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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E 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



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
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</>> Implementation

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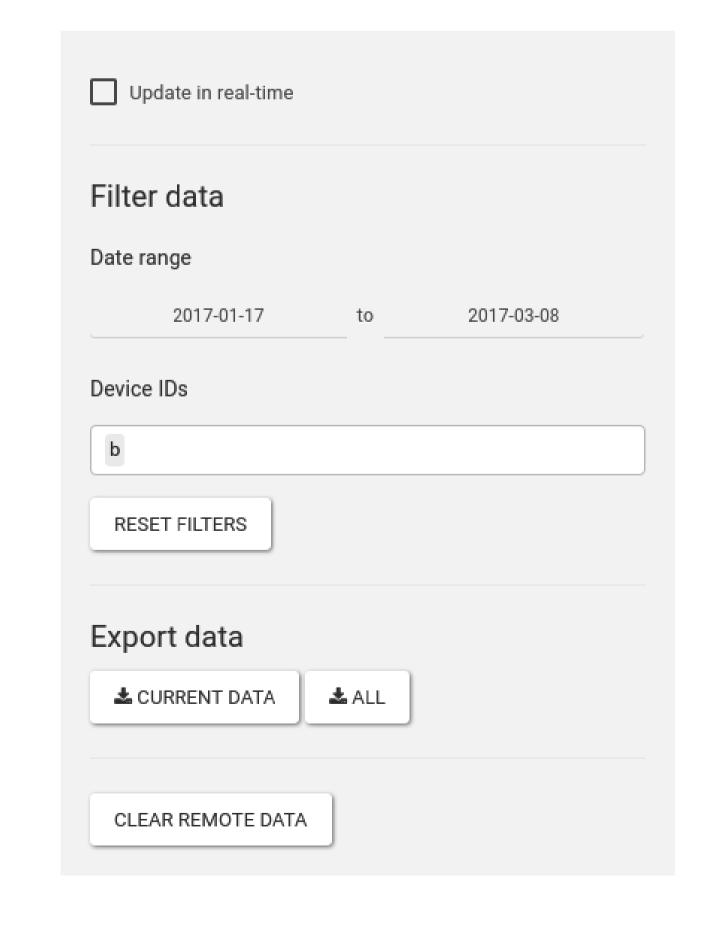
Results and Conclusion

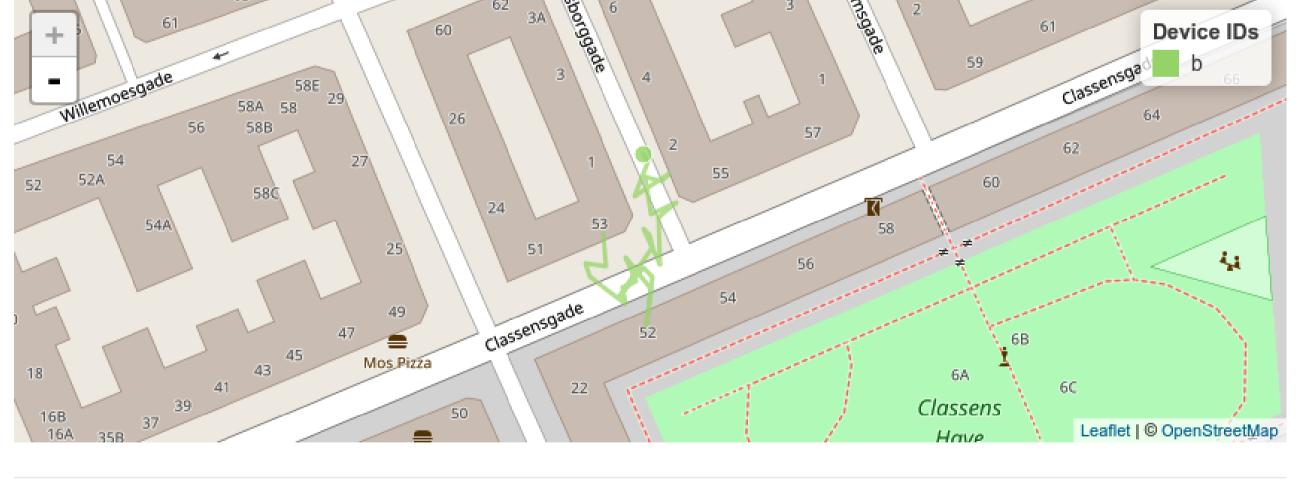
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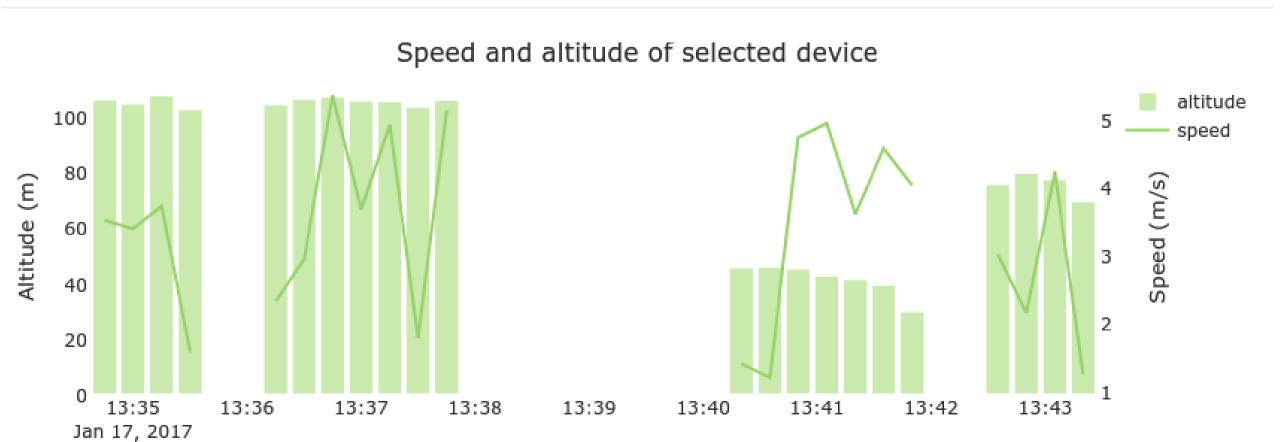
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Mobile Sensor Data Visulization in R







References

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