

PROBLEM STATEMENT

Develop a software system for assigning cabs for customers based on their requests and locations. The customers are charged a fixed base fare plus fare based on the distance travelled. During peak demand time, a surge fee also will be charged. Apart from this, if the customer books the vehicle in advance, advance booking fees will be charged. If the customer cancels the ride for some reason, a cancellation fee will be charged.

INDEX

S.No	CONTENT	Page No.
	Software system for hailing cab-Abstract	5
1.	Introduction	6
2.	Exploration of the problem statement	7
3.	Objectives	8
4.	Diagrams 4.1 – Use Case Diagram 4.2 – Sequence Diagram 4.3 – Activity Diagram 4.4 – Class Diagram 4.5 – Data flow diagram level 0,1,2 4.6 - Architecture Diagram	9
5.	Flowcharts and Module explanations	16
6.	Implementation	21
7.	Testing	23
8.	Limitations	34
9.	Observations	34
10.	Learning Outcome	35
11.	References	35

ABSTRACT - *Software System for Hailing Cab*

Our problem statement asks us to create a project on Cab management system. The system will be designed to handle customer requests for cab services. This includes capturing customer details, such as name, contact information, and pickup location. The system should efficiently process incoming requests and assign the nearest available cab based on the customer's location. The software system will track the availability of cabs in real-time. It should consider factors such as cab proximity, current ride assignments, and driver availability when assigning a cab to a customer. The fare calculation module will be responsible for accurately calculating the fare based on various factors. The system should consider the base fare, which is a fixed fee charged to the customer for availing the cab service. During peak demand periods, the system should implement surge pricing to incentivize drivers and balance supply and demand. Payment is processed by cashless transactions. These prices are fixed by specific fare calculation formulas. This project ask information from the user such as Name , Place , Mobile Number , Starting location and Destination , and searches for the nearest drivers in the database. The system sends notifications to all the nearest drivers . The first high ranked driver who logins and pick the customer is assigned to the customer. After the ride , the customer is asked for the rating for the driver which is stored in the database. Efficient Cab Assignment, Accurate Fare Calculation, Cashless Transactions, Price management during peak hours, Advanced Booking facility. Overall, the objectives of a cab hailing system revolve around providing a seamless, efficient, and reliable transportation service for customers while ensuring fair fare calculations, secure payments, and optimal resource allocation. As we haven't used any GPS modules, we aren't able to live track the Cab or find the exact position of the cab .If there are no drivers available in the customer area, no other drivers would receive the notifications and no drivers get assigned to the customer. So the system fails here. If the driver had a sudden work came and if the driver can't pickup the customer, it would be a fail is one limitation which we overcame.

1.INTRODUCTION

- In today's fast-paced world, efficient and convenient transportation is essential. Traditional modes of transportation, such as taxis, have been disrupted by the advent of technology-driven solutions.
- One such innovation is our online cab hailing system, which has revolutionized the way people move around cities.
- Proposed system cab management system is fully computerized system removes all the drawbacks of the existing system providing lot of facilities for user(Administrator) such as allocating cabs to customers, managing drivers, customers and cabs.
- Furthermore, we will address the challenges that arise with the implementation of an online cab hailing system, including regulatory concerns, Fare price , and the impact on traditional taxi services

2.EXPLORATION OF THE PROBLEM STATEMENT

Our problem statement asks us to create a project on Cab management system.

The system will be designed to handle customer requests for cab services. This includes capturing customer details, such as name, contact information, and pickup location. The system should efficiently process incoming requests and assign the nearest available cab based on the customer's location.

The software system will track the availability of cabs in real-time. It should consider factors such as cab proximity, current ride assignments, and driver availability when assigning a cab to a customer.

The fare calculation module will be responsible for accurately calculating the fare based on various factors. The system should consider the base fare, which is a fixed fee charged to the customer for availing the cab service. During peak demand periods, the system should implement surge pricing to incentivize drivers and balance supply and demand.

Payment is processed by cashless transactions. These prices are fixed by specific fare calculation formulas.

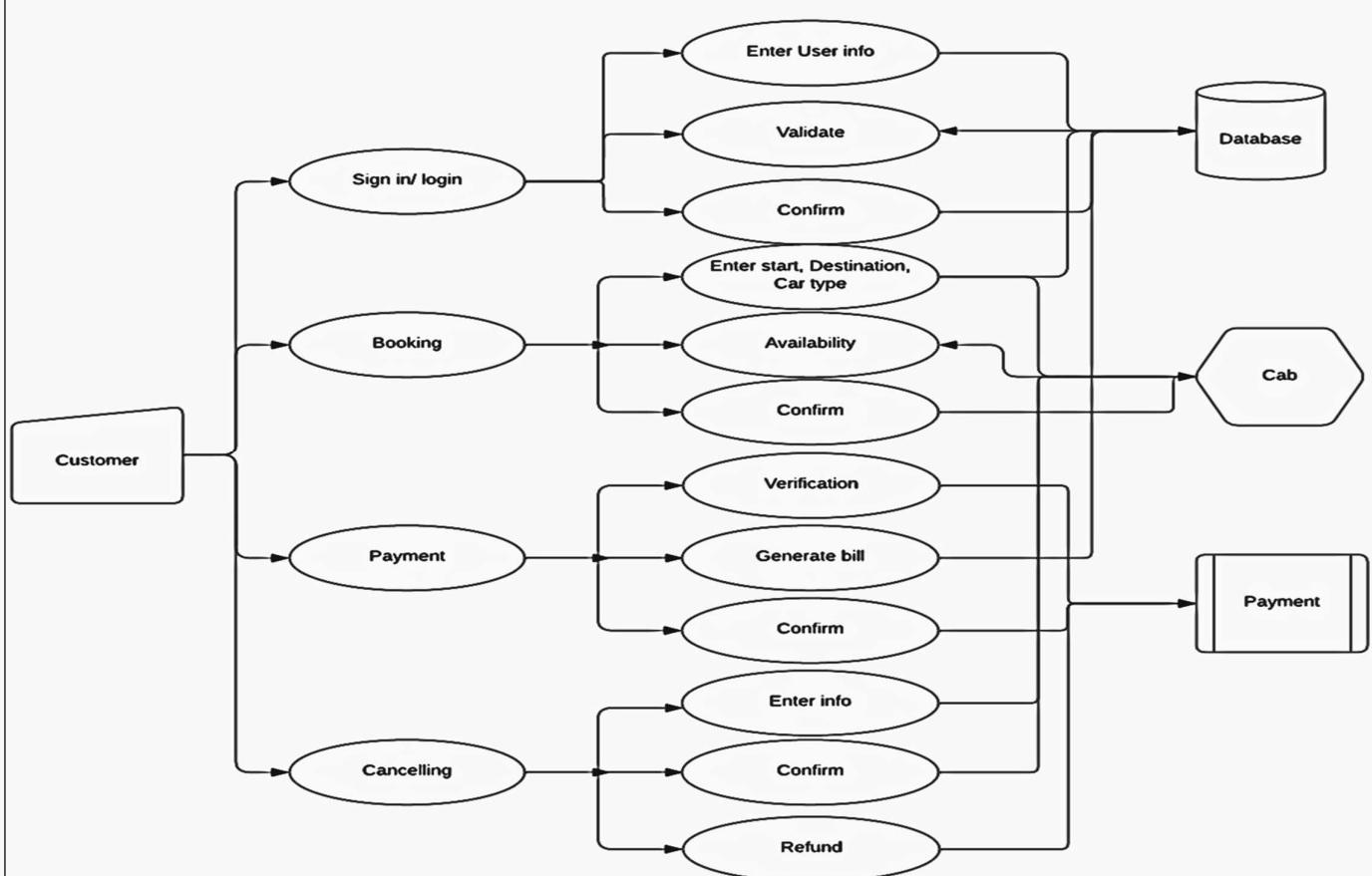
3.NEED FOR CAB HAILING SYSTEM

- Efficient Cab Assignment
- Accurate Fare Calculation
- Cashless Transactions
- Price management during peak hours
- Advanced Booking facility

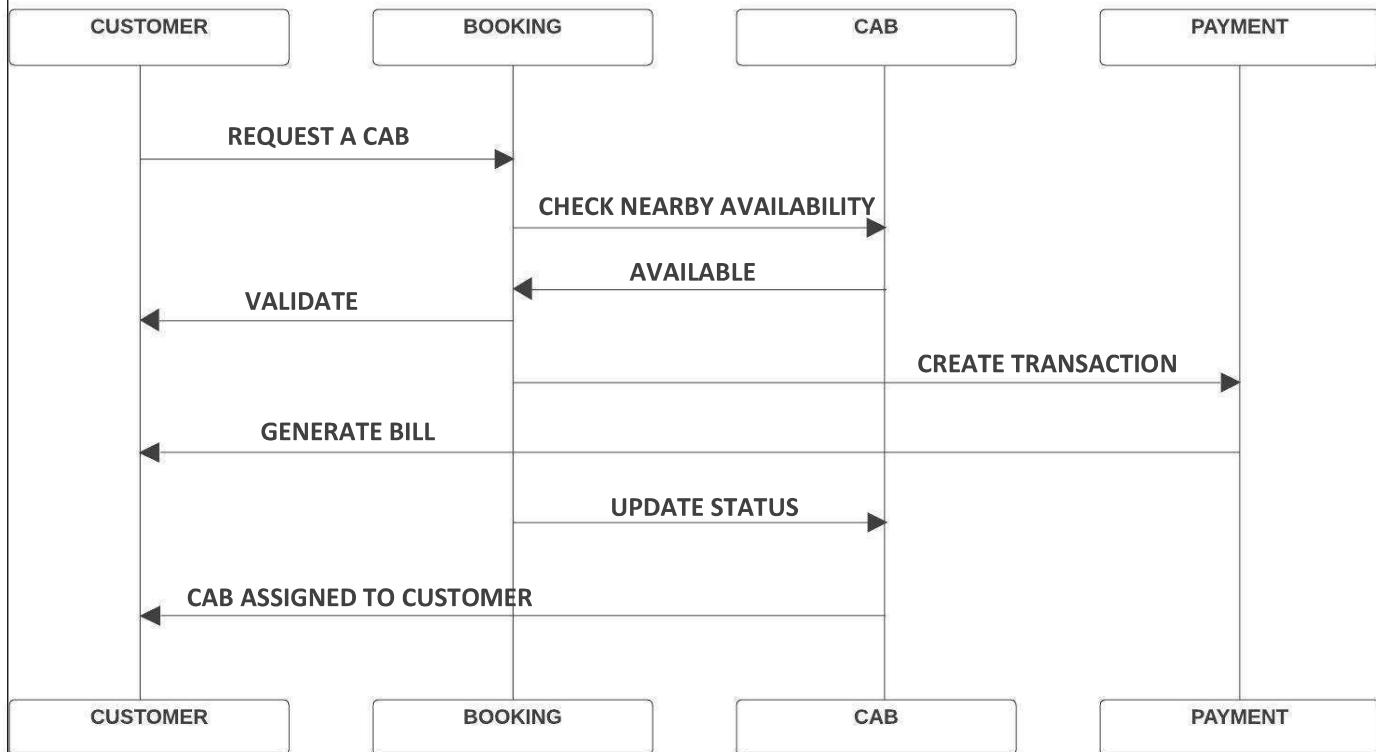
Overall, the objectives of a cab hailing system revolve around providing a seamless, efficient, and reliable transportation service for customers while ensuring fair fare calculations, secure payments, and optimal resource allocation.

4.DIAGRAMS

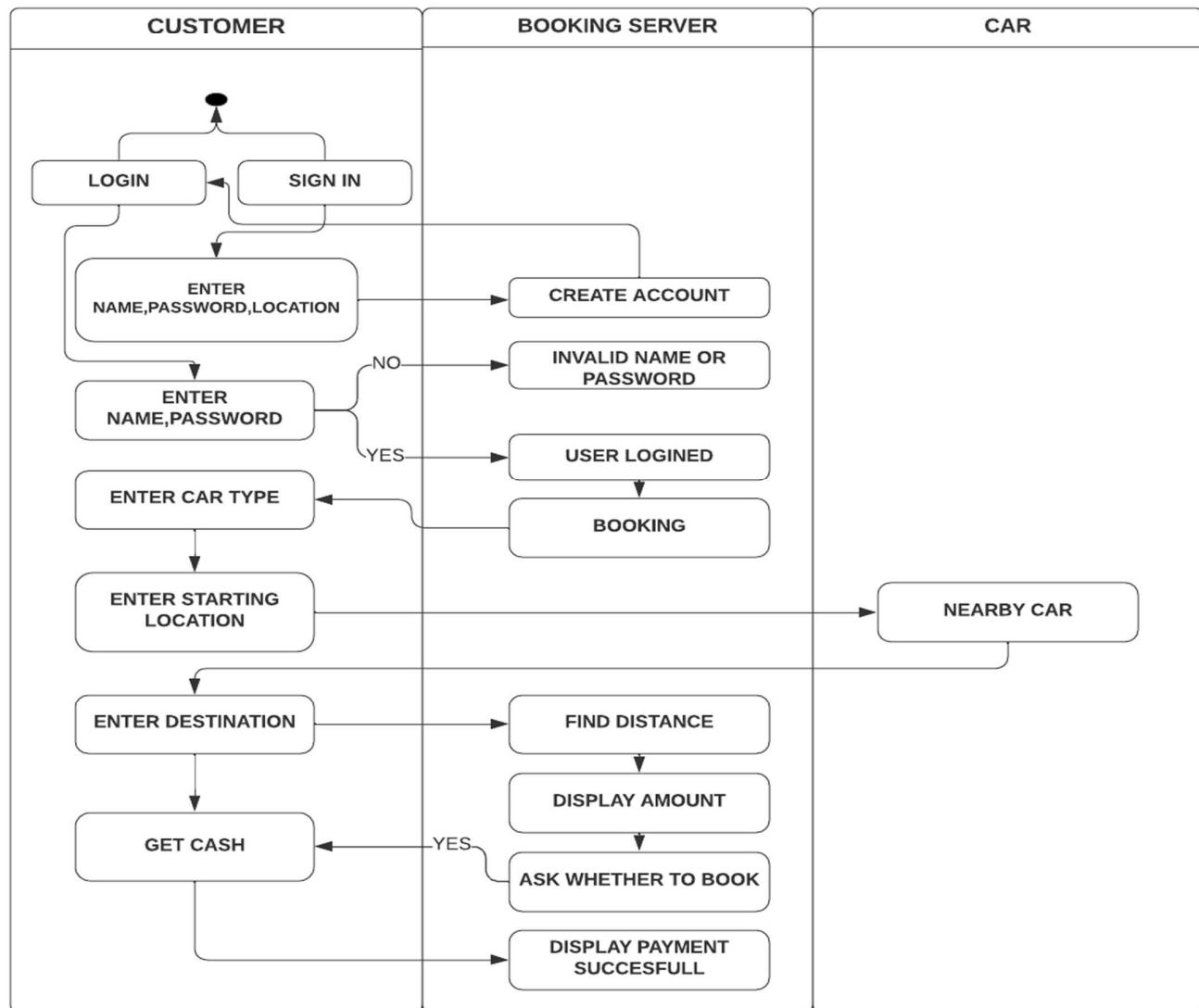
4.1-Use Case Diagram:



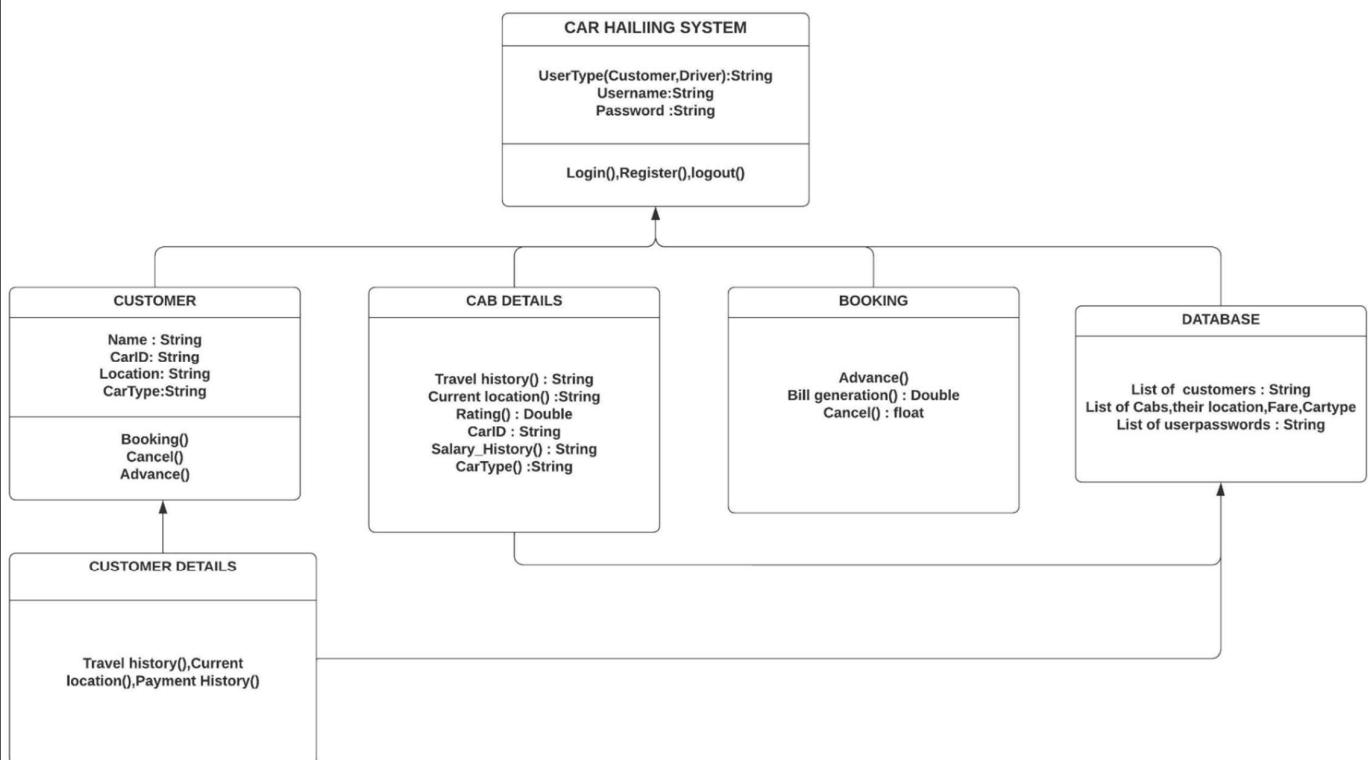
4.2-Sequence diagram



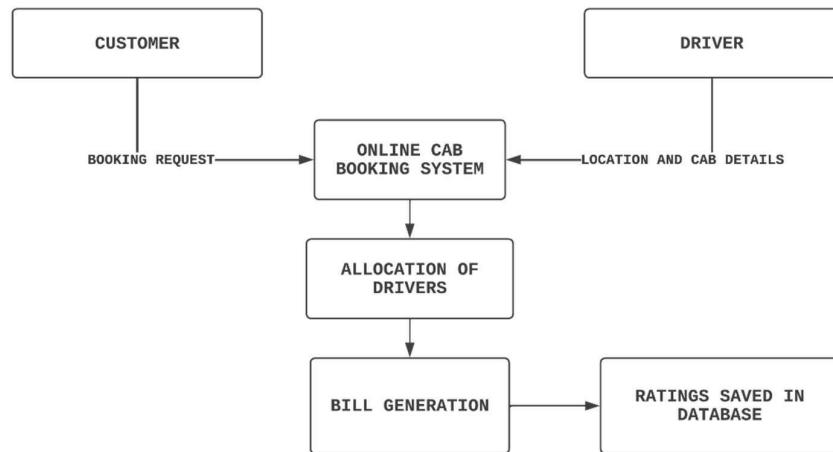
4.3-ACTIVITY DIAGRAM:



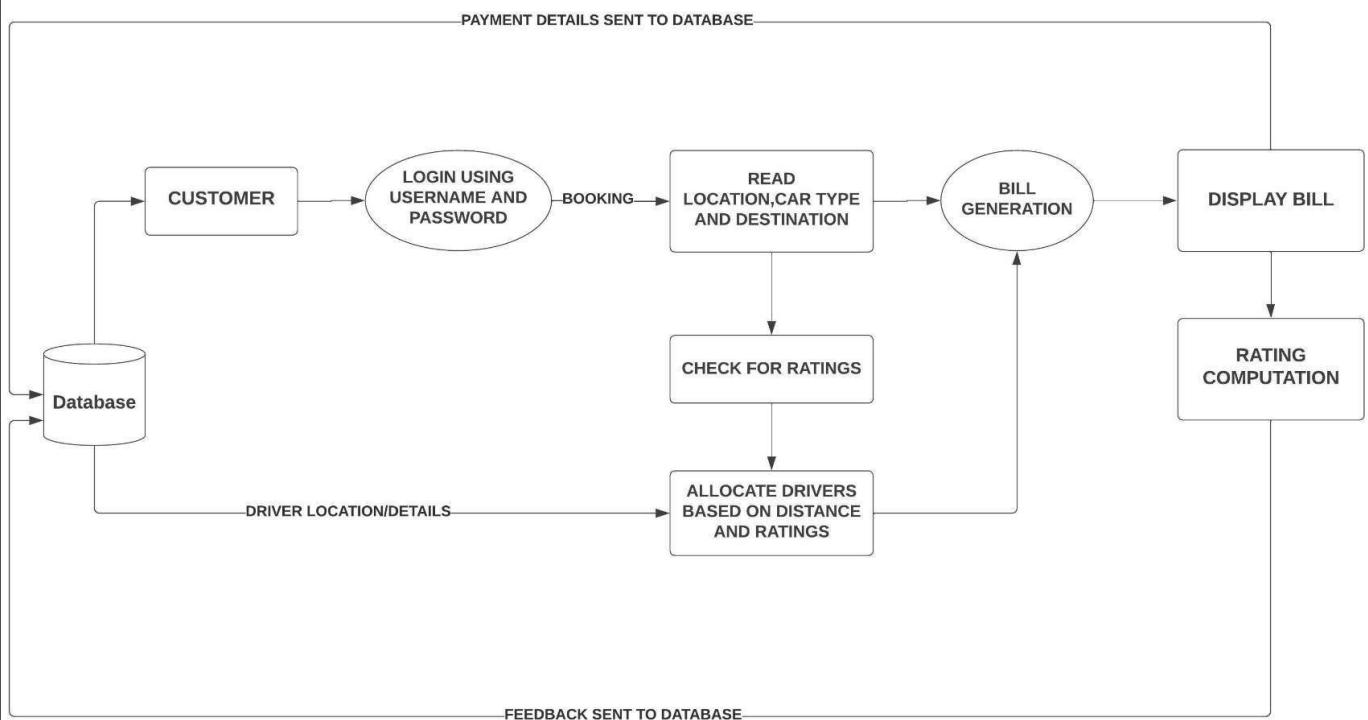
4.4-Class Diagram



4.5-DFD LVL 0

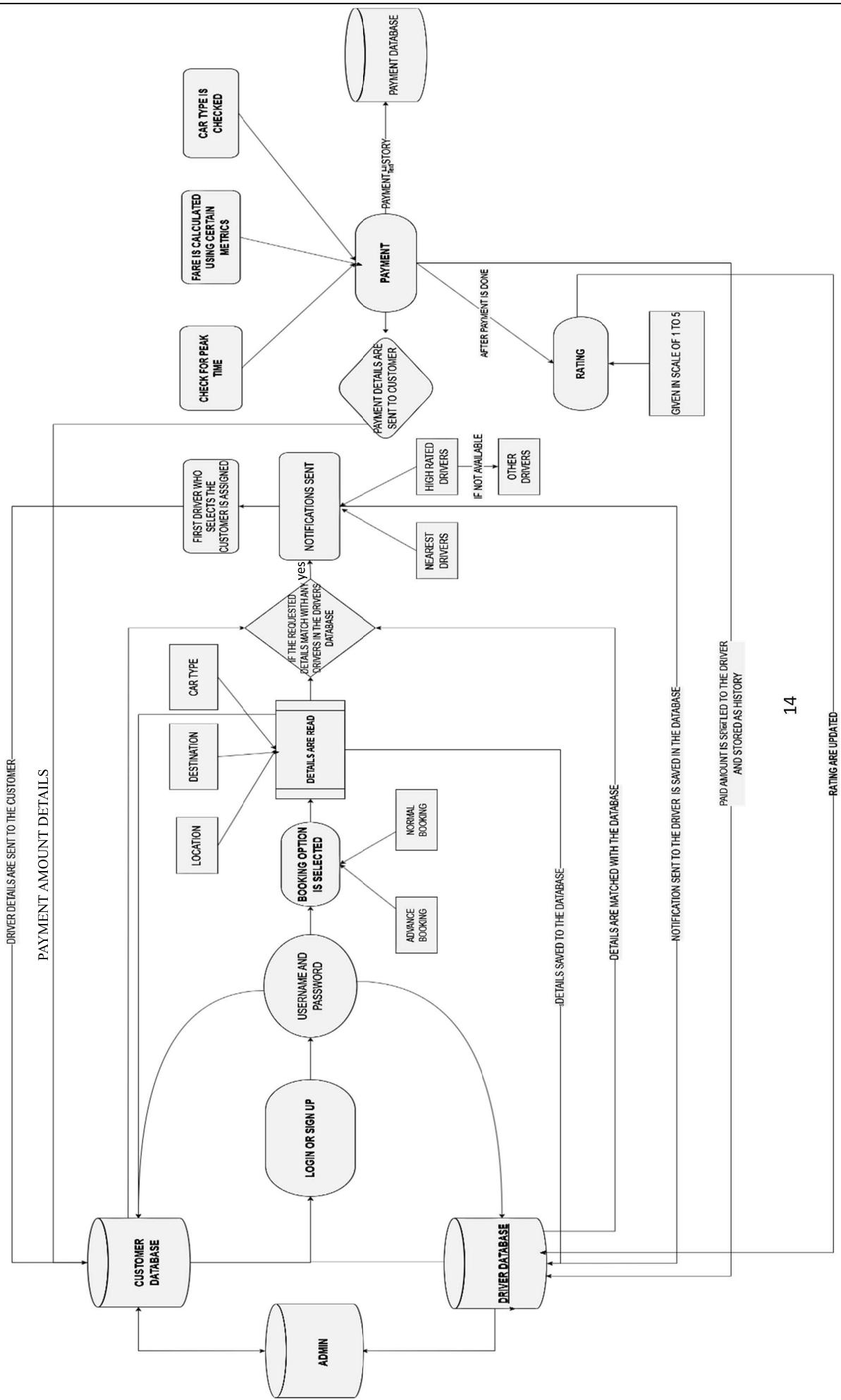


4.5-DFD LVL 1

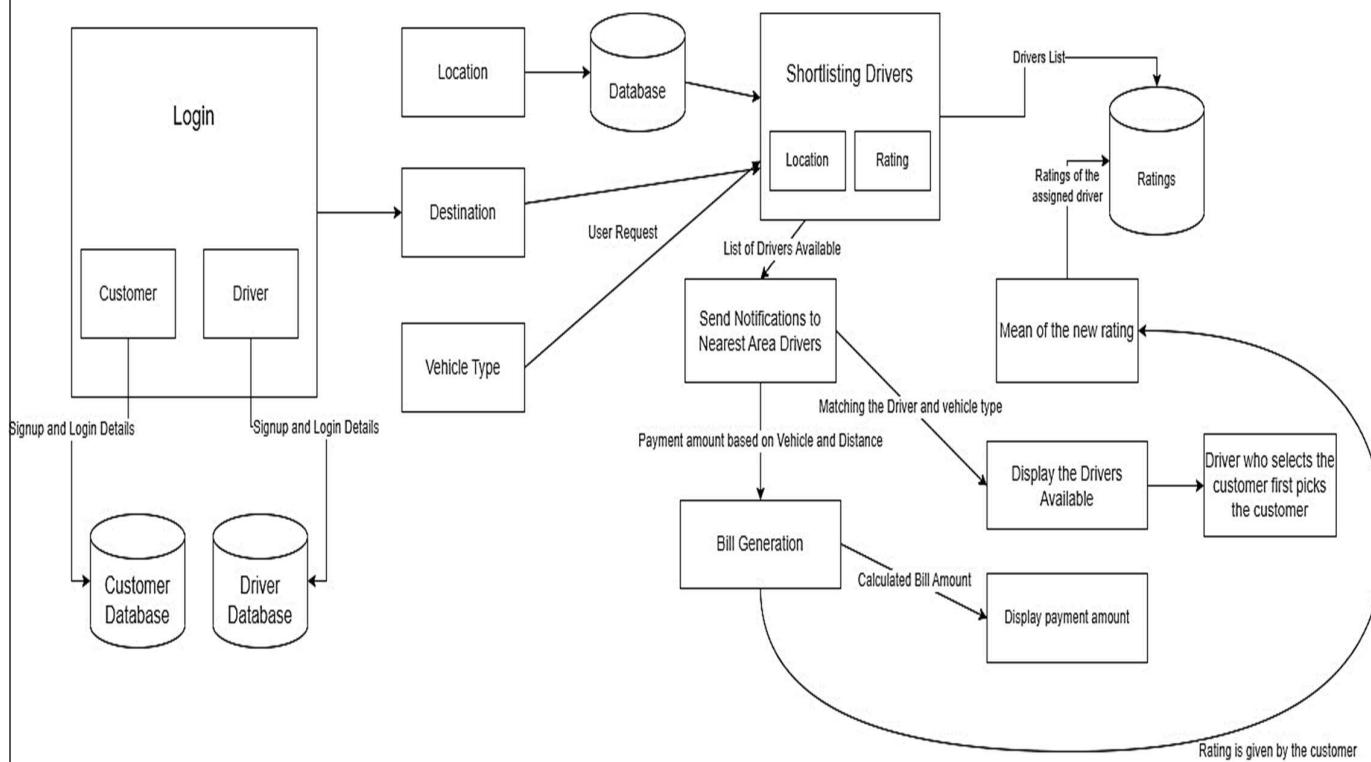


CAB HAILING SYSTEM

4.5-DFD LEVEL 2



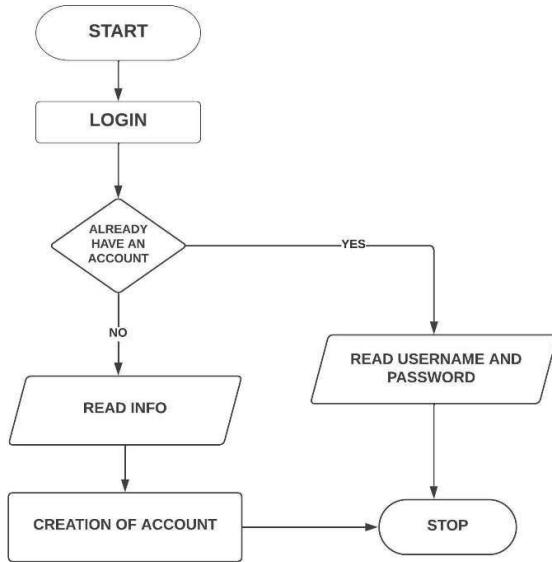
4.6-Overall Architecture Diagram



5 MODULES:

1) LOGIN

SAMPLE CODE:



```

printf("Are you a customer or driver: ");
scanf("%s", cod);

if (strcmp(cod, "customer") == 0) {
    char sol[100];
    printf("Do you want to create an account or login: ");
    scanf("%s", sol);

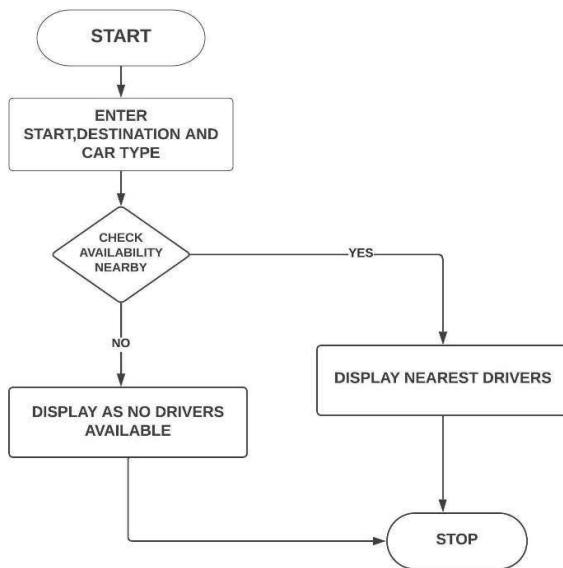
    if (strcmp(sol, "create") == 0) {
        FILE *file = fopen("customer.txt", "a");
        char p[100], cp[100], l[100], m[100];
        printf("Enter username: ");
        scanf("%s", u);
        printf("Enter password: ");
        scanf("%s", p);
        printf("Re-enter password: ");
        scanf("%s", cp);
        scanf("%s", cp);

        while (strcmp(cp, p) != 0) {
            printf("The password and re-entered password are not the same!\n");
            printf("Enter password: ");
            scanf("%s", p);
            printf("Re-enter password: ");
            scanf("%s", cp);
        }
    }
}
  
```

- The login module in a cab booking system is responsible for authenticating users and granting access to the system based on their credentials. It verifies the provided username/email and password against stored user information. Once authenticated, users can access features such as booking a cab, managing their account, and tracking their ride history.

-Kamalnath

2)Booking:



Sample Code:

```

if (book == 1) {
    char loc[100], loce[100], car[100];
    printf("Enter location: ");
    scanf("%s", loc);
    printf("Enter destination: ");
    scanf("%s", loce);

    FILE *filed = fopen("drivers.txt", "r");
    FILE *fld = fopen("distance.txt", "r");

    int dis = 0;
    char line[256];

    while (fgets(line, sizeof(line), fld)) {
        char *token = strtok(line, ",");
        if (strcmp(token, loc) == 0) {
            token = strtok(NULL, ",");
            if (strcmp(token, loce) == 0) {
                token = strtok(NULL, ",");
                dis = atoi(token);
                break;
            }
        }
    }

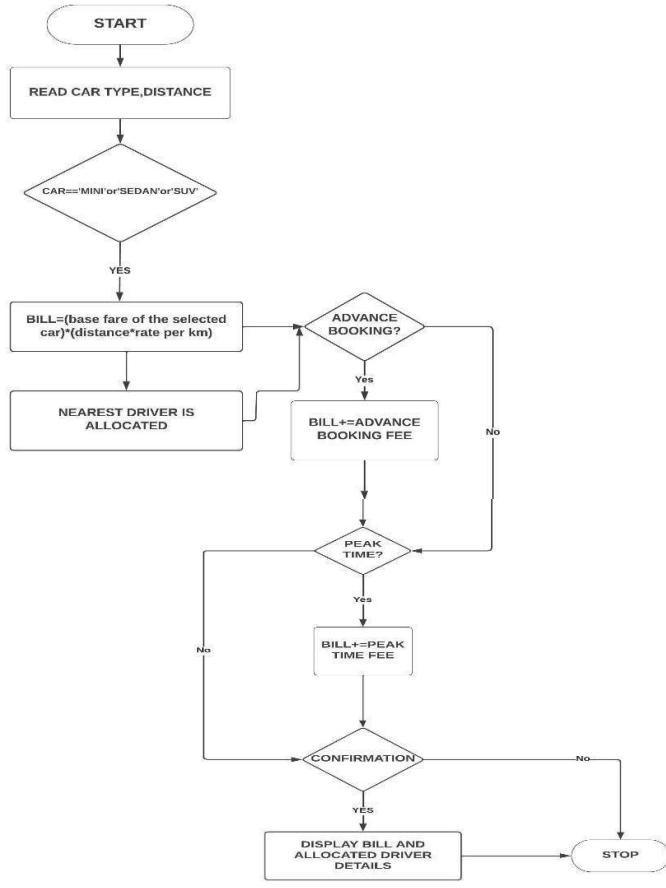
    printf("Select car type: ");
    scanf("%s", car);
    printf("Nearby driver details:\n");
    FILE *filep = fopen("ride.txt", "a");
    fprintf(filep, "%s, %s\n", car, loc);

    char driverLine[256];
    while (fgets(driverLine, sizeof(driverLine), filep)) {
        char *driverToken = strtok(driverLine, ",");
        driverToken = strtok(NULL, ",");
        driverToken = strtok(NULL, ",");
        if (strcmp(driverToken, loc) == 0) {
            driverToken = strtok(NULL, ",");
            if (strcmp(driverToken, car) == 0) {
                printf("Driver name: %s\n", driverLine);
                fprintf(filep, "%s, %s\n", driverLine, loc);
            }
        }
    }
}
  
```

- The booking module in a cab booking system allows users to request and book a cab for their desired location and time. It captures user preferences such as pickup location, drop-off location, and preferred cab type.
- Once a booking is made, the module assigns the nearest available cab and provides the user with details of the assigned cab and estimated arrival time. The booking module ensures a seamless and efficient process for users to request and secure a cab for their transportation needs.

-Jithu Morrison

3)Bill generation:



Sample Code:

```

printf("Payment amount: %.2f\n", dis * 2.5 + 100);

char pay[100];
printf("Do you want to pay? Enter 'yes' or 'no': ");
scanf("%s", pay);

if (strcmp(pay, "yes") == 0) {
    printf("\nPayment successful!\nStarting location:\n%s\nFinal "
           "location: %s\nPaid amount: %.2f\n",
           loc, loce, dis * 2.5 + 100);
    fprintf(
        file,
        "Starting location: %s\nFinal location: %s\nPaid
amount: %.2f",
        loc, loce, dis * 2.5 + 100);
    rewind(file);
    char driverName[100];
    while (fgets(driverLine, sizeof(driverLine), file)) {
        char *driverToken = strtok(driverLine, ",");
        driverToken = strtok(NULL, ",");
        driverToken = strtok(NULL, ",");
        if (strcmp(driverToken, loc) == 0) {
            driverToken = strtok(NULL, ",");
            if (strcmp(driverToken, car) == 0) {
                driverToken = strtok(NULL, ",");
                strcpy(driverName, driverLine);
                break;
            }
        }
    }
}

else {
    printf("\nPayment cancelled!\n");
    fprintf(file, "Payment cancelled!\n");
}

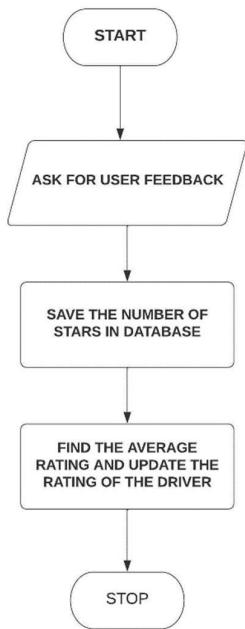
fclose(filep);
fclose(filed);
fclose(fild);
}

if (book == 2) {
    char c;
    FILE *payfile = fopen(custo, "r");
    while ((c = getc(payfile)) != EOF) {
        printf("%c", c);
    }
    fclose(payfile);
}
  
```

- The bill generation and payment module in a cab booking system calculates the fare for a completed ride based on factors such as distance travelled, base fare, surge pricing, and additional charges. It generates an itemized bill detailing the fare components for transparency.
- The module facilitates secure payment processing, allowing customers to make cashless transactions using various payment methods.

-Kavin.T

4) RATING:



Sample Code:

```

if (book == 4) {
    FILE *driverFile = fopen("driverRatings.txt", "r");
    char driverRatingLine[256];
    char driverName[100];
    printf("Enter driver name: ");
    scanf("%s", driverName);
    int ratingAvailable = 0;

    while (fgets(driverRatingLine, sizeof(driverRatingLine),
    driverFile)) {
        char *driverToken = strtok(driverRatingLine, ",");
        if (strcmp(driverToken, driverName) == 0) {
            char *ratingToken = strtok(NULL, ",");
            printf("Driver: %s, Rating: %s\n", driverToken,
            ratingToken);
            ratingAvailable = 1;
        }
    }

    if (!ratingAvailable) {
        printf("No ratings available for the driver\n");
    }

    fclose(driverFile);
}

fclose(file);
  
```

- The rating module in a cab booking system allows customers to provide feedback and rate their ride experience. After completing a trip, users can rate the driver and provide comments or reviews based on their satisfaction with the service.
- The rating module helps maintain service quality by identifying exceptional drivers and addressing any concerns or issues raised by customers.

Jithu Morrison

INTEGRATED SAMPLE CODE:

```

if (book == 1) {
    FILE *file = fopen("drivers.txt", "r");
    char drivLine[256];
    char loc[100], loce[100], car[100];
    printf("Enter location: ");
    scanf("%s", loc);
    printf("Enter destination: ");
    scanf("%s", loce);
    printf("Select car type: ");
    scanf("%s", car);
    printf("Nearby driver details:\n");

    while (fgets(drivLine, sizeof(drivLine), file)) {
        char *driverToken = strtok(drivLine, ",");
        if (strcmp(driverToken, loc) == 0) {
            driverToken = strtok(NULL, ",");
            if (strcmp(driverToken, car) == 0) {
                printf("Driver name: %s\n", drivLine);
            }
        }
    }

    printf("Payment amount: %.2f\n", dis * 2.5 + 100);

    char pay[100];
    printf("Do you want to pay? Enter 'yes' or 'no': ");
    scanf("%s", pay);

    if (strcmp(pay, "yes") == 0) {
        printf("\nPayment successful!\nStarting location: %s\nFinal "
               "location: %s\nPaid amount: %.2f\n",
               loc, loce, dis * 2.5 + 100);
        fprintf(
            file,
            "Starting location: %s\nFinal location: %s\nPaid amount: %.2f\n",
            loc, loce, dis * 2.5 + 100);
    } else {
        printf("\nPayment cancelled!\n");
        fprintf(file, "Payment cancelled!\n");
    }
}

fclose(file);
}

if (book == 2) {
    char c;
    FILE *payfile = fopen(custo, "r");
    while ((c = getc(payfile)) != EOF) {
        printf("%c", c);
    }
    fclose(payfile);
}

if (book == 3) {
    FILE *driverFile = fopen("driverRatings.txt", "r");
    char driverRatingLine[256];
    printf("Driver ratings:\n");

    while (fgets(driverRatingLine, sizeof(driverRatingLine), driverFile)) {
        char *driverToken = strtok(driverRatingLine, ",");
        char *ratingToken = strtok(NULL, ",");
        printf("Driver: %s, Rating: %s\n", driverToken, ratingToken);
    }

    fclose(driverFile);
}

```

We consider database files such as Customer, Driver, Payment, Rides History, Ratings to store the details and the history for the successful implementation of our project code.

6.IMPLEMENTATION

1.Data Organization and Rationale behind every construct

- Two structures:One for customer details and the other for driver details .
- Strings to store name , address, starting location, destination, password, ratings.
- Using two dimensional array to store names of driver based on specific conditions
- Files are used customer.txt which stores customer details
- Drivers.txt which stores drivers details
- Driver ratings.txt which stores driver ratings
- Separate files are created for each customer and driver.
- Ride.txt which stores customer and nearby driver names
- And finally carshare.txt which stores details of people who wish to car share

2.Libraries Used:

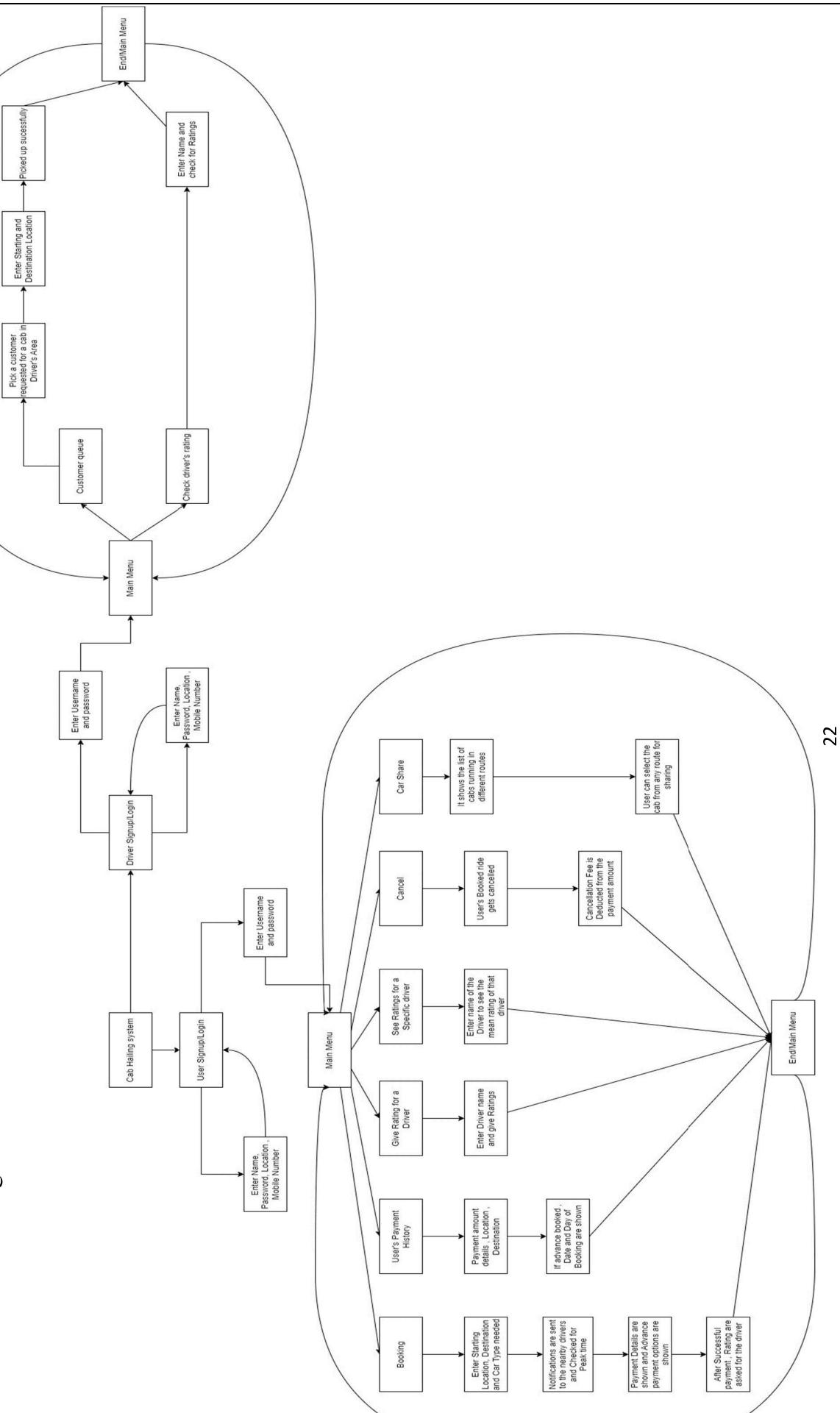
- Time library – It is just used to calculate Indian time and set peak time for Pricing purposes
- The ctype.h header file of the C Standard Library declares several functions that are useful for testing and mapping characters.

3.Platforms used:

We coded our entire project using replit which is a collaborative IDE in which we worked together throughout the project.

CAB HAILING SYSTEM

4. User Interface Design Chart:



7.TEST CASE I/O :

Case	Output
Signup as customer	<pre>***** WELCOME TO OUR CAB BOOKING SYSTEM ***** Are you a customer or driver: customer Do you want to create an account or login: create Enter username: SSN Enter password: SSN@edu.in Re-enter password: SSN@edu.in Enter location: kelambakkam Enter mobile number: 7896541238</pre>
Login as customer	<pre>~/C-project/Final\$./a.out ***** WELCOME TO OUR CAB BOOKING SYSTEM ***** Are you a customer or driver: customer Do you want to create an account or login: login Enter username: SSN Enter password: SSN@edu.in User has logged in 1. Do you want to book? 2. Want to see payment history? 3. Give rating 4. Want to see driver ratings? 5. Do you want to cancel? 6. See customer details 7. Car Share? 8. Quit?</pre>
Entering wrong password	<pre>~/C-project/Final\$./a.out ***** WELCOME TO OUR CAB BOOKING SYSTEM ***** Are you a customer or driver: customer Do you want to create an account or login: login Enter username: SSN Enter password: SSN@q Username or password not available</pre>
Retrieve forgotten password using OTP	<pre>~/C-project/Final\$./a.out ***** WELCOME TO OUR CAB BOOKING SYSTEM ***** Are you a customer or driver: customer Do you want to create an account or login: login Enter username: SSN Enter password: SSN@q Username or password not available forgot password?: yes 640935 Enter OTP: 640935 OTP verified! Enter password: SSN@snu Re-enter password: SSN@snu</pre>

Case	Output
Login again using new password	<pre>~/C-project/Final\$./a.out ***** WELCOME TO OUR CAB BOOKING SYSTEM ***** Are you a customer or driver: customer Do you want to create an account or login: login Enter username: SSN Enter password: SSN@snu User has logged in 1. Do you want to book?</pre>
Signup as Driver	<pre>~/C-project/Final\$./a.out ***** WELCOME TO OUR CAB BOOKING SYSTEM ***** Are you a customer or driver: driver Do you want to create an account or login: create Enter username: electric Enter password: SSN@123 Re-enter password: SSN@123 Enter car type: jeep Enter location: kelambakkam ~/C-project/Final\$</pre>
Login as Driver	<pre>~/C-project/Final\$./a.out ***** WELCOME TO OUR CAB BOOKING SYSTEM ***** Are you a customer or driver: driver Do you want to create an account or login: login Enter username: electric Enter password: SSN@123 Driver has logged in 1. Do you want to see the customer queue 2. Do you want to see ratings 3. Check rating 4. check driver details? 5. Quit?</pre>
Entering wrong password	<pre>~/C-project/Final\$./a.out ***** WELCOME TO OUR CAB BOOKING SYSTEM ***** Are you a customer or driver: driver Do you want to create an account or login: login Enter username: electric Enter password: SSN@321 Username or password not available forgot password?:</pre>

Case	Output
Re-entering password does not match	<pre>~/C-project/Final\$./a.out ***** WELCOME TO OUR CAB BOOKING SYSTEM ***** Are you a customer or driver: driver Do you want to create an account or login: login Enter username: electric Enter password: SSN@321 Username or password not available forgot password?: yes 545396 Enter OTP: 545396 OTP verified! Enter password: SSN@uns Re-enter password: Uns@ssn The password and re-entered password are not the same!</pre>
Retrieve the Lost password	<pre>Enter password: SSN@uns Re-enter password: SSN@uns</pre>
Login again using new password	<pre>~/C-project/Final\$./a.out ***** WELCOME TO OUR CAB BOOKING SYSTEM ***** Are you a customer or driver: driver Do you want to create an account or login: login Enter username: electric Enter password: SSN@uns Driver has logged in 1. Do you want to see the customer queue 2. Do you want to see ratings 3. Check rating 4. check driver details? 5. Quit? 5</pre>

Booking

```
./c project/1/build ./a.out
***** WELCOME TO OUR CAB BOOKING SYSTEM *****
Are you a customer or driver: customer
Do you want to create an account or login: login
Enter username: SSN
Enter password: SSN@snu
User has logged in
1. Do you want to book?
2. Want to see payment history?
3. Give rating
4. Want to see driver ratings?
5. Do you want to cancel?
6. See customer details
7. Car Share?
8. Quit?
1
Enter location: kelambakkam
Enter destination: tambaram
Select car type: jeep
Do you have a preferred driver: no
Nearby driver details:
Driver name: san
Driver name: electric
Time in India: 19:22:38
Payment amount: 187.50
```

As per our implementation notifications are sent to the nearby drivers , here the nearby drivers are displayed above

Booking with a preferred driver

```
***** WELCOME TO OUR CAB BOOKING SYSTEM *****
Are you a customer or driver: customer
Do you want to create an account or login: login
Enter username: SSN
Enter password: SSN@snu
User has logged in
1. Do you want to book?
2. Want to see payment history?
3. Give rating
4. Want to see driver ratings?
5. Do you want to cancel?
6. See customer details
7. Car Share?
8. Quit?
1
Enter location: kelambakkam
Enter destination: tambaram
Select car type: jeep
Do you have a preferred driver: yes
Enter driver name: electric
Nearby driver details:
Driver name: electric
Time in India: 19:25:49
Payment amount: 187.50
```

If the customer had a preferred nearby driver , notification will be sent to that driver alone.

Time in India , It is for checking the peak time.

Case	Output
Payment	<pre> Payment amount: 187.50 Do you want to pay? Enter 'yes' or 'no': yes Do you want to pay in advance? Enter 'yes' or 'no': no Do you want to pay in onboard? Enter 'yes' or 'no': no Payment successful! Starting location: kelambakkam Final location: tambaram Paid amount: 187.50 </pre> <p>This Payment details are stored safely in the database</p>
Booking for an unknown location in the database	<pre> ~/C-project/Final\$./a.out ***** WELCOME TO OUR CAB BOOKING SYSTEM ***** Are you a customer or driver: customer Do you want to create an account or login: login Enter username: SSN Enter password: SSN@snu User has logged in 1. Do you want to book? 2. Want to see payment history? 3. Give rating 4. Want to see driver ratings? 5. Do you want to cancel? 6. See customer details 7. Car Share? 8. Quit? 1 Enter location: bangalore Enter destination: kochi Select car type: jeep Do you have a preferred driver: no Nearby driver details: No Drivers available nearby , Sorry..... </pre>
Booking notification sent to drivers	<pre> ~/C-project/Final\$./a.out ***** WELCOME TO OUR CAB BOOKING SYSTEM ***** Are you a customer or driver: driver Do you want to create an account or login: login Enter username: electric Enter password: SSN@nsn Driver has logged in 1. Do you want to see the customer queue 2. Do you want to see ratings 3. Check rating 4. check driver details? 5. Quit? 1 Starting location: kelambakkam, Final location: tambaram, Paid amount: 187.50,electric,Phone number: 7896541 </pre> <p>Successfully notification sent</p>

Driver choosing customer	<pre>***** WELCOME TO OUR CAB BOOKING SYSTEM ***** Are you a customer or driver: driver Do you want to create an account or login: login Enter username: electric Enter password: SSN@uns Driver has logged in 1. Do you want to see the customer queue 2. Do you want to see ratings 3. Check rating 4. check driver details? 5. Quit? 1 1)Starting location: kelambakkam, Final location: velachery, Paid amount: 162.50,SSN,Phone number: 7896541238,direct booking 1)Starting location: kelambakkam, Final location: velachery, Paid amount: 162.50,SSN,Phone number: 7896541238,direct booking Do you want to pick up a customer?: yes Enter line number: 1 Enter name of person to pick: SSN Enter starting location: kelambakkam Enter destination: velachery Enter your phone number: 9874561231 Do you want to end? Enter 'yes' or 'no': yes</pre>
Other Drivers queue	<pre>~/C-project/Final\$./a.out ***** WELCOME TO OUR CAB BOOKING SYSTEM ***** Are you a customer or driver: driver Do you want to create an account or login: login Enter username: san Enter password: hello Driver has logged in 1. Do you want to see the customer queue 2. Do you want to see ratings 3. Check rating 4. check driver details? 5. Quit? 1 1)Starting location: kelambakkam, Final location: tambaram, Paid amount: 187.50,Kavin,Phone number: 9784561234,direct booking 2)Starting location: kelambakkam, Final location: tambaram, Paid amount: 187.50,electric,Phone number: 7896541238,direct booking The user SSN booked a cab , notifications were sent to both drivers san and electric but electric selected the customer SSN first so SSN was assigned to driver electric so successfully deleted from san's customer queue Do you want to pick up a customer?: no Customer not picked!</pre>

Advance Booking

```
***** WELCOME TO OUR CAB BOOKING SYSTEM *****
Are you a customer or driver: customer
Do you want to create an account or login: login
Enter username: SSN
Enter password: SSN@snu
User has logged in
1. Do you want to book?
2. Want to see payment history?
3. Give rating
4. Want to see driver ratings?
5. Do you want to cancel?
6. See customer details
7. Car Share?
8. Quit?
1
Enter location: kelambakkam
Enter destination: meenambakkam
Select car type: i10
Do you have a preferred driver: no
Nearby driver details:
Driver name: anish
Driver name: Aadhi
Time in India: 20:55:54
Payment amount: 240.00
Do you want to pay? Enter 'yes' or 'no': yes
Do you want to pay in advance? Enter 'yes' or 'no': yes
Enter Day,date[date/month/year]: Saturday,21/07/23
Enter how many days from now: 2

Paying in advance(discount)!

Payment successful!
Starting location: kelambakkam
Final location: meenambakkam
Paid amount: 126.00
Do you want to end? Enter 'yes' or 'no': yes
```

Advance booking is successfully done and stored.

Paying onboard

```
1
Enter location: kelambakkam
Enter destination: vandalur
Select car type: jeep
Do you have a preferred driver: no
Nearby driver details:
Driver name: san
Time in India: 20:04:43
Payment amount: 175.00
Do you want to pay? Enter 'yes' or 'no': yes
Do you want to pay in advance? Enter 'yes' or 'no': no
Do you want to pay in onboard? Enter 'yes' or 'no': yes

Not paid, Pay when boarding
Do you want to end? Enter 'yes' or 'no': yes
```

Payment History	<pre> 1. Do you want to book? 2. Want to see payment history? 3. Give rating 4. Want to see driver ratings? 5. Do you want to cancel? 6. See customer details 7. Car Share? 8. Quit? 2 Starting location: kelambakkam Final location: tambaram Paid amount: 187.50 Starting location: kelambakkam Final location: velachery Paid amount: 162.50 Driver electric has been assigned, driver number: 9874561231 Starting location: kelambakkam Final location: meenambakkam Paid advance payment amount: 36.00 Date and Day of booking: Saturday,21/07/23 Starting location: kelambakkam Final location: vandalur Pay when boarding </pre>
Give Rating	<pre> 3 Driver ratings: Driver: luffy, Rating: 4 Driver: aadhi, Rating: 5 Driver: Aadhi, Rating: 4 Driver: Anish, Rating: 4 Driver: 0, Rating: 4 Driver: Jith, Rating: 4 Driver: Anish, Rating: 4.00 Driver: maaddy, Rating: 4.00 Driver: anish, Rating: 4.00 Driver: kamal, Rating: 4.00 Driver: san, Rating: 4.00 Driver: san, Rating: 4.00 Driver: san, Rating: 3.00 Driver: san, Rating: 4.00 Driver: electric, Rating: 4 Enter driver name: electric Please give a rating for the driver (1-5): 3 Do you want to end? Enter 'yes' or 'no': yes </pre>

View Rating	<pre>***** WELCOME TO OUR CAB BOOKING SYSTEM Are you a customer or driver: customer Do you want to create an account or login: login Enter username: SSN Enter password: SSN@snu User has logged in 1. Do you want to book? 2. Want to see payment history? 3. Give rating 4. Want to see driver ratings? 5. Do you want to cancel? 6. See customer details 7. Car Share? 8. Quit? 4 Enter driver name: electric Driver: electric, Rating: 3.00</pre>
Cancel	<pre>***** WELCOME TO OUR CAB BOOKING SYSTEM ***** Are you a customer or driver: customer Do you want to create an account or login: login Enter username: SSN Enter password: SSN@snu User has logged in 1. Do you want to book? 2. Want to see payment history? 3. Give rating 4. Want to see driver ratings? 5. Do you want to cancel? 6. See customer details 7. Car Share? 8. Quit? 5 Driver: san Not Paid Fee deducted: 200 Booking cancelled successfully! Do you want to end? Enter 'yes' or 'no': yes</pre> <p>Your Last booked ride will be cancelled and updated in the database</p>
View Your Profile	<pre>1. Do you want to book? 2. Want to see payment history? 3. Give rating 4. Want to see driver ratings? 5. Do you want to cancel? 6. See customer details 7. Car Share? 8. Quit? 6 Do you want to see for a customer[Enter yes] or yours[Enter mine]: mine SSN,SSN@snu,kelambakkam,7896541238, Do you want to end? Enter 'yes' or 'no': yes</pre>

Car Share

```
Are you a customer or driver: customer
Do you want to create an account or login: login
Enter username: Nikhil
Enter password: nikhil@123
User has logged in
1. Do you want to book?
2. Want to see payment history?
3. Give rating
4. Want to see driver ratings?
5. Do you want to cancel?
6. See customer details
7. Car Share?
8. Quit?
7
```

```
Enter starting location: kelambakkam
Enter destination: tambaram
Do you want to end? Enter 'yes' or 'no': yes

```

```
~/C-project/Final$ ./a.out
***** WELCOME TO OUR CAB BOOKING SYSTEM *****
Are you a customer or driver: customer
Do you want to create an account or login: login
Enter username: Kavin
Enter password: 123
User has logged in
1. Do you want to book?
2. Want to see payment history?
3. Give rating
4. Want to see driver ratings?
5. Do you want to cancel?
6. See customer details
7. Car Share?
8. Quit?
7
1) Nikhil,kelambakkam,tambaram,
2)
Is there a person who can share ride to same location as you in this file:(yes or no)yes
Enter line number: 1
Enter starting location: kelambakkam
Enter destination: tambaram
Enter car type: jeep
Enter phone number: 874561397
Enter phone number: 9874561225
Amount to pay: 143.75

Payment successful!
Starting location: kelambakkam
Final location: tambaram
Paid amount: 143.75
Nearby driver details:
Driver: san
Please give a rating for the driver (1-5): 4
```

First , The customer ‘ Nikhil’ requested a sharing cab from kelambakkam to tambaram . Next the customer Kavin requested a sharing cab in the same route as Nikhil so they both Share the cab and the payment about is divided equally for both of them.

Driver Ratings	<pre> 2 Driver ratings: Driver: luffy, Rating: 4 Driver: aadhi, Rating: 5 Driver: Aadhi, Rating: 4 Driver: Anish, Rating: 4 Driver: 0, Rating: 4 Driver: Jith, Rating: 4 Driver: Anish, Rating: 4.00 Driver: maaddy, Rating: 4.00 Driver: kamal, Rating: 4.00 Driver: san, Rating: 3.00 Driver: san, Rating: 4.00 Driver: electric, Rating: 3.00 Driver: san, Rating: 4.00 Driver: anish, Rating: 4.00 Driver: san, Rating: 4.00 </pre>	
View Driver's Profile	<pre> 1. Do you want to see the customer queue 2. Do you want to see ratings 3. Check rating 4. check driver details? 5. Quit? 4 Do you want to see yours[Enter mine]: mine san,hello,kelambakkam,jeep, Do you want to end? Enter 'yes' or 'no': no 1. Do you want to see the customer queue 2. Do you want to see ratings 3. Check rating 4. check driver details? 5. Quit? 5 ~/C-project/Final\$ █ </pre>	

8.LIMITATIONS

- As we haven't used any GPS modules, we aren't able to live track the Cab or find the exact position of the cab.
- If there are no drivers available in the customer area, no other drivers would receive the notifications and no drivers get assigned to the customer. So the system fails here.
- There may be a chance of cheating here , as after we paid the assigned driver online, we don't have any medium of proper communication with the driver other than mobile number. We don't have any Tracking Service too.
- If the driver had a sudden work came and if the driver can't pickup the customer, it would be a fail."(overcame)"

9.OBSERVATIONS

SOCIAL - Increased convenience, Enhanced accessibility , Job creation

LEGAL - Regulatory challenges, Fair competition, Customer Protection

ENVIRONMENT - Reduced car ownership, Ride-sharing and pooling, Fleet optimization

ETHICAL – User Data privacy, Fair Pricing during peak time , Assigning fair drivers.

10.LEARNING OUTCOMES

- Technical skills
- Problem solving and Algorithm designing
- Developing a system
- Teamwork and collaboration
- Slight Domain knowledge
- Testing and Debugging
- Documentation
- Time management

11.REFERENCES:

1. Flowcharts and Diagrams:
<https://app.diagrams.net/>
2. In-built C Functions:
<https://www.w3schools.in/>
3. Distance between areas:
<https://www.google.com/maps>