

# Visualizing Mobile Phone Sensors Data in an R Environment

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## Objectives

The aim of the project is the application of methods for visualizing mobile phone (Android, iPhone) sensor measurements in an R environment, using the *Google Cloud* as buffer. The system has to be able to:

- Collect GPS positioning data from mobile phones and store them remotely
- Read the content of the spreadsheet from an R environment in real-time, and visualize spatial data on a map and other information on plots
- Allow the user to interact with the data - filtering, zooming, scrolling, exporting...

## Introduction

The project has been carried out under the supervision of profs. John Aasted Sørensen and Ian Bridgwood, as part of a multidisciplinary project.

The implemented system is composed of three main elements: a series of end users' mobile devices, a remote host, and a *data analyst* station. The former are equipped with a custom-made application capable of submitting GPS data to a remote *Google Sheet* document, which acts as a database and is accessible through the cloud. The data analyst can then visualize the collected data in real-time, using the provided R scripts and a web browser.

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## Requirements

Here is a summarization of the *Software Requirements Specification*:

- The collected data shall include device ID, coordinates (latitude, longitude), altitude, speed, and timestamp
- The blabla
- blablabla

## Tools

R is an open-source programming language and software environment for statistical computing, data analysis, an visualization.

- First item in a list
- Second item in a list
- Third item in a list
- Fourth item in a list

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## Implementation

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## Verification

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## Results and Conclusion

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## References

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- [3] *Leaflet for R*. 2014. URL: <https://rstudio.github.io/leaflet/>.
- [4] *Plotly R Library*. 2014. URL: <https://plot.ly/r/>.
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## Contact Information

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## Mobile Sensor Data Visualiztion in R

☐ Update in real-time



**Filter data**

Date range  
2017-01-17 to 2017-03-08

Device IDs  
b

RESET FILTERS

**Export data**

 CURRENT DATA  ALL

CLEAR REMOTE DATA

