**PROJECT 2: IMPLEMENTATION OF INTER-PROCESS COMMUNICATION**

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

We are coming up with an idea to implement Inter process communication (IPC) through shared memory and message passing. To enable co-operation and establish communication between two processes, there’s a need for an efficient & simple communication mechanism. IPC exactly serves the same purpose. It allows processes to communicate with each other and co-operation is enabled.

We are implementing IPC through

* Shared Memory
* Message Passing
* Pipes

IPC through Shared Memory facilitates two or more processes to access the memory and communication is established through the same where one process can observe changes made by other process. IPC through message passing is achieved through either establishing a communication link or using an existing one to exchange messages through primitives like send and receive. Pipes are useful for communication between related processes i.e., Inter-Process Communication. They act as a one-way communication as one process write to it and the other reads from it. If in any case, a process tries to read before something is written to the pipe, the process is suspended until something is written.

**2. TEAM SIZE AND TEAM MEMBERS**

Team size: 4

Team members:

Rishwanth Reddy Baddipadaga, 11515020

Amit Reddy Baddam, 11507588

Roja Kamble, 11454258

Pranavanath Reddy Jaggari, 11503083

**3. Project plan**

* Communication between two connected processes. It has a half-duplex mechanism. In other words, the first process talks to her second process. Full duplex requires additional channel for communication between the second and first processes.
* Communication between two or more processes with full-duplex capability. Processes communicate with each other by sending messages and retrieving them from queues. Once retrieved, the message is no longer available in the queue.
* Shared memory must be protected from each other by synchronizing access to all processes.

a. Task divisions for the team members.

Rishwanth Reddy, and Pranavanath Reddy are working on IPC through Shared memory. Roja Kamble, and Amit Reddy are working on IPC through Message Passing. We are also testing each other’s work so that all four of us will have a clear understanding on the entire project.

b. Due date for subtasks.

December 9th for all tasks

**4. EXPERIMENTAL ENVIRONMENT**

Editor: Visual Studio

Command Line: Terminal

a. Programming language for implementation: C

b. Operating system to test the project: Mac OS/Windows

c. Test cases: There are 7-15 test cases overall.