A Distributed Long Distance Ridesharing System

Maluki Muthusi Maluki
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University of Nairobi
Department of Computing and Informatics

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Problem Statement I

Difficulty in travelling long distance journey in Kenya, due to high cost and unreliable services by public vehicles.
There is a need to connect people who are willing to share their cars with passengers during travelling. Currently private car drivers fear driving to the bus stations and pick passengers because they will spend a lot of time due to congestion at bus stations. In addition to that 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 I

Research Objectives

1. To Review trends in ridesharing systems
2. Findout uses cases for ridesharing systems in Africa
3. Review on the adaptation of ridesharing systems in Africa

Objectives I

System Development Objectives

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

1. Connect Drivers and Passengers using the system
2. Onboard a driver to offer services through the system
3. Drivers to post about their trips and accept passenger requests
4. Drivers to set their fare prices
5. Provide Listings for available rides
6. Passengers to send requests for rides

System Modules I

1. Ride matching
   This modules connects the driver and the passenger
2. Driver Rides Listings
   This module handles listing the rides that drivers are offering. Drivers can post they are accepting requests from passengers and the details about the journey
3. Passenger Ride requests
   Passengers make requests for a ride. They post their details and details about the ride.
4. Payment Modules
   This module helps the driver establish how much they will charge to cover for the fuel and share any costs that might arise. The passengers can also state how much they can pay.
5. Admin Module
   This module helps in verifying drivers who want to use the system. Admins can have the stats about the system usage.

Related Systems I

1. SWVL
2. Carpool World

Technology I

The aim is to build a reliable, scalable and secure system.

1. Distributed Systems
   To achieve scalability and reliability the system will be build using distributed systems technology.
2. Cloud Native
   This will be a cloud application.

References I