**Introduction**

Idea: Connect device to Internet via mobile Wi-Fi-Direct network to get high speed internet

Problem: Each mobile creates a separate connection to the server

This is solved by using a model derived from Multipath TCP protocol

- **MPTCP_CAPABLE**: Checks if the server is MPTCP capable and starts a new MPTCP connection if it is
- **MPTCP_JOIN**: Adds a new device to the preexisting connection
- **MPTCP_SUBFLOW**: The end user and server use the created sub-flows to transfer data to each other

**Design**

- **MPTCP_CAPABLE**: Checks if the server is MPTCP capable and starts a new MPTCP connection if it is
- **MPTCP_JOIN**: Adds a new device to the preexisting connection
- **MPTCP_SUBFLOW**: The end user and server use the created sub-flows to transfer data to each other

**Proxy Server Design**

- The proxy server will store each MPTCP_CAPABLE request connection by a unique id RSERVER
- When a device wants to join the preexisting connection, it will send identify itself by the RSERVER that the device send it and forms a sub-flow
- The server will send parts of data through each sub-flow in a connection to end user client

**P2P Device Design**

- The P2P server broadcasts the IP and internet connectivity of each device connected to it
- When End user client wants to start new connection it creates a unique id RCLIENT by which each device sub-flow can identify the particular connection
- Each device in a sub-flow act as router which transfer data from Server to End user client and vice versa

**Results**

- Multipath TCP model can be used to create parallel connections and improve the Internet speed
- MPTCP model helps in avoiding network congestion as it chooses the non-congestion path to send more data
- More the diversity in the network carrier of the mobile, better will be the connectivity.

**Conclusion**

**Reference**