

# [Requirements for scientific application for programmers](https://assignbuster.com/requirements-for-scientific-application-for-programmers/)

In addition to merely providing the best quality or most efficient application for users of computer systems, designers at corporations such as Microsoft and programmers within such systems Java as are striving to enhance the capabilities of their application systems with the aim of making even innovative features in these systems user-friendly to even the most techno-phobic users of new scientific systems and applications. " One of the standard bugbears is the persistent belief... that difficulty is a virtue in itself, even a sign of intelligence. (Girvan, 2002)

Grasping this concept is a critical aspect of computing as moderntechnologybecomes increasingly integrated into daily business life. " Users may need guidance as they work with unfamiliar software," thus the use of easy to read menus and clear instruction manuals in the point and click 'help' applications are simply the first step in creating less intimidating face for modern technology. (Girvan, 2002) Windows pioneered the development of the palettes and pull-down menus used for quick access to common symbols and operations.

But cosmetic friendliness is one aspect, however, of making users feel comfortable with new applications. (Girvan, 2005) Automation of as many systems as possible within an application makes it easier for users to concentrate on aspects of the application that cannot be rendered without the use of supervision. The ability for a calculator application to run without supervision under the control of the batch management system can be configured so that it deploys a command line option for taking input from a file or assumes a default response.

This feature can be found in computer applications designed with offline operations in mind, including Visual Basicc script (VBScript), JavaScript, Perl, all of which can be used on a Windows-based cluster. (High Performance Computing FAQ, 2005) " Functional friendliness" as a concept is also important when making scientific applications less intimidating to potential users. In other words, providing explanatory prompts for users when certain systems are deployed, such as available 'drag and drop' controls and the display or visual prompting of likely intermediate steps in the application.

Hypertext help browsers eliminate the need of a large, hidden command set to remember, such as one early Internet program " that required, to make a dialup connection, typing the modem command string, from memory, in hexadecimal. " (Girvan, 2002) Even if this example seems like an extreme example of a dinosaur code from the age of dial-up, only recently has the widespread graphical user interface of application software, with " sliders, menus, radio buttons, and check boxes," become the norm. (Girvan, 2002)

For example, " Waterloo Maple's Java-based Maplets" deploys visual description of the device scripting to control the user's interaction with the interface's worksheet during a programming session. In other prompted systems, " the Insert Component menu drops a graphical device into the worksheet, where it automatically passes input (for instance, a slider position) to a variable. Pop-up dialogue boxes allow fine-tuning of the layout and the underlying VBScript... GUIs [Graphic User Interfaces] are also easily designed using GUIDE, a GUI layout editor that generates both a .

FIG file of the contents and the basic M-code to handle the calling procedure," in many systems Similarly, programming menus can access the code for the programmer, allowing for more detailed configurations. (Girvan, 2002) Even more experienced programmers, whether concerned with designing new systems, using existing systems, or individuals concerned with on and offline data storage and manipulation can appreciate some of the other updates newly available for scientific applications.

Other useful recent enhancements to linear programming-such as NSolve numerical solution, and simplification, the use of memorable planetary and musical symbols, Asian language support for individuals most comfortable in expressing themselves in these languages, XHTML export and two new scientific data formats, SDTS (the ANSI Spatial Data Transfer Standard for geographical and satellite data) and FITS (the NASA-endorsed Flexible Image Transport System for storing astronomical metadata-all complete the increasingly diverse array of applications that add ease and save time for individuals of all levels of using and programming ability. Girvan, 2002)