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**INDEPENDENT UNIVERSITY, BANGLADESH**

**Assignment 01**

**COURSE**: System Analysis and Design

**Name:**

Azwad Fawad Hasan

**ID:** 2020222

**Section:** 01

**SUBMITTED TO:**

Sabrina Alam

**DATE OF SUBMISSION:**

11th June 2022

**Project Topic:**

My project’s name is “Eki Path”.

“Eki Path” is a free ride-sharing application whose main focus is to connect people with other people, who use a private form of transport, to travel in the same route or destination as them.

**Project Goal and Objectives:**

The main goal of this project is to develop a cost-effective platform suitable for people (mainly women and students) in Bangladesh to connect with other students/people with private vehicles going to the same destination. The application will also aim to effectively reduce the traffic jam in Dhaka city by moving people efficiently from one place to another place.

The objective of this free ride-sharing application project is to design and build a mobile application to help students who use public transportation(for example- local bus, cng) to travel find other students/ people, who uses private transportation(for example- private car, bike, microbus etc) to travel in the same route as them.

The goals and objectives of my project are listed below,

* To create a database to store information about students/people who uses private transportation medium to travel.
* To store information of their starting journey location and ending destination. Also, their journey starting time and arrival time(ending time).
* To store information of the days of the week they travel in certain locations.
* To book rides online.
* To cancel rides if necessary.

**History Leading the project:**

The public transit system in the world's most congested city is exceedingly substandard and inappropriate for the majority of people. Students frequently have to put their lives on the line in order to compete with other passengers for seats on running buses. Men frequently take seats intended for women and physically challenged people, and bus conductors have a habit of not picking women during peak hours. Thefts and snatchings have been observed among users of public transit systems. Many women are forced to endure sexual harassment by personnel or fellow passengers while traveling by public transportation. The existing public transportation infrastructure is a key stumbling block to the city's development.

In a city with a population of more than 15 million people, the middle and lower classes are overwhelmingly represented. There is no well-organized, rapid, dependable, low-cost bus transportation system to serve these populations, and alternate modes of transportation are in high demand.

This is where "Eki Path" seeks to make a difference by linking people with others who are traveling the same route as them in private automobiles. Users with private vehicles will offer to give rides to those on the same route/destination as them through this free-ride sharing application.

**Project Analysis:**

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| **Problem** | **Solution** |
| Currently, the public transportation system available in the country mainly consists of buses, cngs’ and taxi, rickshaws. These are slow and time-consuming. They also contribute to the city’s traffic problem. | The app solves this problem by letting users know the estimated arrival and departure time of the available rides beforehand. As a result, by offering a superior alternative transportation medium, it in turn helps to reduce traffic problems. |
| Public Transportations are unreliable and many times charge people extra fare depending on the circumstances. | The app relies on people offering other people free lift-service. Hence, it’s a cost-effective solution. Furthermore, users can visit driver’s profile to check their travel routes, days and times. Hence, the app is more reliable. |
| It is a hard task for the police to trace criminals who commit crimes like thefts or harassment in public transportation services like buses. | All data of users and drivers are kept in a database. Hence, it police can trace people quickly and easily if they commit any form of misconduct |

This free-ride sharing system can open wide range of opportunities in the future as we would be able to analysis the data and work on new features as well as make necessary changes if needed. Some of the opportunities are listed below:

* We can also enable people to deliver packages from one place to another without going through the hassle of traveling with the package in heavy traffic of the city.
* People can meet, connect, interact and make networks with new people from this friendly community created by this app.
* The government and other organizations can build or improve city’s existing roads and transportation system problems by analyzing data from this application.
* Companies can market their products and services by partnering with the app developers.
* Commuters can give feedback which can help improve the system

**Product Summary:**

The project is about a free-ride sharing application which is focused on giving better transportation services by connecting people with other drivers travelling to the same destination/route as them. The app relies on drivers/ people with private cars to volunteer to free lift services to ca going to the same route/destination as them. The app will offer various discount coupons, vouchers and gift cards to the drivers from the revenue generated from the in-app advertisements.

**System Stakeholders:**

* Passengers (people without any private vehicle)
* Drivers(people with a private vehicle)
* System Engineers
* Mobile Application Administrators

**Context Level Data Flow Diagram:**

Diagram

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**Hardware and Software:**

* **Development Environment:**
* The minimum hardware requirement of implement the system would be an intel dual core processor or a AMD Ryzen dual core processor with at least 2GB RAM, 120GB hard disk and other standard hardware
* The software’s required in the process would be VS code, MySQL server and any desktop operating system
* **Operating Environment:**

* The hardware of the operating device should be such that it must be capable of running a mobile application.
* Any working smart phone with GPS service and an android operating system (minimum version – android KitKat 4.4.4) or IOS (minimum version iOS 8) or any Linux based operating system

**System Technical Features:**

* The mobile application can be accessed from anywhere, anytime with any modern smartphone with a GPS and an android, iOS or Linux based operating system.
* The mobile application offers increased data security and ensures data integrity by RDBMS
* As per one’s need various customization can be done. For example- changing theme to dark mode.