OPERATING SYSTEM PROJECT PROPOSAL:

SELECTED PROJECT:

System Call for Semaphore Reader- Writer Problem

GROUP MEMBERS:

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Important Note.

Initially, we were making the project for process scheduling algorithms, however there was a problem that came up. When we made the project for process scheduling, our lab instructor simply said run .c codes and compare the schedulers. It was easily achieved but then when we concurred from our operating system theory miss, she said this had to be implemented on kernel level. There was minute time left for this as we were ready but the sudden change in plans meant there was mass confusion as to which miss to follow. Thus the project was changed to a much more agreeable reader writer system calls using semaphores.

OBJECTIVE:

In our project, the main aim is to manage synchronization so that there are no problems with the object data for the readers and writers. We will implement System Call for Semaphore Reader-Writer Problem. In the readers-writers problem, there is a critical section that both reader and writer can access. Reader only reads from the data while writer

can both read and write to the data. More than one reader can read at the same time. A writer cannot access the data in the objects while a reader is reading. No other thread has the ability access the memory while a writer is accessing the data. This Reader-Writer Problem solving program will be built using our Ubuntu 16.04 version with Linux 4.19.237. We will make system calls to solve the problem and additionally also calculate the average time the reader and writer spend inside the critical sections.