Project Proposal

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Student Name: Maluki Muthusi Maluki

Student ID: P15/81741/2017

Project Title: A Distributed Long Distance Ridesharing system

Supervisor: Prof Weusi

Department of Computing and Informatics

The University of Nairobi

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0.7.1 Introduction

Ridesharing is also known as liftsharing or car sharing in the UK@. This is different from the terms 'carsharing' in North America or 'car clubs' in the UK, which refer to short term auto use of a car from a fleet of cars, that are hourly shared by passengers, [**Shaheen2009**].

Ridesharing is the sharing of a cars journey so that one person drives, preventing the need for the other people to drive themselves to the location. The driver and the passenger are travelling towards the same direction. [**Chan2012**]. When payment is involved it is not for profitable reasons but to enable to cover the cost and services for the journey.

There has been a lot of interest in the ridesharing services in the recent years. This is because of the use of technology and easy access to internet services. Many people would prefer to travel on a private car than the public vehicles.

Ridesharing is seen as a solution to reducing congestion, offering quality services to people, and reducing energy consumption [**Noland2006**]. Governments have put in place policies to encourage ridesharing services.

Background

Carsharing began in the US during the World War II, [**Ferguson1997**]. The government encouraged carsharing to save rubber and fuel resources to be used in the war effort. Workers were incouraged to use the same car to and from work. The system in place was notice board based.

After the war carpooling services declined. The services later emerged during the 1970s due to the oil crisis. During this time corporates established internet notice boards and telephone-based computerized ridematching.

In the recent years there has been an increased interest in ridesharing services. These are built on internet and GPS-smartphones. These services have

transformed the industry. They have put innovation into the transit services.

It is estimated that in the next decade there will be a greater intergration of services, technology and policy support for ridesharing, [**Chan2012**]. This is due to concerns for energy, congestion, climate change and dependency on oil.

Problem Statement

Going on a long distance journey is difficult in Kenya if you do not own a car. The public means of transport are inconvenient and unreliable. During holidays, most people are stranded as the prices are hicked, as the demands exceeds the supply. Apart from the Matatus most people prefer to hire cars. It is expensive because they end up hiring the car for the days they will be away.

This is a big problem to the youths since most of them do not own cars and cannot afford to hire cars. The price of fuel has been increasing making transportation generally expensive for most people.

There is a need to connect people who are willing to share their cars with passengers. Currently private car drivers fear driving to the bus stations and pick passengers because they will spend a lot of time because of congestion at bus stations. Also only authorized vehicles are allowed to pick passengers at the bus stations.

Passengers have a need to access private cars that are travelling from and to their destination. They need this information earlier so that they can prepare and plan their journey well.

Objectives

Develop a distributed system that will help solve this problem:-

1. Connect Drivers and Riders using the system
2. Onboard a car owner to offer services
3. Drivers to post about their trips and accept passenger requests
4. Drivers to set their fare prices
5. Passengers to send requests for rides

Justification

Scope

Constraints

0.7.2 Literature Review

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