

# **ADVANCED SOFTWARE ENGINEERING**

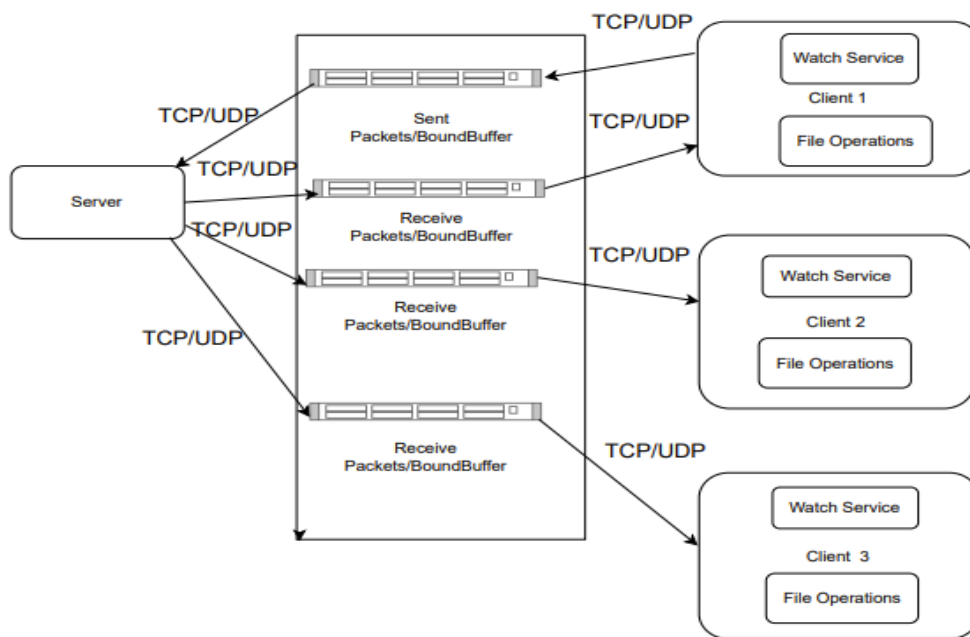
## **HIGH-LEVEL DESIGN**

**TEAM NO : 3**

**Sai Santhosh Bhattaram-100184167 , Rohith Peta – 1001966013**

**Divya Mattigunta – 1001960759 , Sirisha Mandalapu - 1001886132**

### **ARCHITECTURE DESIGN**



**High Level Architecture Diagram**

- Above architecture diagram is a high level representation of connection and working of different modules of the project.
- Clients makes connection using TCP protocol and does packet switching using UDP protocol.
- Single client watches the changes , delta sync and file sync changes to the server.
- Multiple client watches for the respective changes including synchronization and sends it to server.
- The data in the file is sent using bound buffer management to server.

### **THREAD MANAGEMENT**

1. Connection Manager: Connection Manager thread is used to make connections between clients and Server using TCP Protocol
2. File Monitor watcher: File monitor watcher service thread is used to monitor the changes made to the files at client and server end
3. Packet switcher: Packet switcher thread is used for exchanging packets between clients and server (Send/Receive).
4. File Sync: File Sync thread is used for Syncing all the changes of files between client and server and also to monitor the sync status

## PROJECT SCHEDULE

### Major Tasks:

- Implementing File transfer between Single Client and server
- Implementing multiple files transfer between single client and server
- Implementing watcher service to monitor the changes made to the files
- Implementing file synchronization between multiple clients and server
- Testing and verification of all components.

TASKS	DEADLINES
SINGLE CLIENT AND SERVER	24 <sup>TH</sup> JUNE
WATCH SERVICES	27 <sup>TH</sup> JUNE
SYNCING FILES BETWEEN MULTIPLE CLIENTS AND SERVER	30 <sup>TH</sup> JUNE
UNIT TESTING AND WORKING ON BUGS	3 <sup>RD</sup> JULY
INTEGRATION TESTING AND WORKING ON BUGS	5 <sup>th</sup> July-6 <sup>th</sup> July

### Test Plan:

- Testing connection between clients and server
- Testing for File syncs: Following test cases to be executed :
  1. Testing whether files are syncing correctly or not
  2. Testing for Duplicate files while file Synchronization is happening
- Testing for concurrency:
  1. Multiple clients updating the Same File
  2. Checking File Integrity after concurrent Access

