**IT 304**

**COMPUTER NETWORKS PROJECT**

**Goal**: Understand both wireless and cellular network characteristics within campus

**Objective**: Collect TCP/IP stack related measurements from around the campus and analyse only the network layer metrics such as latency, downlink and uplink bandwidth, RTT .

**Method:**

1. You will be using an application [**Netalyzr**](http://netalyzr.icsi.berkeley.edu/) that measures the TCP/IP layer related parameters. You can parallely perform experiments on your laptop (For WiFi conenction) and phone (For data connection)
2. You will analyze how these parameters vary across different locations inside DAIICT.
3. The locations of interest (LOI) are Library, CEP (classrooms or outside), Hostel and Canteen
4. At each location, you will run the application and note down the Network layer metrics from the measurement report which the application will give.
5. Save the results including day and time of day when the test was run.
   1. one will be from laptop
   2. the other from phone
6. From the results , you have to note the following in a separate excel sheet for each day. (SHEET ALREADY GIVEN)
7. You will repeat the measurement process for 14 days and **making sure** you cover all the 4 locations every day.
8. After measurements at each location, note down the values in the given Excel template.
9. After 14 days, you will plot the values that you noted. Sample plot will be given in the next few days.
10. Since you have WiFi access on your phone only at the canteen, you can all use your smartphones for the experiments at the canteen. The rest of the lcoation use your laptop for WiFi based measurements. So at the canteen, first turn WiFi ON and collect the data. Then Data ON, WiFi off and collect the data
11. Note down the results in a separate file in the same format as the one given
12. The entire experiment will help you understand how good or bad is DAIICT's WiFi and also your cellular provider's data connection.

**Deliverables:**

1. A google form is provided [here](https://docs.google.com/forms/d/1OROjgdy5ZcKCD1JZsRwFqLlqGusBXIqeRFkG-h3SguI/edit). Fill out correctly. Your input is extremely crucial for the research output.
2. You will submit the following at the end of two weeks (14 days)
   1. One file with WiFi measurements from laptop for all 3 locations
   2. One file with 3G/4G measurements from smartphone for all 3 locations
   3. One file with WiFi measurements from phone for canteen
   4. One file with 3G/4G measurements from phone for canteen
3. A report analyzing the following:
   1. Variations in bandwidth over the 14 days at one particular location (you can pick any location of your choice)