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University of Petroleum and Energy Studies

Cloud Based Bus Pass System

PROJECT SYNOPSIS

Cloud Based Bus Pass System

BACHELOR OF TECHNOLOGY
Specialization in Cloud Computing and Virtualization Technology

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Introduction:

A cloud-based bus pass system is useful to the people as it is easily available through the internet in contrast to the traditional bus pass system where the authority issued the pass to the user which is rather time-consuming and inconvenient. The user had to wait in long queues to get their passes. Therefore, a cloud-based system will overcome these limitations of the current public transport system. The project aims to provide a more convenient, reliable and efficient way to bus pass generation. As the complete system is online, hence it is faster than the previously used manual system.

The users can access this system via the internet at any time from anywhere. Now, the user can save time by avoiding long queues. The passes are generated online so the chance of them being misplaced or stolen is minimal. First, the user registers on the portal and logins using his credentials. For the generation of the bus pass, the user first submits the necessary documents like photo, address proof and identity proof and then the authority verifies these details and approves or rejects accordingly. The user may not have to carry cash as it will accept payment through credit cards or net-banking or any other digital payment mode.

Our system will be using a database to maintain the bus pass information. The application will help users to generate bus passes online through the internet. The users can check for the availability of the tickets and book them according to their needs. Our system will send alerts to the user when their pass is near its expiration date and they can easily renew their passes.

Literature Survey:

The cloud-based bus pass system is a real-time project that is fast, simple and less time-consuming. The project aims to provide affordable and convenient transport facilities to the users. Because of the drawbacks of the existing manual system, an online cloud-based system is a much more reliable and simpler solution.

In the existing system, people had to manually process the paperwork but now, their work is done online which is faster. Customers can buy the bus ticket over the Internet, 24 hours a day throughout the week. The passes that are generated are unique to each individual. An official on the bus would verify the authenticity of the user and then only they can enter the bus. The Bus Scheduling and Booking System eliminates most of the limitations of the existing software.

Andhra Pradesh State Road Transport Corporation has implemented its own online bus pass system. This has significantly reduced the official paperwork and is time-efficient to generate bus passes more simply. The system provides information about the availability of busses, their timings and fare.

Methodology:

In this bus pass system customers can buy the bus ticket over the Internet, 24 hours a day throughout the week, this solves the issue of bus tickets being misplaced or stolen. The site may get overloaded due to a huge number of users visiting at once. Thus, this system is built up using cloud infrastructure for improved performance. In addition, the online system lets the customers check the availability of the bus ticket before they buy the bus ticket. Furthermore, customers no need to pay cash to buy tickets because they can pay for the bus ticket by using Credit Card (e.g. Master Card, UPI).

The Bus Scheduling and Booking System eliminate most of the limitations of the existing software. A bus pass system simply means the system can provide pass identification, pass renewal, cancellation, updating etc. Using this website we can check all details related to Bus passes and instructions like how to renew passes, and how to update them. This website keeps all information on all Bus passes. In this project users first register their details on the website & log in when they want to update or select any root. After login user needs to choose if he/she wants to generate a new or renew the existing pass. Then the user can download the generated new bus pass. Renewal and updating of the bus pass can also be done by online identification.

The bus pass system is developed using Hypertext Markup Language (HTML), Cascading Style Sheets (CSS), JavaScript (JS), BootStrap and Node.js. Database: Mongo DB is used to store and maintain passengers' information. The Non Relational database was taken because it offers high performance, high scalability, high reliability and Flexibility and for deploying the system AWS is used.

Steps Involved :

1) Registration module
2) Login.
3) Apply.
4) Check application and Issue pass.
5) Online Payment.
6) Pass generation.

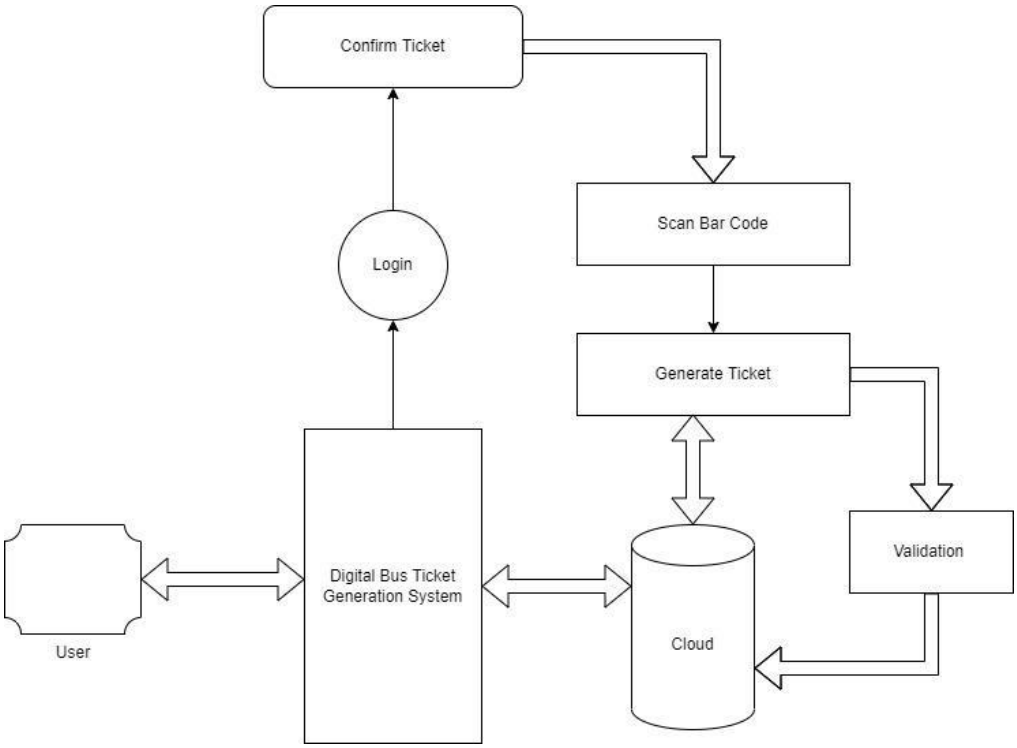

Fig 1: System Architecture.

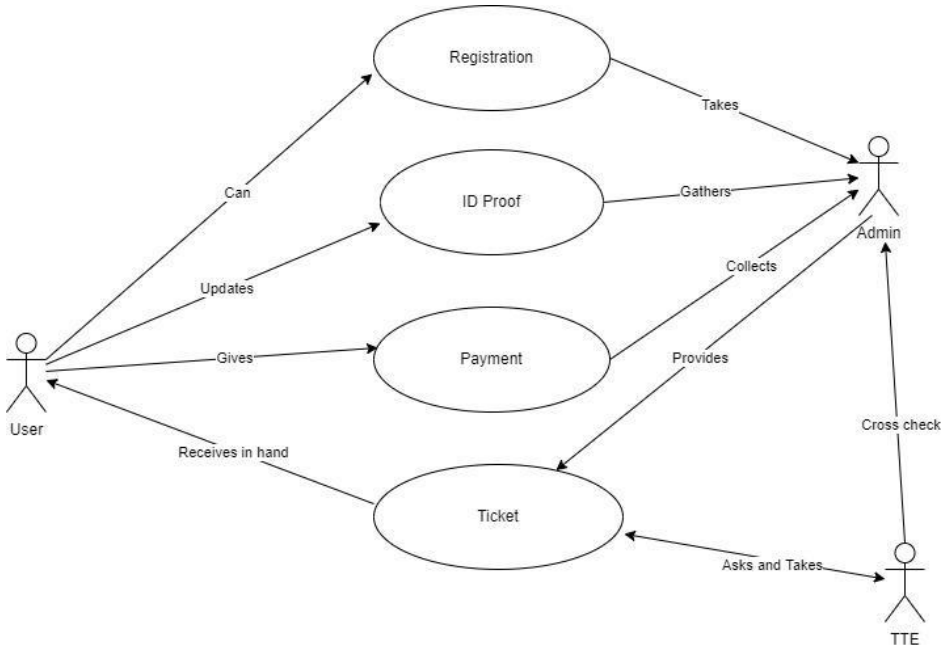

Fig 2: Use Case Diagram for the Passenger.

System Requirement:

Software Requirements-

- Operating System: Windows or Linux operating system to be used
- User Interface: HTML, CSS, JavaScript
- Programming Language: Node.js, Express.js, React.js
- IDE/Workbench: VS-code
- Server Deployment: AWS (Amazon Web Service)
- Database: MongoDB

Hardware Requirements-

- Processor: Intel CORE i3
- RAM: 4 GB
- Hard Disk 50 GB

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