



<b>Project Title</b>	<b>Data Link Layer(L2 Routing) Implementation (TCP/ IP Stack Functionality)</b>						<b>Mentor Name</b>	<b>Ms. Avita Katal</b>					
<b>Abstract</b>	<p>In today's world, fast and efficient communication on the network between the sender and receiver is very important. For this communication, data is converted into packets and sent over the network using various routing algorithms. In a network or over multiple networks, routing refers to the process of determining a path for a packet to travel from. L2 Routing is based on the concept of Data Link layer and happens when data is to be transferred between the same subnet.</p> <p>In this project, we aim to implement the functionality of Data Link Layer like creating ARP tables, L2 Routing, MAC learning, L2 Switching &amp; implementing VLAN forwarding.</p>												
<b>Objective</b>	<p>The main objective of the project is to implement the concept of Data Link Layer. Another major objective is to tackle the issue of Thrashing, Collision and reducing the broadcast domain.</p> <p>For this, we will implement the APR Tables, L2 Routing, MAC Learning, L2 Switching and VLAN Forwarding.</p>												
<b>Methodology</b>	<p>Agile methodology of software development will be followed for the proposed project. The project is divided into 12 sprints where the sprint 7 and 8 will consist of parallel development by different members of the team. Each sprint is provided ample time to complete itself as well as to maintain the product's backlog (if any). The project can accommodate changes if required at any stage of the project. The sprints 1, 2 and 3 are specifically for requirement analysis and designing of the project. One sprint is specifically designed for setting the environment like maintaining the Version Control (Git in our case) and Makefile. Each development sprint is followed by Unit Testing and an Integration Testing at the end. Sprints are also designed for the reviewing as well as retrospection part. After all the sprints the project is expected to complete by November 30.</p>												
<b>Progress 1</b>													
<b>Mentor Remark</b>	<b>Marks</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	
	<b>Rollno/Marks(10)</b>	<b>Step 1</b>	<b>Step 2</b>	<b>Step 3</b>	<b>Step 4</b>	<b>Step 5</b>	<b>Step 6</b>	<b>Step 7</b>	<b>Synopsis</b>	<b>Mid-term</b>	<b>End-Term</b>		
	<b>Date/Mentor Signature</b>												
<b>Progress 2</b>													
<b>Mentor Remark</b>	<b>Marks</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	
	<b>Rollno</b>	<b>Step 1</b>	<b>Step 2</b>	<b>Step 3</b>	<b>Step 4</b>	<b>Step 5</b>	<b>Step 6</b>	<b>Step 7</b>	<b>Synopsis</b>	<b>Mid-term</b>	<b>End-Term</b>		
	<b>Date/Mentor Signature</b>												

**Guideline: 1)** A project group can be of maximum 4 members and no alteration in the group member will be entertained later.

**Guideline: 2)** Methodology should have following steps Step1: Literature Review; Step2: Identification Of Requirement (Type Of Data source, Amount Of Data, & Format of Data); Step3: Identification of Algorithm; Step4 : Comparative study; Step5: Design and Development of System/Architecture; Step 6: Implementation; Step7: Results

**Guideline:3)** Student should upload softcopies of all the documents (reports and power point presentations) in "Project Directory", 24 hrs prior to evaluation.

**Guideline:4)** Panel member will give feedback to individual on the scale of 1 to 5 and this scale will change for defaulter i.e. 1 to 3 scale.

1: Poor      2: Average      3: Good      4: Excellent      5: Outstanding