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# 1. INTRODUCTION

## 1.1. <u>Purpose</u>

Online Cab Booking System is developed to manage all cab hiring work online. Using this system it is very easy for customer to book a car. It is an online system through which customers can view available cabs; register the cabs, view profile and book cabs. Mostly peoples use cab service for their daily transportations need. Cab booking can also check which car is free for booking and which cars are on booking at present time. The objective and scope of my project Online Cab booking System is to record the details various activities of user. It will simplify the task and reduce the paper work. Using this cab booking management system car owner can also become partner of car booking agency by giving their car for booking. Online Cab management system is a web based application that allow users to book a car online. User can book cars and admin can confirm the booking and cancel the booking on the basis of availability of the cars and drivers.

The booking order and to call the car driver to check their availability with their car if they manage to find a car for booking they confirm the order otherwise they cancel the order as they have no car for the booking.

This process waste a lot of time of customer and also of car booking agency and it also give bad name to the agency but with our system car agency can confirm the order within a minute by checking the availability of cars for booking. So this car booking system is helpful to ease customer's task whenever they need to rent a cab or hire a cab.

#### 1.1. Need / Motivation

The main purpose of the system is to create an online cab booking system like Uber where users can book a cab for their comfortable travel and safely reach their destination. The application is to be develop as Desktop Application.

This Online Cab Booking system deals with an online system designed for booking cabs as per the requirements of the customers at their convenience. The current system looks like cost-ineffective, and the average return is low and diminishing. We give customer satisfaction the utmost priority and so give ample options to book cab by entering details like their journey details and time, origin, pick-up point, destination and the drop-off point they need to reach.

User and cab driver have the registration and login into the application. The user have the provision to schedule a trip and to select a trip and book a trip. User can fetch cab & cab driver details after booking and after booking they get to check bill details and make

a payment. Cab driver also have the ability to update his/her profile and also to update car details. The driver can check scheduled trips and check booked trips and mark completed trips.

# 2. <u>LITERATURE SURVEY</u>

[1]The present Online taxi Booking project approach needs a large lot of physical and mental labour whenever cabs are ordered manually over the phone. Many human errors, such as inputting the trip date, time, and location inaccurately, are manually registered in a register by an employee, increasing the chances of misregistration. There is no clear communication between drivers, passengers, and the office due to traffic and misunderstanding problems, leading in a denial of service. In the current system, there is no application that alters the state of taxi availability. Local consumers are also not notified when a vehicle comes to their neighborhood to do service.

[2]The mobile app is not what makes Olacabs different from the several radio taxi services that have sprung across the country. Bhavish Aggarwal, co-founder and chief executive officer of the company, describes Olacabs as a technology firm rather than a cabservices firm. One of his ambition is to be able to deliver a cab within 20 minutes from the time of booking. For this, the company is making use of data analytics, so that they can forecast demand for its services on a daily basis. Based on this data analysis we intend to providing service within 20minutes of booking. At present it is around 30-35 minutes.

[1] CAR BOOKING SYSTEMS THROUGH ONLINE, [2] ENTREPRENEURSHIP PROJECT REPORT ON BUSINESS PLAN OF OLA CABS

# 3. REQUIREMENTS

## 3.1. <u>Functional Requirements</u>

Display: \*\*\*\*\*WELCOME TO CAB-ME ONLINE CAB BOOKING\*\*\*\*\*\*

## Main menu module:

### o Register new user:

Registration of Passenger:

- ⇒ Name
- ⇒ UserName
- ⇒ Password
- ⇒ Mobile Number
- ⇒ Mail id
- ⇒ Display : \*\*\*Registration Successful\*\*\*
- ⇒ Option : Go to Login page

### o Register new cab driver :

```
Registration of Driver:
```

- ⇒ Name
- ⇒ UserName
- ⇒ Password
- ⇒ Mobile Number
- ⇒ Mail id
- $\Rightarrow$  CAB Details:

1.1 CAB Number:

1.2 CAB Name:

1.3 CAB Type:

1.1 SUV

1.2 Sedan

1.3 CUV

1.4 Number of Seats:

1.14 Seater

1.27 Seater

### o Login as user:

- ⇒ UserName
- ⇒ Password
- ⇒ Correct UserName & Password :

1.1 Display: \*\*\*Welcome to CAB-Me\*\*\*

1.2 Display: \*\*\*Book a Trip\*\*\*

1.3 Option: Book Trip

1.4 Option: View Past Trip

1.5 Option: Feedback

⇒ Incorrect UserName & Password :

1.1 Alert: Invalid UserName & Password!

1.2 Option: Go back to Login

## o Login as cab driver:

- ⇒ UserName
- ⇒ Password
- ⇒ Correct UserName & Password :

1 Display : Welcome Driver

2 Option : Update profile

3 Option: View Past trips

4 Option: Mark completed trips

⇒ Incorrect UserName & Password :

1 Alert: Invalid UserName & Password!

2 Option: Go back to Login

.\_\_\_\_\_

# **Customer module:**

```
o Book Trip:
```

- ⇒ Booking a trip
- ⇒ Giving Pickup and Destination points.
- ⇒ Date of Trip
- ⇒ Number of Persons
- ⇒ Ride preference :
  - 1.1 Business
  - 1.2 Private
- ⇒ Insurance for 1Rs extra

#### o Select Cab Details:

```
\Rightarrow Selecting the CAB type:
```

1.1 SUV

1.2 Sedan

1.3 CUV

### o Display Cab Driver Details:

```
⇒ Provide Driver details :
```

1.1 Details while selecting CAB

(Driver name, Driver Phone number, Cab Model & Cab Number..etc)

#### o Fare details:

```
⇒ Fare slab (ranges) :
```

```
1.1 For SUV:
```

//Provides a particular fixed fare rate for SUV

1.2 For Sedan:

//Provides a particular fixed fare rate for Sedan

1.3 For CUV:

//Provides a particular fixed fare rate for SUV

- ⇒ Charge per Km after range
- ⇒ Waiting charge

## o Schedule Trip:

- ⇒ Saving Trip details
- ⇒ Display: \*\*\*Details from Book Trip Module\*\*\*
- ⇒ Preview of Saved trip

## o Make Payment:

- ⇒ Selecting Payment mode :
  - 1.1 Cash
  - 1.2 Card
  - 1.3 UPI

## o Passenger Feedback about driver / trip / cab:

⇒ Rating & Review.

\_\_\_\_\_

### **Driver module:**

## o Update profile:

- ⇒ Update driver details
- ⇒ Update cab details

## o View Past Trips:

⇒ Viewing scheduled trips

## o Mark Completed Trips:

- ⇒ Drivers can Mark Completed Trips.
  - 1.1 Mark last trip as completed

\_\_\_\_\_\_

## 3.2. <u>Hardware Requirements</u>

- Laptop with 4GB RAM or higher
- i3 or higher processor
- Linux OS installed

## 3.3. <u>Software Requirements</u>

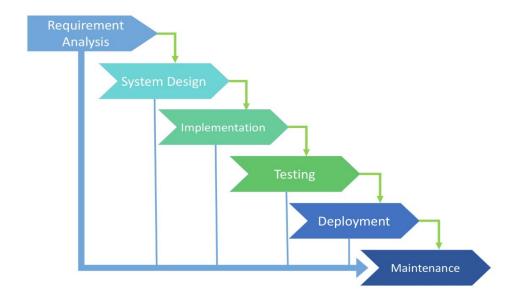
#### • Linux OS:

Linux is used as an embedded OS for a variety of applications, including household appliances, automotive entertainment systems and network file system appliances. Network OS for routers, switches, domain name system servers, home networking devices and more.

#### • Windows OS:

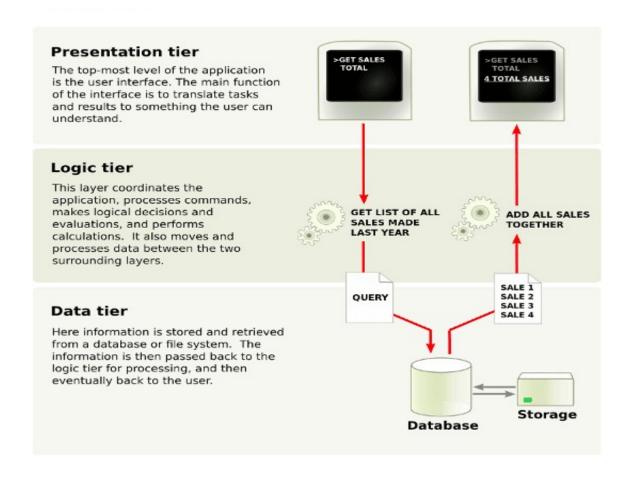
Microsoft Windows, commonly referred to as Windows, is a group of several proprietary graphical <u>operating system</u> families, all of which are developed and marketed by Microsoft.

## 3.4. Waterfall Model



# 4. SYSTEM ARCHITECTURE

# 4.1. N-tier Architecture

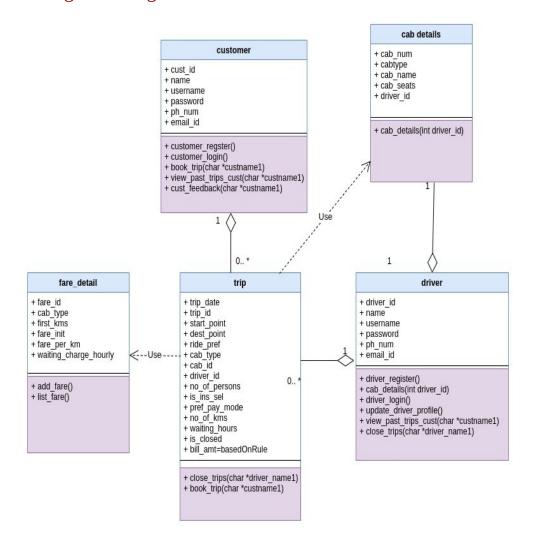


# 5. DESIGN & IMPLEMENTATION

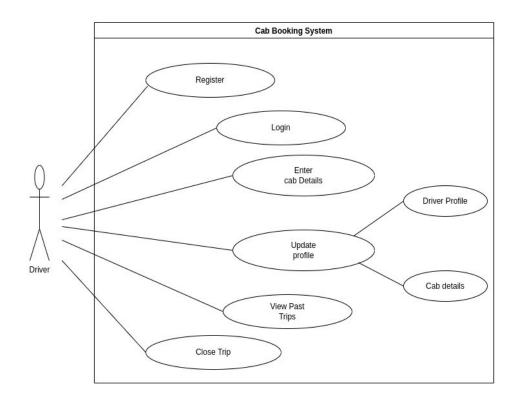
### 5.1. Product Features

- Booking Trips: Customer can book trip from any pickup point.
- View Available Vehicles: The customer must able to see all details about the available vehicles.
- Calculate Fare: The customer can view the fixed fare details for the vehicles.
- Record maintenance : Both driver and customer are able to view their past trips
- Close Completed Trip: Driver can close a trip after completion.
- Insurance: Provides insurance for the trip if the customer needed.
- Feedback: The customer can feedback and suggestions

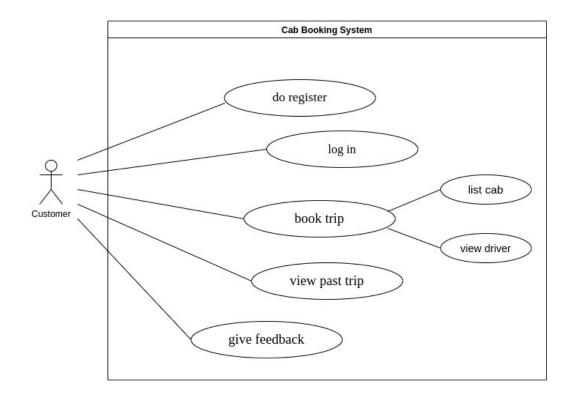
## 5.2. <u>Class Diagram Design</u>



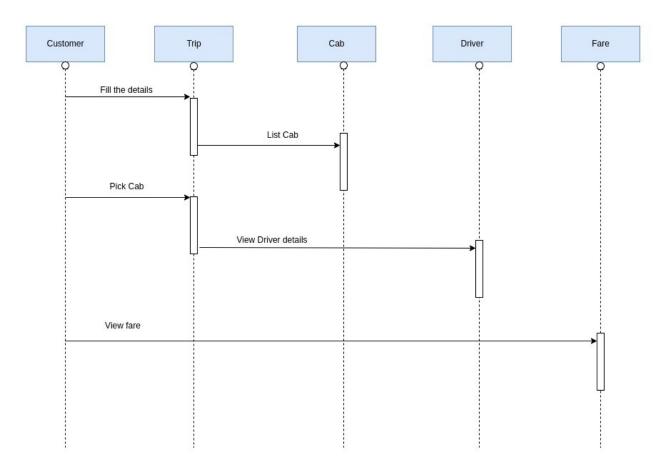
# 5.3.1. <u>Driver Use Case Diagram</u>



# 5.3.2. <u>Customer Use Case Diagram</u>



# 5.4. <u>Sequence Diagram</u>



# 6. <u>SNAPSHOTS</u>

#### 6.1. First Screen

```
$$$$$
           $$$$$$$$
                  $$$$
                      $$$$
                        $$$$$$$$
           $$ $$ $$
$$$$$$$$ $$$$$ $$
                        $$
$$$$$
                  $$ $$
  $$
  $$
      $$
          $$ $$
              $$
                  $$
                    $$ $$
                       $$
                         $$
  $$$$$$$$$$$$
          $$ $$$$$$$
                  $$
                    $$$
                       SS
                         SSSSSSS
CAB-ME
      CAB BOOKING APPLICATION
1 - Customer Application
   2 - Driver Application
   0 - Exit
Your choice:2
```

## 6.1.1. <u>Driver Registration Screen</u>

# 6.1.2. <u>Customer Registration Screen</u>

# 6.1.3. <u>Customer Login Screen</u>

# 6.1.4. <u>Booking Trip by Customer</u>

```
are details for the selected cab
......
                                                                                                              Minimum charge for 5 Kms : Rs.100.000000
Fare per Km after minimum Km : Rs.20.000000
Waiting Charge per hour : Rs.30.000000
BOOK YOUR TRIP
Enter date(dd/mm/yy) : 24/01/22
                                                                                                               nter Number of Persons : 5
Enter a PickUp Point : Trivandrum
                                                                                                             1 Rupee Insurance :
1 - YES 2 - NO
Do you need Insurance for the trip :1
Enter a Destination Point : Kollam
Ride Preference :
1 - BUSINESS 2- PRIVATE
                                                                                                              Payment Modes :
1- Cash 2- Online Transaction 3- CARD
Select your Payment mode prefernce : 1
Your Choice : 2
CAB Type :
1 - SUV 2 - Sedan 3 - CUV
                                                                                                                                       : 24/01/22
: Ragesh
: Trivandrum
: Kollam
: PRIVATE
: SUV
: YES
                                                                                                             Trip Date
Customer name
Starting point
Destination point
Ride preference
CAB type
Insurace
Your Choice : 1
Available drivers are:
                                                                                  Cab Name
SL No. Driver name
                             Driver id
                                                   Phone No
                                                                    Cab No
6[ Balan, 206,
7[ George, 207,
Pick a driver(Choose SL No): 7
                                                                      KL58Y67,
KL14GH67,
                                                3434344343,
                                                                                      innova]
                                                4545455454,
                                                                                         fortuner ]
                                                                                                              Insurace
Number of persons
Payment mode
Oriver
Cab name
Cab number
Oriver Phone no
                                                                                                                                          5
Cash
George
fortuner
Fare details for the selected cab
                                                                                                                                          KL14GH67
Minimum charge for 5 Kms : Rs.100.000000
Fare per Km after minimum Km : Rs.20.000000
                                                                                                                                        : 4545455454
                             r : Rs.30.000000
                                                                                                                         HAVE A NICE DAY!!!
 Waiting Charge per hour
Enter Number of Persons : 5
```

# 6.2. <u>Driver Login</u>

# 6.2.1 <u>Closing Trip by Driver</u>

# 6.1.2. <u>Customer viewing past trips</u>

### 6.1.5. \_Customer Feedback

# 6.2.2. <u>View Past Trips of Driver</u>

```
DRIVER PROFILE
     1 - Update Profile
2 - View past Trips
3 - Close Trip
4 - Total amount earned
0 - Exit
     Your choice:2
     TRIP:1
                        : 501
: 24/01/22
: ragesh
: Trivandrum
: Kollam
     Trip ID
     Customer Name
Starting Point
Destination Point
Customer id
Number of Km
                         : 1996349055
                         : 50
     Waiting hours
Number of passengrs
     Bill amount
Trip Status
                        : 1060.000000
: Closed
     Rating (1-10) : 8
Feedback by Customer : very good experience
Quest
                                                                                 b-Me
```

# 6.2.3. <u>Update profile</u>

```
DRIVER PROFILE
1 - Update Profile
2 - View past Trips
    3 - Close Trip
4 - Total amount earned
0 - Exit
Your choice:1
Current driver details
       : rageshkumar
Username
         : 2345
: 4545455454
Password
Mobile No
Email id
           : george@gmail.com
Cab Type
Cab Number
           : KL14GH67
No of Seats
           : fortuner
Cab Name
._____
```

# 7. TESTING & RESULTS

# 7.1. <u>Unit Testing</u>

Unit testing focuses verification effort on the smallest unit software design- the module. Using the procedural design description as a guide, important control paths are tested to uncover errors within the boundary of the module. The module interface is tested to ensure that information properly flows into and out of the program unit under test.

## 7.2. Black Box Testing

It focuses on the functional requirements of the application. That is black box testing enables the software engineer to derive sets of input conditions that will fully exercise all functional requirements for a program.

Black box testing was performed with the application code, to verify that it is functionally correct and gives appropriate output at different situations of inputs.

Black box testing attempts to find errors in their following categories

- Incorrect or missing functions
- Interface errors
- Errors in data structures or external data base access
- Performance errors
- Initialization and termination errors.

# 7.3. White Box Testing

White box testing, sometimes called glass box testing is a test case design method that uses the control structure of the procedural design to derive test cases. White box testing was performed at all levels of development of i-Admit. The coding team took all care to test the code and guarantee that it meets all the specifications as well as logically correct. All loops were tested and all internal data structures evaluated and verified.

### 7.4. <u>IntegrationTesting</u>

Integration testing is a systematic technique for constructing the program structures, while conducting test to uncover errors associated with interfacing, the objective is to take unit tested modules and build a program structure that has been dictated by design.

### 7.5. <u>ValidationTesting</u>

At the culmination of integration testing software is completely assembled as a package: interfacing errors have been uncovered and corrected and a final series of software tests – Validation Testing may begin. Validation can be defined in many ways, but a simple definition is that validation succeeds when software functions in a manner that can be reasonably expected by the customer. Software validation is achieved through a series of Black Box tests that demonstrate conformity with requirements

# 7.6. <u>Acceptance Testing</u>

This is a type of testing done by users, customers, or other authorised entities to determine application/software needs and business processes. Description: Acceptance testing is the most important phase of testing as this decides whether the client approves the application/software or not.

# **Testing**

1. Number of Units: 10

#### **Unit Names:**

**Customer Register** 

**Driver Register** 

Customer Login

**Driver Login** 

Book Trip

**Cust View Trip** 

Feedback

View Past Trip

Close Trip

<u>Update driver profile</u>

2. Unit No. of Test Case: 17

#### 3. Test case of each unit:

#### **Customer Register:**

- Valid customer registration with new username
- Customer registration with different username for invalid condition

### **Driver Register:**

- Valid driver registration with new username
- Driver registration with different username for invalid condition

#### **Cab Registration:**

• Valid cab details registration

#### **Customer Login:**

- Valid customer Login
- Invalid customer Login

#### **Driver Login:**

- Valid Driver Login
- Invalid Driver Login

#### **Book Trip:**

• Valid book trip with saved details

#### **Cust View Trip:**

Customer can view all his trips

### Feedback:

• Customer feedback with valid information

#### **View Past Trip:**

• Driver can view his all-past trips

# **Close Trip:**

- View the unclosed trip and mark as closed
- View the unclosed trip and not closed
- Close the last trip he done

# **Update driver profile:**

• Driver can update his profile and cab details

# 4. Testing case

Test case ID: Test 0		Test	Case Description: verify whet	her customer can registered with
101 valid		valid	ation	
Prerequisi	tes:		Test case (Pass/Fail): Pass	
			Name: Ashik	
			Username: ashik	
Test Data:			Password: ashik12	
			Mobile No: 123456789	
			Email id: ashik@gmail.com	
Step No.	Step	_	Expected Result	Actual Result
	detai			
	Navig	gate		
1	to registratio		Registration screen is	As expected
	n pag		opened	
	Enter			
	name			
	usern			
2	passv	vord,	Credentials can be entered	As expected
	mobi	le		
	no, ei	nail		
	id			
	Press	-		
3	key to		Registration is successful	As expected
	continue			

Test case ID:	<b>Test Case Description:</b> verify whether customer can registered with
102	validation

Prerequisites:		Test case (Pass/Fail): Fail	
		Name: Ashik	
		Username: ashik	
<b>Test Data</b>	•	Password: ashi12	
		Mobile No: 123456	
		Email id: ash@gmail.com	
Step No. Step details		Expected Result	Actual Result
1	Navigate to registratio n page	Registration screen is opened	As expected
Enter name, username, password, mobile no, email id		Credentials can be entered	As not expected and can enter with different username

Test case	ID:	<b>Test Case Description:</b> verify whether driver can registered with		
103	validation			
Prerequis	ites:		Test case (Pass/Fail): Pass	
			Name: Jithin	
			Username: jithu	
Test Data	:		Password: jithu12	
			Mobile No: 123456	
			Email id: jith@gmail.com	
Step No.	Step detai	ils	Expected Result	Actual Result
1	Navi to regis n pag	tratio	Registration screen is opened	As expected
2	Enter name		Credentials can be entered	As expected

	username,		
	password,		
	mobile		
	no, email		
	id		
	Press any		
3	key to	Registration is successful	As expected
	continue		

Test case ID: 104		<b>Test Case Description:</b> verify whether driver can registered with validation				
Prerequ	iisites:	Test case (Pass/Fail): Fail				
		Name: Jithin	Name: Jithin			
		Username: jithu				
Test Da	ta:	Password: jithu12				
		Mobile No: 12345456				
		Email id: jith@gmail.com				
Step No.	Step details	Expected Result	Actual Result			
1	Navigate to registration page	Registration screen is opened	As expected			
2	Enter name, username, password, mobile no, email id	Credentials can be entered As not expected, and enter with different username	As expected			
Test case ID: 105		<b>Test Case Description:</b> ver customer can trip with valid	=			
Prerequ	uisites:	Test case (Pass/Fail): Pass				
Test Da	ta:	Date: 31/01/2022				
		Starting Point: Ernakulam				
		Destination Point: Thrissur				
		Ride Preference: Private				

		CAB type: Sedan		
		Insurance: Yes		
		No of Persons: 3		
		Payment Mode: Card		
Step No.	Step details	Expected Result	Actual Result	
1	Navigate to Book trip screen	Registration screen is opened	As expected	
2	Enter start point, destination, cab type, ride pref, insurance, payment mode, no. of persons	Credentials can be entered	As expected	
3	Trip details with booked credentials along with available driver	Trip is booked and saved	As expected	

Test case ID: 106		Test	Case Description: verify if cu	stomer can view all trips booked
Prerequis	ites:		Test case (Pass/Fail): Pass	
Test Data	:		NA	
Step No. Step details			Expected Result	Actual Result
1	Navigat e to Custom er View Trip of page		Customer View Trip screen is opened	As expected
Check and verify the trips booked		fy rips	Display the previous booked history of customer	As expected

Test case ID:	<b>Test Case Description:</b> verify whether customer can give feedback
107	about trip done

Prerequisites:		Test case (Pass/Fail): Pass	
Test Data:		Star rating: 8	
168t Data	•	Remarks: Good	
Step No. Step details		Expected Result	Actual Result
1	Navigat e to Custom er Feedbac k screen	Customer Feedback screen is opened	As expected
2	Give the star rating and remarks	Credentials can be entered	As expected
Preview of the feedbac k		Display the feedback saved successfully	As expected

Test case	<b>Test Case Description:</b> verify whether driver can view all past trips			
108 don		don	e	
Prerequis	ites:		Test case (Pass/Fail): Pass	
Test Data:	:		NA	
Step No. Step details			Expected Result	Actual Result
1	Navigat e to Driver View Past Trip screen		Driver View Past Trip screen is opened	As expected
2 Check and verify			Display previous trips history of driver	As expected

th	ne	
tr	rips	
do	one	

Test case	ID:		-	her driver can close the unclosed	
		the la	est trip		
Prerequisites:			Test case (Pass/Fail): Pass		
			Marked: Yes		
Test Data	:		No. of kms: 10		
	1		Waiting hrs: 1		
Step No.			Expected Result	Actual Result	
	Step details				
1	Navigate to Driver Close Trip screen		Driver Close Trip screen is opened	As expected	
2	Enter response if want to mark if yes		Displays last trip and asks if want to mark	As expected	
3	Enter the no. of kilometers traveled, waiting hours		Credentials can be entered	As expected	
4	Verificatio n of total bill amount		Displays the total bill amount	As expected	
5	Marked as closed or not		Last trip is closed	As expected	

Test case ID: Tes		Test	t Case Description: verify whether driver can close the unclosed		
110 the		the l	last trip		
Prerequisites:			Test case (Pass/Fail): Fail		
Test Data:			Marked: No		
Step No. Step details			Expected Result	Actual Result	
1	Navigat e to Driver Close Trip screen		Driver Close Trip screen is opened	As expected	
Enter respons e if want to mark if no		ons to	Redirected to the previous menu	As expected	

Test case ID: 111 Tes		Test	<b>et Case Description:</b> verify whether driver can close the last trip		
Prerequisites:			Test case (Pass/Fail): Pass		
Test Data:			Na		
Step No.	p No. Step details		Expected Result	Actual Result	
1	Navigat e to Driver Close Trip screen		Driver Close Trip screen is opened	As expected	
2	Verify that closed or not		No more trips to be closed	As expected	

Test case ID: 112		Tes	<b>St Case Description:</b> verify whether driver can update his profile		
Prerequisites:			Test case (Pass/Fail): Pass		
Test Data:			Username: ashik ph_num:9877665543		
Step No.	Step No.		Expected Result	Actual Result	
	Step deta				
1	Navigat e to Driver update profile screen		Driver update profile screen is opened	As expected	
Enter usenam e,ph_n um		nam	Credentials can be entered	As expected	

# 8. <u>CONCLUSION</u>

Information Technology plays a vital role not only in a particular field, it provides various kinds of solutions and services to the various problems prevailing in many fields. Applications for cab booking is one of the basic need of the general population nowadays, especially in urban areas since this application picks up significance among the general population. Cabs exploits information technology at the maximum extent. It uses the information technology in an efficient way for providing better passenger services.

Here we make use of Advanced C along with C programmming to build this environment in an efficient and useful way.

# 9. <u>REFERENCES</u>

- [1] CAR BOOKING SYSTEMS THROUGH ONLINE
- [2] ENTREPRENEURSHIP PROJECT REPORT ON BUSINESS PLAN OF OLA CABS
- [3] <a href="https://stackify.com/n-tier-architecture/">https://stackify.com/n-tier-architecture/</a>
- [4] https://www.scribd.com/doc/113753725/Cab-Booking-System