Sapienza University of Rome

Human Computer Interaction

Applied Computer Science and Artificial Intelligence

A Crowd-Sourced Mobility Application

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Chapter 1

Introduction

1.1 Our Idea

The intent of our application is to give more precise information about possible delays or irregularities in the public transportation service. This could be achieved by the retrieval of information delivered directly by the community of users, who may have the chance to inform others about possible delays or overcrowding of the bus or the tram that they are taking. Furthermore, all the users will collect some credits for every contribution, which will be devolved into charity, in one of the NGOs chosen by the user, among those proposed by the application.

1.2 Existing Competitors

Google Maps: It is one of Italy's most frequently used mobility applications. It is a web service that provides detailed information about geographical regions and sites worldwide. In addition to conventional road maps, Google Maps offers aerial and satellite views of many locations. It works both for public transportation and private ones.

- **Pros**: It is very intuitive and offers many fundamental features. It delivers information about possible paths to reach the destination with their duration and arrival time. It specifies the possible expenses needed for every choice taken.

- **Cons**: The path duration is not defined by crowdsourced information or GPS tracking applications. It is based totally on statistical inferences which means that is almost never precise.

Moovit: It is one of the main mobility applications for public transportation only. It provides information about the statistically best path to reach a destination point. Describing when and where to take the transportation means in order to reach the destination as fast as possible.

- **Pros**: More reliable than Google Maps (based on users' interviews), the interface is very intuitive.

- **Cons**: Too many ads, the defined timing is almost never correct.

Probus: The application is designed for Android only and it only works with buses. It informs the user about the waiting time of a certain bus line and the fastest path to reach a destination.

- **Pros**: Useful because it is focused only on the waiting time of the bus.

- **Cons**: The client service is not very reliable. It is very much reliable with the current bus trip but it does not give information about future ones so the user does not know how long he/she will have to wait for the next run.

Citymapper: Citymapper is a public transit app and mapping service which displays transport options, usually with live timing, between any two locations in a supported city. It integrates data for all urban modes of transport, including walking, cycling, and driving, in addition to public transport.

- **Pros**: Almost always accurate, comprehensive direction guide, free for both Android and IoS, it provides a calories counter and specifies the expenses for every chosen path.

- **Cons**: Not available in many cities and it does not retrive crowdsourced information.

Transit: Transit is a mobile app packed with features that helps you plan a trip on The Bus. Real-time bus tracking and information, service alerts, and trip planners are some of the many useful features that make this app the favorite for transportation services.

- Pros: GPS tracking of public transportation in real-time, crowdsource support (tracking the user location when they use the app as a navigator), information about all the surrounding bus stops and possible paths to the destination.

- **Cons**: Many useful services are not free, it does not work very well in Italy.