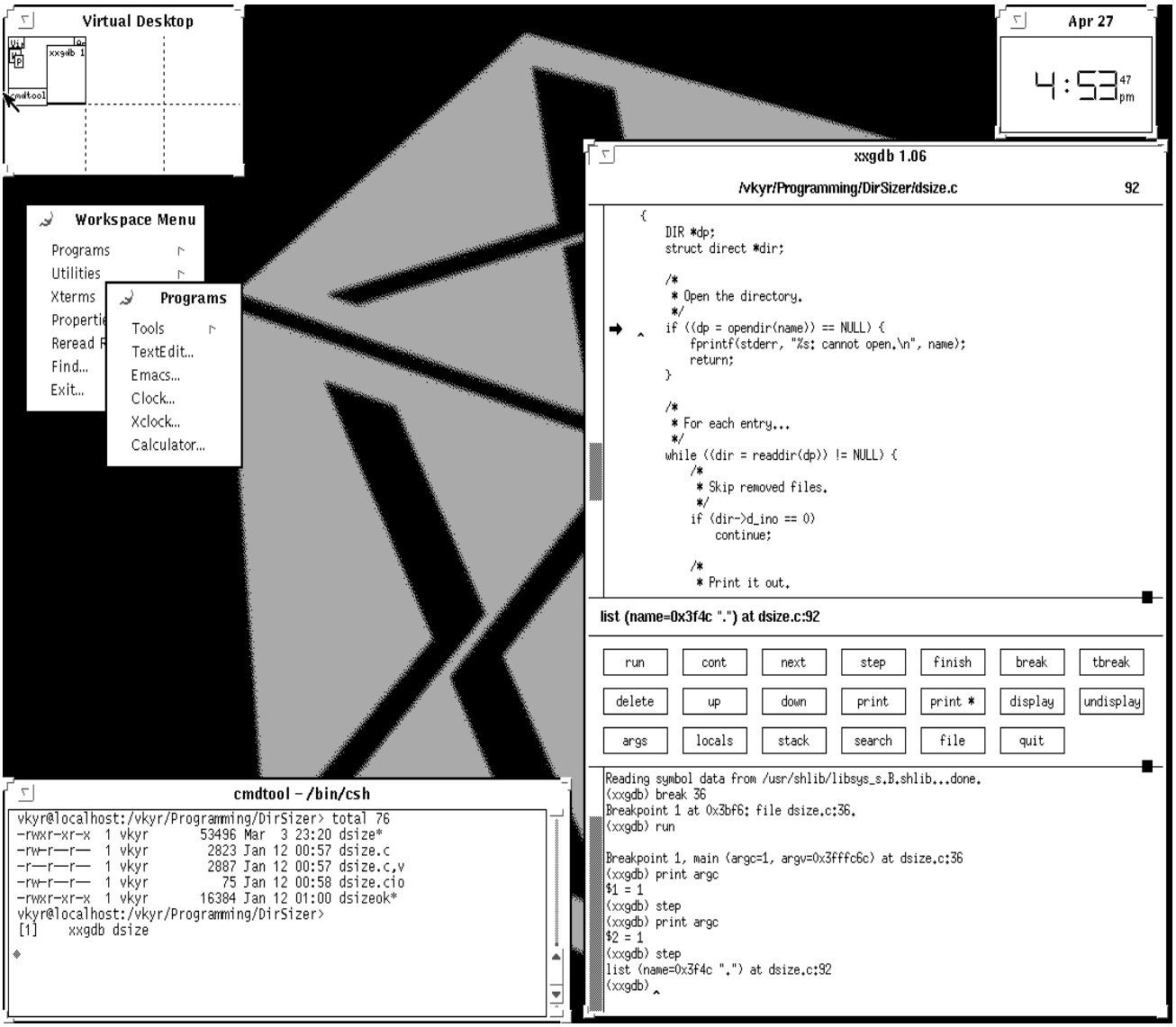

FIGURE 7. XView and the xxgdb debugger frontend

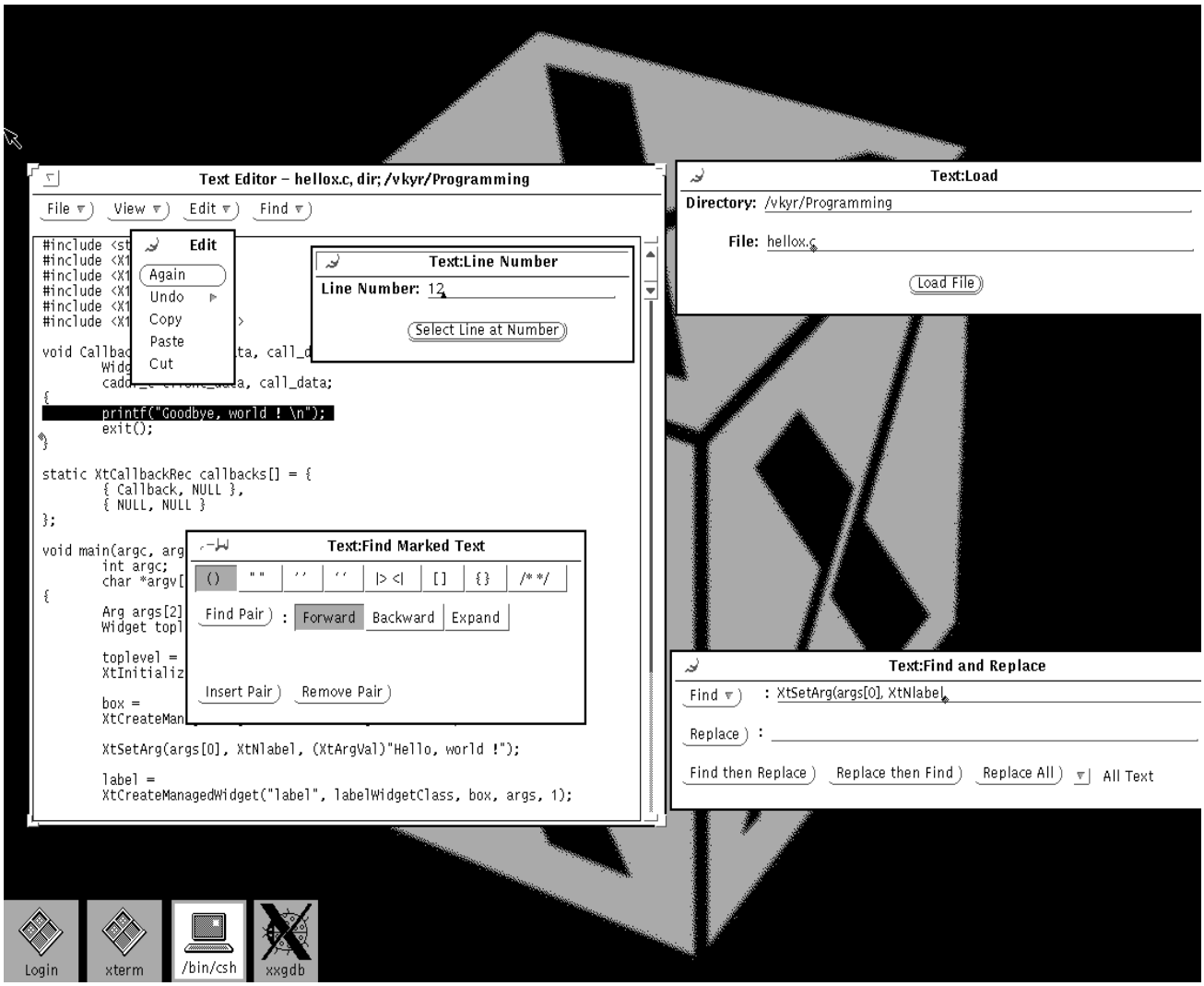

FIGURE 8. XView's Textedit a usefull editor for programmers ?

More Screenshots

Now here are some more screenshots, with window colorings similar to the NeXTstep Workspace.

see next pages...

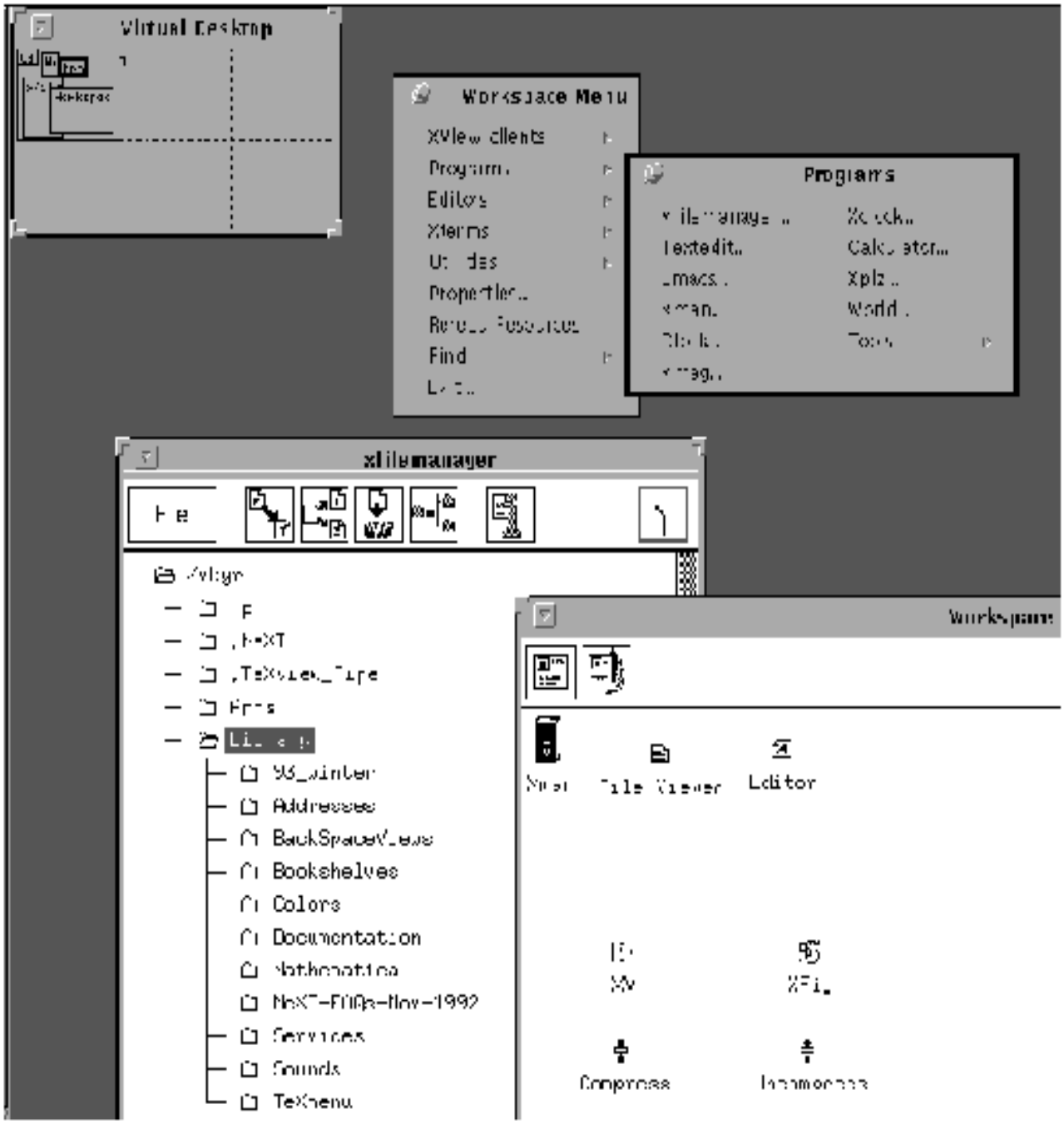

FIGURE 9. xfilemanager under XView's olvwm

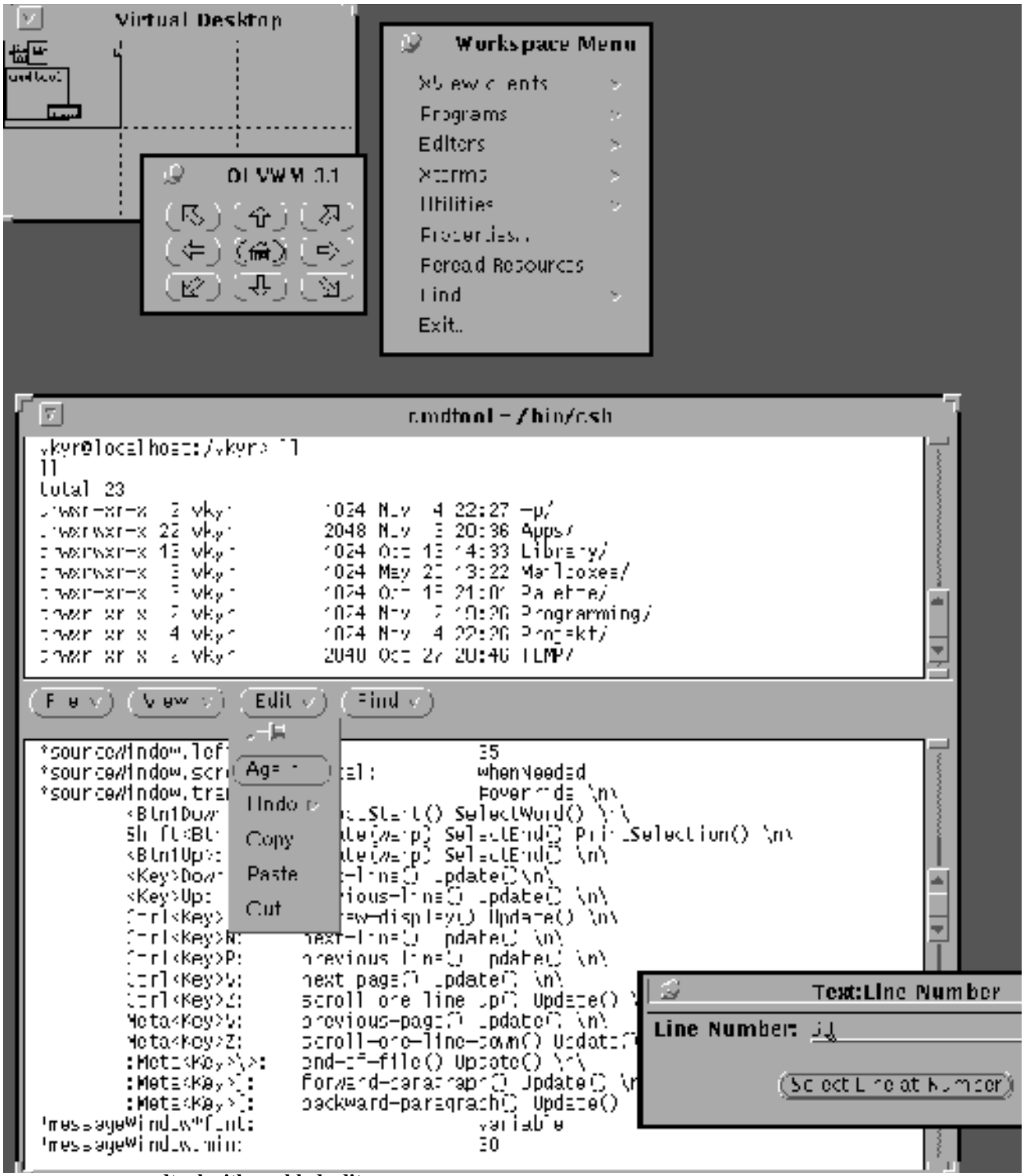

FIGURE 10. cmdtool with enabled editor

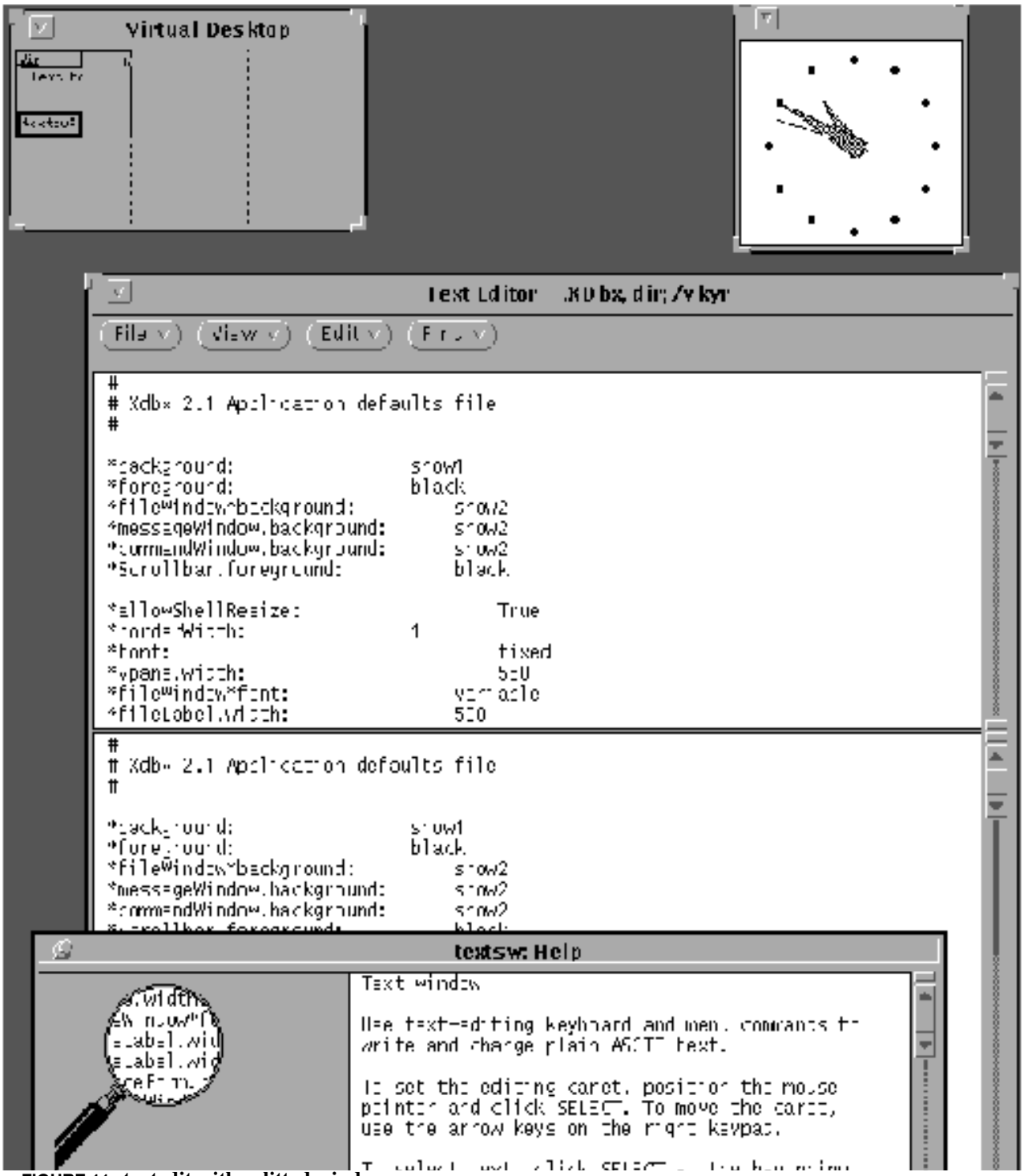

FIGURE 11. textedit with splitted window

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