

Digital Public Transport System

Course: Software Engineering

Section: E

Name

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Introduction

In my system a public transport rider can communicate with driver and authority and driver can see updates of a passenger and an authority can observe the behavior of driver and rider. There will be three different actors: rider, driver and authority. A rider can book a seat, track vehicle location, check traffic updates and review about a driver. On the other hand, drivers can check whether there are passengers waiting in the next station or not and finally based on the review data given by the rider and driver authority can take steps against a driver or rider. In the BRTA database all the information about drivers such as driver certification data, driver name and other information, vehicle legal certification data, passenger information and other important data will be added.

Justifications

In Bangladesh, we don't have any kind of software system that can connect riders and drivers in the same system. It's a matter of great sorrow that we don't have a proper digital public transport system in this digital century.

Each and every year thousands of people die because of bus accidents. It's a matter of great sorrow that we don't have a proper digital public transport system in this digital century. In this circumstances, if we can create a proper digital public transport system then

- people can save their lives
- people can save time
- drivers can save time

- transport system will be easy for new rider
- rider can select destination through this system
- traffic system will be systematic and easy
- illegal drivers can grabbed by police easily
- illegal transports can be identified
- unfit transports can be identified
- authority can penalize transports owner
- crime can be reduced as well as
- Our authority can manage our transport system in such an easy and systematic way.

Scopes and Objectives

As there is no system that can make easy and systematic our public transport system so my system will create a crucial role in transport system and the scopes and objectives of this project are

- To reduce accidental death ratio
- To reduce traffic jam in main city
- To make our transport system more easy and systematic
- To save driver and riders time
- To make sure security of rider
- To identify illegal driver and bus
- To identify which driver is breaking traffic law
- To legalize our government system

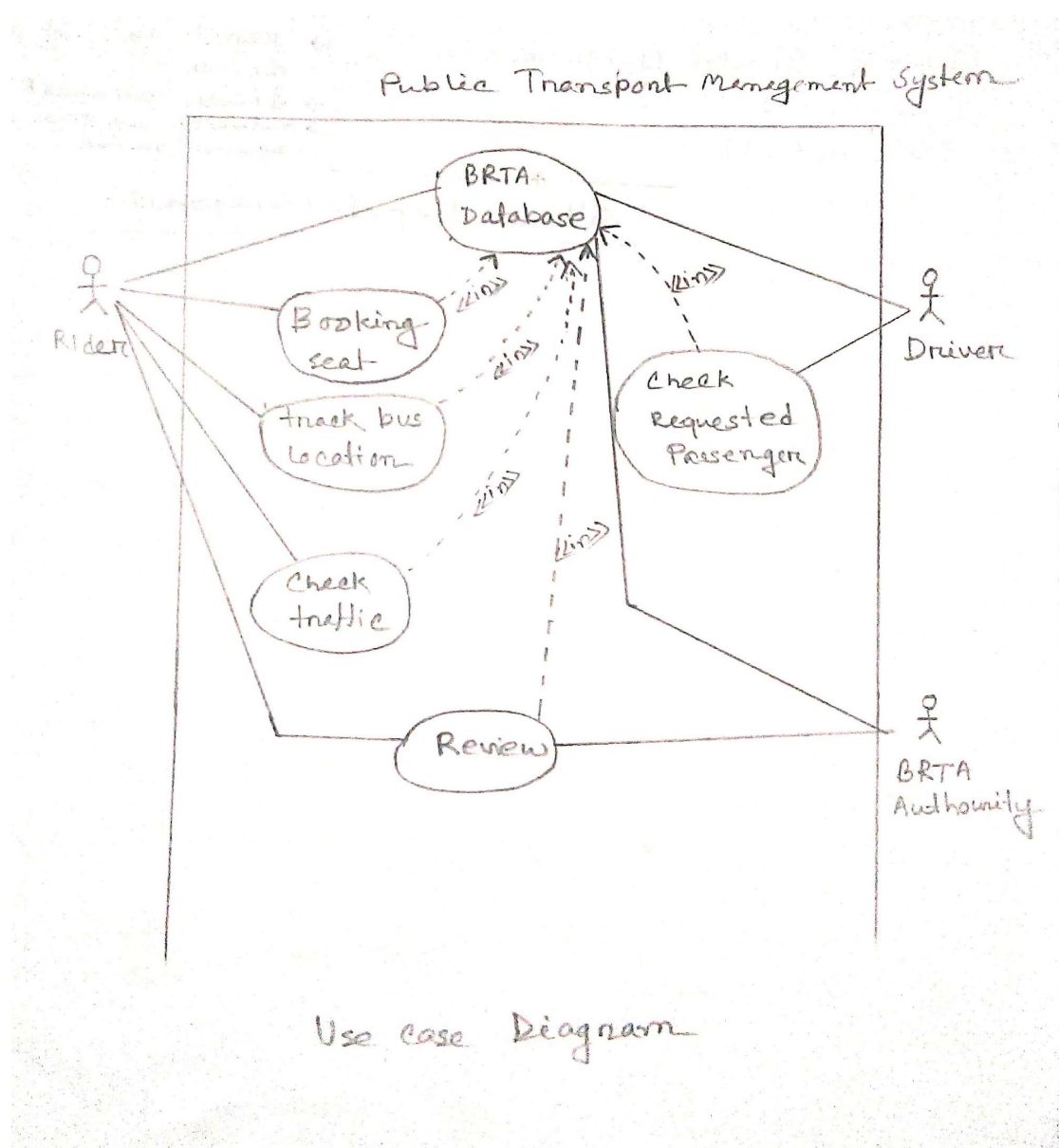
Overview of the system

Module:

There will be 3 actors in my system : rider, driver and BRTA authority. They are actively connected with each other.

Here the BRTA database is creating an important role.

Use Case Diagram:



Model selection

I chose the Agile Scrum model to develop a digital public transport system.

Digital public transport system is basically a huge system so we need to update the system regularly and in future we have to add more features to it. In the future we have to add taxi cabs, micro-bus and other vehicles in it.

Roles and responsibilities:

Product owner: Responsible for the project, managing, controlling and making visible the product backlog list. Product owner is selected by the scrum master.

Scrum master: Responsible for helping all team members follow scrum's theories, rules and practices and that it progresses as planned. Scrum Master interacts with the project team as well as with the customer and the management during the project

Development team: People working together to deliver software. Precisely the scrum team is involved, for example, in effort estimation, creating the Sprint Backlog, reviewing the product Backlog list and suggesting impediments that need to be removed from the project.

Model Justifications:

- As Digital public transport system is a big project so it can be broken down into more manageable chunks
- Scrum approach ensures efficient use of client time and money
- As it is a large project so we need regular team meeting to make this project more accurate
- A Sprint meeting is crucial to this project as we need regular review of this entire project.
- The development team and the client work in closer contact and receive more feedback.

- Issues are identified well in advance through the daily meetings and hence can be resolved speedily.
- Along the way, the Scrum Master keeps the team focused on its goal to make a 100% efficient system
- Agile scrum can work with any technology programming language but is particularly useful for fast moving which is very important for this system.

Resource Requirements

- Hardware-
 - Laptop, Desktop
- Software-
 - DIA
 - VISUAL STUDIO, CODEBLOCKS
 - Adobe, Blender

Requirements

Non-Functional Requirements

NFR-1: User friendliness

System should be user friendly

NFR-2: Faster

System should be faster

NFR-3: Time availability

System should be available 24 hours

NFR-4: Responsiveness

System should be able to respond

NFR-5: Location availability

System should be available in any location

NFR-5: Internet Connectivity

System should be able to connect with internet strongly

Functional Requirements

FR-1: Rider Accessibility

The Rider should be able to access the system at any time

FR-2: Rider Updates

The rider should receive message updates when a seat is booked and a review is done

FR-3: Tracking system for rider, driver and authority

The entire actor of this system should be able to track the location of each other at the same time. Here, rider and driver cannot check authority location and when travelling is over no one can track location of other without authority.

FR-4: BRTA authority Accessibility

The authority should be able to access the system at any time and can track driver and rider location from any place

FR-5: BRTA authority Updates

The BRTA authority should also get updated on the documents being approved and send to the applicant

FR-6: Tracking system for the authority

The authority should be able to track the correction progress through the system at any time by using the module

FR-7: Approval system for the authority

The authority should be able to re-check and approve the corrected document passed on from the officer through the system at any time

FR-8: Authority Authentication

The authority should be able to log into the system before doing any of their activities

Constraints

1. Identifying genuine report is quite difficult for this system
2. This system will be difficult for those who are not used to digital systems.
3. Several types of vehicles are part of our system so adding them in this system may be difficult for the developers.
4. Implementing this system pragmatically may be difficult.

Conclusion

We have discussed all the possible ways to implement the software. Based on all kinds of requirements, demand and data I tried to brainstorm to make a potential software for a public transport management system. We have also discussed the model by which we can make the software.

References:

(i) www.geeksforgeeks.org

(ii) www.slideshare.net

(iii) www.tutorialspoint.com