**CSCE 5640: Operating System Design**

**Project Proposal**

**Name:** Kishan Kumar Zalavadia

**EUID:** 11685261

1. **Overview and objective(s) of the project.**

Scheduling Algorithms: A white paper with black text

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Description automatically generated with medium confidence

* The main goal of the project is to compare various scheduling algorithms.
* The objectives are implementing the scheduling algorithms (FSFS, SJF, Priority, RR, Priority with RR).
* Read the tasks from the external file.
* Create multiple test cases to test the performance of the scheduling algorithms.
* To analyze and compare the algorithms using metrics like average waiting time, turnaround time, and response time.
* Draw the conclusion based on the experiments about the effectiveness of the scheduling algorithms.

1. **Team size and team members.**

Team size: 1

Team Member: Kishan Kumar Zalavadia (11685261)

1. **Project Plan**
   1. **Task divisions for the team members.**

I am handling everything by myself.

* Create a Java project to read a file.
* Implement FCFS.
* Implement SJF.
* Implement Priority Scheduling.
* Implement RR.
* Implement Priority with RR.
* Creating test cases and comparing the algorithms.
* Creating project documentation.
  1. **Due date for subtasks.**

Oct 25, 2024: FCFS

Oct 26, 2024: SJF

Oct 27, 2024: Priority Scheduling

Oct 28, 2024: RR

Oct 29, 2024: Priority with RR

Oct 30, 2024: Create test cases and compare the scheduling algorithms

Nov 01, 2024: Analyze the results

Nov 02, 2024: Creating project documentation.

1. **Experimental environment**
   1. **Programming language for implementation.**

This project may be implemented in Java.

* 1. **Operating system to test the project.**

This project will be developed on a Linux CSE machine.   
It can be tested on any OS.

* 1. **Test cases.**

I will create seven schedule files with five processes and their priorities and burst times, seven schedule files with ten processes and their priorities and burst times, and seven schedule files with fifteen processes and their priorities and burst times.

I may create a script that generates all these files with random values and test it. I may use average waiting time, turnaround time, and response time to compare the efficiency of the algorithms.