

GPS PROJECTS – SEMINAR MAIN TASK

GPS Methods (SS 2016)



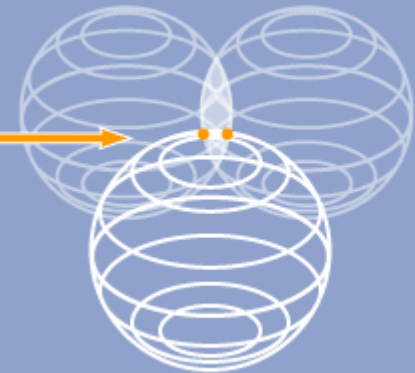
GPSMonitor, Version 1.0.0.0 © 2008 Infix Technologies

GSV RMC GGA GGL GSA Other **NMEA Data** About

Raw data stream from the GPS on COM4 at 4800 baud, 8/None/One

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$GPGSV,3,3,9,135,38,210,40*4B
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$GPGLL,4029.9268,N,11203.2864,W,213724.374,A*24
```

Einer dieser
beiden Punkte ist
Ihre exakte Position



TIMELINE

- × Project period: 03.05.2016 – 01.07.2016
- × GPS Devices: 03.05.2016
- × **Data submission: 24.06.2016**
- × Data evaluation: 24.06.2016 – 01.07.2016
- × **Final presentation: 05/12.07.2016**

PROJECT 1: MS TRAFFIC JAM

× Subject:

Volume of traffic at Münster's „Stadtring“

× Procedure:

+ GPS-Tracking by car

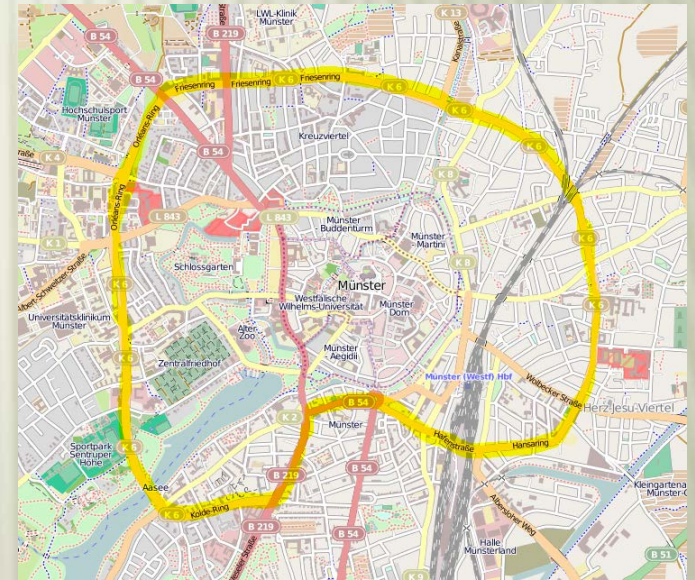
+ 2 versions:

× Rushhour-Tracking

× Night-Ride-Tracking

+ Each version at least 2 times

+ Optional: car vs. Bike or others..



PROJECT 1: MS TRAFFIC JAM

× Analysis:

- + Duration time
- + Speed
- + Stop and Go
- +

× Group:

- + 3-5 persons

× Data:

- + Explicit naming with optional parameters (e.g. night-ride_car, rushhour_bike, ...)

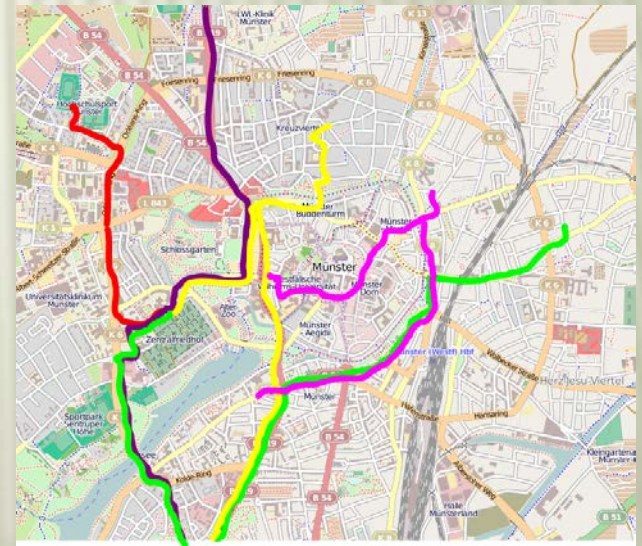
PROJECT 2: GEO-STUDENT PROFILE

✘ Subject:

Movement profile of an average Geo-Student in his/her academic everyday life

✘ Procedure:

- + GPS-Tracking by foot, bike, ...
- + Tracking in between „home“ and each university facility
- + Each person at least 2 days
- + Optional: Start and end at fake „home“ (privacy!)



PROJECT 2: GEO-STUDENT PROFILE

× Analysis:

- + Average duration time/day
- + Average distance/day
- + Main routes
- +

× Group:

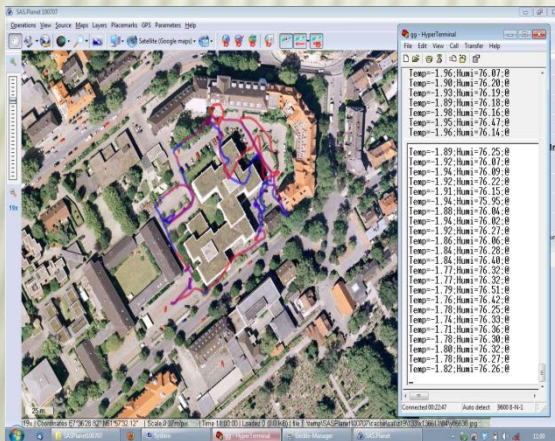
- + 5 persons

× Data:

- + Explicit naming with optional parameters (e.g. car, fake_home, ...)

PROJECT 3: GEO-ROVER (OPTIONAL)

- ✖ Technical Geo-Rover project
 - + Implementation of different sensors
 - + Fusion of sensors and data streams
- ✖ Extra meeting for persons that are interested



PROJECT X: Your own idea and vision!

- + Implementation of different data & sensors
- + Fusion & visualisation sensors and data streams
- ✘ Extra meeting for persons that are interested

GPS DEVICES

- ✘ Garmin GPSMap 60 (CSx)
- ✘ Garmin Dakota 20
- ✘ Navilock 457 DL GPS EasyLogger



DATA SUBMISSION

- ✘ Each individual GPS track/route has to be converted to *.gpx format.
- ✘ Naming convention: X_YY_mmdd_ZZ_o.gpx
 - + X = Project Nr. (e.g. 1)
 - + YY = Group Nr. (e.g. 07)
 - + mmdd = Date: month and day (e.g. 1124)
 - + ZZ = Dataset Nr. of the day (e.g. 03)
 - + o = Optional parameters (e.g. bike)
 - e.g. 1_07_1124_03_bike.gpx

DATA SUBMISSION

- × All *.gpx files of one group have to be sent to prinz@uni-muenster.de as one single *.zip file.

Email subject: GPS-Methods Data Group XX

- × **Deadline: 24.06.2016**

DATA EVALUATION

- ✘ Submitted data of all groups will be uploaded to „exch-drive“ respectively ArcGIS-Server
- ✘ **Project evaluation is based on data of all groups!**
- ✘ Visualization and analysis in a WebGIS (e.g. ArcExplorer) or a DesktopGIS. Moreover, statistical tools like e.g. MS Excel or R can be used.

FINAL PRESENTATION

- × Evaluation results have to be presented orally
- × Each group prepares one presentation
- × Presentation length: 10 minutes
- × **Presentation will be graded!**

- × **Presentation day: 05/12.07.2016**