National University of Computer and Emerging Sciences, Karachi
FAST School of Computing
CS3001-Computer Networks, Spring 2023

LIST OF COURSE PROJECTS

1) **Chat portal with FTP enable**

2) **Congestion Control & Flow control**

3) **Pipelining protocols(Go-Back-N(GBN) and Selective Repeat)**

   http://www.ccs-labs.org/teaching/rn/animations/gbn_sr/

4) **Implementation of MPLS(Multiprotocol Label Switching)**

5) **Instant Messenger(Android App)**

6) **Chat Messenger using UDP**

7) **Peer to peer Chat application(vxprees)**

8) **Implementation of SMTP Server**

9) **Routing using reinforcement learning**

10) **Tic Tac Toe using TCP**

    https://www.quora.com/Why-should-we-use-the-TCP-protocol-in-a-client-server-Tic-tac-toe-game-programming

11) **SDN Load Balancing**
    http://research.ijcaonline.org/icctac2015/number2/icctac2013.pdf

12) **WSN Implementation using SEP (Stable Election Protocol)**

13) **Simulation of Adding and Detecting Malicious Nodes**

14) **Virtual Routing Using Java Socket to implement a virtual router and its functionalities**

15) **VPN (Virtual Private Network)**

16) **Implement BitTorrent (application level protocol)**

17) **A simple multiuser messenger with multimedia messaging services**

    (E.g. https://www.cs.dartmouth.edu/~campbell/cs60/lab3.html)

18) **An application like Netsupport School (Details here: https://www.netsupportschool.com/monitor/#)**

19) **A Network Sniffer Tool (E.g. https://www.lifewire.com/definition-of-sniffer-817996)**

20) **File Transfer Application (GUI based) with multiple servers and clients**

21) **Smart Road Traffic Control System (Simulation based)**

22) **Build a Reliable version of UDP for data transfer (Add TCP congestion Control and flow control)**

23) **A simple chat enabled Online Shopping system**

24) **An application to design subnets as per organization requirement**

25) **A MOOC (e.g Coursera) with simplest options for students**

26) **FASTwitter (A Simple Twitter app for FASTians)....**

27) **A Simple Online Tutor Bot**

28) **FULinkedIn (LinkedIn app for FAST Alumni)**

29) **App like Shapr – Meaningful Networking**

   (https://play.google.com/store/apps/details?id=com.shapr&hl=en)

30) **2D- Multi-user network game**

   Any other idea can be brought for discussion and approval