Scheduler Write Up

**Design Document**

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**Document history**

| **Revision Number** | **Version** | **Revision History** | **Date** |
| --- | --- | --- | --- |
| 1 | 0.1 Beta | Only Round Robin algorithm | 9/30/18 |

**1. Introduction**

This project is made to simulate an operating system by allowing multiple algorithms to be switched out.

**1.1 Purpose**

To be able to simulate an operating system and to allow others to learn how different algorithms effect the system

**1.2 Methodology**

The structure that was chosen to be worked with was the struct. Which allowed us to make an array that had many built in attributes such as duration and completion. By creating an array and allowing the program to loop the amount of processes into completion, the user is able to see the time wasted by a round robin algorithm.

## 2. System needs

### 2.1 CMake and C++

Properties needed to run simulation

CMake version: 3.12

C++ version: C++14

## Testing.

Text.txt run.

Numbers in order:

processNum, need\_time( the time it takes to get to the queue), duration( how much it needs)

1,0,22  
2,0,13  
3,0,47  
4,0,8  
5,0,10  
6,0,16  
7,0,29  
8,0,23  
9,0,45  
10,0,84  
11,0,1

Total Milliseconds needed to complete all: 298 ms.

|  |  |
| --- | --- |
| Milliseconds allotted | Milliseconds taken to complete |
| 1 ms | 298 ms |
| 2 ms | 304 ms |
| 3 ms | 312 ms |
| 4 ms | 316 ms |
| 5 ms | 320 ms |
| 6 ms | 324 ms |
| 7 ms | 347 ms |
| 8 ms | 328 ms |
| 9 ms | 351 ms |
| 10 ms | 350 ms |
| 11 ms | 363 ms |
| 12 ms | 348 ms |

The most effective millisecond time allotted was of course the 1 ms. As the time allotted became larger, the effect on the run time became more apparent. But in real life performance it would be extremely unlikely for it to be used. The smaller millisecond times allowed processes to end at a time where the overall throughput was not tampered with in the slightest. But, this would not be effective in real performance as processes enter the queue at any time. Round Robin is good in theory but not the best in practice.