

# **Concurrent Non-Blocking Priority Queue Implementation**

CS 550 Advanced Operating System

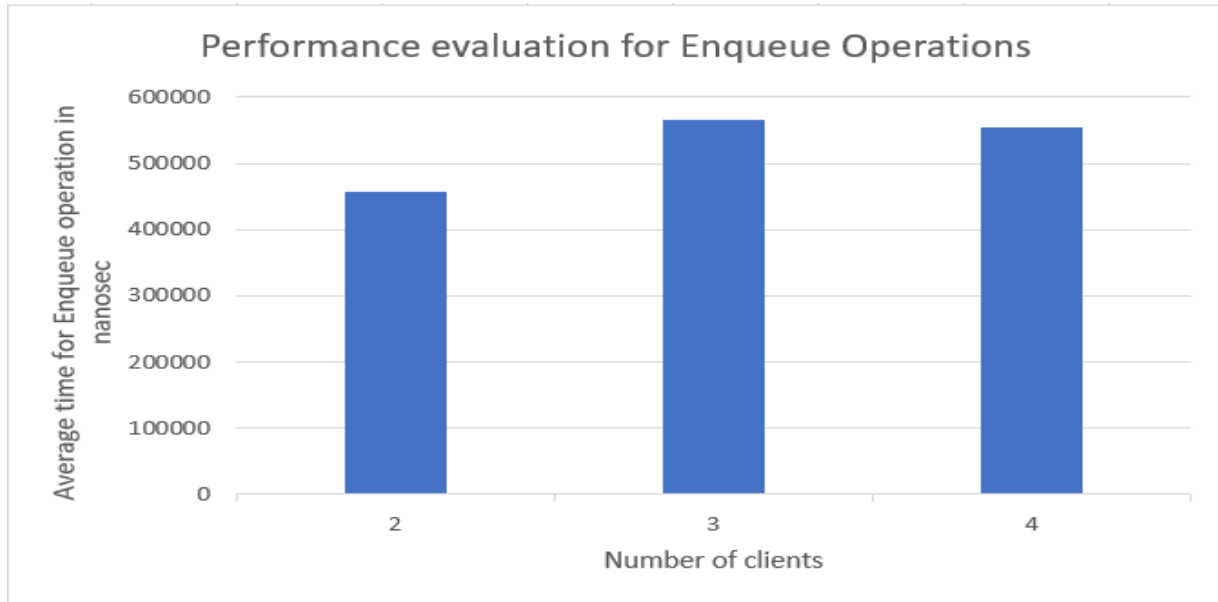
**Pradyot Mayank (A20405826)**

**Nilesh Jorwar (A20405042)**

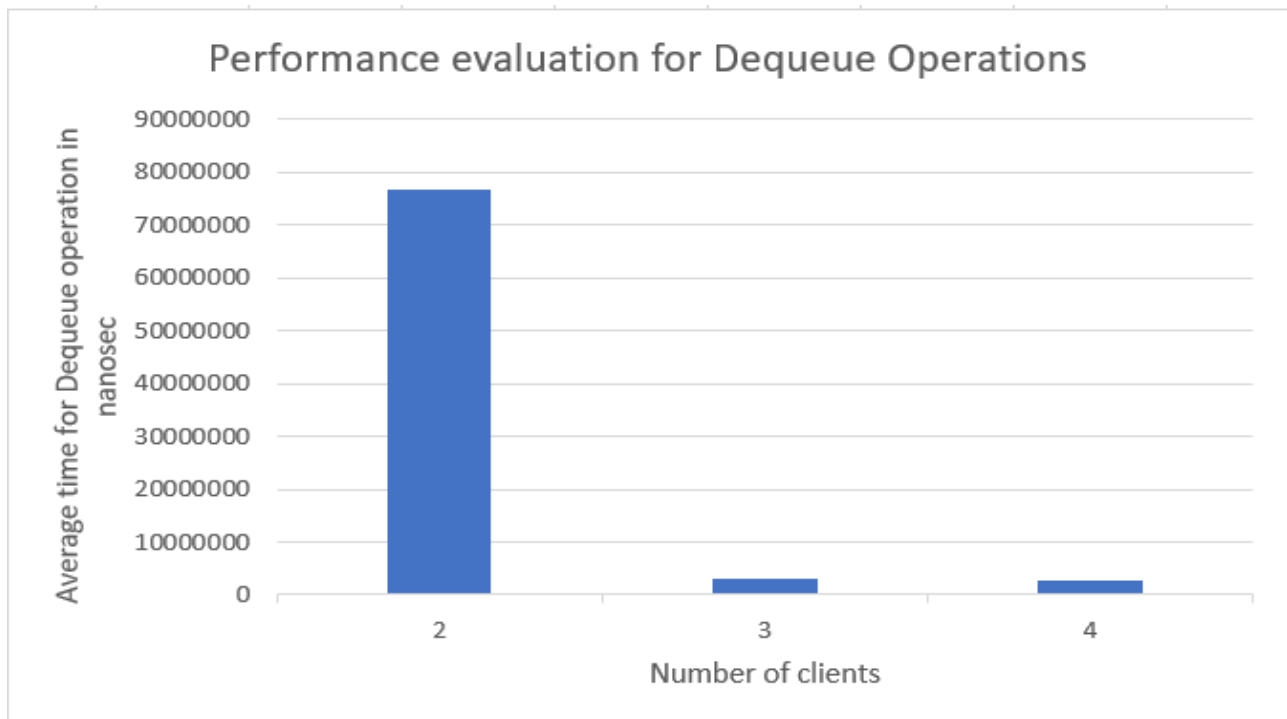
## Evaluation

The evaluation of this project is comprised by the following:

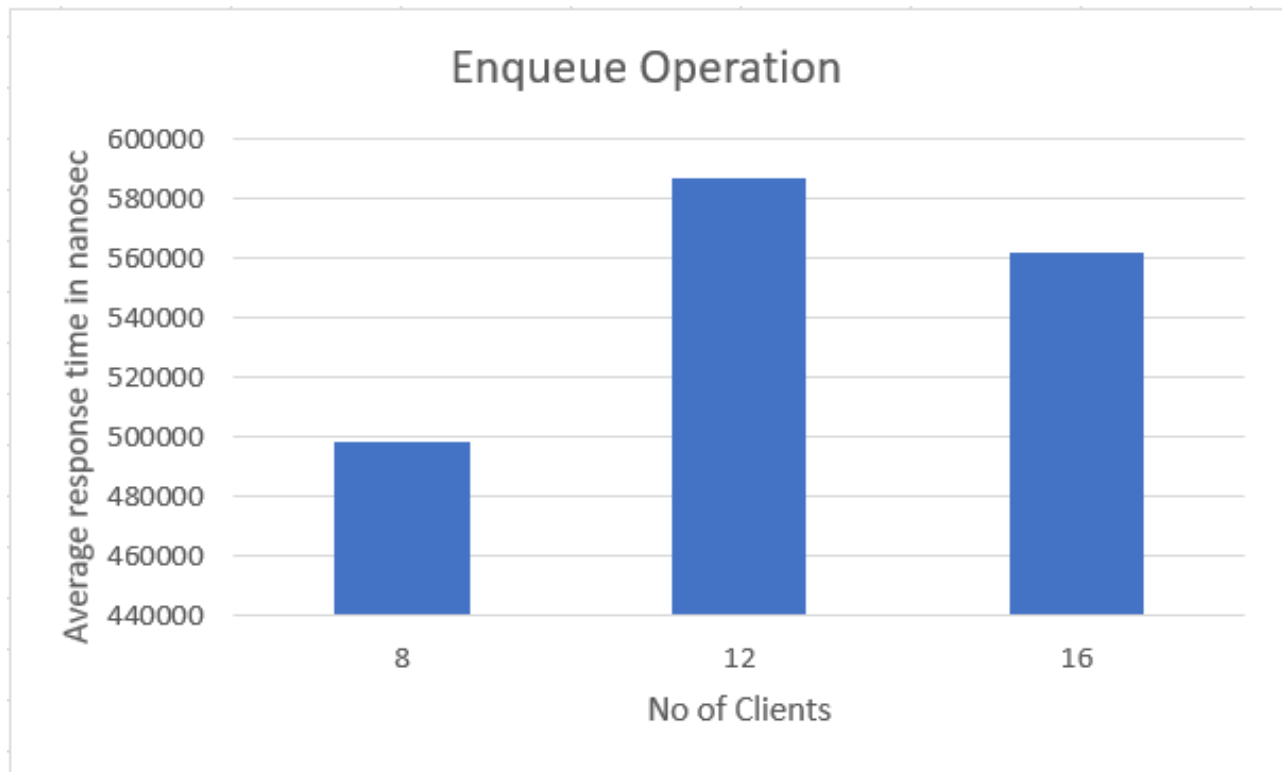
**Case 1:** Average Response Time for Enqueue Operation at the Server Side for the no of Clients.



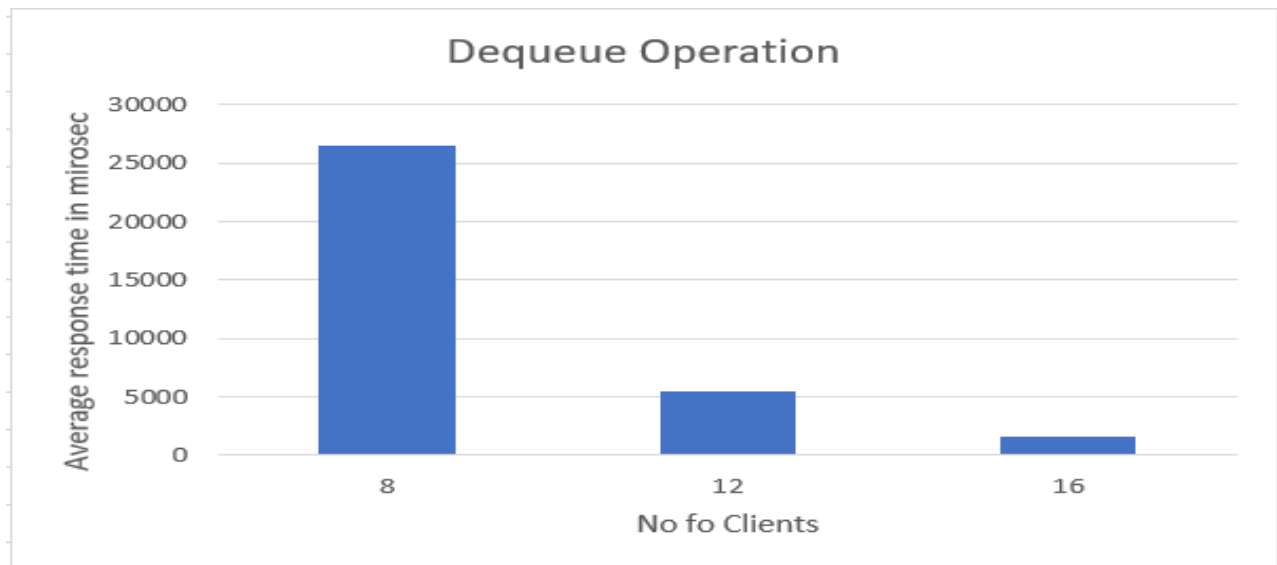
**Case 2:** Average Response Time for Dequeue Operation at the Server Side for the no of Clients.



**Case 3:** Average Response Time for Enqueue Operation at the server side for the number of clients.



**Case 4:** Average Response Time for Dequeue Operation at the Server Side for the no of Clients.



## Results

```
Average time for enqueue operation in nanoseconds---455957 for 2 users
Array after Sorted--Client1 2 Thread[Thread-0,5,main] Socket[addr=/192.168.1.112,port=49724,localport=9000]
Array after Sorted--Client2 10 Thread[Thread-1,5,main] Socket[addr=/192.168.1.112,port=49725,localport=9000]
Average time for Dequeue operation in nanoseconds---76422438
```

```
Average time for enqueue operation in nanoseconds---565456 for 3 users
Array after Sorted--Client1 2 Thread[Thread-1,5,main] Socket[addr=/192.168.1.112,port=49727,localport=9000]
Array after Sorted--Client3 4 Thread[Thread-0,5,main] Socket[addr=/192.168.1.112,port=49726,localport=9000]
Array after Sorted--Client2 10 Thread[Thread-2,5,main] Socket[addr=/192.168.1.112,port=49728,localport=9000]
Average time for Dequeue operation in nanoseconds---2729755
```

```
Average time for enqueue operation in nanoseconds---553479 for 4 users
Array after Sorted--Client4 0 Thread[Thread-1,5,main] Socket[addr=/192.168.1.112,port=49735,localport=9000]
Array after Sorted--Client1 2 Thread[Thread-0,5,main] Socket[addr=/192.168.1.112,port=49734,localport=9000]
Array after Sorted--Client3 4 Thread[Thread-2,5,main] Socket[addr=/192.168.1.112,port=49736,localport=9000]
Array after Sorted--Client2 10 Thread[Thread-3,5,main] Socket[addr=/192.168.1.112,port=49737,localport=9000]
Average time for Dequeue operation in nanoseconds---2660463
```