# **Project Title:-**

**Online Bus**

**Seat Reservation**

**System**

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# **Introduction:-**

Our system is about **online** bus seat **reservation**.It is solving major issue about seat reservation concerns and making journey a bit simple.

# **Main Objective:-**

The **objective** of system is to provide **a user-friendly interface** for the **General public** to reserve a seat at any time and any place **online** easily and **efficiently**. Its main goal is to provide **reliable**, easily **accessible** and efficient system.

# **Problem Solving:-**

Our system is going to solve a **major issue** people are facing which is difficulty in catching a bus to **travel** to other **cities**. Suppose you have to move **urgently** to other city and you reach bus stand. But, there is a twist you get to know that you are **2 minute** late for catching your **desired bus** and now wait for 3 hours. With our system you can reserve your **comfortable journey** online.

# **System Scope:-**

The **scope** of system defines what are **primary things included** in the system and what are things **excluded** from the system.

* **Included:**

1. **Login form** for users (general public).
2. Displaying **routes** for the students to choose.
3. **Time tables** and **buses** information.
4. **User Interface** for **users** and Managers.
5. **Email** and **contact** information.

* **Excluded:**

1. **Information misuse**.
2. **Third party integration**.
3. **Mischief and misconvenience**.
4. **Multi**-language Support
5. **Seat preferences**

# **Stakeholder Analysis:-**

The **stakeholders** are those who are **related** or **affected** by the entire system.

1. **Passengers(General Public):**

* Use the system for **bus seat reservation**.
* Their needs include **ease of use** and **availability** of seats.

1. **Administrators:**

* Manages different tasks like **route determination**, availability of seats and **convenience** of customers .

1. **Drivers and conductors:**

* They require the system for being updated about time tables, **routes** and passengers.

1. **Support Team:**

* The support team helps in **booking issues**, **payments** and **seat cancellation**.

# **Functional Requirements:-**

These requirements define what a system **must perform**.

1. **Login Page:**

* A **login page** to allow users to login into system asking **name** and **Gmail**.

1. **Routes and Timetables:**

* The system **provides** information about **routes and timetables**.
* It allows students to being **updates** about change in routes and timetables.

1. **Seat Reservation:**

* Allowing users to **reserve** bus seats **online** anytime and at any place.

1. **Contact Information:**

* Providing users with **contact information** like contact **number and email** of managers and staff members.

1. **Payment Processing:**

* Ensures that system **provides secured payment** options.

1. **Notifications:**

* Sends a **notification** to user that his seat has been successfully reserved.

# **Non-Functional Requirements:-**

These define **how the system** perform tasks and defines attributes like **quality** and **performance.**

1. **Security:**

* The system should be **secure** from threats.
* The system should **not share information** of users with others.

1. **Performance:**

* The system should handle several requests without loss in **speed and consistency.**

1. **Availability:**

* The system must be **24/7** available for the general public with minimum time for **maintenance.**

1. **Reliability:**

* Ensures accurate seat **availability** and prevent double seat booking.

1. **Usability:**

* The system should provide a **user friendly** **interface** for users and management team.

# **Use Case:-**

A use case is an efficient method to **interact with users** .It uses **diagrams** as well as text to explain the **working**  of system and how user will **interact** with it.

**Title :**

Online bus seat reservation system

**Actors:**

• Users (primary)

• System Administrator (Secondary)

**Description:**

The users reserves a seat in a bus online at any time an at any place by login into the system providing name and Gmail. The system’s main goal is to allow users to reserve seats successfully. The system tells whether the seats are available or not.

**Pre-Conditions:**

* The Users must be logged into the system before use.
* The bus route and timetable must be defined in the system.
* Seats must be available on the selected bus.

**Post-Conditions:**

* After the seat has been reserved the system should send a notifications to users.

**Main flow:**

* Users logs into the system.
* The system displays routes and timetables.
* Users selects a route , time and desired seat.
* Confirm seat availability and displays booking summary.
* User confirms the reservation and completes payment.
* The system saves the booking and sends a confirmation notification.

**Alternative flow:**

1. **No seats available:**

* The system informs the user that no seats are available in the selected bus foe desired time and route.

1. **Payment Failure:**

* The system cancels the transaction and notifies the user about failure of payment.

1. **Invalid Login:**

* The system denies access to the user if he is unauthorized or the login credentials are incorrect.

**Exceptions:**

* The system goes down due to which users are unable to access the services.
* Due to multiple requests of reservations and overbooking the system can be hanged.

# **Use Case Diagram:-**

**Actor**

**Manager**

# **Technologies Used:-**

# We have used technologies like **HTML** , **CSS** and a little bit of **java script** and **bootstrap** for developing this system efficiently. **HTML** has been major and **authorizing language** to **design webpages** , **CSS** for **styling** pages and Java to add **functionality.**

# **Testing Phase:-**

# The **testing phase** include a **detailed verification** that all the **features** like **seat selection**, **bookings** and **schedule management** work properly. This will **ensure** that system will operate **seamlessly** without generating any kind of error.

# **Conclusion:-**

# In conclusion, there came many **difficulties** in **developing** the system but so came **opportunities** to learn more and more about **web development** and languages like **HTML**, **CSS** and **Java Script**.