What! No GUI?

Ira Goldstein
igoldstein@siena.edu
Department of Computer Science
Siena College
Loudonville, NY 12211 USA

Abstract

We want Computer Science students to acquire knowledge about both the hardware and software aspects of computing systems. We want them to understand how each layer interacts with one another. However, since Graphical User Interfaces have become ubiquitous, the opportunities to interact with the computer via a command prompt are few and far between. The result has been that an intuitive understanding of this interplay has been lost. This paper describes an Introduction to Computer Science course that utilized the Raspberry Pi Linux based computer in a text based, command line environment for all programming assignments. The students edited their programs using the Nano text editor. They submitted their programming assignments using SFTP. They configured and managed their Raspberry Pis, including installing and configuring the Apache web server, from the command line.

Keywords: Computer Science Education, Introduction to Computer Science, Raspberry Pi, Linux, Pedagogy.