# BLM3520
# Introduction to Mobile Programming
# Semester Project
# Due 13.06.2017

**Important Note:** **This document might be updated to answer your FAQ, so please frequently check website for updates and check the version number of document to see if it is updated.**

## SUBJECT

You will implement a mobile application, namely TRACKME, which will track your smartphone and record the geolocations. Your app should record your longitude, latitude, and altitude values using GPS. With the help of this app, you will discover your mobility map, save your trips, mark your favorite places and display them.

## 1. TRACKME APP

**The app would able to perform the following tasks.**
- Run in the background
- Record geolocation whenever you start
- Color the map based on the time to spent on certain places and the frequency of your visits to the same locations
- Stop recording if the battery capacity drops below critical level and warn the user that the recording has been stopped.
- Save all the data into appropriate file format.
- Save the time for each record
- Allow the user to adjust GPS frequency. (1s, 2s, 3s, …)
- Show the position and speed in real-time if the user wants to display these information.

## 2. Application Details

This application would store its DATA using SQLite, Files and SharedPreferences.

## 2.1 What to Report

The report information should include the following items

- The maximum speed and the average speed of a trip
- The maximum and minimum latitude of a trip
- The most 5 frequent places between the given dates
- The top 5 spaces based on the time spent in them.
- Find the home and school address automatically based on the GPS data

BONUS : Color the lines based on the type of activity (WALKING, STATIONARY,VEHICLE) of a person

## 2.2 Location Service

Your application would store each location info into the appropriate file using Google API.

## 2.3 Interface and Menu
You need to design a menu regarding the application details.

## 3. TIPS AND HINTS

This term project requires the use of different APIs of Android SDK, JAVA programming language and XML. You may implement your project using Activities, Services, Broadcast Receivers, and Content Providers if necessary.

- It is important to benefit from the MVC (Model-View-Controller) concept. Design your application regarding this concept.

- **If you start the tracking please wait with recording your activity until the GPS signal is found.**

- Restart your smartphone and make sure that you have "clear view" of the sky before you start (no disturbing objects like high buildings, forest, etc.).

- The reception conditions are permanently changing because they got influenced by the following factors: weather, season, positioning of satellites, areas with bad GPS coverage, high buildings, forest, etc.).

- Go to phone settings, choose "Location" and activate it.

- Go to phone settings, choose "Date & time" and activate the following options: "Automatic date & time" and "Automatic time zone". It may occur that it takes longer until the GPS signal is found if your smartphone is set to the wrong time zone.

- Deactivate the airplane mode in your phone settings