Genba Sopanrao Moze College of Engineering, Balewadi - Pune

Department of MCA
(Affiliated to Savitribai Phule Pune University)

A MINI-PROJECT REPORT

ON

"BUS RESERVATION SYSTEM"

Submitted by

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Department of MCA

G.S.Moze College of Engineering, Balewadi, Pune

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Genba Sopanrao Moze College of Engineering, Balewadi - Pune

Department of MCA

CERTIFICATE

Certified that the mini-project work entitled **"MINI PROJECT TITLE"** is a bonafide work carried out by

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The report has been approved as it satisfies the academic requirements in respect of project based learning -I (Mini Project I) prescribed for the course.

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Name of Project Guide	**Prof.Mukta Deshpande**
Mini-Project Coordinator	Head of the Department

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Introduction

In bus reservation system there has been a collection of buses, agent who are booking tickets for customer's journey which give bus number and departure time of the bus. According to its name it manages the details of all agent, tickets, rental details, and timing details and so on. It also manages the updating of the objects.

In the tour detail there is information about bus, who has been taking customers at their destination, it also contain the detailed information about the customer, who has been taken from which bus and at what are the number of members he or she is taking his/her journey.

This section also contain the details of booking time of the seat(s) or collecting time of the tickets, this section also contain the booking date and the name of agent which is optional, by which the customer can reserve the seats for his journey

In Bus no category it contains the details of buses which are old/new. New buses are added with the details with bus no, from city to the city, type of the bus, rent of a single seat, if the bus has sleeper than the cost of sleeper, if the cabin has the facility for sitting than the cost of cabin seats, tour timings of the new bus has also been stored. How many buses are currently given and available in office?

In seats specification it gives the list of given issued and currently available seats and contain the information about seats like sleeper, cabin etc.

The main objective of this project to provide the better work efficiency, security, accuracy, reliability, feasibility. The error occurred could be reduced to nil and working conditions can be improved.

Overview of Project

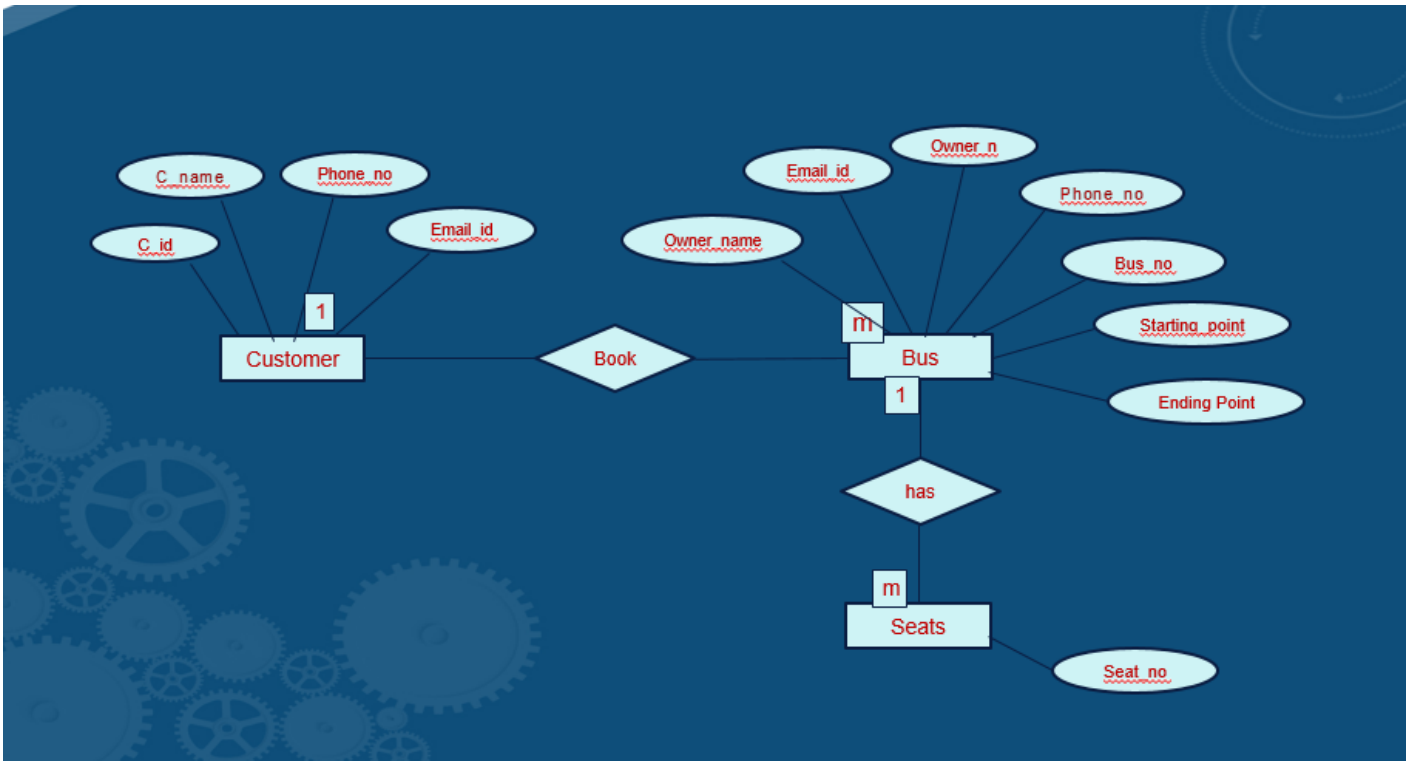
The overview of a bus reservation system involves the fundamental concepts and functionalities of a software system designed to facilitate the booking and management of bus tickets. Here are some key components and features typically found in a bus reservation system:

- User Interface: The system provides a user-friendly interface accessible through a screen. It allows customers to easily search for bus routes, view available schedules, and choose their preferred seats.
- Seat Selection: Customers can view a graphical representation of the bus layout and choose their seats based on availability. The system tracks the occupied and vacant seats in real-time to ensure accurate bookings.
- Ticket Reservation: Once customers have selected their desired route and seats, they can proceed to reserve their tickets. The system verifies seat availability, calculates the fare, and generates a unique booking reference or ticket number.
- Ticket Generation: the system generates electronic tickets or booking confirmations. Customers receive these ticket can download and print them directly from the system.
- Overall, a bus reservation system simplifies the process of booking bus tickets by automating tasks, ensuring seat availability, and enabling secure online transactions. It benefits both customers and bus operators by improving efficiency, reducing manual effort, and enhancing the overall user experience.

Modules Of Project

- Bus –Register a bus with details.
- Customer – Register as a customer.
- Select Bus – Select Available Bus
- Seat – Choose Available seats.
- Receipt – Seat Booked Receipt Will Be Generated.

E-R DIAGRAM


C_name
Phone_no
C_id
Email_id
1
Customer
Book
Email_id
Owner_n
Phone_no
Owner_name
Bus_no
m
Starting_point
Bus
Ending Point
1
has
m
Seats
Seat_no

Database Design / Tables :- CUSTOMER

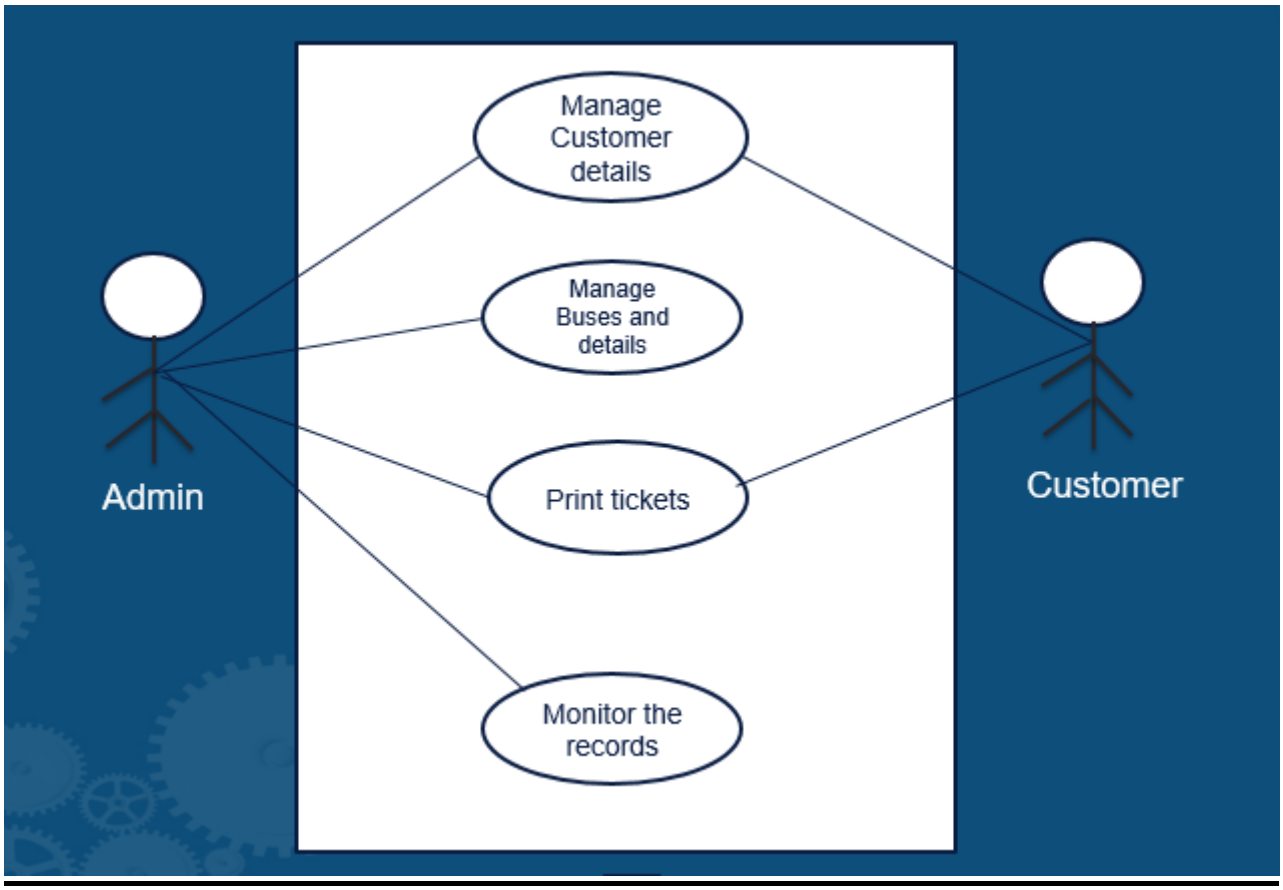
Field	type	key	extra
ID	Int(20)	Primary_key	AUTO_INCREMENT
CUSTOMER_NAME	Varchar(20)		
EMAIL_ID	Varchar(20)		
MOBILE_NO	Int(10)		

Database Design /Tables of bus reservation sytem

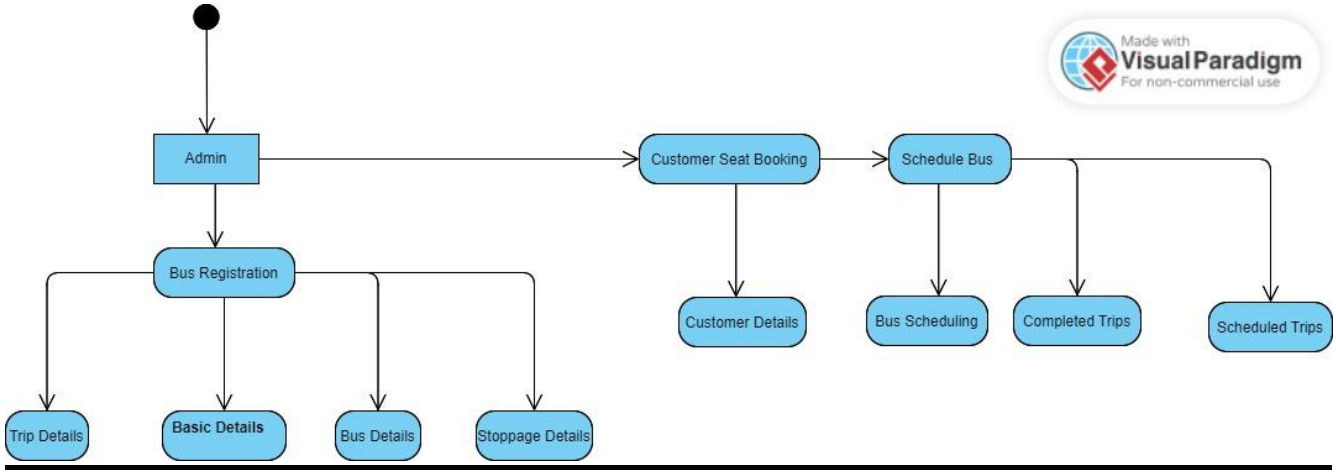
BUS –

Field	type	key	extra
Id	Int(3)	Primary_key	AUTO_INCREMENT
Bus_name	Varchar(20)		
Bus_number_plate	Varchar(20)		
Email_id	Varchar(20)		
End_point1	Varchar(20)		
End_point2	Varchar(20)		
ESTHR	Varchar(20)		
ESTMIN	time		
LAST_SEAT	Int(3)		
MOBILE_NO	int(10)		
OWNER_Name	Varchar(20)		
RIGHT_SIDE_SEAT	Int(3)		
LEFT_SIDE_SEAT	Int(3)		
NO_OF_SEATS	Int(3)		

Use Case Diagram



Activity Diagram

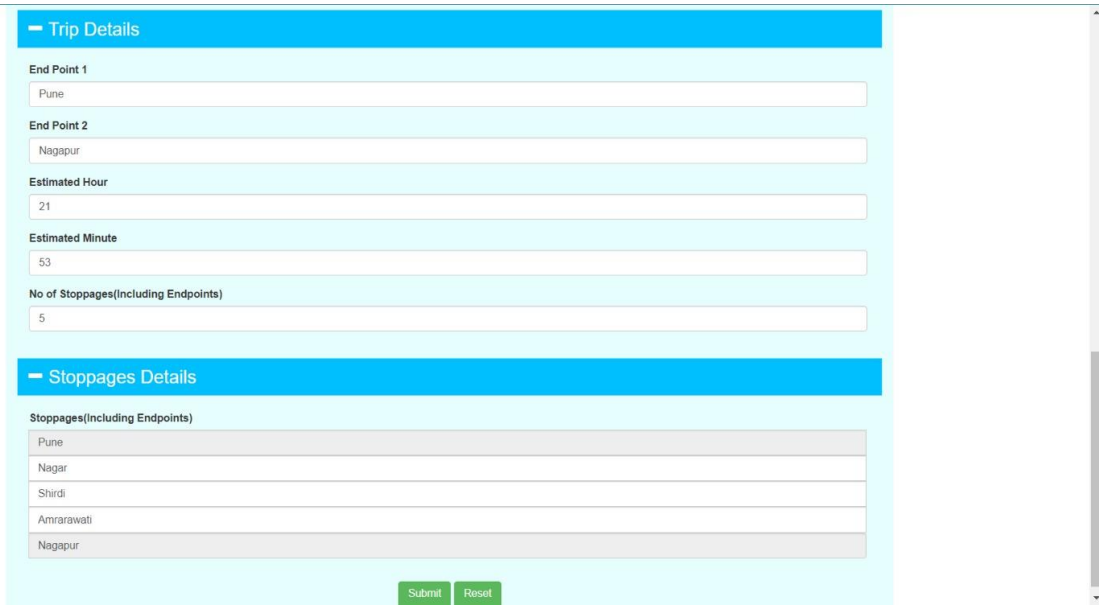


Screenshots

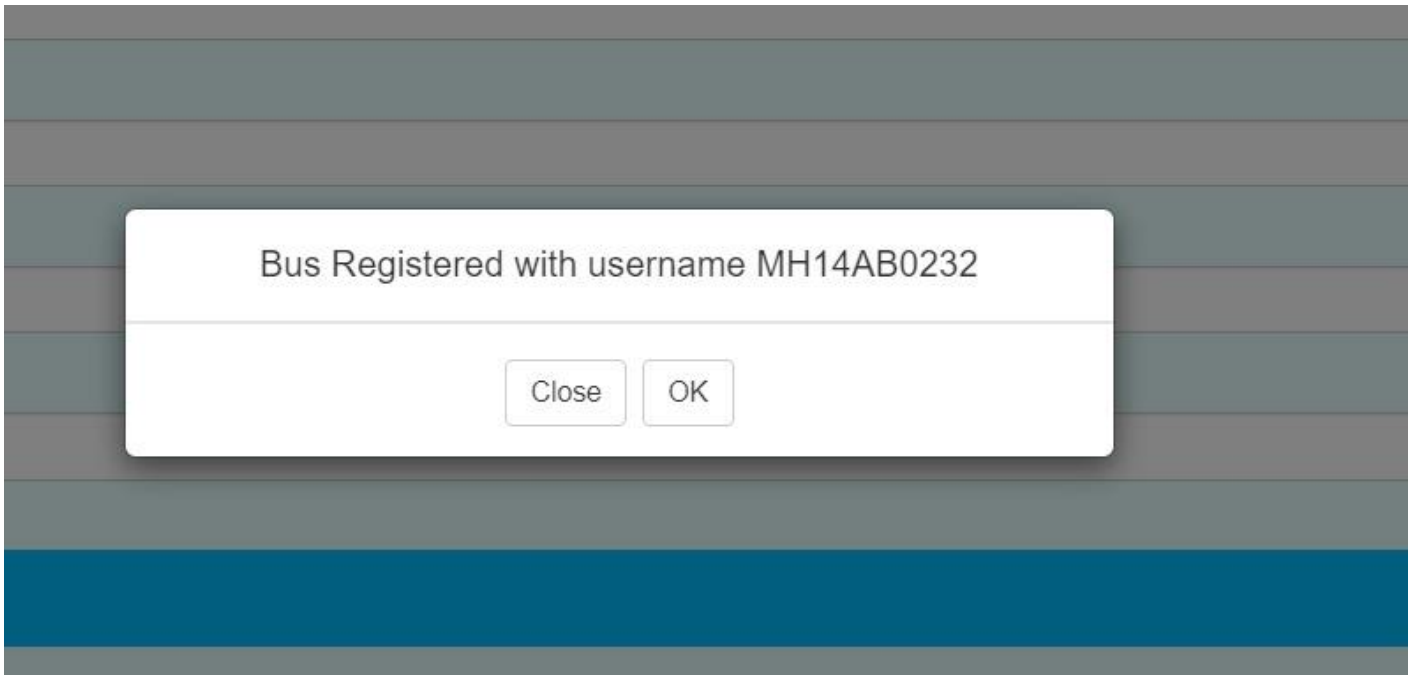
Bus Registration.

Bus Details.

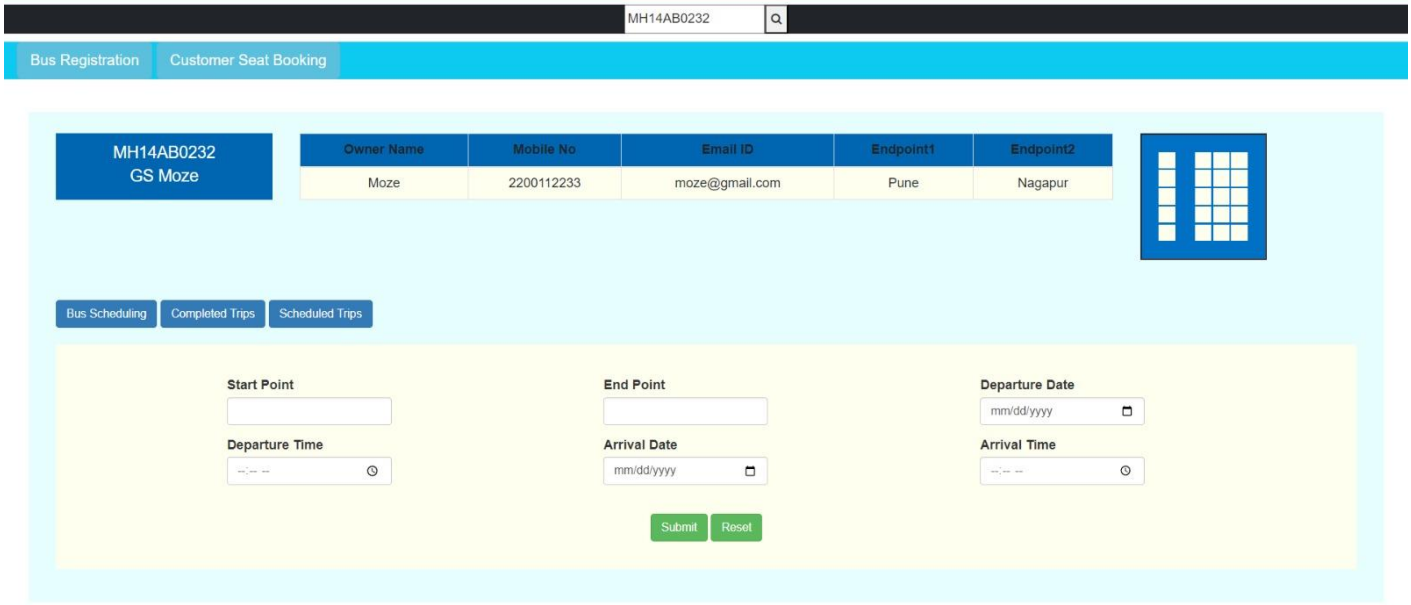
Trip and Stoppages details



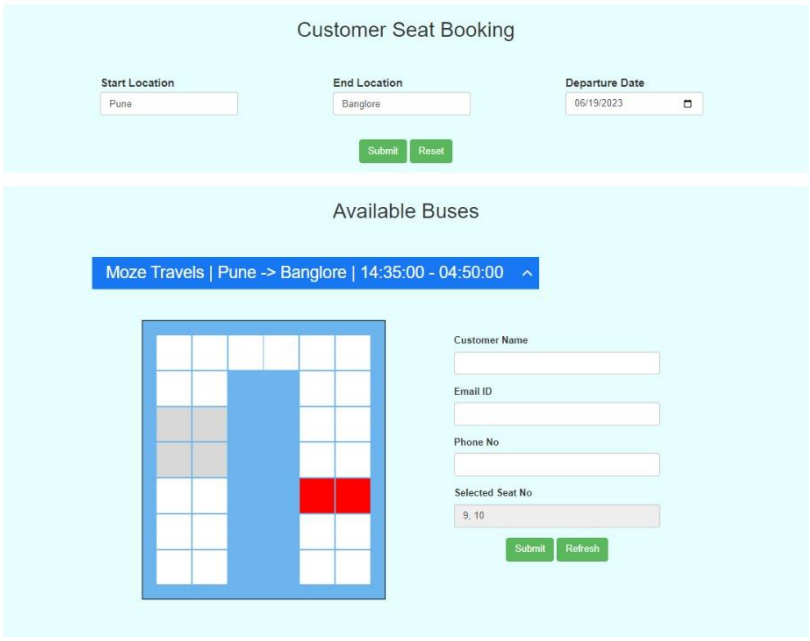
Bus Confirmation



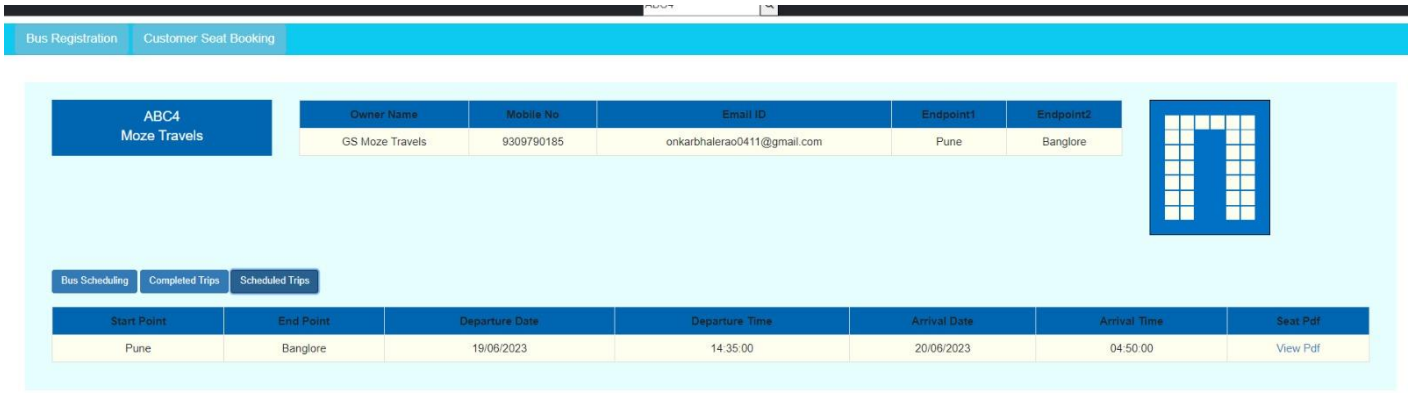
Available Bus to book



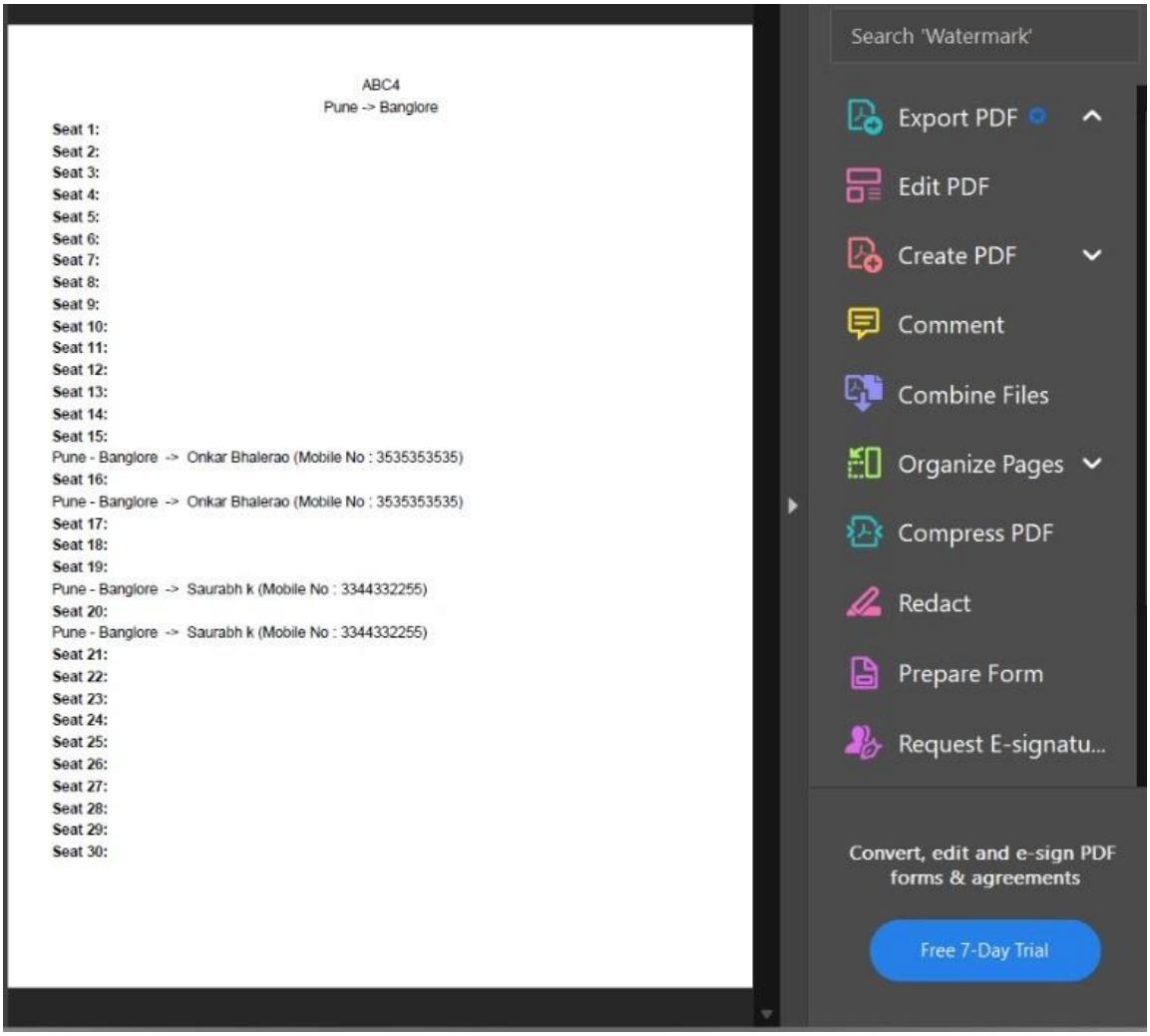
Customer Seat Booking.



Booked Seat Details



Receipt



ABC4
Pune -> Banglore

Seat 1:
Seat 2:
Seat 3:
Seat 4:
Seat 5:
Seat 6:
Seat 7:
Seat 8:
Seat 9:
Seat 10:
Seat 11:
Seat 12:
Seat 13:
Seat 14:
Seat 15:
Pune - Banglore -> Onkar Bhalerao (Mobile No : 3535353535)
Seat 16:
Pune - Banglore -> Onkar Bhalerao (Mobile No : 3535353535)
Seat 17:
Seat 18:
Seat 19:
Pune - Banglore -> Saurabh k (Mobile No : 3344332255)
Seat 20:
Pune - Banglore -> Saurabh k (Mobile No : 3344332255)
Seat 21:
Seat 22:
Seat 23:
Seat 24:
Seat 25:
Seat 26:
Seat 27:
Seat 28:
Seat 29:
Seat 30:

Testing/Result and Analysis

9.1.Black Box Testing-

Black Box Testing is a software testing method in which the functionalities of software applications are tested without having knowledge of internal code structure, implementation details and internal paths. Black Box Testing mainly focuses on input and output of software applications and it is entirely based on software requirements and specifications. It is also known as Behavioral Testing. The black box is a powerful technique to check the application under test from the user's perspective. Black box testing is used to test the system against external factors responsible for software failures. This testing approach focuses on the input that goes into the software, and the output that is produced. The testing team does not cover the inside details such as code, server logic, and development method. Black box testing is based on the requirements and checks the system to validate against predefined requirements.

A **TEST CASE** is a set of actions executed to verify a particular feature or functionality of your software application. A Test Case contains test steps, test data, precondition, postcondition developed for specific test scenario to verify any requirement. The test case includes specific variables or conditions, using which a testing engineer can compare expected and actual results to determine whether a software product is functioning as per the requirements of the customer.

9.2.White Box Testing-

The White Box Testing is a type of testing technique that mainly examines program structure and derives test data on the basis of program logic or code. It also referred to names like clear box testing, open box testing, logic-driven testing or path driven testing or structural testing. **White Box Testing** is software testing technique in which internal structure, design and coding of software are tested to verify flow of input-output and to improve design, usability and security. In white box testing, code is visible to testers so it is also called Clear box testing, Open box testing, Transparent box testing, Code-based testing and Glass box testing.

It is one of two parts of the Box Testing approach to software testing. Its counterpart, Blackbox testing, involves testing from an external or end-user type perspective. On the other hand, White box testing in software engineering is based on the inner workings of an application and revolves around internal testing. The term "White Box" was used because of the see-through box concept. The clear box or White Box name symbolizes the ability to see through the software's outer shell (or "box") into its inner workings.

Conclusions & Future Enhancements

To conclude, Project Grid works like a component which can access all thedatabases and picks up different functions. It overcomes the many limitations incorporated in the Java (Spring) Framework. Among the many features availed by the project, the main among them are:

- Simple editing
- Insertion of individual images on each cell
- Insertion of individual colors on each cell
- Flicker free scrolling
- Drop-down grid effect
- Placing of any type of control anywhere in the grid

Future Enhancement of the project: -

The project has a very vast scope in future. The project can be implemented on internet in future. Project can be updated in near future as and when requirement for the same arises, as it is very flexible in terms of expansion. With the proposed software of Web Space Manager ready and fully functional the client is now able to manage and hence run the entire work in a much better, accurate and error free manner. The following are the future scope for the project: -

- The number of levels that the software is handling can be made unlimited in future from the current status of handling up to N levels as currently laid down by the software. Efficiency can be further enhanced and boosted up toa great extent by normalizing and de-normalizing the database tables used in the project as well as taking the kind of the alternative set of data structures and advanced calculation algorithms available.
- We can in future generalize the application from its current customized status wherein other vendors developing and working on similar applications can utilize this software and make changes to it according to their business needs.
- Faster processing of information as compared to the current system with high accuracy and reliability.
- Automatic and error free report generation as per the specified format with ease.

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