

Experiment - 2 Case study on Editors

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1. Editors and different types of editors

A text editor is a tool that allows a user to create and revise documents in a computer. Though this task can be carried out in other modes, the word text editor commonly refers to the tool that does this interactively.

Text editors today provide many advanced features of interactive-ness and output.

A text editor has to cover the following main aspects related to document creation, storage and revision –

- i. Interactive user interface
- ii. Appropriate format for storing the document in file in secondary storage
- iii. Efficient transfer of information between the user interface and the file in secondary storage.

Depending on how editing is performed, and the type of output that can be generated, editors can be broadly classified as

- **Line Editors**

During original creation lines of text are recognized and delimited by end-of-line markers, and during subsequent revision, the line must be explicitly specified by line number or by some pattern context. eg. edlin editor in early MS-DOS systems.

- **Stream Editors**

The idea here is similar to line editor, but the entire text is treated as a single stream of characters. Hence the location for revision cannot be specified using line numbers. Locations for revision are either specified by explicit positioning or by using pattern context. eg. sed in Unix/Linux.

Line editors and stream editors are suitable for text-only documents

- **Screen Editors**

These allow the document to be viewed and operated upon as a two dimensional plane, of which a portion may be displayed at a time. Any portion may be specified for display and location for revision can be specified anywhere within the displayed portion. eg. vi, emacs, etc.

- **Word Processors**

Provides additional features to basic screen editors. Usually support non-textual contents and choice of fonts, style, etc.

- **Structure Editors**

These are editors for specific types of documents, so that the editor recognizes the structure/syntax of the document being prepared and helps in maintaining that structure/syntax.

2. Debug monitor

- Debug monitor is a piece of software that has been designed specifically for use as a debugging tool for processors and chips. The debug monitor provides a set of primitive commands to view and modify memory locations and registers, create and remove breakpoints, and execute our program. A remote debugger with knowledge of the command format communicates with the debug monitor and combines these primitives to fulfill higher-level requests like program download and single-step.
- A debug monitor, simply put, is a tool that helps to find and reduce the number of bugs and defects in a computer program or any electrical device within or attached to the computer in order to make it act the way it should. While the driver is being created and downloaded, the debug monitor helps it work properly.
- A debug monitor is very powerful graphical or console mode tool that monitors all the activities that are handled by the WinDriver Kernel. We can use the debug monitor to see how each command that is sent to the kernel is executed. A WinDriver Kernel is a driver development toolkit inside ones computer that simplifies the creation of drivers.
- A driver is used in a computer so that the computer can read the devices that are in the computer or that get attached to the computer. If we were to hook up a printer to our computer, we would first need to install its driver so that the computer could create graphics or a console so that we could control our printer through the computer. The same thing goes for audio devices, internet devices, video devices.
- If the debugging monitor locates a bug or defect in any of the equipment, it will first try to reproduce the problem which will allow a programmer to view each string that was within the bug or defect range and try to fix it. A programmer is a technician who has learned the basic format of computers that make them run. These are strings of technical information that most people using computers will never see.
- The programmer will delete strings or add new ones and then use the debug monitor to re-create the driver download to see if he fixed the problem. This can be a tedious task with all the processes that run in the computer, but the debug monitor helps to make it a lot easier.