The Difference between Bash and Graphical User Interface (GUI)

*By Itumeleng Mofokeng*

**GRAPHICAL USER INTERFACE (GUI)**

This is what most computer users know as they interact with their computers. It is mainly characterised by its well-known and appreciated benefits:

* Ease of use (user-friendliness) as it is visually intuitive,
* Easy to remember (less memorisation of commands required)
* Enable control and manipulation of multiple programs all at the same time,
* Easy to use for creating scripts, files, and folders,

This simplicity of a GUI comes from the fact that it uses [windows](https://www.computerhope.com/jargon/w/windows.htm), [icons](https://www.computerhope.com/jargon/i/icon.htm), and [menus](https://www.computerhope.com/jargon/m/menu.htm) to carry out commands, such as opening, deleting, and moving files.

Although a GUI operating system is primarily navigated using a [mouse](https://www.computerhope.com/jargon/m/mouse.htm), a keyboard can also be used via [keyboard shortcuts](https://www.computerhope.com/jargon/k/keyboard-shortcut.htm) or the [arrow keys](https://www.computerhope.com/jargon/a/arrowkey.htm). As an example, if you wanted to open a [program](https://www.computerhope.com/jargon/p/program.htm) on a GUI system, you would move the [mouse pointer](https://www.computerhope.com/jargon/m/mouspoin.htm) to the program's icon and [double-click](https://www.computerhope.com/jargon/d/doublecl.htm) it.

**Command Line Interface (CLI)**

This is another way of interacting with the computer. It is known also as Text Interface or Command interface. It offers a way for the user to interact with the computer by entering commands at the prompts, to “command” what the computer should do. The commands can be either directly entered by the user or read from a file called the shell script or shell program. This is done on a terminal, and only requires a keyboard to navigate and manipulate the folders and files within (folders are called *directories* in the language of CLI.)

It comes in different types. The common types include:

* Bourne Shell (sh)
* Bourne Again Shell (Bash)
* C Shell (csh)
* Tenex C Shell (tcsh)
* Z Shell (zsh), and
* Korn Shell (ksh)

This way of interacting with a computer is less well-known than the GUI because of the nature of the interaction. For example:

* It has no visual aids like icons for folders and colourful presentation, and as such requires memorisation of the different commands and of how the various directories are linked,
* It is not as user friendly as the GUI, as it requires that the user have some understanding of programming language syntax , and this may be intimidating to novices.

Although using a command line interface requires the memorisation of many different commands, it can be valuable resource and should not be ignored. It is worth noting that ***using a command line, you can perform almost all the same tasks that can be done with a GUI***. However, many tasks can be performed quicker and can be easier to automate and do remotely.

Some benefits of the CLI (over GUI) include:

* Only requires the keyboard, and thus resulting in faster performance,
* Less strenuous on the computer as using CLI requires much less of the computer’s system resources (uses less space to function)
* Consistency of commands used for each new upgrade of the CLI (no need to re-learn a lot of new different commands with newly introduced versions)
* Efficient in performing tasks such as renaming, moving, transforming (from .txt to .html for example) or deleting large number of files at one go.

It is just as important for computer users to learn CLI as they do GUI, to maximise the benefits of using a computer.

References

Parul Pandey <https://towardsdatascience.com/basics-of-bash-for-beginners-92e53a4c117a> [Accessed 18 Feb. 2021]

Computer Hope <https://www.computerhope.com/issues/ch000619.htm> [Accessed 18 Feb. 2021]

Computer Hope <https://www.computerhope.com/jargon/g/gui.htm> [Accessed 18 Feb. 2021]

Computer Hope <https://www.computerhope.com/jargon/c/commandi.htm> [Accessed 18 Feb. 2021]