Operating Systems CS252

PROJECT REPORT
OPERATING SYSTEM SIMULATOR

181CO221-230

An operating system is the most essential program that allows a computer to run and execute programs with maximum ease and efficiency. We have built a web-based operating system simulator using HTML5,CSS,JavaScript and Django. It has all the core built-in functions including and not limited to :

Process Scheduling

Disk Scheduling

File System and Memory Management

Page Replacement

Process Synchronisation

Terminal and File explorer

We have built a user friendly UI for smooth functioning and ease of access . The work was divided evenly on the basis of familiarity with the languages involved.

The following are the contributions of every team member:

18CO221 (9.25/10): Team Leader. Implemented Page Replacement Algorithms with demonstration of Belady's anomaly. Contributed to UI development of other apps. Coordinated between team members and assembled the project.

18CO222 (9.25/10): Implementation of Banker's Algorithm in the Deadlock application. Built the index page of the Semaphores and Synchronization section.

18CO223 (9.25/10): Implemented fcfs,sstf,scan,cscan,look,clook algorithms in the disk scheduling part. Built the user interface of the Disk scheduling and Process Scheduling application.

18CO224 (9/10): Implemented contiguous file allocation,linked file allocation and indexed file allocation Output-processes allocate and pictorial view of allocated holes to a process.

18CO225 (9.25/10): Built the booting and desktop page (similar to the Ubuntu linux UI), with time display and power button. Contributed in the UI of a few sections and its algorithms.

18CO226 (9.25/10):
Build the booting, login and desktop page. Assembled all the links for the different interfaces on the Desktop page depicted by the icons for each of it.

18CO227 (9.25/10) : Implemented Resource Allocation Graph and Bankers. Contributed to UI development of Page Replacement Application.

18CO228 (9.25/10): Implemented semaphores and synchronization including demonstration of dining philosophers and cigarette smoker problems. Contributed to UI for File Allocation System.

18CO229 (8.5/10): Built the terminal Interface, File explorer and Calculator.Development of UI of page Scheduling

18CO230 (9.25/10): Implemented the First Fit,Best Fit and the Worst Fit algorithms for both multiprogramming with fixed number of tasks and variable number of tasks.

Special Thanks to W3 Schools and Geeks for Geeks.