**Indian Institute of Information Technology (IIIT) Chittoor, Sri City Questionnaire for BTP-Progress Evaluation**

**Wednesdays, 3:30 – 5pm**

**Spring 2016**

1.) Describe what you have done in the last 3 weeks.

This project first of all required in depth study. Thus, with my faculty’s guidance I first understood the problem

which is described below :

* The exponential increase in the data traffic carried over 2G, 3G and LTE wireless cellular networks, have made the Mobile Network Operators to increasingly look at different avenues to optimize the traffic in their network while at the same time, ensuring that its subscribers are provided a continuous connectivity along with a minimum guaranteed QoS.
* So, to solve this I have started my work on developing a framework to deal with real-time network centric mechanisms for offloading subscribers from cellular to Wi-Fi network taking into account the architecture of GSM and importantly LTE systems.

Having said that, I followed the following plan during the last three weeks :

1. Familiarisation with the project. (Week1)
2. Studied about GSM and LTE. (Week 2)
3. Discussed about the possible solution with my guide. (Week 3)

2.) How many times did you meet / talk with your faculty / guide?

* I have talked about this project with my guide nearly 10-15 times.

3. ) How many papers / articles / technical materials have you read in the last 3 weeks?

* I have been working on video lectures on Wireless Communication by Dr. Ranjan Bose (Indian Institute of Information Technology Delhi)
* Fundamentals of Wireless Communication by David Tse and Pramod
* Dr. Hrishikesh has a publication for Tech Mahindra on Operator Driven Network Centric Adaptive Traffic Offload, so I went through that paper and familiarised myself with the research project.

4). Provide a brief summary of your learning?

* I thoroughly understand what this project is all about and I have familiarised myself with the basics of Wireless Communications.
* Possible solution for the framework: Mobile Network Operators should be strategically positioned to integrate WiFi with macro-cellular networks.

5.) What development / programming / practical activity did you do in the last 3 weeks?

So far, I haven’t gone towards programming. First the model needs to be thought of and then only

programming would be a good option. However, with past experience in Network Coding I feel that Matlab

would be the best suited for such a work which requires lots of simulations.

6.) How close/far are you from the milestone set by your Guide?

It’s still a long way, this work requires multiple iterations as far as the final implementation is

concerned.

7.) What specific challenges are you facing/you faced in the last 3 weeks?

Until the completion of this project these two will be the major challenges :

1. Coming up with real-time network centric mechanisms for offloading subscribers from cellular to Wi-Fi network taking into account the architecture of GSM and LTE.
2. Further, on- loading of subscribers from Wifi to cellular needs to be investigated using network analytics. This is a big challenge.

8. Propose your plan for the next 3 weeks; as agreed with your supervisor. It would be verified in the next round (Q1).

Over the next three weeks I have planned to work on algorithms for network centric offloading. Apart from,

I will also discover the various parameters on which network centric mechanism may depend.