Lift Share
Web Application

Initial Plan

Sam Douthwaite-Robinson

Lift Share Web Application

Author: *Sam Douthwaite-Robinson*
Student Number: *C1127442*

Supervisor: *David Walker*
Moderator: *Alun D Preece*

Module: *CM3203*
Credits: *40 Credits*

Module Title: *One Semester Project*

Project Description

Problem;
Public transport fares for long distance journeys are on the rise, and although environmentally friendly they're not always economically friendly. For many journeys the car remains to be the most convenient way of travel; however not always the most affordable when paying for a journey alone. From personal experience alone sharing a lift is far cheaper than making a journey alone.

ICT is able to help people this situation. With an ever growing of people turning to online services for day-to-day tasks, why shouldn't they have the opportunity to have more options when travelling?

Lift share services do already exist such as *Liftshare.com*, *Bla Bla Car* & *Go Car Share*. How well they work is another question. Travelling should be done with ease and if you want a cheap journey last minute then why should this be a problem without the price. Asking a friend for a lift isn't a daunting task but what lift share services do is require you to trust a stranger you are getting in the car with for possibly a few hours. Trust & self-security are main real world issues that have to be rectified.

Where the other sites have their main problems are the choice of journeys on offer. Popular routes can return multiple searches however not so popular routes from rural areas are less frequent, if non-existent. Encouraging drivers to share there car will be a challenge, and so the method of payment needs to be secure and definite. If the system is not secure it will not attract users.

Proposed Solution;
For the first time I intend to develop a web & mobile application, which will help, bring fellow travellers together in order to make lift sharing easier & safer for all. It will have an online website as well as a mobile application side which will deal with journeys in real time.

There are currently services like this on the web however most lack in functionality. In my research I've found there isn't a service, which feels secure for both driver and the person needing a lift.

Further problems found were the lack of trips from smaller destinations. If a person was to be travelling from Cardiff to London they could find it rather easy. In a random search a query returned an average of 8 journeys. The problem with this is other modes of transport, especially to the Capital are cheaper, and more frequent. A service like *Megabus* can cost you just £6 with numerous departure times all day.

The mobile application will be used to track the driver's movement during a journey. This will help ensure that journeys are taking place. Security could go to double measures by checking the end location of everyone taking place in the journey. Doing this could ensure that journeys are safer and are actually fare. However it could be invasive on privacy, & make the service unattractive and so it would probably need to have a fare level of security without being too invasive.

It would be desirable to make an application for iOS & Android; however it may only be available for one platform due to the time limit & level of expertise. A multi mobile platform is not necessary, as I will only be demonstrating a prototype.
Storing data would most likely be stored in a central database communicating between various users, the website & the mobile Application.

Another possible proposal could be solely a mobile-based service. Developing an app could allow me to focus on quality over quantity however I feel that having an online desktop version of the service would allow me to develop the project further. I am going to be using PHP & MySQL for the online site & possibly develop an Android app to work with the site.

Project Aims & Objectives

A service available on multiple devices,
- Website based, but works with smartphones too.

Create a universal fair service by,
- Calculate life cost automatically based on distance & fuel costs.

Make lift sharing less daunting by,
- Match people depending on their interests, age, & gender.
- Providing a secure payment method. (e.g. PayPal)
- Displaying driver ratings based on past journeys.
- Displaying passenger ratings based on past journeys.
- Provide means of messaging prior to taking the journey.

User-friendly service by,
- Providing a simple, clean GUI.
- Simple step-by-step processes.
- Help Pages, guides to using the service.

Journey matching;
- Encourage customers to use the service.
- Provide a sophisticated matching system for drivers and passengers.

Journey Price Calculation;
- Algorithm to calculate price of journey based on price of fuel, distance, etc.

Mobile Application & Web Based
- Website based & MySQL database as a central store.
- Mobile Application for phone tracking.
- Mobile version of the service.

Explore how to make a safer lift sharing experience.
- Make sure vehicles are in legal state.
- Have a good balance between privacy & safety.

Fully functioning service.
- Have a fully functioning service with a set of test data and some real life experience tests.

Final Report;
- Demonstrate my findings.
- Evaluate my outcome of the project.

Work Plan

I have drawn up a rough schedule, which will guide me through the project for the 10 weeks.
I shall be collecting parts for my final report week by week and compiling a large amount of it in week 10.

Although I have drawn up a work plan some stages may overlap and change depending on my findings throughout the project.

Week 1

Research into problem.
Explore technologies, libraries & any similar existing services.
Explore the major focuses of the project.
What will make this service better than the others.

Week 2

Requirements & Research;
Summaries requirements based on research in relation to the problem.

Week 3 – *Supervisor Meeting*

Design;
Design structure of system.
Supervisor meeting regarding requirements and design.

Week 4

Design Test Plan in relation to design.
Design + Early Development;
Design a work plan for development.
Begin to code core parts of the design.

Week 5 - *Supervisor Meeting*

Development;
Supervisor Meeting about development & progress.

Week 6 - *Supervisor Meeting*

Development;
Further Development of project.

Week 7- *Supervisor Meeting*

Development + Testing;
Test Mobile Application Software.

Week 8

Finish developing any parts that have developed problems.
Final Testing.
Document Findings.

Week 9- *Supervisor Meeting*

Rectify Test Result Errors;
Rectify any complications with software.

Week 10

Finalize Software;
Write Final Report;

Week 11

Finalize software;
Write Final Report;
Prepare for project viva.

Work Plan Summary

I will be following the regular Requirements, design, build, test method of development. However I may need to make adjustments along the way.

I aim to keep close contact with my supervisor through regular emails expressing any concerns and queries.

There may be a need for more meetings during some weeks depending on how the project and findings go.

The project must be handed in on the 6th of May 2014.

This can allow for additional time over the Easter period on any additional tasks, however I would like to focus on the final report during this period.