

Project Report

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Abstract

What is the most natural way to get information about bus schedules? During this project some users research are being conducted and documented. The results have been used to develop a mobile application for bus schedule retrieval in Sør-Trøndelag, Norway.

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Chapter 1

Introduction

This project report denotes the work of creating a mobile application extending the functionality of the existing BussTUC project which is part of the FURIOUS¹ projects.

BussTUC is an ongoing project for several years, and started off in 1997. In general it is a service for buss schedule querying. This means that users can ask questions about buss schedules in plain text into a search field, and get the result printed to them correctly. This can be tested at NTNU's web page².

During our work with this project the tasks included user research, developing the application, and extending the BussTUC system with the functionality we thought could make it better. The tasks also included finding the best way to implement the functionality to the mobile application. It might not be the best way to make it integrated with the BussTUC services, but rather an individual tab for exactly this functionality for better recognition by the users. This report will show our research and results.

1.1 Motivation

A lot of time and effort has gone into various FURIOUS projects, but there has been little user testing of the products developed. It was uncertain how BusTUC, AtB's real-time tracking³, and applications utilizing these services, has impacted the wait time and daily commute of passengers. Similar tests in Seattle[1], show that commuters using real-time applications wait almost 2 minutes less than users of traditional information.

After AtB opened up their real-time API numerous applications for Android, iPhone and web has begun utilizing it in various ways. Many of these applications combine AtB's real-time tracking with the BusTUC oracle. One example of these applications, busskartet (The Bus Map)⁴, is a bus map calculating current bus locations from the time tables and showing all the buses. This map does not utilize the real-time tracking from AtB, as the developers found it too unreliable at the time. With continuous improvement to AtB's real-time sys-

¹the Future Ultimate Intelligent Route-Organizing System

²<http://busstuc.idi.ntnu.no/>

³<https://www.atb.no/aapne-data/category419.html>

⁴<http://www.busskartet.no/>

tems, it might now be able to support such a map view. Nettbuss has already started showing all their regional buses in a simple map view on their site⁵.

1.2 Goal

Our ultimate goal was to create an application that the traveling users of AtB wanted to use. It was supposed to be easy to use, beautiful to look at, and of course functional to give the users a reason to use the application. Since there are some competitors to this application out there already, we needed to make this a priority.

The functionality we wanted to add was a way for the users to find the bus's approximate location at the time, to see how far away it is. This information is given to us by AtB, the company that handles the public transportation in Trondheim and Sør Trøndelag. This is open source information, and therefore easy to get access to. This functionality should be as precise as possible to make it usable by the travelers, which is in the hands of AtB and their supplier of the data, Swarco Norge. This means that the application is relying on their data being correct.

Either way, our goal was to make this application as good as possible from our position.

⁵<http://www.nettbuss.no/sanntid>

Chapter 2

Method

Chapter 3

Result

Chapter 4

Discussion

What was good? What was bad? Future work

Appendix A

First appendix

Bibliography

- [1] K.E. Watkind, B Ferris, A Borning, Rutherford G.S., and Layton David. "Where is my bus? impact of mobile real-time information on the perceived and actual wait time of transit riders". *Transportation Research Part A*, pages 839–848, October 2011.