Simulator: To Implement And Compare Disk Scheduling Algorithms

**Abstract:**

In all modern computers, hard disks are being used to store huge information. In order to optimize the speed of I/O operations, disk drives must provide faster access time. In a multitasking system with many processers, disk performance can be improved by using scheduling algorithms. In real-time systems, performance criteria is the most challenging factor. This motivates our interest in examining the real-time disk scheduling problem. Although extensive work has been done on issues like real-time CPU scheduling, interestingly enough, very few papers have dealt with I/O disk scheduling problem in a real-time environment. This is, in part, because the problem is difficult, and because in many real-time systems disks are not accessed under time constraints.

In this study project, we will develop a simulator which uses four disk scheduling algorithms (FCFS, SJTF, LOOK and C-LOOK) to compare and measure the performance.

Disk scheduling involves a careful examination of pending requests to determine the most efficient way to service these requests. A disk scheduler examines the positional relationship among waiting requests, then reorders the queue so that the requests will be serviced with minimum seek. The purpose of this study project is to obtain the best scheduling algorithm based on the seek time, rotation time and transfer time for moveable head disks.

**Group Members:**

* Sneha.D.L-12MCS1037
* Sravya- 12MCS1012