

## **Project 4 : Port Scanner Roadmap**

After reading the Project handout, we understood that we have to approach this project in phases given below :

### **→ Creating Raw Sockets.**

For this project we would be required to make custom packets i.e without protocol specific transport layer formatting and this is possible with Raw Sockets.

### **→ Creating TCP packets**

We would be required to make TCP packets i.e with TCP header and IP header and send these packets on raw sockets. This is important as this will help us scan TCP ports.

### **→ Creating UDP packets**

We would be required to make UDP packets i.e with UDP header and IP header and send these packets on raw sockets. This is important as this will help us scan UDP ports.

### **→ Techniques to Scan Ports**

Different techniques to scan ports will be implemented like TCP SYN scan ,TCP NULL, FIN,and Xmas scans, TCP ACK scan and UDP scan. User will give provide the method which should be used to scan.

### **→ Receive responses and identify services for standard protocols running on ports.**

With different responses received we will try to identify the services already running on ports for standard protocols. For ex : SSH, HTTP, SMTP, POP and WHOIS.

### **→ Speed up option - Use of Threads.**

We will required to make dynamic number of threads based on the user input. This is the most important part of project. This will be used to concurrently scan the ports. This will decide the response time of our project. With many functions being not thread safe, we will be using Mutex which will make resource available to a thread for its complete lifetime and no other thread will be allowed to acquire this resource.