1. **Objective:**

The main objective of the message passing is to provide for process synchronisation and inter process communication such that each request is acknowledged.

1. **Abstract:**

Mobile billing is a batch process which is processed in a defined time interval for the utilization of various e-commerce services. In the Indian telecommunication market, the mobile bill payments are done in person in the form of plastic money or cash, or through other services like ATM. The revolution is to make use of digital means of transferring money (e-cash) for the payment of bills.

Prior to the payment, the generation of the bill requires data communication between the service provider and the user .i.e. the server and client respectively. The actual data transfer takes place between the processes involved at respective sides. This is where message passing comes into the picture; it provides a communication mean for the above processes.

The server process is the process running at the service provider end and is the one which maintains the details about the various users (clients).Thus the bill to be generated has to be obtained as an output from this process on the user request.

Message passing is used to send data like contact number, call duration to the server so that the server could update the information obtained in its data repository. Also it could be used to request for a bill generation. Message passing makes use of the two primitive functions send and receive to obtain the above mentioned task .i.e. the client process sends the information and the server process receives the information. Later the server sends the acknowledgement and the client receives it and thus understands that the data transfer is successful.

Thus message passing provides a perfect platform on which the concept of mobile billing can be set, implemented and used on any scale.

1. **Motivation:**

The motivation of implementing mobile billing using message passing is to show how multiple process requests or inter process communication can be handled.

1. **Requirements:**

## Input Requirements:

The input requirements can be thought of as the following for each of the various scenarios:

* A call request to start the duration timer each time he calls.
* Phone number to identify the user.
* Call termination request to stop the duration timer.
* Bill generation request.
  1. **Output Requirements:**

The only output requirement which can be thought of is the accurate bill generation.

* 1. **HARDWARE REQUIREMENTS**

There is again no major hardware requirements needed other than a 512 MB RAM with a supportive hard disk of 2 GB.

* 1. **SOFTWARE REQUIREMENTS**
* This is implemented on unix platform.
* A Message Passing Interface(MPI) compiler is required
* QT designer to implement the front end for the application

1. **Scope:**

* Call rates are assumed to be uniform
* PULSE duration is assumed to be per second pulse