



INF-5150 2011

Obligatory Exercise 1

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The “Optimal Traffic” context

- Any individual car driver wants to know the optimal route to choose when traveling from A to B
- The “optraffic” community should improve the possibility to find the optimal route by providing data for the actual speed on the roads
- The traffic authorities would like to have accurate data on speed and customer choices to improve planning and their general advice to the public
- The vehicle to achieve these goals is an Android app
- The Optraffic app users will provide speed information and the central authorities will then provide optimal routing information





The “Optraffic” Android App

- Optraffic will
 - provide the user with an optimal choice of route from where the user is to a given point B
 - The user will request such routing information
 - The routing information will come from the central databank
 - provide a central databank with information about the users speed and location based on the GPS of the Android device
 - The handheld device will provide this information at given time intervals
- Restrictions
 - Optraffic app should only be able to provide the route after having provided the central bank with speed/location information of its user
 - We assume that the information is given through SMS from the device to the databank and with a special signal coded in HTTP from databank to handheld device defining the optimal route.





The INF5150 Obligatory Exercise

- Each individual student shall model with UML
- Model the following structures
 - The Optraffic context with more than one user
 - The Android device with GPS, timer, Map, SMS and HTTP facilities
- Model the following behaviors
 - The overall Optraffic scenario with 3 users using sequence diagrams
 - The Optraffic scenario decomposed on the Android device (with a sequence diagram)
 - The full behavior of the Optraffic app on the Android using state machines





Concrete deliverable

- Use any tool you may possess, but handwritten diagrams are not accepted
 - Powerpoint, Visio, RSA, Papyrus, ...
- You are welcome to try and simulate the App with the RSA with the IFI UML Total plugins
 - Do not spend time on making any routing algorithms or any other intricate programming!!
- The deliverable should in the end be one pdf-file mailed to me oystein@ifi.uio.no electronically before 14:00 on 5. October.

