Project Proposal

Technical Analysis of Early Personal Computers and its Disk Operating System

Rorabaugh, Tyler L.

Overview:

This project will complete a technical analysis of early PCs and the DOS operating system that ran on these PCs. Review and explanation of the various technical aspects of each will be done in hopes that an understanding into the low level concepts of personal computers and operating systems will be gained as well as an appreciation for modern operating systems and the application programming interfaces (APIs) they provide.

First, research will be conducted on early PCs and their associated hardware such as processors, memory, disks, and various IO. This material will then be analyzed in a report and presented to students to provide a historical look at PCs and to also give context to the development and application of DOS.

Second, research will be conducted on the workings of the DOS operating system on early PCs, including the boot process, memory management, file systems, IO, and APIs. It will then be analyzed in a report and presented. There will most likely be a mention of the importance of BIOS to DOS on a PC. There will also be an analysis of some of the shortcomings of DOS.

Third, there will be an analysis of how early PCs and DOS have impacted modern operating systems, most notably Microsoft Windows. Some of the important features that came out of DOS and early PCs will be identified, possibly including FAT and the x86 architecture. There will also be an identification of the limitations of DOS and early PCs, and how that sparked the development of better OS technologies such as memory management, multi-programming, and support for multiple users.

Code might also be developed, presented, and demonstrated for historical and analytical purposes to show how low level IO programming was done on early PCs running DOS.

Schedule:

Week of November 4th:

- Identify and structure report contents
- Identify and structure presentation contents
- Begin research on early PCs and DOS

Week of November 11th:

- Research early PCs and DOS
- Add findings to report and presentation

Week of November 18th:

- Continue researching and adding to report and presentation
- Finalize report and be ready to present by end of week