# Thesis
## (B.Sc./M.Sc.)

# Data Delivery over Short Message Service (SMS)

**Motivation**

Internet access in mobile networks is often limited due to low signal quality or due to the fact that the data delivery network is congested. Moreover, the Internet flat rate for mobile users is limited to a certain amount of data for uplink and downlink after which the connection speed is reduced to an absolute minimum. Therefore, most users try to save data traffic whenever it is possible to maintain within the data limit and preserve the high data rate. However, many applications such as email or file transfer (of small files) are delay tolerant and achieve a high Quality of Experience (QoE) even over slow communication links.

For this reason, they represent the ideal candidates for our data delivery over SMS network. The idea is to minimize traffic, especially on the downlink, by using the SMS as alternative communication channel. In this thesis, you will evaluate the performance of SMS in terms of data rate, loss, delay and jitter on an Android platform. Depending on the performance of SMS, you will implement different applications such as Voice and FTP over SMS.

**Application**
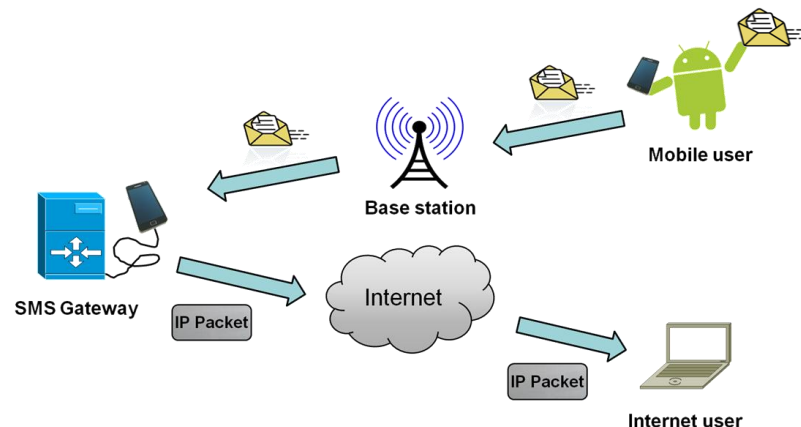


**Your Task**

Your task consists of the following steps.

1) Collect information about existing data delivery solutions over SMS

2) Get familiar with Android and its network API

3) Implement the applications and the SMS Gateway

4) Evaluate the performance of data delivery over SMS

**Requirements**

Previous knowledge of wireless communication issues and computer networks is useful but not required since you will be provided with the corresponding information and tutorials. Some knowledge of C will give you a clear advantage.

**Keywords**

**Android, SMS, Wireless, Network, Application**

Alexander Klein und Johann Schlamp
{klein, schlamp}@net.in.tum.de