MEKELLE UNIVERSTIY

EITM-SCHOOL OF COMPUTING

DEPARTMENT OF SOFTWARE ENGNEERING

Software engineering capstone project 1

Proposal submission

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Title

Ethio Train Ticket management system

Abstract

This proposal is a brief description of the system that we are going to design and implement. It includes highlight of the system functionalities and some features it consists. We believe by writing this proposal the intended users will have a brief knowledge about the system what we are trying to develop.

However this paper wont contain every detailed aspects of the system but the next papers will have a proper and detailed parts of the system.

This papers intention is to make sure our intended users like the idea and let us develop the system we are trying to do.

Introduction

As the title mentioned above this system is based on the newly emerging and expanding rail way system of our country. So, this rail way by itself has multiple benefits that gives to the society, but when we revolutionize this the users of the rail way will have access to the benefits anywhere any time.

As this century is turning to be a technological century, we believe every aspects of this world should be implemented in a technological aspect. And we are playing a part in that technological aspect by changing a manual and tiring work to a more advanced and easy system.

Some of the benefits of this system have been mentioned above like easiness and so but this system provides a lot more than that. For Instance: - It decreases energy for the customers, accessibility will increase, and there are a lot more.

So We believed you have been introduced to system a little bit so, some of the components and things we used and are going to use will be mentioned below.

Background of the system and its problem areas

Now a days the rail way's ticket management working system is done in manually. The users have to go to ticketing offices to get information. If they found their information and they acquire some problem or challenge (EG: - doesn't have enough cash) they have to go back home and come back again.

This working system is not available with out the working hours so some customers won't be able to get their information and do want they were there for.

The current implementation has very small amount of offices so there is the lack of availability to the entire customers.

If the implementation is continuing like this it will be very hard to manage and handle customers because this rail way system is developing and emerging quickly and widely increasing its destinations.

Motivation

Our motive is that there are a lot of problems in the current system so we as students and future working society believe there might be difficulties for us and the customers that use this system. So, our sake and also for the societies purpose we intend to create a great interaction between the customers and services provides.

There were some other motives. From those one of them is there is a lack of transportation in our country for people with low income. So, this rail way system helps a lot of people. So, we choose this title to work on because it solves some problems and we also solve the interactions between those customers of the rail way and the service provider.

General and specific objectives

Our general objective is to solve the problems that the current system produces. More or less the main general objective is to create an automated system.

What we want to accomplish mainly in this system as mentioned above is automation. When achieving this objective, we also will achieve some of the modules or specific objectives. some of them are:

- Online Ticketing
- Online information Management(information availability)
- Easy access.
- Data organization
- Data analysis

This are the specific objective that we want to achieve. While achieving this we also want to achieve the non functional requirements of the system. And those are: -

- Accessibility
- Effectiveness
- Easy usage
- Decreasing queues and decreasing tiresomeness
- Report Generation
- Manageability
- Easy information access
- understandability

Scope

The scope of our system as the name indicates, it is in our country Ethiopia and specifically on the newly emerging long distance rail way transportation mechanism. And more specifically we are focusing on the ticketing aspect.

But when we say we focus on the ticketing aspect we aren't narrowing the scope on that aspect only there are additional features that are available. Like cites to visit, hotels to stay on, near by activities, and other activities.

As this rail way is developing and has a lot of upcoming destinations it needs update. So, it will incorporate a lot of city activities and a lot of destinations.

Scope of the system based o the technological aspect

This systems scope rotates around the automation of the Long distance Rail way system. This system now a days have one route but when it grows in the next few years it will have different routes. This now a day's route is from Addis Ababa to Dire Dewa to Djibouti and the vice versa.

This system will be developed using a web based and mobile based applications. There will be two interfaces to the web system one for the users or customers and the other for the service providers that will provide the features.

The web application for the users will have the ability to provide information about the rail way system and also it will have the capability to ticket or book our travels.

The mobile application will have less information compared to the web-based system but it provides necessary information and also provide booking and ticketing options. The mobile applications are developed because of their mobility.

The second interface of the web-based application that is used for the service providers will have multiple features like ticketing the booked event, ticketing an event where the customer didn't use the systems we provided. And provide information for the customers based on their requests.

Limitation of our system

There are a few limitations to system like

- We were planning to add an online payment system for the mobile apps, but for some security reasons banking systems won't provide the necessary API's to provide the requested features.
- The other limitation is we won't be able to provide the mobile application with the feature of being installed in an IOS systems. We will do the feature on android devices.

This are some of the limitations but we will try our best to solve these problems by solving the necessary requirements like the security aspects. And also, we will try our best to include other mobile operating systems.

Methodology and software tools

Lets start with the methodologies we are using: -

We are using Agile software developing mechanism for the sake of the system being able to grow from time to time.

And also we are want to use MVC architecture on the code implementation. While we talk about code implementation we are changing from structured coding style to object orientation.

Some of the software tools we are going to use are:-

- Visual studio code
- Sublime text editor
- Wamp or Xamp server
- Git
- Android studio
- Simulators for android development

Some of the programming languages are: -

- Java for mobile programming development
- HTML
- CSS
- Bootstrap
- PHP
- JavaScript
- MySQL DB
- R programming

Reference

- Geeks for Geeks
- Github.com
- Stack Over Flow
- Wikipedia