ONLINE DRIVER HIRING SYSTEM
(GO EASY)

Submitted by Group 4

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Submitted to

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CONTENTS

1. PROBLEM STATEMENT

People worldwide desire to travel effortlessly but it becomes a challenge when we don't have a car and even though sometimes, we have a car, we don't know how to drive it. The Cabs and car rental system are already in the boom, but the price factor is not feasible for budget travelers or mostly students like us. As International students, we face many issues with traveling. Hiring cabs or renting a car just for a slight grocery spin would cost us almost half the shopping bill or even more.

In some cases, even after having our own vehicles, we do not have the skill to drove or a state license which makes it useless to own a car. Finding a person to drive all the time is difficult. There are not many applications available for hiring a driver. Even though there are a few, they are not trustworthy.

2. OBJECTIVES

Objectives of the proposed system are as follows:

- Design a driver hiring service interface, and an online car rental system (short term/long term).
- Maintain the safety of passengers by meeting the customers' needs and providing accurate data on cars and drivers.
- Real time update of car rental and driver information.
- Design a server with a database.
- Give the client the capacity to rate a driver/ car/ both.
- Provide comparative and customized marketing information to customers.

3. ASSUMPTIONS

- At any one moment, each booking is connected with only one automobile reservation.

- Cars that are part of the system should be available at a certain point.

- Discount codes may or may not be applied to billing.

- Due to various canceled bookings, not all bookings are connected with billing.

- Since the renter may have his/her own insurance, the rental insurance may or may not be included in the booking (In the case when customer only wants to hire a driver for their own vehicle)

- There is a precise and well-built database.

- The clients are willing to change to the new framework.

- Sufficient budget allocations are made.

- Appropriate project staff are identified and recruited.

- Management will guarantee the project team members are accessible in the process.

- Project colleagues will follow the communication plan.

- Schedule and cost estimating will be reliable with planning report.

- The project plan might change when new issues are occurred.

4. SCOPE

The scope of the new proposed system is as follows:

- The project would primarily focus on driver hiring service and car rental service.
- The goal of this project would be to improve the customer experience with regards to traveling without any issues.
- Implementation of the new features regarding car usage history in car rental section.
- The goal of this feature would be to help the customer in getting to know legitimate history of the vehicle.
- Tools intended for development and testing are Pega and Service now.

5. ACCEPTANCE CRITERIA

In order to make a project successful, acceptance criteria are important. Our project will be effective if it meets these criteria:

- The system must help customers book the drivers according to their requirements and get the driver details with acknowledgment to/from the driver online.
- It should provide a way to manage driver data and also watch over them and their activities
- The system must greatly reduce the time needed to generate nearest location of driver.
- Project must be completed within budget tolerance.
- Project must be finished and meet all deliverables before the final week.

6.STAKE HOLDERS

- Customers
- Project Managers
- Developers
- Testers

7. PROJECT CONTEXT DIAGRAM:
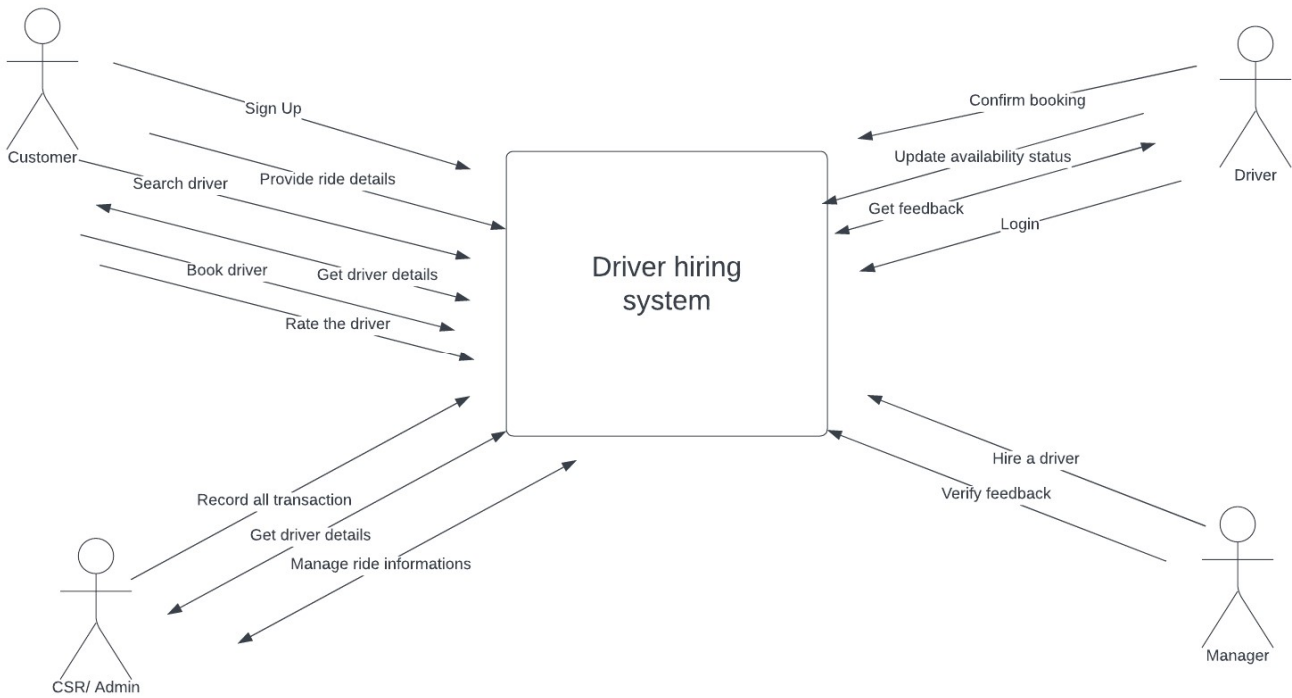
8. USE CASE DIAGRAM:

The below diagram represents the use case for the proposed system. The actors of the system are Customer, driver, Admin, and manager.

The use cases involved are:

- Signup/Login
- Provide ride details
- Search driver
- Check driver details &availability
- Book a driver
- Book a driver w/ a vehicle
- Book a driver w/o a vehicle
- Make payment
- Pay from credit/debit card
- Add payment record
- Confirm booking
- Cancel booking
- Get refund
- Rate the driver
- Update availability status
- Manage customers' information & status
- Manage drivers' information & status
- Manage ride information
- Record all transaction
- View monthly rental reports

DRIVER HIRING SYSTEM

Customer

Driver

CSR/ Admin

Manager

- SignUp/Login
- Provide ride details
- Search driver
- Check driver details & availability
- Book a driver
  - Book driver w/ a vehicle
  - Book driver w/o a vehicle
- Make Payment — <<Include>> → Pay from Credit/ Debit card
- <<Extend>>
- Confirm Booking
- Add payment record
- Cancel Booking
- Get refund
- Rate the driver
- Update availability status
- Manage customers' information and status
- Manage drivers' information & status
- Manage ride information
- Record all transactionS
- View monthly rental reports

9. USE CASE DESCRIPTIONS:

The use case descriptions shown in the above diagram are given below:

Use Case Description 1:

Use Case Name: Signup/Login
Primary Actor: Customer
Stakeholders: Driver hiring system
Brief Description: When a customer wants to become a member of driver hiring system, he/she can Sign-up.
Trigger: When a customer clicks on Signup button
Normal flow of events: 1. Customer navigates to the Website of driver hiring system 2. User inputs User Info which includes First Name, Last Name, Email Address and Password 3. User clicks on "Sign Up" or "Create Your Free Account" button on main screen.
Exception Flow: If a customer enters invalid information, then the display shows "Sign-up error"

Use Case Description 2:

Use Case Name: Provide ride details
Primary Actor: Customer
Stakeholders: Driver hiring system
Brief Description: Customer provide their ride information so the nearby drivers can get notified
Trigger: When a customer provides ride details
Normal flow of events: 1. Customer enter their pickup and drop-off locations. 2. Customer gets a list of nearby drivers based on the information they provided.

Use Case Description 3:

Use Case Name: Search driver
Primary Actor: Customer
Stakeholders: Driver hiring system
Brief Description: Customer searches and selects driver based on their needs
Trigger: When a customer searches driver or car from the system
Normal flow of events: 1. Customer searches all matched drivers or cars in the system. 2. Customer selects suitable ride.
Exception flow: No matched driver or cars displayed. Customer updates search criteria.

Use Case Description 4:

Use Case Name: Book a driver
Primary Actor: Customer
Stakeholders: Drivers
Brief Description: Customer books a driver after checking the driver details and availability
Trigger: When a customer books a driver
Normal flow of events: 1. Customer can select a driver with a vehicle and also without a vehicle whichever they need 2. Nearby driver will be notified and confirm the booking

Use Case Description 5:

Use Case Name: Make a payment
Primary Actor: Customer
Stakeholders: Driver hiring system, driver
Brief Description: Customer will make a payment upon selecting the ride
Trigger: When a customer makes the payment
Normal flow of events: 1. Customer can make a payment either from debit or credit card 2. They can also add their payment record for future references only if they wish
Exception Flow: If customer fails to pay, shows error payment.

Use Case Description 6:

Use Case Name: Update availability status
Primary Actor: Driver
Stakeholders: Driver hiring system
Brief Description: Updates availability of the drivers
Trigger: When the server is polled, or the app gets refreshed
Normal flow of events: 1. Drivers can set their priority according to their availability 2. Based on that information customers can request a booking

Use Case Description 7:

| |
|---|
| **Use Case Name:** Get refund |
| **Primary Actor:** Admin |
| **Stakeholders:** Customer |
| **Brief Description:** If customer change their mind to not to have a ride, they can cancel booking and request for refund |
| **Trigger:** when customer clicks on get refund button |
| **Normal flow of events:**
1. Customer can ask for refund in case they haven't initiated any travelling i.e., before the driver's arrival.
2. Admin will verify the transaction and issue a refund for the customer. |

Use Case Description 8:

Use case name: Manage drivers' information & status
Primary Actor: Admin
Stakeholders: Driver hiring system
Brief description: Admin or customer service representative manages drivers' information and status
Trigger: When admin clicks on manage drivers' information
Normal flow of events: 1. To maintain a trip transparent to both parties and keep it safe admin will manage all the details about the drivers. 2. Admin will keep track of the drivers' license, registration, and insurance card. 3. They will also have a track on the drivers' complete background check which is most important for the safety of the customers.

Use Case Description 9:

Use case name: Record all transaction
Primary Actor: Admin
Stakeholders: Customer, driver hiring system
Brief description: Admin records all the transactions
Trigger: When admin clicks on save transaction
Normal flow of events: 1. Admin will save all the transactions that have been made to keep a record for future needs 2. Admin will have a record on the trip as well along with the transaction.

10. ACTIVITY DIAGRAM:

Activity Diagram
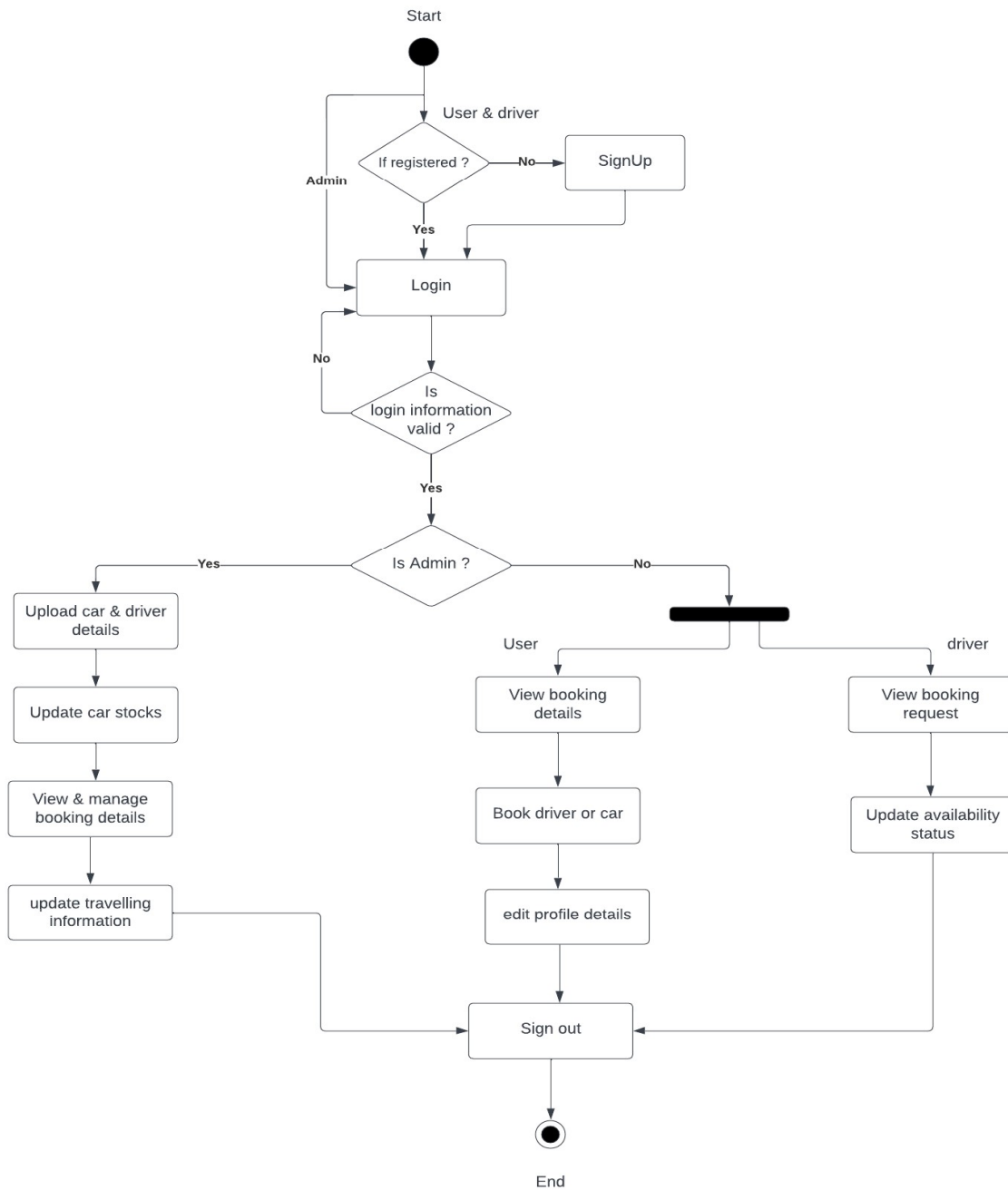
11. COMPLETE CLASS DIAGRAM (WITHOUT METHODS):
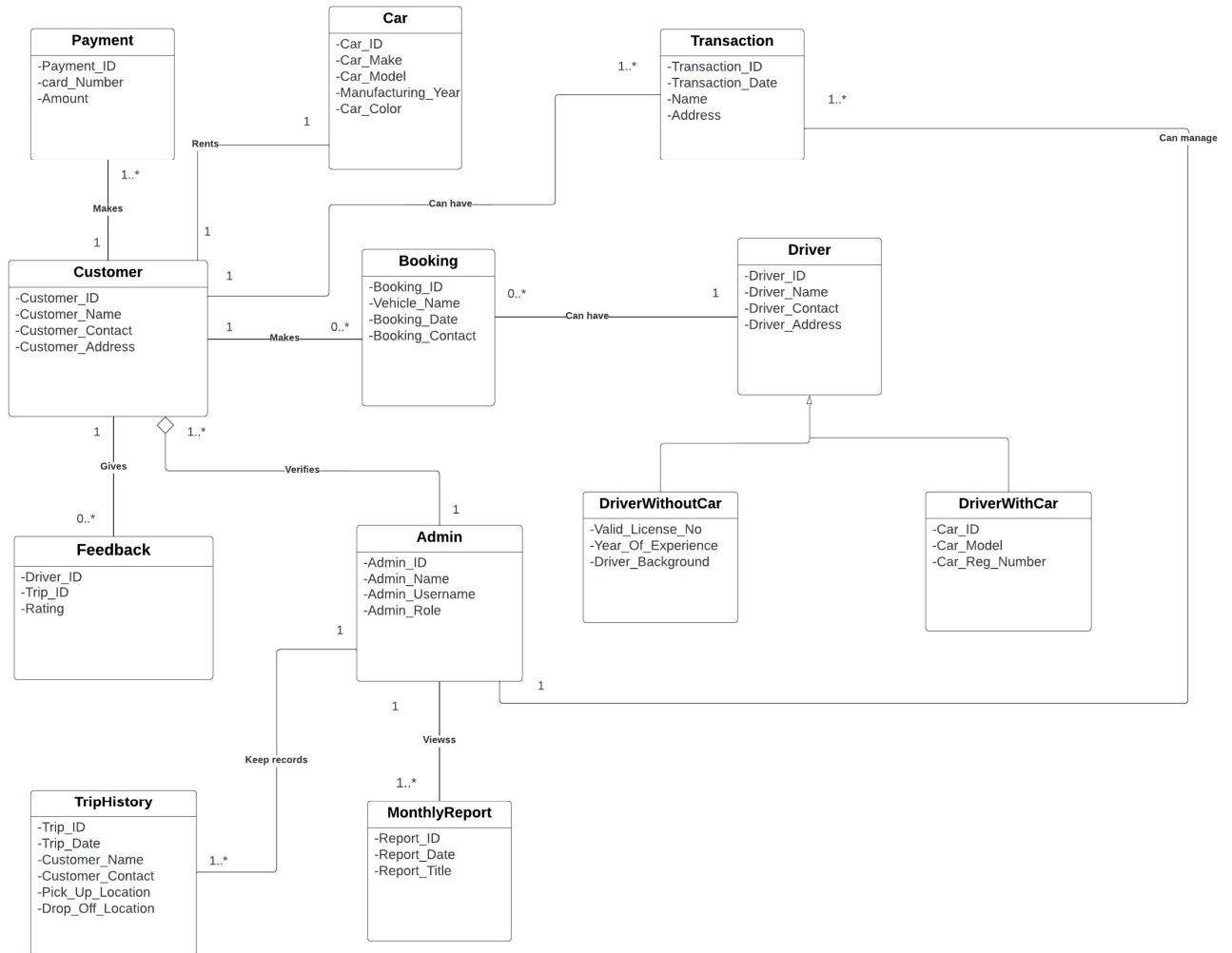
12.OBJECT BEHAVIOUR MODEL – SEQUENCE DIAGRAMS:

12.1. Book Driver:

12.2. Customer rating:

13. INTERFACE DESIGN:

https://tinyurl.com/SAPM-GO-EASY **(Mockup Model)**

13.1 Customer Home Page:

13.2 Customer Rating:

14. DATABASE DESIGN:

PAYMENT
PK	Payment_ID	integer(15)
	Card_Number	integer(16)
	Amount	integer(5)

Car
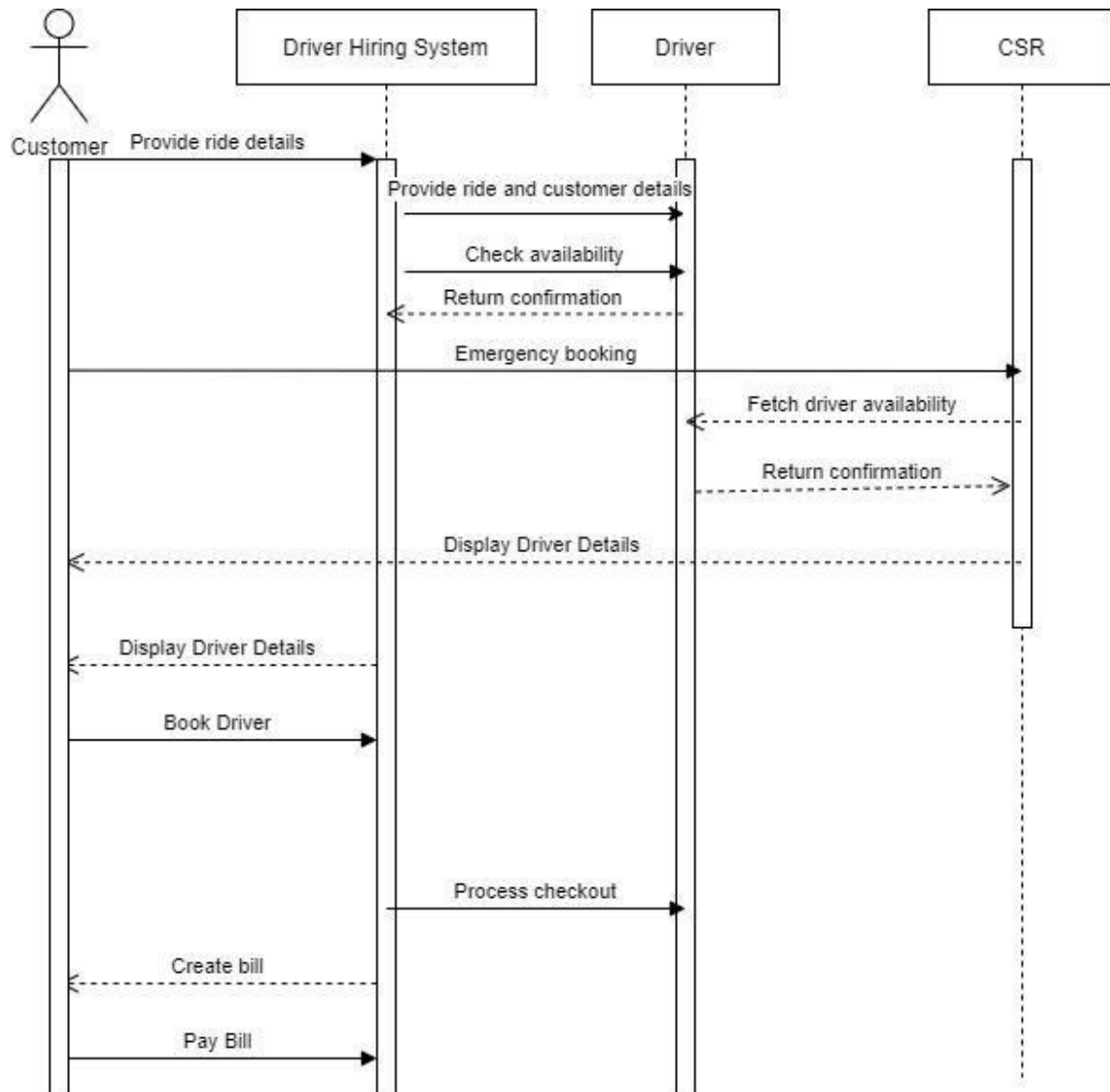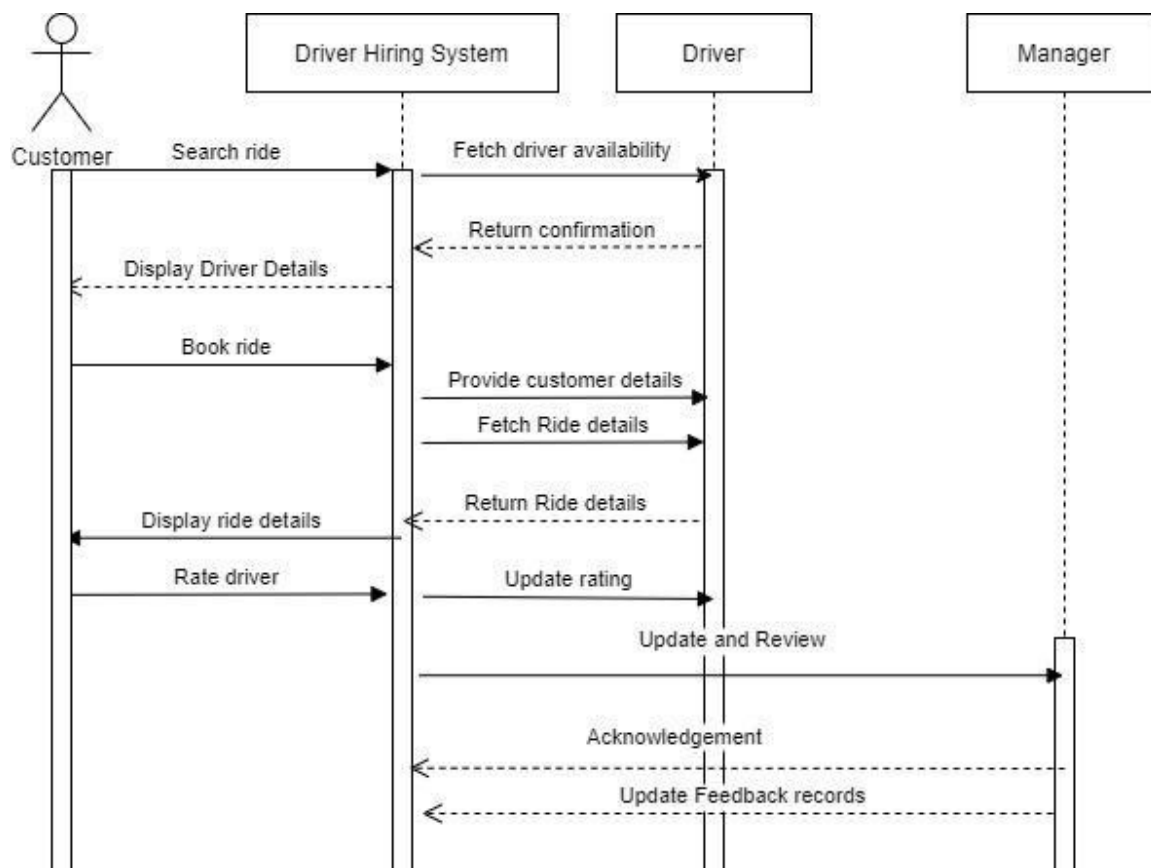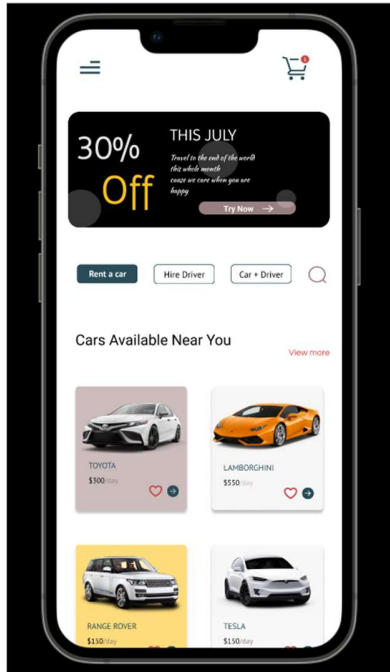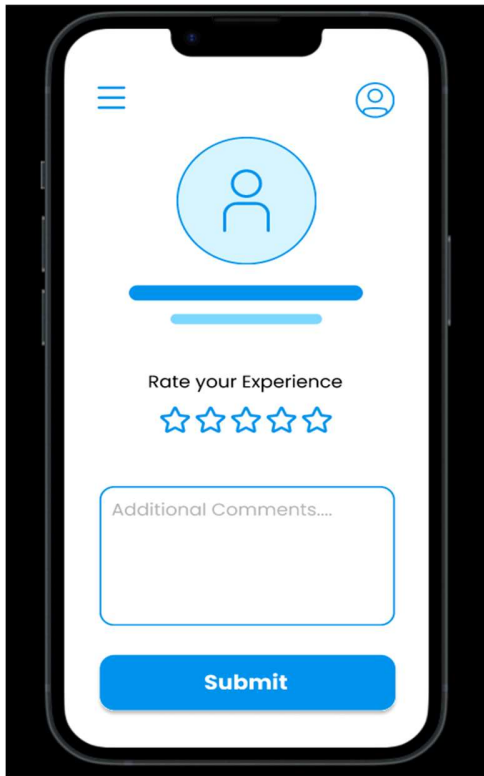| PK	Car_ID	integer(15)
	Car_Make	varchar(30)
	Car_Model	varchar(30)
	Manufacturing_Year	date
	Car_Color	varchar(30)

Transaction
PK	Transaction_ID	integer(15)
	Transaction_Date	date
	Name	varchar(30)
	Address	varchar(100)

Customer
PK	Customer_ID	integer(15)
	Customer_Name	varchar(30)
	Customer_Contact	integer(10)
	Customer_Address	vachar(100)

Booking
PK	Booking_ID	integer(15)
	Vehicle_Name	varchar(50)
	Booking_Date	date
	Booking_Contact	integer(10)

Driver
PK	Driver_ID	integer(15)
	Driver_Name	varchar(30)
	Driver_Contact	integer(10)
	Driver_Address	varchar(100)

DriverWithCar
PK	Car_Reg_Number	varchar(7)
	Car_ID	integer(15)
	Car_Model	varchar(10)

Feedback
PK	Trip_ID	integer(15)
	Driver_ID	integer(10)
	Rating	integer(1)

Admin
PK	Admin_ID	integer(15)
	Admin_Name	varchar(50)
	Admin_Username	varchar(50)
	Admin_Role	varchat(30)

DriverWithoutCar
PK	Valid_Lisence_No	integer(8)
	Years_Of_Experience	integer(2)
	Driver_Background	varchar(50)

TripHistory
PK	Trip_ID	integer(15)
	Trip_Date	date
	Customer_Name	varchar(30)
	Customer_Contact	integer(10)
	Pick_up_Location	varchar(100)
	Drop_Off_Location	varchar(100)

MonthlyReport
PK	Report_ID	integer(15)
	Report_Date	date
	Report_Title	varchar(20)

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15. EXECUTIVE SUMMARY:

The online driver hiring system is designed and implemented to meet the needs of people who have required a driver for a limited period. This project solves the problem of people who lack the skill to drive.

This project is an interface to associate different customers, drivers, and managers with their responsibilities.

People worldwide desire to travel effortlessly, and having a car and a driver booking system can immensely reduce the hassle. The cabs and car rental systems are already booming, but the price factor is not feasible for budget travelers or mostly students like us. As International students, we face many issues with traveling. Hiring cabs or renting a car for a slight grocery spin would cost us almost half the shopping bill or even more.

In some cases, even though we have our vehicle, we do not have a state license, or there is an emergency, and no one can drive, it is useless to own a car. Finding a person to drive all the time is difficult. There are not many applications available for hiring a driver. Even though there are a few, they are not trustworthy. If the data provided is inaccurate, the whole system might crash. Our approach is to design a driver-hiring service interface and an online car rental (short-term/long-term) by maintaining the safety of passengers, meeting the customers' needs, and providing accurate data on cars and drivers.

Unlike in the United States, in countries like India, many people lack the skill to drive. This application mainly targets such users. There have been many cases where people even lost lives because there was no one who could drive. So, considering these scenarios, this project has been developed.

This application is user-friendly and can be used by anyone of any age. The application functions based on the request placed by the user. A user can place a request for a driver, a driver along with a car, or just rent a car.

To ensure the safety of the users, the drivers are selected based on their driving history. Data is collected from the driver's license, and the driver is either approved or rejected based on the history. The user can make a booking by providing the location, trip start and end date and time. The user will be assigned to the nearest and available driver. The user can either accept or reject based on his rating. They can either accept that driver or reject and request a different driver. After the trip ends, the user will be asked to give feedback.

On the driver's end, he/she can accept/reject the request based on their interest. While a driver is on a trip, he/she will be notified about upcoming trip requests.

While selecting the car renting option the user will be provided with different options for renting out a car. The details of the car along with all the life history will be provided.

The application takes data from different databases. Information regarding the driver's history will be taken from the Department of Public Safety, the car's history will be taken from VIN service. The vehicle identification number (VIN) is a unique identifier for each vehicle. Because no two vehicles in service have the same VIN, the VIN functions as the car's fingerprint. A VIN is made up of 17 characters (numbers and capital letters) that serve as the vehicle's unique identity.

Integrating all of the above-explained processes the application caters the needs of the user.

16. WORK BREAKDOWN STRUCTURE

1	WORK BREAK DOWN STRUCTURE		
	Task Name	**Estimated Start Date**	**Estimated End Date**
1.1	Project Proposal		
1.1.1	Project Planning and analysis	09/07/2022	09/08/2022
1.1.2	Brain storming ideas	09/09/2022	09/09/2022
1.1.3	Drafting a Problem Statement	09/10/2022	09/11/202
1.1.4	Proposing a solution	09/11/2022	09/11/2022
1.1.5	Overview	09/12/2022	09/12/2022
1.2	Project Definition		
1.2.1	Elaborating Problem Statement	09/13/2022	09/15/2022
1.2.2	Working on Objectives	09/16/2022	09/16/2022
1.2.3	Taking required assumptions	09/17/2022	09/17/2022
1.2.4	Defining Scope	09/18/2022	09/19/2022
1.2.5	Acceptance Criteria	09/20/2022	09/21/2022
1.2.6	Listing out stake holders	09/21/2022	09/22/2022
1.3	Project Use Cases and Project Models		
1.3.1	Designing System Context Diagram	09/23/2022	09/29/2022
1.3.2	Listing out Use Cases	09/30/2022	10/02/2022
1.3.3	Designing Use case Diagrams	10/04/2022	10/08/2022
1.3.4	Working on Use case description	10/10/2022	10/11/2022
1.3.5	Designing Activity flow Diagram	10/12/2022	10/14/2022
1.3.6	Working on Business Process Model Notation	10/15/2022	10/17/2022
1.4	Project Analysis		
1.4.1	Working on proposed use cases	10/20/2022	10/21/2022
1.4.2	Working on proposed business models	10/23/2022	10/26/2022
1.4.3	Designing Individual class diagrams	10/27/2022	10/28/2022
1.4.4	Designing sequence diagrams	10/29/2022	11/01/2022
1.5	Project Design		
1.5.1	Designing Interface	11/02/2022	11/03/2022
1.5.2	Working on Data Base Design	11/04/2022	11/06/2022
1.5.3	Designing ER diagrams	11/05/2022	11/06/2022
1.5.4	Working on System control Design	11/04/2022	11/06/2022
1.6	Project Implementation and Deployment		
1.6.1	Working on Test cases	11/10/2022	11/13/2022
1.6.2	Project Submission and Deployment	11/15/2022	11/15/2022

17. MINUTES OF MEETING

Meeting Date and Time	09/06/2022, 11:00 AM	Meeting Location	Microsoft Teams
Meeting for	SAPM Group Discussion	Meeting Type	Project Pre-initiation Discussion

Attendees	Akhila Aalla, Sai Nandan Addanki, Vamsi Reddy Atchi, Greeshma Chalasani, Maheswari Devabhakthuni, Rithika Reddy Podduturi and Shahrin Shipu
	Conversation completed on various thoughts on Online Banking System, Real estate evaluation System, Online Driver hiring System

Meeting Date and Time	09/19/2022, 01:00 PM	Meeting Location	Microsoft Teams
Meeting for	SAPM Group Discussion	Meeting Type	Project Deliverable Discussion

Attendees	Akhila Aalla, Sai Nandan Addanki, Vamsi Reddy Atchi, Greeshma Chalasani, Maheswari Devabhakthuni, Rithika Reddy Podduturi and Shahrin Shipu
	Discussed on roles of each team member, brainstormed different scenarios for the project definition.

Meeting Date and Time	10/08/2022, 04:00 PM	Meeting Location	Microsoft Teams
Meeting for	SAPM Group Discussion	Meeting Type	Project Deliverable Discussion

Attendees	Akhila Aalla, Sai Nandan Addanki, Vamsi Reddy Atchi, Greeshma Chalasani, Maheswari Devabhakthuni, Rithika Reddy Podduturi and Shahrin Shipu
	Worked on WBS, context diagrams, use cases and activity diagrams.

Meeting Date and Time	11/04/2022, 10:00 PM	Meeting Location	Microsoft Teams
Meeting for	SAPM Group Discussion	Meeting Type	Project Deliverable Discussion

Attendees	Akhila Aalla, Sai Nandan Addanki, Vamsi Reddy Atchi, Greeshma Chalasani, Maheswari Devabhakthuni, Rithika Reddy Podduturi and Shahrin Shipu
	Worked on final deliverable.