**JustGo Cab Booking**

**A PROJECT REPORT**

**SUBMITTED BY**

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**Submitted in partial fulfillment of the**

**Requirements for the Degree of**

**MASTER OF COMPUTER APPLICATION**

**Under the Supervision of**

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**DECLARATION**

I hereby declare that the work presented in this report entitled “Just go cab”, was carried out by me. I have not submitted the matter embodied in this report for the award of any other degree or diploma of any other University or Institute.

I have given due credit to the original authors/sources for all the words, ideas, diagrams, graphics, computer programs, experiments, results, that are not my original contribution. I have used quotation marks to identify verbatim sentences and given credit to the original authors/sources.

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****

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(Candidate Signature)

**ACKNOWLEDGEMENT**

Here I gladly present this project report on **“Just Go Cab”** as part of the 6th semester MCA currently submitting this report.

I take this opportunity to express our sincere thanks and deep gratitude to all those people who extended their whole hearted co-operation and have helped me in completing this project successfully.

Special thanks to **Mr. Ankit Verma** and **Mr. Amit Kumar Gupta** project coordinate for all the help and guidance extended to me by him in every stage during my project. His inspiring suggestion and timely guidance enabled me to perceive the various aspects of the project in a new light.

I would also thanks to **Mr. Ajay Kumar Shrivastava (Head, Department of Computer Applications)** who guided me a lot in completing this project. I would also like to thanks my parents & project mate for guiding and encouraging me throughout the duration of the project.

**Mo Masoom (**1900290149062**)**

**CERTIFICATE**

Certified that **Mo Masoom** (**University Roll No.1900290149062),** have carried out the project work having “JustGo cab” for Master of Computer Applications from Dr. A.P.J. Abdul Kalam Technical University (AKTU) under my supervision. The project report embodies original work, and studies are carried out by the student himself /herself and the contents of the project report do not form the basis for the award of any other degree to the candidate or to anybody else from this or any other University/Institution.

**Date:**

**Mo Masoom**

(University Roll No. 1900290149062)

This is to certify that the above statement made by the candidate is correct to the best of my knowledge.

**Date:**

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***CHAPTER 1***

#### PROJECT PROFILE

The Online Vehicle Rental System(OVRS) of Rdit services PVT LTD, is an online reservation system which helps the customers to book cabs and vehicles online rather than using the traditional manual system of vehicle reservation. OVRS eliminates the risk of erroneous bookings and reduces overall lead time and ensures growth in customer satisfaction.

The JustGo application’s development strategies and procedures were defined in parallel with the Hertz Corporation’s Car Rental System and the project guidelines were defined in support of creating an effective and an efficient JustGo cab. The JustGo application’s efficiency and effectiveness depends entirely upon the accuracy (i.e. number of successful transactions) it delivers.

By the analysis of the literatures and the Hertz Corporation case study, the basic business process clarity is realized in terms of the functional processes, entities & modules. The OVRS is designed on similar business processes as of the Hertz Corporation thereby ensuring the output as a totally effective and an efficient system that would eventually benefit the society of Dehradun and other neighboring regions.

In the near future, the OVRS of JustCabs pvt ltd shall need upgrades and expansions handling an increased number of clients, as well as incorporating next generation technologies. The company's future expansion in terms of size, clients, business processes shall also affect the current version of OVRS, therefore it is bound for the adaptations and modifications.

EXISTING SYSTEM

Existing system, which is the traditional system, in which client needs to go the JustCab office and book manually, which require lots physical and mental efforts. In traditional system there are many chances of human errors like wrong entry of journey date, journey time and destination as everything is recorded manually in a register by an employee, thereby increasing

the chances of a mis-registration. Chances of improper communication are high which may result in delay of service. In traditional car rental system i.e. existing system the level of sharing the information was very weak, that is when any information was shared by the customer was not recorded in the system but only listened by the service provider which may result in loss of relevant information which ultimately results in the delay of service.

mbecause of one-way communication which deteriorates the market and goodwill of the organization. It also consumes unnecessary time and efforts, thereby making it not feasible for customers who do not have time to spare on such bookings while leading their fast lives.

#### PROBLEMS FACED BY USERS

The problem statement of this project is to develop an *online process of vehicle rental service in Dehradun.* The current system is manual and it is time consuming as well as ineffective in terms of returns. Currently, customers have to call manually in order to rent or reserve a vehicle. The staff of the vehicle rental service company will check their file to see which vehicle is available

for rental. *The goal of this project is to automate vehicle rental and reservation so that customers do not need to call and spend unnecessary time in order to reserve a vehicle.*

They can go online and reserve any kind of vehicle they want and that is available. Even when a customer chooses to visit the booking centre to personally hire a vehicle, computers are available for him to go online and perform his reservation. When he choose to reserve by phone, any of the customer service representatives can help him reserve the vehicle speedily and issue him a reservation number.

# ANALYSIS PHASE

OBJECTIVE OF THE SYSTEM

*The objective of this project is to automate vehicle rental and reservation so that customers do not need to call and spend unnecessary time in order to reserve a vehicle.*

*They can go online and reserve any kind of vehicle they want and that is available.* Even when a customer chooses to visit the booking centre to personally hire a vehicle, computers are available for him to go online and perform his reservation. When he choose to reserve by phone, any of the customer service representatives can help him reserve the vehicle speedily, and issue him a reservation number.

The *proposed update feature* of OVRS is to allow the passenger’s associates to track the current status of the journey, also evaluating the remaining duration till the passenger reaches its destination. The passengers will be provided with a provision to log into the system and check the status of their journey. The vehicle tracking feature is appreciated widely at the time of emergencies such as accidents, as at the time of an accident, the tracking device triggers an emergency alarm that simultaneously informs the Just Cabs attendants as well as the nearby hospital units or medical clinics about the incident and thereby asking for an immediate help.

#### STAKEHOLDERS OF THE SYSTEM

The JustGo cab application involves many stakeholders or people associated directly or indirectly with the system in order to acquire certain benefit from it.

The stakeholders are classified according to the JustGo' processes.

**Process 1: Potential Reservation & User Login**

**Purpose** : The Justgo will respond or be active only then when a customer is interested to hire a cab for rent from Rdit services Pvt Ltd. Therefore a customer shall book a cab by making a call to the Rdit services Pvt Ltd office or by reserving it through the website. Before making a reservation, the customer has to enroll himself to the system by creating a unique user profile containing essential personal details. These details will be saved in the application's database and therefore, the details shall be extracted only then, when the user is identified by the system and thus helping him/her progress in order to book the vehicle. The client-user's details that are mandatory as inputs for the JustGo application are further mentioned below -

* Name of the client
* Date of Birth of the client
* Gender of the client
* Residential Address of the client
* City of residence
* State of residence
* Country of Residence
* Preferred unique user-name for accessing the system
* Preferred password for accessing the system
* Citizenship identification document (Passport, PAN Card, Driving License)

**Actor(s)** :

* Customer
* Customer Representative

**Activity Flow :**

The client or the customer will log into the JustGo system by making a phone call or by going to the Apllication and selecting the 'Login' option. If the person is a 'first time user', then he/she will select the option 'Register'.

­

If the client has opted to reserve a cab via telephone services, he/she needs to dial the Rdit services Pvt Ltd's cab reservation service number and choose either to book using the automated voice operative or by opting for the real-time customer representative.

password along with details like pick-up point and drop point, date of service and time of service along with number of passengers In both the cases, the user needs to provide his/her username and.

In case of booking through website, the user needs to provide the correct username as well as the password and click on the submit button to access the reservation dashboard.

**Process 2: Access reservation dashboard**

**Purpose:** The reservation dashboard allows a client/ user to create a booking, cancel a booking, schedule an advance booking, change the personal details, renew account as well as change a password.

**Activity Flow:**

After successfully logging in, the client will be able to access the reservation dashboard and do bookings based on pick-up points, drop point, time and date of pick-up and drop.

**Actor(s):**

* Client/User
* JustGo system

**Process 3: Make a booking**

**Purpose:** Previously, after selecting the pick-up and drop off points on a particular date and at the particular time, the user has to choose a type of vehicle which would be available for service. The user also needs to select a type of plan with respect to the service avail duration, for instance hourly type plan or distance type plan or to avail executive services.

After the selection has been made, the JustGo redirects the client-user to the payment gateway.

**Actor(s):**

* Client/User
* JustGo system
* Customer representative officer

**Process 4: Payment**

**Purpose:** To reserve the service along with the preferences selected, the user needs to pay to Rdit services Pvt Ltd by entering into the bank payment portal and thereby passing on credentials like -

* Bank Name (Eg State Bank Of India)
* Bank Card type (Visa/Master Card)
* Card Name (Akhand )
* Card Number (XXXX XXXX XXXX 1234)
* Valid Thru (01/11 - 01/20)
* CVV Number (XXX)
* Bank portal security password - XXXXXXX

After providing these details, the amount is credited to the service vendor's (Rdit services Pvt Ltd) bank account. Therefore, this exchange marks the user as a positive customer and hence the system starts working on the execution of the service asked by the client.

**Actor(s):**

* Client/User
* JustGo system
* Bank Merchant - client
* Bank Merchant – Vendor

**Process 5: Acknowledge and receipt acceptance**

**Purpose:** After the successful payment, the client is given an unique receipt number by the JustGo, specified in the dashboard about the upcoming booking number.

After providing these details, the amount is credited to the service vendor's (Rdit Services Pvt Ltd) bank account. Therefore, this exchange marks the user as a positive customer and hence the system starts working on the execution of the service asked by the client.

**Actor(s):**

* Client/User
* JustGo system
* Bank Merchant – Vendor

**Process 7: Journey and service review & Performance feedback**

**Purpose:** The user/ customer shall produce repeat business only then if the service availed and used by them creates a certain amount of satisfaction and therefore eventually raising the bar of expectation. The vehicle condition and staff behavior are aspects of a good quality business and, serve as an important metrics for evaluating overall performance of the system.

Post the Journey, the users are asked to fill in the feedback form and post comments on either OVRS rate and review portal or manually through the telephone service.

**Actor(s):**

Client/User

JustGo system

Vehicle drivers.

External users or existing customers

**Process 9: Log Out**

**Purpose:** After the user has completed a successful transaction and a reservation, the client user must log out or sign off. If he/she wants to access the dashboard again, then the client can reserve again with the existing login session without signing off. But a time-out session provision is also present in the system.

**Actor(s):**

* JustGo system
* Client/JustGo Users

FEASIBILITY STUDY - WHO WILL BENEFIT FROM THIS SERVICE?

The business idea proposed by Rdit services Pvt. Ltd is unique with respect to other cab rental agencies’ policies. The reception of the service by the customers in huge numbers is still uncertain as the business idea has not been made into function as of now, but the analysis made by the company’s founders show a massive growth in terms of customer response and hence availing this service soon after the application is launched.

According to the company representatives when asked about the advantages of such a service, the statement was that, “In today’s fast moving world, people really feel about the importance of time and hence they want no wastage of it. So everyone is getting drawn towards excellent and professional service that ensures quality and no wastage of unnecessary time. In our opinion, the service provided by us to the people will benefit them largely as there are around 10,000 daily commuters between Dehradun, who still prefer rental cabs over buses or trains as they believe that travelling by cabs would make them reach their destination early as compared to any other conveyance opted.

Pre-requisites/Resources required to develop the application

**Hardware resources:**

* (For Android application development purpose)
* System specifications:
* OS: Win XP or later
* Memory: 2GB or more
* Storage: 250 GB or more
* Processor: 2.0GHz: Intel core 2 duo or later; equivalent AMD processor

**Software resources:**

* (For android/application development purpose)
* The android base functions and structure can be designed using Drupal 7 or later
* PHP scripts can be used for adding functionality towards the server side management of the android application.

**USE CASE DIAGRAM**

**Entity Relationship Diagram**

USER VEHICLE

BOOKS

ALOT

USER BOOKING TABLE

DRIVER

PROCEED FOR

PAYMENT

# DESIGN

#### TABLE DESIGN

In order to enter data into a system for future reference or retrieval of data, it has to be stored in a database. The size of the database will be based on the amount of data and the type of the data to be stored in it. In the JustGo system to reserve cabs for making a journey, as a part of the company's policy, the data of the customer i.e. the name, address, dob, ID proof, marital status, occupation, are asked by the system to store the customer's credentials for just one time so that it is termed as a 'business entity' and generate an unique Customer ID and term it as a business customer and hence through the particular reference, it may result in repeat business in future. Apart from the recurring business, a concern for security also arises. And primarily in today's world, possessing customer-centric data is a crucial asset.

The JustGo is developed using Drupal, a content management system. Drupal provides a systematic arrangement of storing data into any database using a home server like WAMP or LAMP. WAMP refers to 'Windows Apache MySQl & PHP' Since, the development of OVRS shall be made on the Windows Operating System platform, hence the use of OVRS is necessary. Using Drupal, creating the logical structure of a table in the database is not required since the in-built modules present in the CMS create the indexes in the table using the field names.

Eg: <field\_name:Customer\_details> Customer name = 'Rakesh' Customer address = 43B, Link Road, Pune in the MySQl table structure ~ (creating a table named Customer\_details having fields) CREATE TABLE Customer\_details (CustomerName Varchar(255), CustomerAddress Varchar(255), ) In the dashboard, the developer can configure the field datatypes and simultaneously get reflected in the database's logical structure of the datatype the field is going to use.

Handling databases is more easy and convenient in Drupal or similar CMS'. The tables in the MySQl database shall be created automatically by Drupal for the following entities -

**User\_Details (Master Table)**

|  |  |  |
| --- | --- | --- |
| **Field** | **Datatype** | **Comments** |
| User-id | varchar | Primary |
| User-name | varchar | - |
| User-PANCARD | varchar | - |

**Driver\_Details**

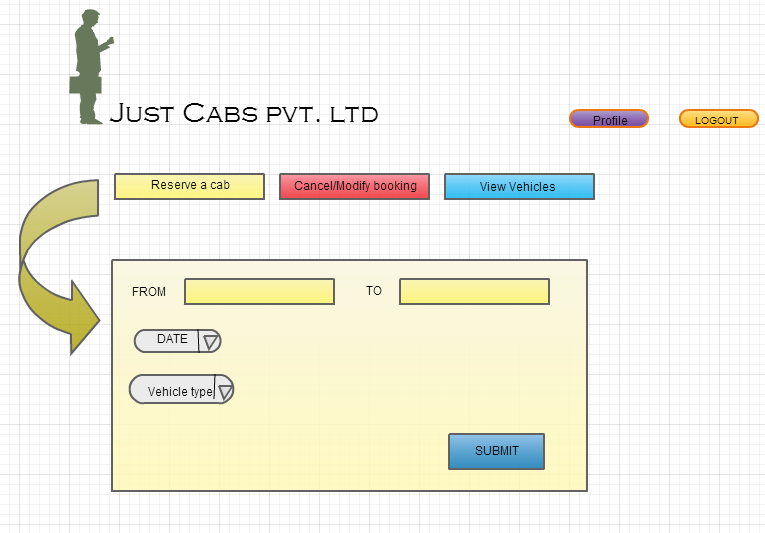
|  |  |  |
| --- | --- | --- |
| **Field** | **Datatype** | **Comments** |
| driver-id | Varchar2 | Primary |
| driver-name | Varchar2 | - |
| driver-license.no | Varchar2 | - |

|  |  |  |
| --- | --- | --- |
| FIELD | DATATYPE | COMENTS |
| vehicle-id | Varchar2 | Primary |
| vehicle-name | Varchar2 | - |
| Vehicle-type | Varchar2 | - |
| Vehicle-regsitration.no | Varchar2 | - |

UI DESIGN

The main feature of any software application infrastructure relies on the 'ease' of use of the system by providing a simple yet effective UI for the user. In this case, the OVRS can be accessed by any user, barring users who are minors and are below 15 years of age. Prevention of minors from reservation is enabled because a confirmed reservation involves the vehicle drivers to deliver service to a target customer. In some cases, minors may put up a prank and make a reservation, thereby disturbing the whole business process activity. But yes, enabling a payment feature during reservation might solve the issue. A good software application UI should be lean and have a very subtle look avoiding funky backgrounds and texts, also providing less navigational tabs to help the user from being less confused.

An example of the OVRS UI design is as below - (Prototype version only)



PROGRAM DESIGN

The objective of the JustGo is that a user can use the android application from any device and make a successful registration. In order to achieve so, primarily the requirements analysis document has to be studied carefully and thoroughly.

To give the idea a reality, a development platform is to be used like development in java or android or Java and so on.

* In this case, Drupal has been opted for the development of the JustGo.
* Drupal supports many packages and modules that ease the functionality as well as provides a rich graphical UI to the user.
* Use of Content Construction Kit(CCK) is advisable.
* After the application has been developed, a review is to be conducted for ensuring that the implementation of necessary modules is a must.
* If found loop holes in between, the developers must re-work to ensure the system's safety and scope.
* At each phase, the requirements of the OVRS must be implemented using modules and custom tweaking.
* Finally, after the application is ready, several tests such as BlackBox testing, Beta testing and other tests must be carried out to find bugs and issues in the code and fix them.
* Before releasing it out to the world, a sample must be tried and reviewed by a small group, like people in the neighborhood and collect those neighbor's feedback regarding the system. If negative feedbacks or similar statements arrive, then they have to be implemented and rectified in the system and tested again.

DESIGN DOCUMENTATION

A design document states about the design and scope of a software, giving the software development team an overall guidance and information about the software application.

**DATA DESIGN**

The entities participating in the OVRS to reserve a cab or a vehicle, follow a 1 to Many type of architecture. . There is a hierarchy followed by any OVRS' data fields. For eg... Customer\_details will branch out further as Customer\_Name and Customer\_Address and so on. The data stored, will be accessed by Drupal by establishing a connection with the MySql database.

# CONSTRUCTION OF THE CODE

The development of the Rdit services pvt ltd has been extensively made using the popular 'open-source' Content Management System - Drupal version 7. The primary reason of choosing a CMS instead of proceeding for a regular OOP language development is because of security issues and data handling. Since we learnt that the JustGo has a certain scope for future

expansion, we concluded to use the CMS as in future, expanding the business web application would be much more easier than to code entire new functions altogether, thereby increasing complexities to 'call-to-function' activities in the OOP languages. More so, the chances for code errors are minimal if using a CMS.

Since, Drupal 7 provides a dashboard environment to the user giving the developer all kinds of administrative privileges to perform functions, no scratch coding is required. Several modules, themes and other support packages are available on the web, that can extend a web application or a website's functionality.

LIST OF MODULES AND THEMES USED FOR DEVELOPMENT

**MODULES**

* **ADMIN\_MENU**
* **AUTO\_INDEXER**
* **AUTOASSIGNROLE**
* **DATE**
* **DRUPAL-FORM**
* **FRONT**
* **LOGINTOBOGGAN**
* **REDIRECT\_AFTER\_LOGOUT**

**MODULE FUNCTIONALITIES**

* ADMIN\_MENU - Administrative menu providing a clean interface for accessing
* AUTO\_INDEXER - Auto Cron
* AUTOASSIGNROLE - Auto assigning of role when a user registers himself in the system
* FRONT - Customizing the Front page
* LOGINTOBOGGAN - Provides a classic Login in-out interface
* REDIRECT\_AFTER\_LOGOUT - Redirect to a specific page or URL after logout
* WEBFORM - For creating registration forms
* **THEME USED FOR DEVELOPMENT**

***'SIMPLECORP*'** VERSION 2

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# VERIFICATION & VALIDATION

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sr.**  **No.** | **Test Case ID** | **Test Case Objective** | **Pre- requisite** | **Steps /**  **Procedures & Data** | **Expected Result** | **Actual Status Result** |
|  |  |  |  |  |  |  |
| **1** | TC\_Login\_01 | To Check the | Application | 1.Enter the | Valid |  |
|  |  | Functionality | should be | Valid  Username | Username  should |  |
|  |  | of the Valid | installed on | "admin" in | be accepted |  |
|  |  | Username in | the System. | Username  text field. | and Home |  |
|  |  | Username text |  | 2.Enter | Page should |  |
|  |  | field and |  | Password  "admin" in | be displayed. |  |
|  |  | Valid |  | Password text |  |  |
|  |  | "Password"  with minimum |  | field. |  |  |
|  |  | 4 characters in |  | 3.Click on |  |  |
|  |  | The |  | "Login"  button. |  |  |
|  |  | Password text |  |  |  |  |
|  |  | field. |  |  |  |  |
|  |  |  |  |  |  |  |
| **2** | TC\_Login\_02 | To Check the | Launch the | 1. Enter the | Invalid |  |
|  |  | Functionality of | Application | invalid  Username | Username  should not be |  |

LOGIN TEST CASE

|  |  |  |  |
| --- | --- | --- | --- |
| the invalid  "Username" by  entering | Login into  the System. | "$%&%&" in  Username  text field | accepted and  error  message |
| special |  | 2. Enter | window |
| characters in  Username text |  | Password  "admin" in | should be  displayed |
| field and valid |  | Password | with an error |
| Password in  the |  | text Field. | message  "Enter |
| Password Field. |  | 3. Click on | Valid |
|  |  | Login button. | Username" |
|  |  |  |  |
| **3** TC\_Login\_03 To Check the | Launch the | 1. Enter the | Invalid |
| functionality of | Application | Valid | Password |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | the valid |  | Username | should not |
|  |  | Username in | Login into | "admin" in | be accepted |
|  |  | Username text | the System. | Username | and error |
|  |  | field |  | text field. | message |
|  |  | and invalid |  | 2. Enter | window |
|  |  | Password in |  | Invalid | should be |
|  |  | the Password |  | Password | displayed |
|  |  |  |  | "$$$$" in |  |
|  |  | field. |  | Password text | with error |
|  |  |  |  | field. | message |
|  |  |  |  |  | "Enter |
|  |  |  |  | 3. Click on | Valid |
|  |  |  |  | "Login" | Password" |
|  |  |  |  | Button. |  |
|  |  |  |  |  |  |
| **4** | TC\_Login\_04 | To Check the | Launch the | 1. Enter the | Invalid |
|  |  | Functionality of | application | invalid | Password & |
|  |  | the invalid | Login | Username | Invalid |
|  |  |  |  | "admin" | Username |
|  |  | Password by | in to the | in Username | should not be |
|  |  | entering | System | textfield. | accepted in |
|  |  | Special  character |  |  | the Password |
|  |  | in the |  | 2. Enter | text field and |
|  |  | Password text |  | invalid | Username |
|  |  | field and |  | Password | text field & it |
|  |  | invalid |  | "^$^$^$" in |  |
|  |  | Username with |  | Password | show the |
|  |  | Special |  | textfield. | message |
|  |  | character in |  |  | "Please Enter |
|  |  | the |  |  | Valid |
|  |  | Username filed. |  | 3. Click on Login button. | Username & Password". |
|  |  |  |  |  |  |
| **5** | TC\_Login\_05 | To Check the | Launch the | 1.Enter | Invalid |
|  |  | functionality of | application | Invalid | Password & |
|  |  | Invalid | Login | Username " | Invalid |
|  |  |  |  | " | Username |
|  |  | Username by | in to the | in Username | should not be |
|  |  | entering Blank | System | textfield. | accepted in |
|  |  | spaces |  |  | the Password |
|  |  | in Username |  | 2. Enter | text field and |
|  |  | text field & |  | Invalid | Username |
|  |  | Invalid  Password. |  | Password "  " | text field & it |
|  |  | by entering |  | in Password | show the |
|  |  | Blank spaces in |  | textfield. | message |
|  |  | Password |  |  | "Please Enter |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | Valid |
|  |  | text field. |  | 3. Click on Login button. | Username & Password". |
|  |  |  |  |  |  |
| **6** | TC\_Login\_06 | To Check the | Launch the | 1. Enter the | Home Page |
|  |  | functionality of | application | Valid | should be |
|  |  | "Login | Login | Username | Displayed on |
|  |  |  |  | "admin" in |  |
|  |  | button. | into the System. | Username text field. | the Screen. |
|  |  |  |  | 2. Valid Password. |  |
|  |  |  |  | 3. Click on Login button. |  |
|  |  |  |  |  |  |
| **7** | TC\_Login\_07 | To Check the | Launch the | 1. Enter the | Home Page |
|  |  | functionality | application | Valid | should not be |
|  |  | when "Login" | Login | Username  "admin" in | Displayed on |
|  |  | button is not Clicked. | into the System. | Username text field. | the Screen. |
|  |  |  |  | 2. Valid Password. |  |
|  |  |  |  |  |  |
| **8** | TC\_Login\_08 | To Check the | "Forgot | 1. Enter | Clicking on |
|  |  | functionality of | Password" | Username | "Forgot |
|  |  | the | button |  | Password" |
|  |  |  |  |  | Button |
|  |  | "Forgot | should be | 2. Enter | Forgot |
|  |  | Password" | available | Password | Password |
|  |  | button |  |  | Window |
|  |  |  |  |  | should be |
|  |  |  |  | 3. Click on | opened. |
|  |  |  |  | "Login" |  |
|  |  |  |  | button |  |
|  |  |  |  | 4. Click on |  |
|  |  |  |  | "Forgot |  |
|  |  |  |  | Password"  button |  |

DRAWBACKS

Currently, due to unavailability of the proper module for online payments, the payment feature has been withheld. As concerns for security arise day by day, ensuring safety and security is the primary focus of a developer or the system may be a victim of cybercrimes.

FUTURE ENHANCEMENTS

If an appropriate module for secure payment is identified or externally developed, then it shall be incorporated in the next version.

Also, the feature for tracking the passenger's real-time location while in a journey, needs cash flow and simultaneous deployment activity, hence serious professionals should be consulted and if found feasible then, shall be incorporated in the next version.

**CHAPTER 2**

**Literature review**

**Actionable insights to resolve Android performance bottlenecks an errors. Improve your monitoring workflow with a full view of releases so you can mark Android errors as resolved and prioritize live issues.[1]**

**This book is an exploration of Android programming language. It has been updated for Android 6. The first chapter of the book guides you on how to install and set up the Android Studio, which is the IDE used for development in Android. The Android Studio Designer Tool will then be explored in detail, so you will know how to use it, in both design mode and in text mode. Grid Layouts are good for organizing what the user interface of an Android app will look like to the users. In such cases, you have to set the Grid Layout as the root, and the rest of the components have to be added to it as the children. You can add other features to your components such as cell padding and the gravity. You should also come up with a mechanism for handling events in your Android apps. This book guides you on how to handle the events in your Android app. In Android, most users interact with the device via touch. This book guides you on how to handle the touch events in Android. Fragments are also a good feature when creating Android devices as they help us come up with a nice user interface. Note that it is possible for us to add the basic components to a fragment. This book guides you in how to do this. To launch an activity in Android, or to pass messages between activities, you have to use intents. This book guides you on how to use intents. Both broadcast intents and receivers have been discussed in this book. The book also guides you on how to access remote services in Android. The following topics are discussed in this book: -Installing Android Studio -Android Studio Designer Tool -Java for Android 6 –Grid Layouts in XML -Handling Events -Working with Fragments -Intents -Broadcast Intents and Receivers -Remote Services -Content Providers[2]**

**This concise reference book for Android Studio 3 presents the essential Android Studio functions in a well-organized format that can be used as a handy reference. It will quickly demonstrate the usage of the Android Studio IDE to build an Android mobile app step by step .You won’t find any technical jargon, bloated samples, drawn out history lessons, or witty stories in this book. What you will find is a reference that is concise, to the point and highly accessible. The Android Studio IDE Quick Reference is packed with useful information and is a must-have for any mobile or Android app developer or programmer. [3]**

**Fully updated for Java Platform, Standard Edition 8 (Java SE 8), Java: A Beginner's Guide, Sixth Edition gets you started programming in Java right away. Bestselling programming author Herb child t begins with the basics, such as how to create, compile, and run a Java program. He then moves on to the keywords, syntax, and constructs that form the core of the Java language. This Oracle Press resource also covers some of Java's more advanced features, including multithreaded programming, generics, and Swing. Of course, new Java SE 8 features such as lambda expressions and default interface methods are described. An introduction to Java FX, Java's newest GUI, concludes this step-by-step tutorial.[4]**

**Android continues to be one of the leading mobile OS and development platforms driving today's mobile innovations and the apps ecosystem. Android appears complex, but offers a variety of organized development kits to those coming into Android with differing programming language skill sets .Android Recipes: A Problem-Solution Approach, Second Edition offers more**

**than 100 down-to-earth code recipes, and guides you step-by-step through a wide range of useful topics using complete and real-world working code examples. It's updated to include the Jelly Bean Android SDK as well as earlier releases. [5]**

**Android continues to be one of the leading mobile OS and development platforms driving today's mobile innovations and the apps ecosystem. Android appears complex, but offers a variety of organized development kits to those coming into Android with differing programming language skill sets.[6]**

**Android continues to be one of the leading mobile OS and development platforms driving today 's mobile innovations and the apps ecosystem. Android appears complex, but offers a variety of organized development kits to those coming into Android with differing programming language skill sets. Android Recipes: A Problem-Solution Approach, Second Editionguides you step-by-step through a wide range of useful topics using complete and real-world working code examples. It's updated to include latest… [7]**

**Android development is hot, and many programmers are interested in joining the fun. However, because this technology is based on Java, you should first obtain a solid grasp of the Java language and its foundational APIs to improve your chances of succeeding as an Android app developer. After all, you will be busy learning the architecture of an Android app, the various Android-specific APIs, and Android-specific tools. If you do not already know Java fundamentals, you will probably end up with a massive headache from also having to quickly cram those fundamentals into your knowledge base. [8]**

**The launch of the Apple iPhone in 2007 started a new era in the world of mobile devices and applications. Google’s Android platform has emerged as a serious player in the mobile devices market, and by 2012, more Android devices were being sold than iPhones. With mobile devices becoming mainstream, we have seen the evolution of threats against them. Android’s popularity has brought it attention from the “bad guys,” and we have seen attacks against the platform on the uptic [9]**

**mobile applications have dramatically penetrated in numerous fields and have changed people’s lives. Developing an effective mobile apphas become a significant issue for current enterprises to spread outtheir services or produces, and build up a direct connection with customers. A mobile application is an option of receiving the full attention of its users, which distinguishes from a desktop that has multitask of- ferings . The number of mobile app downloads and executions have beenrising considerably over years with the rapid development of the mo-bile technologies. Differentiating from other mobile apps has becomean important issue for enterprises to increase the mobile applications ’value. Therefore, finding an effective way to maximize the performance of mobile apps creates an urgent demand for contemporary mobile apppractitioners. Using advanced techniques of mobile applications is con- sidered an effective approach to making mobile apps stand outin agroup of app select [10]**

**this book will teach you everything you need to know to master Android plug-in techniques. This book introduces the Android plug-in technique. An app can be downloaded as an apk file in a zip file from the remote server. We call this zip file a plug-in. This app can invoke a class in this plug-in. This means that we can update the content of the app without republishing it again. Google Play has a strict app auditing strategy. It forbids any app from downloading another app to prevent it from downloading malicious con-tent or pornographic and violent content. Thus, we cannot publish an app using this plug-in technique on Go [11]**

**Preface Databases are used everywhere. They effect on our daily lives widely .Online business companies use databases to store critical data for their products and users; Doctor offices use databases to keep patient, pharmacy and insurance information; Banks use databases to track millions of financial transaction[12]**

**XI Preface Updated information, tutorials, a private forum, code, scripts and tools, and author assistance are available on http://AndroidRisk.com for first-time owners of each copy of[13]**

**REFRENCES**

* [**https://sentry.io/for/android/?utm\_source=google&utm\_medium=cpc&utm\_campaign=9779875595&utm\_content=s&utm\_term=%2Bandroid%20%2%2Bdevelopment&gclid=CjwKCAjwgb6IBhAREiwAgMYKRstjHWYsVs4ehJVOL6hokYdRlfDKGSTqJ88ZrWXjnDa7yC8SMCiBoCBa8QAvD\_BwE**](https://sentry.io/for/android/?utm_source=google&utm_medium=cpc&utm_campaign=9779875595&utm_content=s&utm_term=%2Bandroid%20%252%2Bdevelopment&gclid=CjwKCAjwgb6IBhAREiwAgMYKRstjHWYsVs4ehJVOL6hokYdRlfDKGSTqJ88ZrWXjnDa7yC8SMCiBoCBa8QAvD_BwE)
* **Android Programming: Mastering Course for Beginners Quick**
* **Android Studio IDE Quick Reference: A Pocket Guide to Android Studio Development**
* **Android Recipes: A Problem-Solution Approach**
* **Android Recipes: A Problem-Solution Approach**
* [**https://www.semanticscholar.org/paper/Android-Recipes%3A-A-Problem-Solution-Approach-Smith-Friesen/3bcb09268d04d9a3e836901ea2420910e9f50647**](https://www.semanticscholar.org/paper/Android-Recipes%3A-A-Problem-Solution-Approach-Smith-Friesen/3bcb09268d04d9a3e836901ea2420910e9f50647)
* **Learn Java for Android Development**
* **Java: A Beginner's Guide**
* **Android Security: Attacks and defenses**
* **Mobile Application development with android :technologies and algorithms**
* **Android app hook and plug in technology**
* **Practical guide to oracle SQL,MYSQL**
* **Android malware and analysis**