

Inventory, Stock and Sales Web Application

Prepared and Submitted by
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April, 2016

Inventory, Stock and Sales Web Application

Submitted in partial fulfillment of the requirement for the degree of
Bachelor of Technology in Computer Science & Engineering

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Ahmedabad – 382481 (India)
April, 2016

CERTIFICATE

This is to certify that the Major Project entitled “**Inventory, Stock and Sales Web Application**” submitted by **Harsh J. Patel(12bce057)**, towards the partial fulfillment of the requirements for the degree of Bachelors of Technology in Computer Engineering of Nirma University of Science and Technology, Ahmedabad is the record of work carried out by him under my supervision and guidance. In my opinion, the submitted work has reached a level required for being accepted for examination. The results embodied in this major project, to the best of my knowledge, haven’t been submitted to any other university or institution for award of any degree or diploma.

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ACKNOWLEDGEMENT

I would like to thank my Faculty Guide, **Prof Ajay Patel**, Assistant Professor, Department of Computer Engineering, Institute of Technology, Nirma University, Ahmedabad for his valuable guidance and continual encouragement throughout the Major project. I heartily thankful to him for his time to time suggestions and the clarity of the concepts of the topic that helped me a lot during this project.

I would also like to thank my External Guide , **Mr.Sanjay Khunti** ,CEO and Owner ,SDK-itpro Pvt. Ltd. for his valuable guidance and help during the internship and his suggestions on the project that helped me a lot during the internship.

I am also thankful to **Dr Sanjay Garg**, Head, Department of CE, IT and MCA Department, Institute of Technology, Nirma University, Ahmedabad for his continual kind words of encouragement and motivation throughout the Major Project. I am also thankful to **Dr P N Tekwani**, I/c Director, Institute of Technology for his kind support in all respect during my study.

I am thankful to all faculty members of Department of Computer Engineering, Nirma University, Ahmedabad for their special attention and suggestions towards the project work.

The blessings of God and my family members makes the way for completion of major project. I am very much grateful to them.

The friends, who always bear and motivate me throughout this course, I am thankful to them.

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ABSTRACT

Inventory, Stock and Sales Web Application is an application that aims to provide all the facilities related to any inventory management, stock management and sales of any company or startup. The aim of the project is to fulfill all the facilities in one application. The application is built on php and javascript. The application provides inventory management features for storing the product details on the database along with their images and stock. The application also provides the facility of storing the customer and supplier details. Editing and Deleting features are also available for the user to edit or delete any data. The application provides the facility of generating Pie Charts and Line charts for the sales reports. The stock share is described categorically using a pie chart. The sales report between and dates can be displayed in a table or can also be visually seen in a line chart. The application also provides the facility to download the data in an excel sheet for other purposes. The chart provides a drilldown feature which helps to categorically display data. The application also provides the facility of predicting the sales of any product for any particular date. The prediction algorithm predicts the sales of the product based on the best fitting line , linear regression algorithm. The application provides the feature of multi-users, which means different users with different permissions and profiles. Hence the application aims to provide a single interface and portal to manage inventory, stock and sales of any company or startup or any other business.

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CHAPTER 1

INTRODUCTION

This chapter describes about the project system, company and how it works, current scenario of existing system, scope of the project.

1.1 ABOUT THE COMPANY

1.1.1 Introduction to the Company

SDK-ITpro is a web development company and it aims to provide all solutions related to web technologies. It also provides you the facility of developing any web application according to your needs. SDK-ITpro have been helping small business owners, individuals and a huge assortment of global corporations to serve their customers better. We can help make your business profitable and appear professional. No matter how great of an idea you have, it will not come well into life without plan, skills, resources, technology, ideas and ability to find vital solutions using compatible technologies. Your business success determines on how well your idea molded into realism. We help you bringing your ideas to form plans, advice on compatible technologies to mold it into thriving business. Whether you want a website built customized to your business needs, maintaining a legacy system, building a new enterprise application or Open Source development, you can count on SDK-ITpro for all your web and application development needs. From start-ups to business corporations our vetted technology experts bring a wealth of experience and skill to help your project stand out, increase conversions, and ultimately be successful. SDK-ITpro can provide comprehensive technology solutions specific and well-defined to your customers or business needs.

1.1.2 Quality Policy

The company believes in providing the best quality check to any softwares and service maintainance for the delivered products. The quality policy adopted during the project included 3 testing phases after completion of each module and applying different testing methods to each module and packaging them.

1.2 THE SYSTEM

1.2.1 Definition of System

The project will be used by any company that has to keep a record of its items or inventory and also does the sales of that particular item and keep a track of the profit , quantity of item left and other such features. The project will have two users Admin (the owner of the company he can add, delete items, change the price and keep a track of suppliers and customers).The second user will be the sales person who will enter the sales of items depending on the order of customers, He can take the money do the entry in the system and update the system. The application will aim to provide one solution for inventory ,stock and sales management of any company and business.

1.2.2 Purpose and Objective

The purpose this project is to provide one package solution for inventory, stock and sales management. The project also offers the facility of predicting the sales of any particular product based on the date entered ,the project also aims to offer the facility of visualizing the sales data on a line graph. The project also aims on providing the facility of displaying the product share on a pie chart ,this helps the user in visualizing the data easily. The application also provides the facility of downloading the data in MS Excel format for other purposes. The application also provides different user profiles with different permissions and different abilities .The project's main aim is to provide one stop solution to inventory, stock and sales management department of any company or business.

1.2.3 About present system

There are many applications available online but they don't provide all the features in one package. This application will provide graphs and the power to predict the sales in one package. Other applications need to out source different applications for prediction and displaying graphs. But this application aims at providing the best solution.

1.2.4 Proposed system

The project consists of different modules and different user profiles. The application will have a dashboard that will consist of all the basic features in the form of tabs and this will help the user to get all the features easily accessible. There will be a login page for the user to login (admin or other salesperson). To manage the inventory of a company, we need a database which has all the data fields and is consistent. All the data will be entered into the database which will be connected to the front end and the data will be presented with the help of queries.

All the modules will have one common database and different tables with id being their primary key. There will be a products tab which will contain all the information of the products along with their price and images. The admin will also have an edit and delete feature which can be used by the admin to delete or edit the information anytime. The images will be uploaded to the server and only the path of the image will be stored in the database.

There will be a sales tab that will have list of products along with a button to sell them. There will be a pop-up that will provide with the facility of computing the profit and all the sales details will be stored in the sales database which will help in generating the sales report and this will be helpful in generating graphs for visualizing the data.

There will be a customers tab that will track all the information about the customers and this will help in maintaining customer relationship management, all the details of the customers will be stored in the database and all the data can be edited or deleted by the admin user.

There will be a Dues tab which will track all the account details of all the suppliers along with the date. All the pending dues and credit will be displayed in this tab and this will be useful in tracking all the account details of the supplier. All this details will be useful in keeping a track of all the records and finding them easily using the search tab in the application. The search tab will help the user to search anything on the portal and this will make it easily accessible and so the user can search anything easily. All

these tabs will have their own tables.

There will be sales report tab which will display all the sales information from and to a particular date and will also display a graph for the same

There will be a product share tab that will display a pie chart of all the products categorically and this will have a drill down feature that will help in categorically drilling down into different categories and can help the user in further categorically visualizing the data .

There will also be a Predict tab that will help the user in predicting the sales of any product depending on a particular date. The algorithm will predict the sales of a product and this will help in forecasting sales and storing products in advance. This tab will help in forecasting the sales and it will help the user.

1.3 PROJECT PROFILE

1.3.1 Project title

The title of the project is “**Inventory, Stock and Sales Web Application**”. It is a one stop portal for inventory, stock and sales management.

1.3.2 Scope of Project

There is large scope for this project. There are many emerging start-ups and many businesses are growing and all businesses need a basic inventory and stock system. But many available applications do not have all features bundled into one application. Normally other applications don't have all features into one package and so they have to use different applications for different features and they have to outsource some features.

This application provides one stop solution for all the inventory, stock and sales requirement of any company .It also provides graphs and the prediction module inside it and so all the problems can be addressed in one application and this will provide all the functions and features at one place. The sales portal will also be embedded into this portal to keep track of all the sales and their dates. It will keep track of all sales along with their dates. The application also keeps track of all the sessions of login and logout and the application also provides the feature of storing data remotely on a database.

1.3.3 Project team

Harsh Patel(12BCE057),
Nirma University,
Ahmedabad.

1.3.4 Hardware/Software and Technologies Required

Software used:

- XAMPP Web Server
- PHP 5.3
- JavaScript
- Sublime Text
- Html and CSS
- High charts
- MySql
- PHP

Hardware Required:

- Machine : Dell Inspiron N4050
- Microprocessor : Intel Core i5-2450M CPU (64 Bit)
- RAM : 4 GB
- Processing Speed : 2.50 GHz
- Operating System : Windows 7 Premium

1.3 Literature Survey

1.3.1 About GPS

Global Positioning System (GPS) works with the help of GPS satellite and GPS receiver. There are about 30 satellites that revolve around the earth. These satellite broadcast radio signals and these signals can be received by any mobile device or any device having GPS enable feature. So these device can be called as GPS receiver.

Location is calculated with the help of atleast four satellites. At any point of time atleast four satellites are visible to earth. It is the job of GPS receiver to find these satellites and then find the distance of each. With the help of this they try to find its own location.

Each of these four satellites, transmits its current location and current time after every certain time period. These signals travel at speed of light. When it is received by GPS receiver, it finds the distance based on it how long it took to reach them. There is method called, trilateration, used to find its own exact location by receiver, when they receive signal from atleast three satellites.

Location calculated by this method is most accurate method. It is observed that GPS has accuracy of +/- 11 meters. Every GPS satellite radiate two signals. With different frequency.

The most important benefit of using GPS is that, it doesn't require any internet connection. Due to this, it becomes very economical to use its property. Anyone with even with cheap device can use this, the only constraint is, it should have GPS chip.

1.3.2 About Android

Android is basically mobile based operating system. It is based on Linux and it is developed by Google. Moreover just like Linux, it is also an open source system software. With the invention of this technology, market of mobile phone changed drastically. This operating system is mostly used in devices like smartphones, tablet.

Android application can be made with the help of Java programming language. Android has also has Android SDK. With the help of this, application can be created because it has, different software package, libraries, hardware and software platform and even operating system.

To develop an application, earlier eclipse was used as Integrated Development Kit (IDE) using the Android Development Tool (ADT). There are some more other tool by which application can be developed like Native Development Kit (NDK). All the tools require Android SDK to develop and run the application in this environment. But now, we have Android Studio as NDK and it also has Android SDK in it. Android application can be run either on any android device or on emulator which is part of Android SDK.

Once the android application is made, it generate the .apk file. This this can be installed in any android device and user can easily use the application. All the application can be uploaded on Google Play Store. From there, any user can download the application. Once the application is download user can update it if any updates are available, or it can be deleted, uninstall it.

Android application used RAM for its memory management. Some application runs in background and some runs only when it is open. The application which runs in background consumes more memory and power.

The hardware platform which android supports is ARM Architecture. Earlier it supported only 32 bit platform but now it even supports 64 bit platform. Some of the features that android device have are it has integrated browser, google chrome, it supports MySQL, it supports Bluetooth, GSM, camera. It supports graphics based on OpenGL.

Till know many versions of android has been released. Detail description is as follows:

Version	Feature
Android 1.0 (Api level 1)	Google Sync, Bluetooth, Wi-Fi, YouTube
Android 1.5 Cupcake (Api level 3)	Video recording, video can be uploaded to YouTube
Android 1.5 Donut (Api level 4)	Speed enhancement
Android 2.0 Éclair (Api level 5)	Google map, hardware improvement

Android 2.2-2.2.3 Froyo (Api level 8)	Memory improvement, hotspot, USB adhering feature.
Android 2.3 Gingerbread (Api level 9, 10)	Support Near Field Communication(NFC) and power management, added Google wallet
Android 3.0 Honeycomb (Api level 11, 12 13)	Multicore feature was added, improvement in user interface
Android 4.0 Ice Cream Sandwich (Api level 14,15)	Improved camera, improvement in user interface, improvement in Wi-Fi
Android 4.1 Jelly Bean (Api level 16,17,18)	Improved camera, 4K resolution,
Android 4.4 KitKat (Api level 19,20)	Android Run time environment was added in it
Android 5.0-5.0.2 Lollipop (Api level 21)	Material design, improvement in user interface, fixed bugs.
Android 5.1-5.1.1 Lollipop (Api level 22)	Device protection feature was added and multiple SIM card option

Table 1. Android Version

1.3.3 Business Model of Cab Company

Business model of this type of company is very different than any other company. All the company like, Ola Cabs, Meru Cabs are in loss but since they are looking for long term business, they will surely be in huge profit. Since most of the company are new, they give many offers to customers. But by this what actually they are trying to do is, make the habit of people of people to travel by this, because especially in Indian market people usually go for rickshaw as they are easily available and even cheap. So to make people feel that, travelling by cab is actually very comfortable. And to do this they are investing a lot.

As far as investment is concern, not all the company holds the ownership of cab. The common thing between all the companies is that they invest in IT department, they have their own Cab application and call centers and GPS kit installed in all cars.

Meru cab owns its own cab and drivers are recruit from franchise. So drivers are not permanent employee of this company. They pay the driver according to the number of rides they take in a day. They pay almost 20 % of the total billing for each ride.

Ola cab works in different way. They don't own the cab. They have vendors who get registered to Ola cab. They can run their cab with the help of Ola cab application. As this application will provide them the customers. Drivers are sometimes owner itself or they are also sometimes hired on temporary basis. So actually Ola runs the company without investing single rupee on even petrol and maintenance of cabs. When customer pay for their ride, they actually pay to the owner of cab. When customer take a ride on cab, driver get paid more than what customers pay to the owner. Suppose customer pay RS 10 per kilometer to owner, driver gets RS 12 per kilometer from Ola. After the end of month Ola take the commission of nearly 20% from the cab owner.

So as far investment is concern, Ola invest less than the Meru or any other company. They only have to make technical service user friendly so that more and more customer uses the service and they get benefited from it.

CHAPTER 2

SYSTEM ANALYSIS

2.1 FEASIBILITY STUDIES

Feasibility study is most important phase of any project development. Before starting any project it should be analysed thoroughly, whether to develop such kind of application is feasible or not in the current scenario. And to do this we did three different kind of analysis as operational feasibility, technical feasibility and economical feasibility.

2.1.1 Operational Feasibility

It is very important to decide whether with the available resource like number of members, is it possible to complete the project in the given time or not. The projects aims to provide one stop bundle for inventory, stock and sales management. Using his application any company or business can start their business really fast and at a good pace. This application will help business solve all their related problems. This application just needs one server which can also be a local computer and the application can be easily hosted on it.

So the application can be easily set up for any startup or business and this can be used easily as there are no large hardware requirements for it to function. so there will be no operational problems and all the database will be hosted on the server so it is operationally feasible.

2.1.2 Technical Feasibility

To develop this application, software that we require are Xampp server or any other hosting server, php modules, debugger browser, an IDE to write code like sublime text, a database hosting software and we also don't need internet connection if server is local, if server is remote then internet connection is required.

The user does not need any technical knowledge to use this application it is straight forward and user friendly.

2.1.3 Financial and Economical Feasibility

As software requirements for our project are open source, so we don't need to pay anything for it. All the software are available over internet. For hosting the data one can use a private local server and a system with the bare minimum requirements and the application can configure itself on the local server.

If the server is remotely situated then you need internet connection to fetch the data but once its cached there is no need of internet connection. The project uses highcharts which are freely available for use and also for the database one can use phpmyadmin database which is also available on the internet.

So the project is financially and economically feasible.

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2.2 FEATURES OF THE SYSTEM

2.2.1 Functional Features and Modules

- 1) **Dashboard:** This module will have all the features in the form of a dashboard. It will be a page that will have all the tabs in tiled format and all the tabs will be accessible through links. This will be the first page that will be displayed after a user log in.
- 2) **Products Module:** This module is meant for receiving and sending the messages to admin by customer and same to be received by admin and according reply back to the user for further course of actions.

To implement this, we have made one button. This button will act as “one touch click button”. By just clicking this button two process will happen simultaneously. First is, it will send the notification/message to admin about its location and along with it one message will be send which is preset. Second is, it will send the details about its current location, with city, state, local area, country, and zip code to the alternate number of any relative given by the user.

Message to any relative about the current location will be send not only at the time they are travelling in our cab, but even when also they are not travelling. The only precondition is they must be our registered user.

- 3) **Notification Module Driver Side:** This module perform another important feature. If cab remains at same location for 15 or more than 15 minutes, then it

will automatically send the notification to admin about the location of the cab. Again in it there is some predefined message, which is attached along with the location. It tracks the exact address of cab.

If cab remains at same position for 30 or more than 30 minutes while it is booked, the trip of that particular user will be cancelled automatically and it will notify user about it.

Again for this, Google Map API is used for location tracking purpose with the help of Google Map API key. All this process occurs in the background

- 4) **Customer Details Module:** This module will take the details of each user. Each user has to enter unique email id and contact number at the time of registration. Two user with same email id or same contact number cannot be registered. At the time of registration user has to give another contact number which may of any relative, so that they could send the status of their location any time if required.

Each user will remain logged in, in our application unless and until they logout from our application.

- 5) **Driver Details Module:** It will keep track of details of driver. Each driver will be provided with unique “DriverCode”, and with the help of this code they can login into our application. If they will not login, then they will not be allocated with any customer and so their location will also be not tracked.
- 6) **Cab Booking Module:** This module deals with the cab booking. User can book the cab if they want to travel. They just has to enter the source and destination and then press the “Book Cab” button. Once they click this button, their current latitude and longitude will be send to the admin. This location will act as a “pick up location” for that particular user.

User will be informed about how much estimated time it would take cab to reach at their location if cab is available.

- 7) **Cab Allocation Module:** This module is completed automatically. At admin side, it continuously keeps on checking whether any request for cab has been received by any user or not. If it finds, any user has requested for cab, it will

then check the cab which all are ideal or not booked. When admin receive the request for cab, it also receives the pickup location.

With the help of this pick up location and the location of all the cab which are not booked, it will allocated on of the cab to that user. It finds the cab which is closest to the user who has requested. It finds the distance between cab current location and user pickup location.

All this process happens in background and this things happen at admin side with the help of database.

- 8) **Start Journey Module:** Once at the admin side cab is allocated to user, this notification is received by that cab driver, stating the location of user who has booked the cab.

Cab driver has to click “Refresh” button time to time so that he could see if there is any request he/she has received from any user or not. On seeing the request driver drive it to the pickup location

When it reaches to the pickup location, in front of customer, he press the “Start Journey” button. Initially “Start Journey” and “End Journey” button remains disable.

Once the driver receives the request, “Start Journey” button gets enabled but other one still remain disabled. Suppose if driver tries to press the button for start journey even without reaching the pickup location, he/she will not be able to do that. On reaching to desired location, that button will become active.

There is one special case, suppose if it is not possible to take cab to exact pickup latitude and longitude, then there is provision for “Force Pickup”, but even in this case also, cab should not be away from desired pickup location for more than 300 meters.

- 9) **Stop Journey Module:** This button gets activated only after pressing “Start Journey” button. Driver press button to end the journey in front of customer.

When journey of that customers gets over, both button will remain disable until and unless driver receives some other request from any customers.

After the journey ends, in the database of that particular driver, details of that journey gets updated.

- 10) **Database Module/ Database Handling:** All the above described module are handled with the help of different query fired when user fire certain event. Backend programming is done in PHP and to access database, MySQL query is used.

For our application we have made altogether nine different tables to handle all the different events. Among these nine tables, four table is there which is made for user purpose. One is to maintain the track of admin user id and password. Another one is to maintain the all the registered users to our applications.

Another one is to maintain the details about the users who all want to book the cab. Customer who wants to book the, all the details are maintained here. Some of the details are like whether they have allocated cab or not, where they have picked up by cab or not. Once they finish their journey, data of that particular user is removed from that table.

Next table keeps the record of driver who all are active on that day. It keep the record of cab, whether it is booked or not. It stores the location of cab. If cab is booked database is updated with the user to which it is booked. After the completion of journey, again database is updated. In this it removes the data entry of that user from this table. It also maintains the record, if it is allocated to any user, whether it has picked that user or not.

Next five table is to keep track of all the five different driver. As of now, we have entered in or database details of only five drivers. If required we can add as many driver table as we want to keep the record of each and every driver.

These five tables keep the record like which customer has been allocated to which driver. Suppose driver A has been allocated to customer B. Then in database of driver A, details of customer B gets updated. It also keeps record of, where driver picked up the customer. It keeps the record of latitude and longitude.

It also stores when journey was completed, of each and every customers. Apart from this it also stores, whether driver tried to press “Start Journey” button even without reaching to the required pickup location.

It stores whether driver used special case pickup location or not. These all data helps to find out the rating of driver. How much they are accurate. Also it helps to find number used has been allocated to it in that particular period.

Non Functional Requirements:

- 1) **Security:** Each user has to keep their password secret so that nobody uses their ID. Moreover they should not reveal anything about their account details. They should not share personal details with cab drivers. Driver doesn't have permission to modify and update the journey details of any customer. This information can be updated only either by customer or by admin.
- 2) **Maintenance:** Back up of database is to be taken after fixed interval of time so that data loss can be avoided. Any kind of technical difficulties will immediately be reported and will be taken care of within short span of time.
- 3) **Application Download:** This application can be downloaded from Google Play Store. Our application is free and any user can download free of cost. To download it would require internet connection.
- 4) **Responsibility:** All the personal data entered by user will keep confidential. Any kind of disputes will be solved by us immediately.
- 5) **Memory Requirement:** Each of the three application, namely, user application, admin/server side, driver application, is of 5-6 Mb. So it would take space of maximum 6 Mb of any android device.

2.3 CONTEXT DIAGRAM

2.3.1 Customer Side Application

The below figure shows the context diagram of Customer side application.

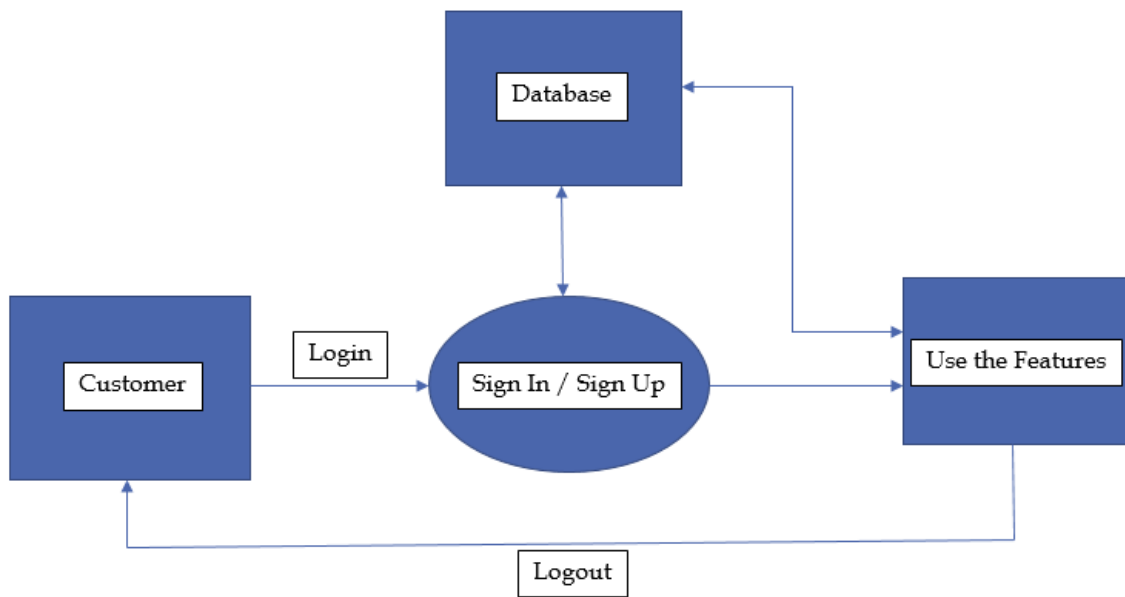


Figure 1: Context diagram of customer side application

2.3.2 Admin

The below figure shows the context diagram of Admin

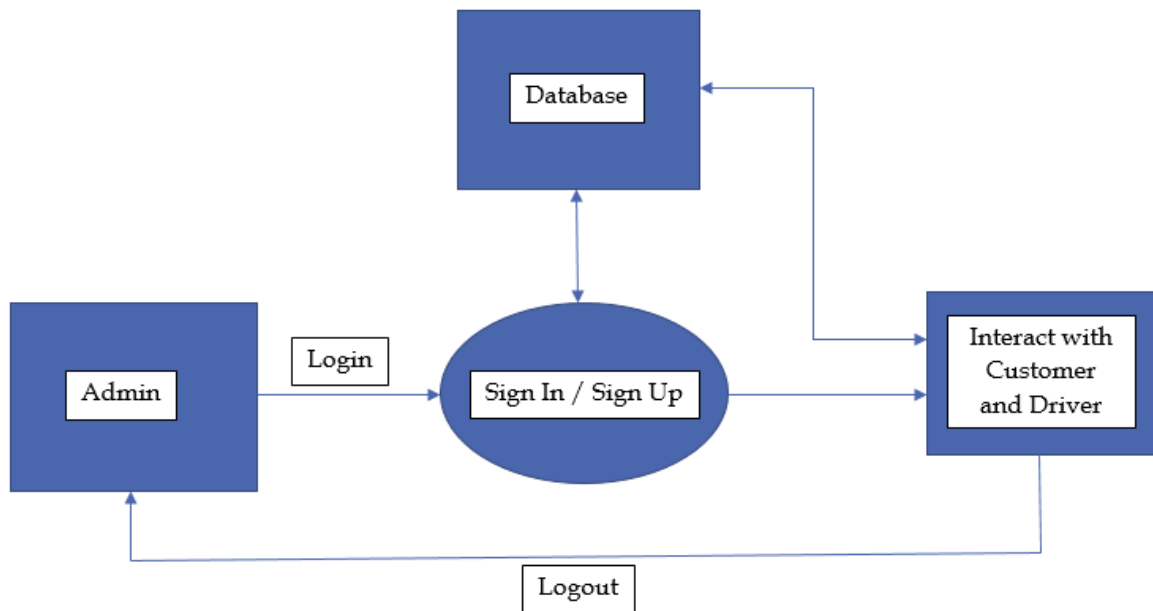


Figure 2: Context diagram of admin

2.3.3 Driver Side Application

The below figure shows the context diagram if driver side application

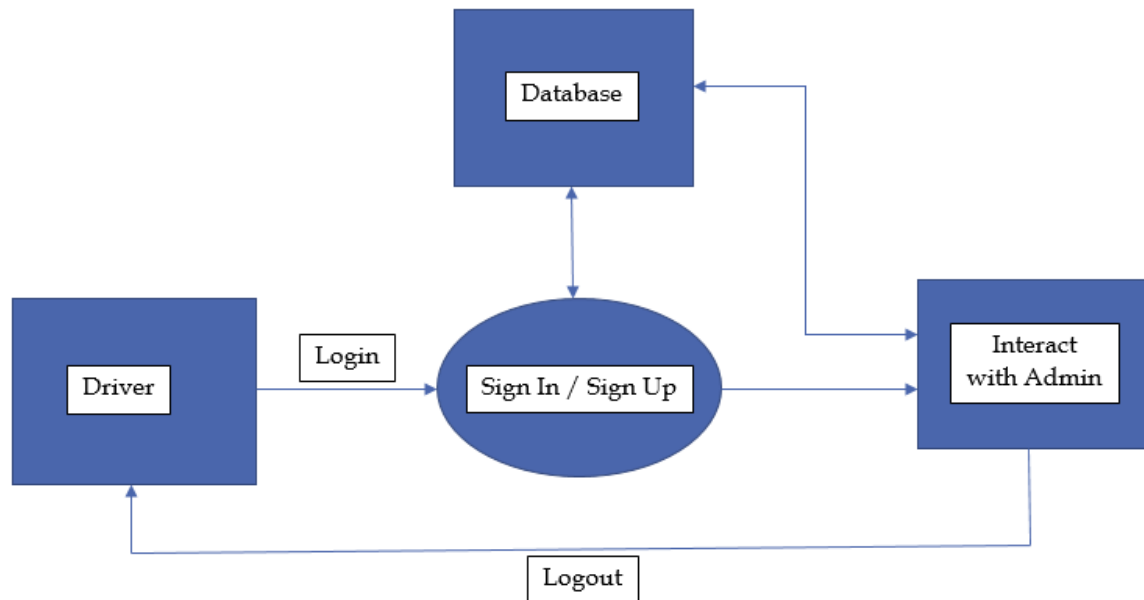


Figure 3: Context diagram of driver side application

2.3.4 Complete Project

The below diagram shows context diagram of our whole project.

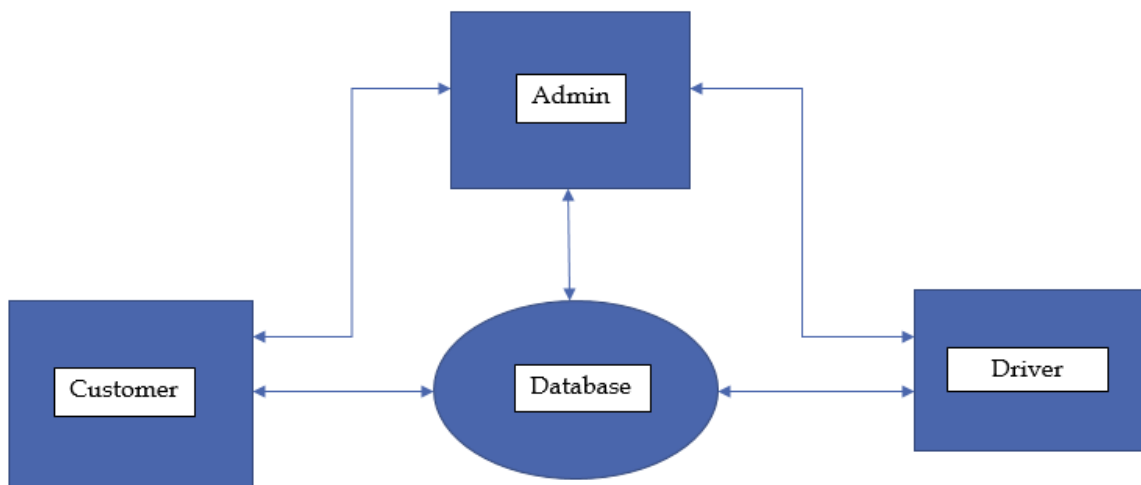


Figure 4: Context diagram of our project

2.4 DATA FLOW DIAGRAMS

2.4.1 First Level Data Flow Diagram

Customer Side Application

The below diagram shows first level DFD for customer side application

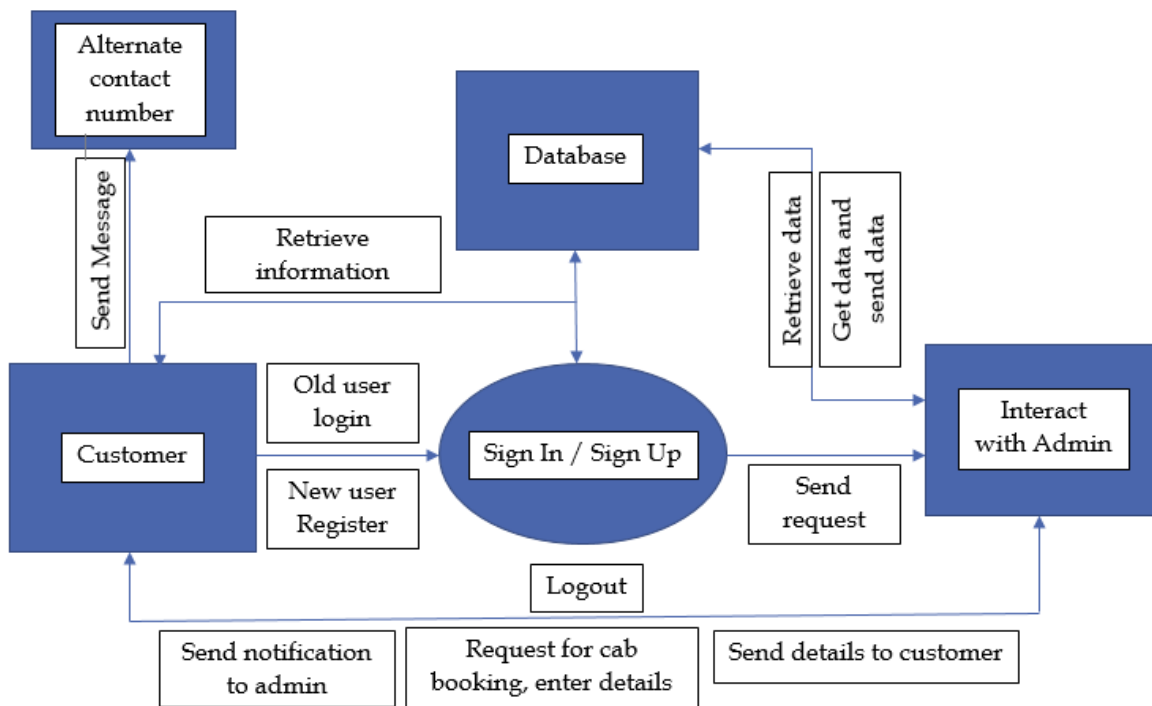


Figure 5: First level DFD for customer side application

Admin

The below diagram shows first level DFD for admin

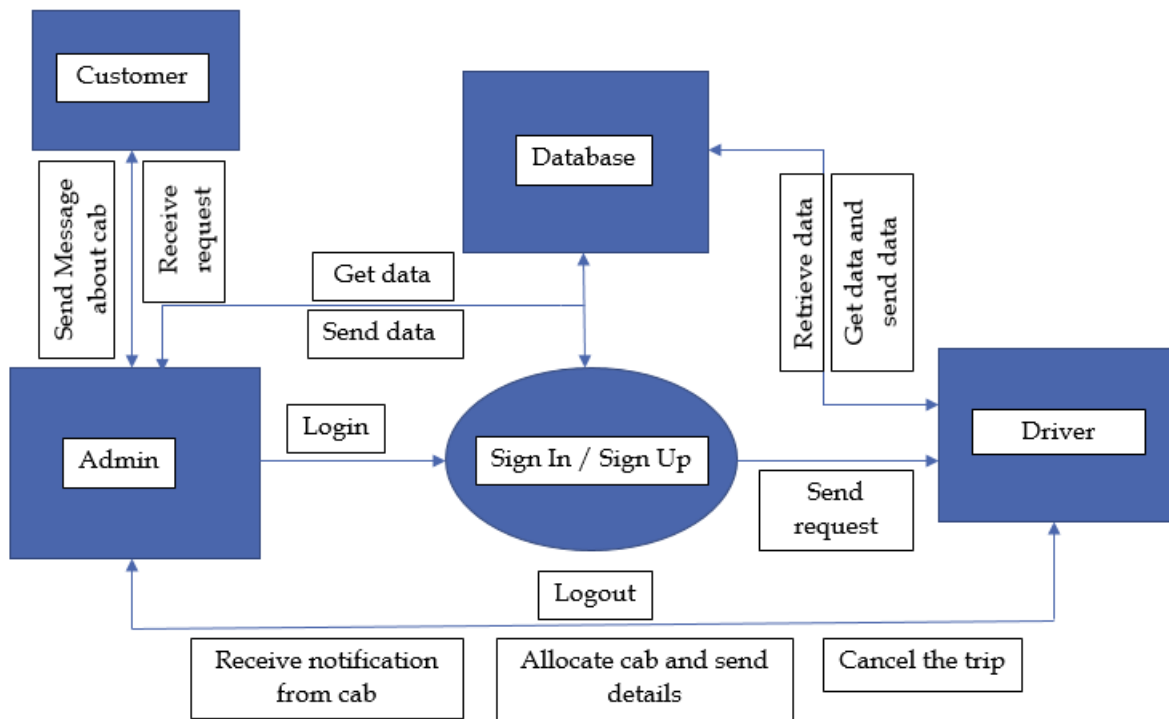


Figure 6: First level DFD for admin

Driver Side Application

The below diagram shows first level DFD for driver side application

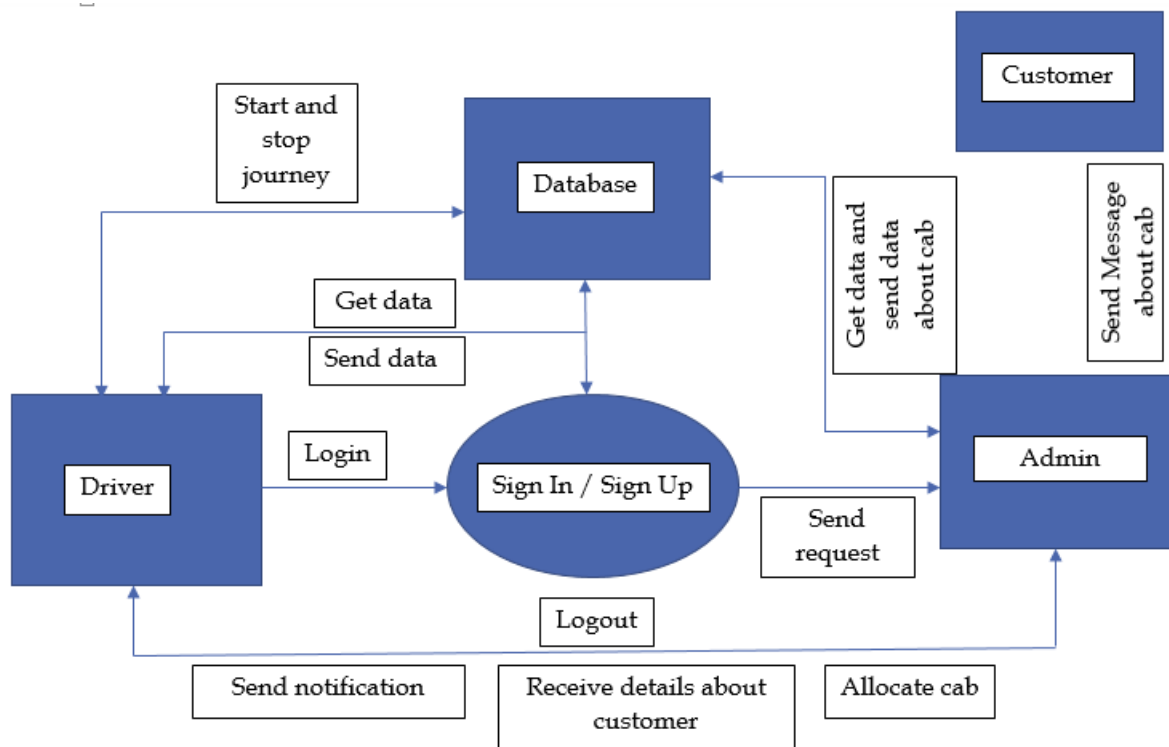


Figure 7: First level DFD for driver side application

Complete Project

The below diagram shows first level DFD of our project

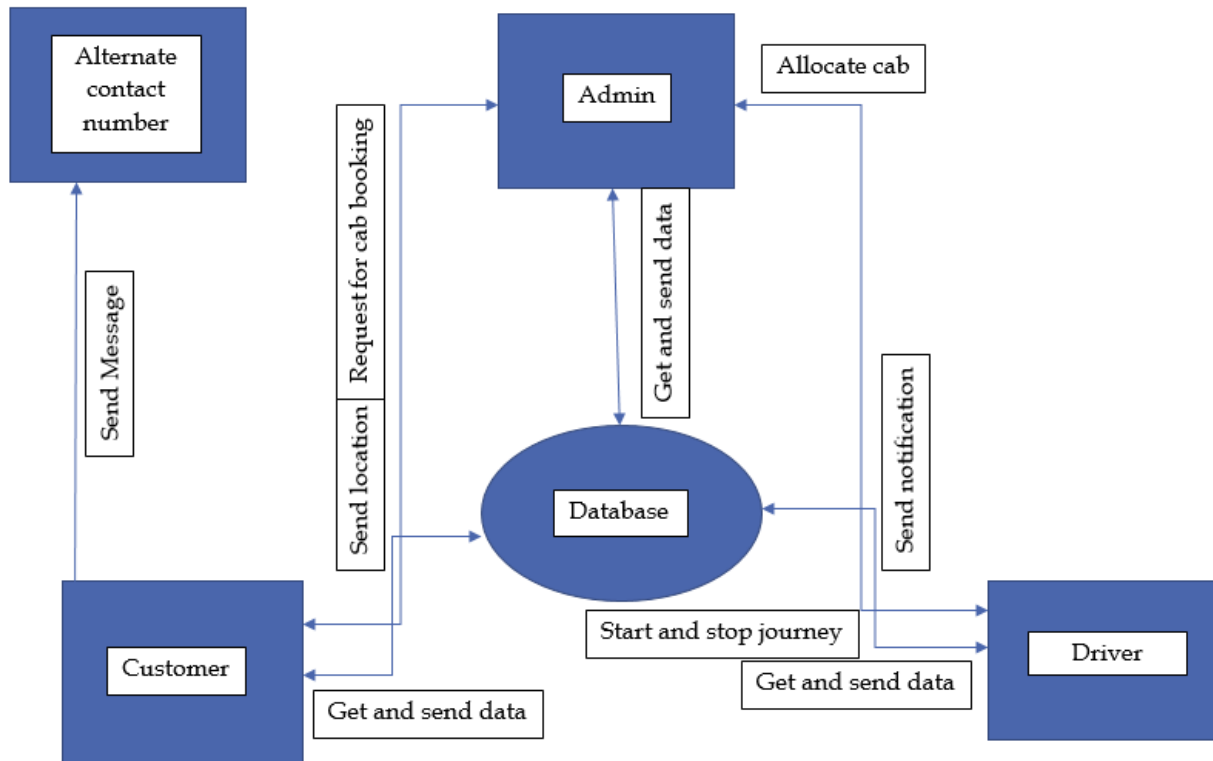


Figure 8: First level DFD of our project

2.4.3 Second Level Data Flow Diagram

Customer and Admin

The below diagram shows second level DFD for customer and admin

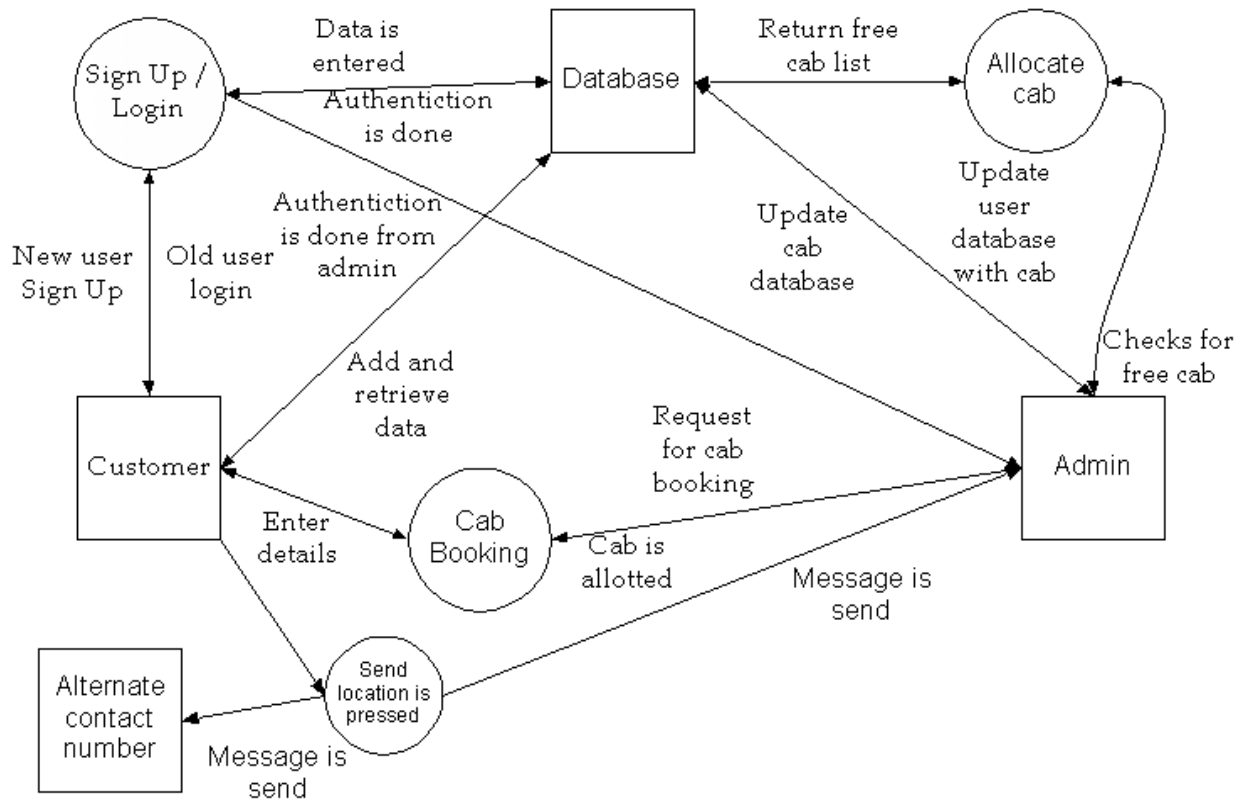


Figure 9: Second level DFD for customer and admin

Driver and Admin

The below diagram shows second level DFD for driver and admin

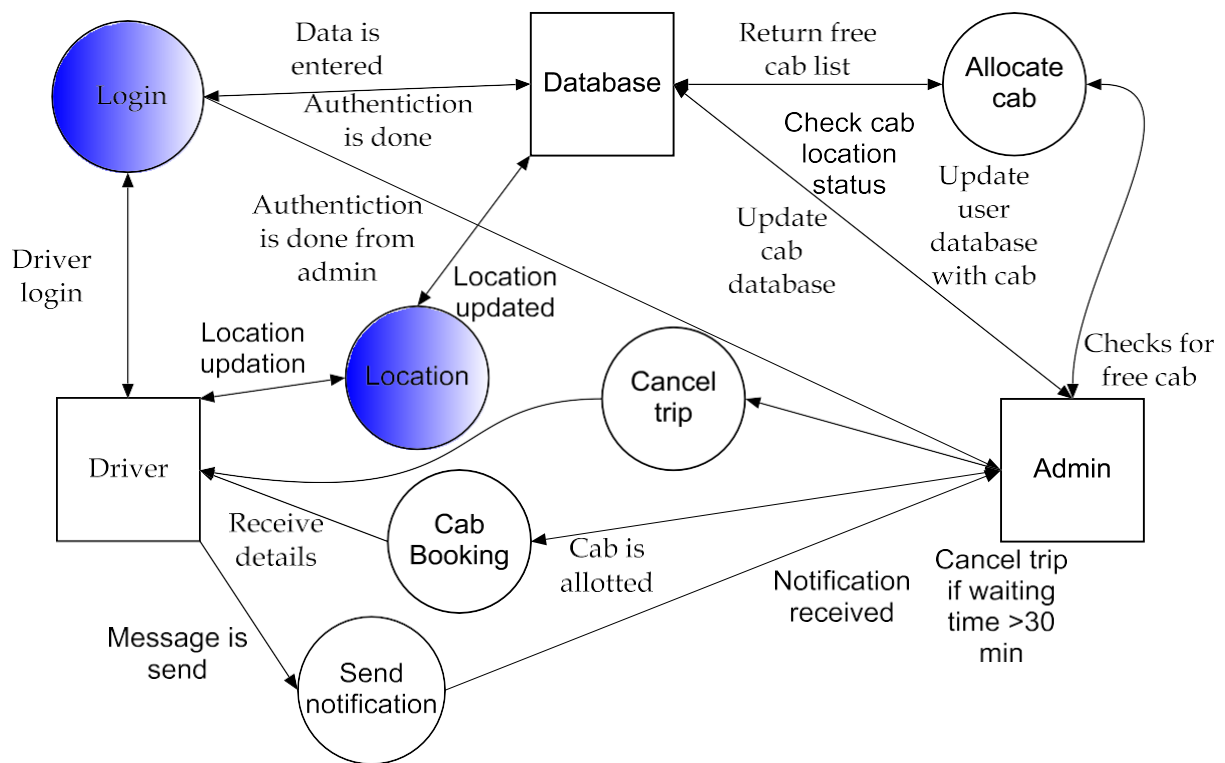


Figure 10: Second level DFD for driver and admin

Driver

The below diagram shows second level DFD for driver

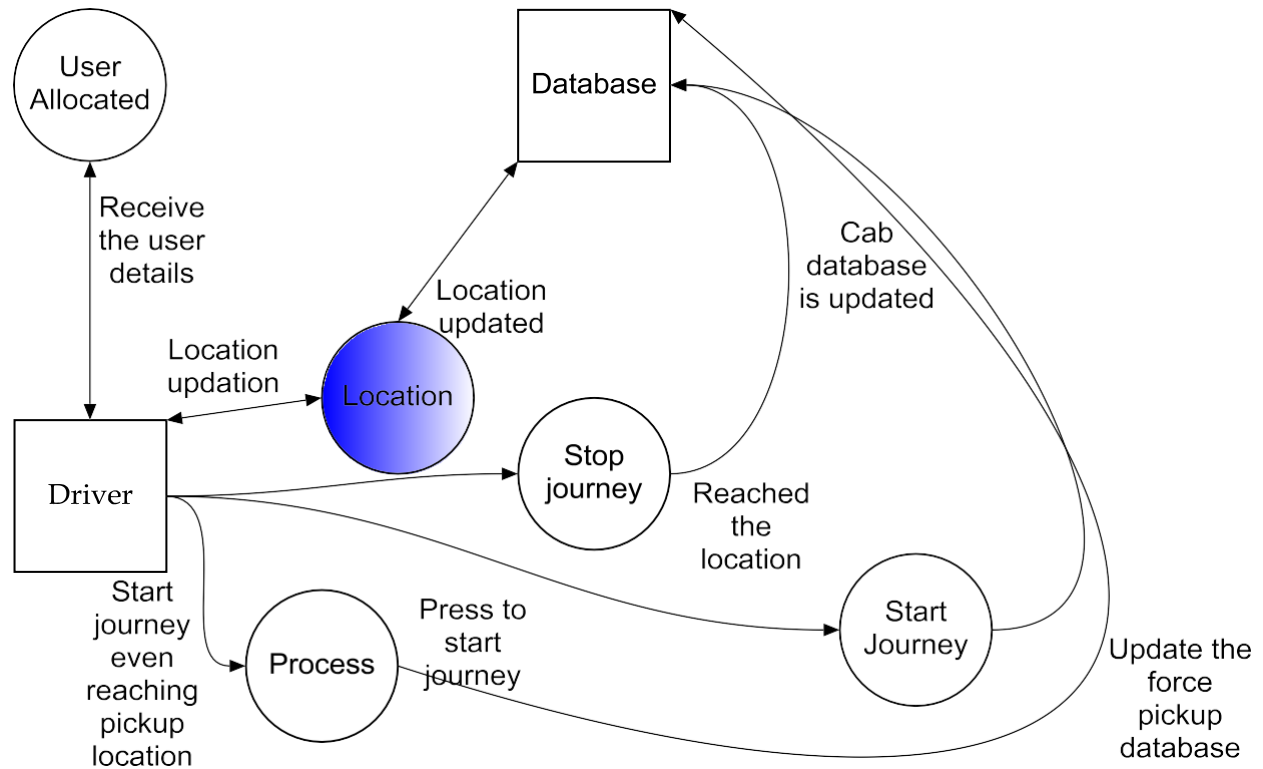


Figure 11: Second level DFD for driver

CHAPTER 3

SYSTEM DESIGN

3.1 SYSTEM FLOW

The below diagram shows the flow chart of our system

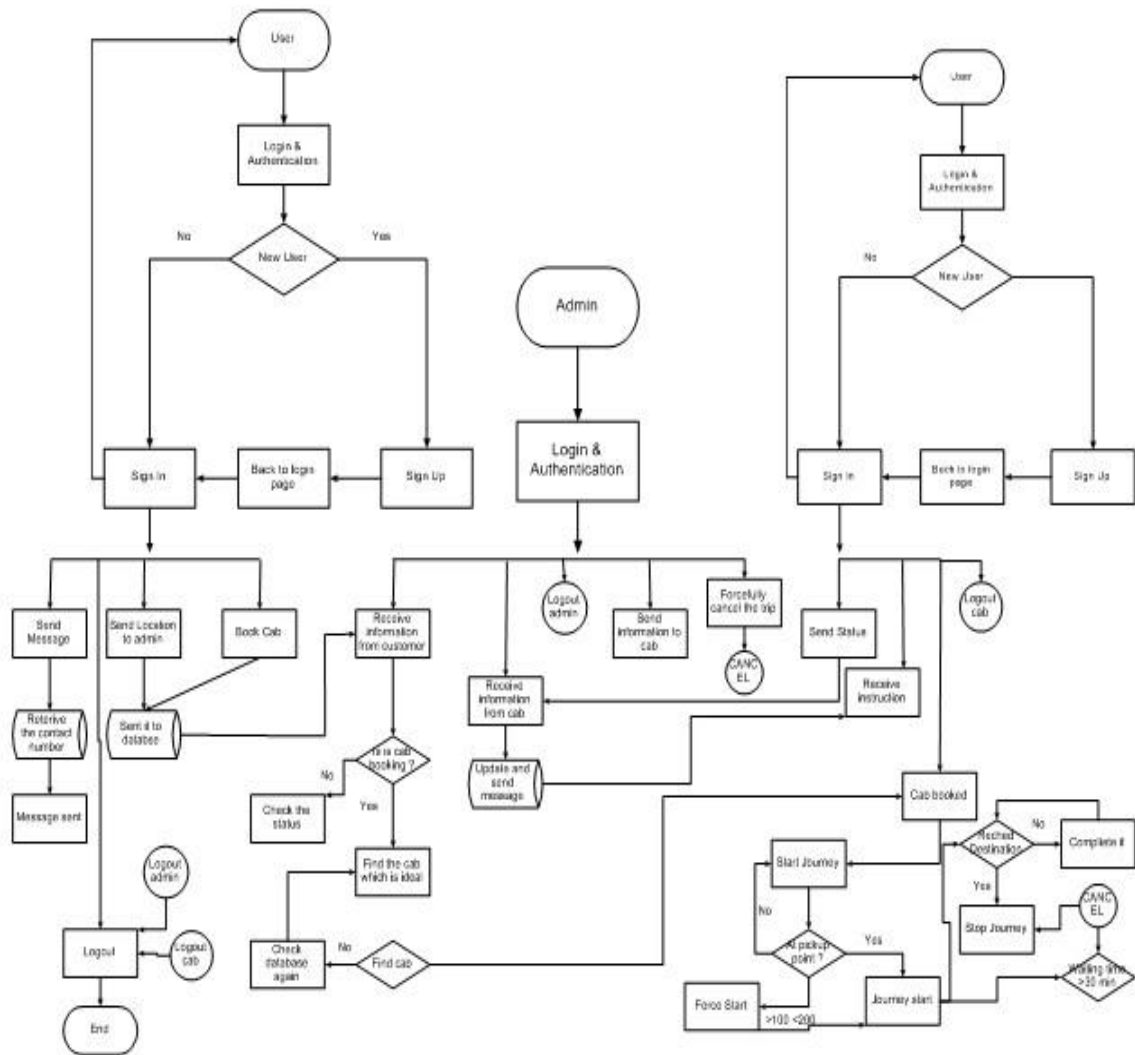


Figure 12: Flow chart of our system

3.2 DATABASE SCHEMA

3.2.1 Schema for Admin, Driver and Customer

The below diagram represent the database schema for admin, driver and customer

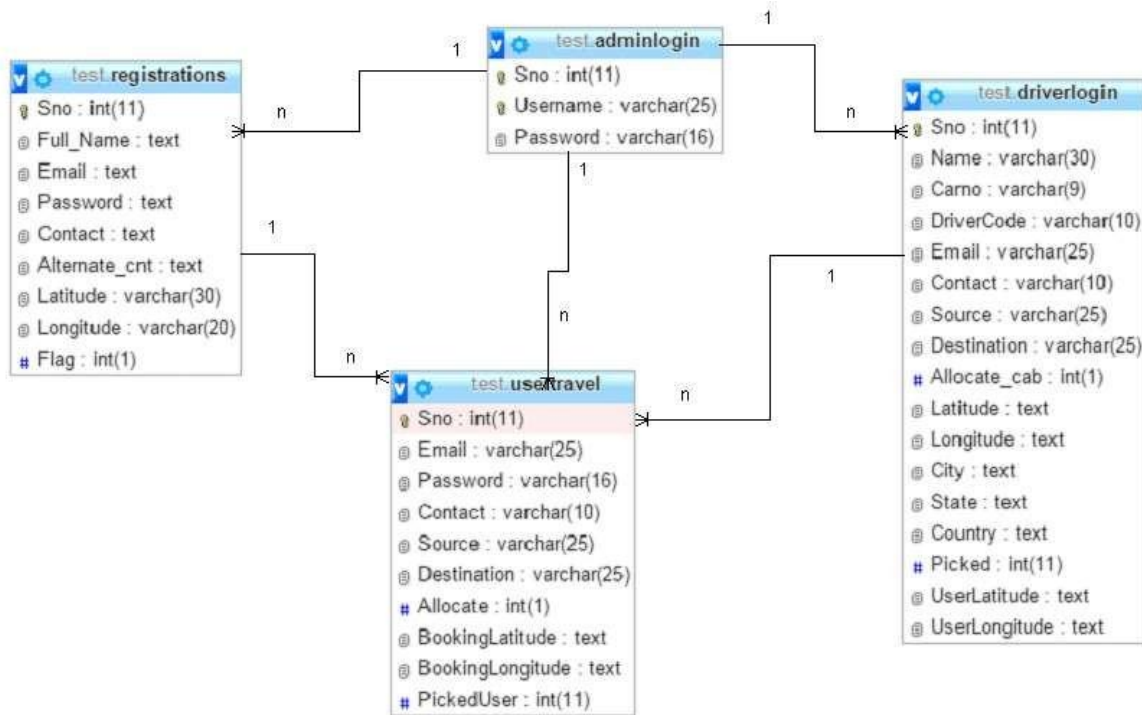


Figure 13: Schema for driver, admin and customer

3.2.2 Schema for Driver

The below diagram represent the database schema of driver

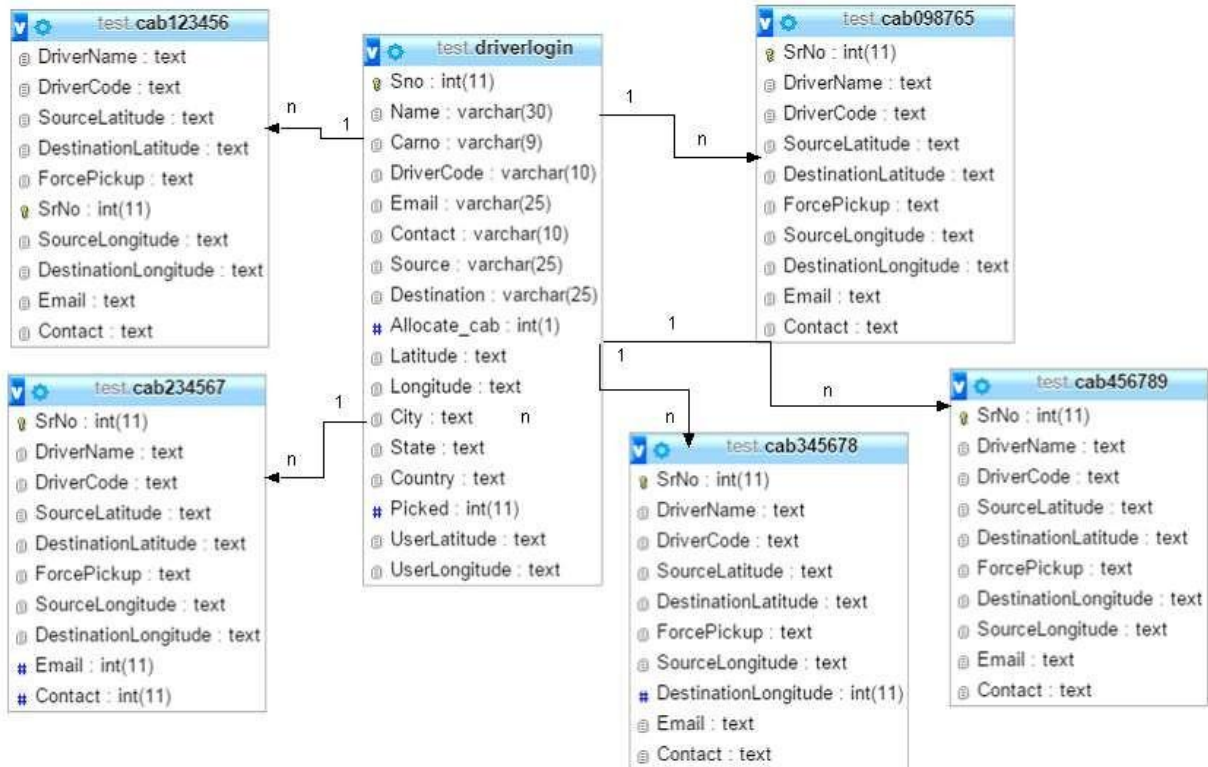


Figure 14: Schema of driver

3.3 DATABASE DESIGN

3.3.1 Products Table

This table maintains the record of all the product details along with the image urls

	id	category	name	quantity	purchase	retail	supplier	img
26		Hardware	Gigabyte Motherboard	15	8000	10000	Harsh Technologies	photo/005.jpg
28		Software Licence	Norton Security	10	999	1200	Harsh Technologies	photo/002.jpg
29		External Accesories	Transcend USB Drive	4	250	275	Harsh Technologies	photo/007.jpg
30		Mobile devices	Transcend OTG	1	750	800	Harsh Technologies	photo/Desert.jpg
31		Hardware	Nvidia GPU	7	25000	28000	Harsh Technologies	photo/011.jpg

Figure 15: Database to maintain all the product data along with every details

#	Name	Type	Collation	Attributes	Null	Default	Extra
1	<u>id</u>	int(11)			No	None	AUTO_INCREMENT
2	<u>category</u>	varchar(100)	latin1_swedish_ci		No	None	
3	<u>name</u>	varchar(100)	latin1_swedish_ci		No	None	
4	<u>quantity</u>	int(11)			No	None	
5	<u>purchase</u>	int(11)			No	None	
6	<u>retail</u>	int(11)			No	None	
7	<u>supplier</u>	varchar(100)	latin1_swedish_ci		No	None	
8	<u>img</u>	varchar(25)	latin1_swedish_ci		Yes	NULL	

Figure: Structure of the Products table

3.3.2 Sales Table

This table maintains the record of sales that happens on each date it stores all the transactions that has taken place at all dates.

id	dates	customers	category	name	amnt	quantity	total	profit	tendered	changed
4	2016-02-01	Harsh Patel	Software Licence	Norton Security	1200	3	3600	603	3700	100
5	2016-02-24	Harsh Patel	External Accesories	Transcend USB Drive	275	5	1375	125	1400	25
6	2016-02-25	Harsh Patel	Software Licence	Norton Security	1200	5	6000	1005	8000	2000
7	2016-02-25	Harsh Patel	Mobile devices	Transcend OTG	800	2	1600	100	1700	100
8	2016-02-26	Harsh Patel	External Accesories	Transcend USB Drive	275	1	275	25	300	25
9	2016-02-26	Harsh Patel	Mobile devices	Transcend OTG	800	2	1600	100	2000	400
10	2016-02-27	Harsh Patel	Mobile devices	Transcend OTG	800	3	2400	150	2500	100
11	2016-03-03	Harsh Patel	Hardware	Gigabyte Motherboard	10000	3	30000	6000	30000	0
12	2016-03-03	Harsh Patel	Software Licence	Norton Security	1200	2	2400	402	2500	100
13	2016-03-04	Harsh Patel	Hardware	Gigabyte Motherboard	10000	1	10000	2000	10000	0
14	2016-03-05	Harsh Patel	Hardware	Gigabyte Motherboard	10000	1	10000	2000	10000	0
15	2016-04-08	Harsh Patel	Hardware	Nvidia GPU	28000	1	28000	3000	30000	2000
16	2016-04-14	Harsh Patel	Hardware	Nvidia GPU	28000	2	56000	6000	60000	4000

Figure 16: Database to maintain Sales Report

Name	Type	Collation	Attributes	Null	Default	Extra
id	int(11)			No	None	AUTO_INCREMENT
dates	date			No	None	
customers	varchar(100)	latin1_swedish_ci		No	None	
category	varchar(100)	latin1_swedish_ci		No	None	
name	varchar(100)	latin1_swedish_ci		No	None	
amnt	int(11)			No	None	
quantity	int(11)			No	None	
total	int(11)			No	None	
profit	int(11)			No	None	
tendered	int(11)			No	None	
changed	int(11)			No	None	

Figure : Structure of Sales Table

3.3.3 Users Table

It stores all the user information for admin and any other profile you create

userid	username	password	access
1	admin	admin	Admin
2	salesperson	salesperson	Salesperson

Figure 17: Database to maintain details of admin

3.3.4 Supplier Table and Customer Table

This table maintains the record of suppliers who supply goods for the company or business.

id	suppliername	contactperson	address	contactno	note
18	Harsh Technologies	Harsh Patel	Ahmedabad	8866507519	-
19	abc suppliers	Yash	Science city,ahmedabad	1234567890	-

Figure 18: Database Table to maintain details of Suppliers

This table maintains the details and contact of all customers

id	name	contact	address	note
1	Harsh Patel	12345	Ahmedabad	-
3	XYZ	12345688	Mumbai	-

Figure : Database Table to maintain details of all customers

3.3.5 Dues and Predict Table

The Dues table holds all the balance and credit dues of the accounts.

id	dates	supplier	paid	balance
3	2016-04-05	Harsh Technologies	NULL	2500
5	2016-04-05	abc suppliers	NULL	4000
6	2016-04-05	abc suppliers	NULL	1234
7	2016-04-08	abc suppliers	NULL	6000

Figure : Dues Database Table

Predict Table

The predict Table holds the information of the products and their slopes based on the sales data to make a best fitting line for forecasting using linear regression.

dates	name	quantity	Slope
2016-02-01	Norton Security	3	-0.0025
2016-02-24	Transcend USB Drive	5	-2.0000
2016-02-25	Norton Security	5	-0.0025
2016-02-25	Transcend OTG	2	0.5000
2016-02-26	Transcend USB Drive	1	-2.0000
2016-02-26	Transcend OTG	2	0.5000
2016-02-27	Transcend OTG	3	0.5000
2016-03-03	Gigabyte Motherboard	3	-1.0000
2016-03-03	Norton Security	2	-0.0025
2016-03-04	Gigabyte Motherboard	1	-1.0000
2016-03-05	Gigabyte Motherboard	1	-1.0000
2016-04-08	Nvidia GPU	1	0.1667
2016-04-14	Nvidia GPU	2	0.1667

Figure : Slope of Products based on the quantity and Date sold

3.4 CLASS DIAGRAM

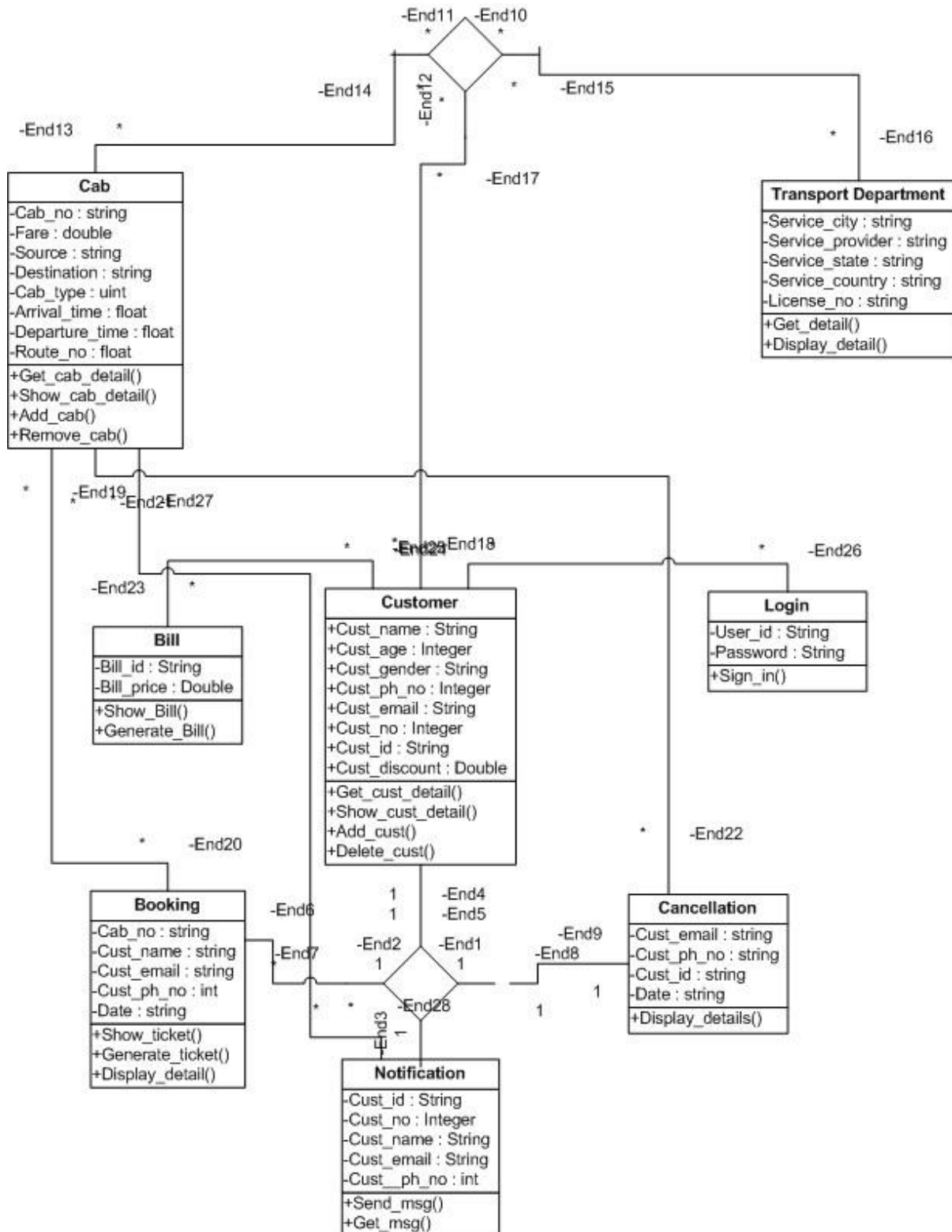


Figure 20: Class diagram of our project

3.5 USE CASE DIAGRAM

3.5.1 Customer

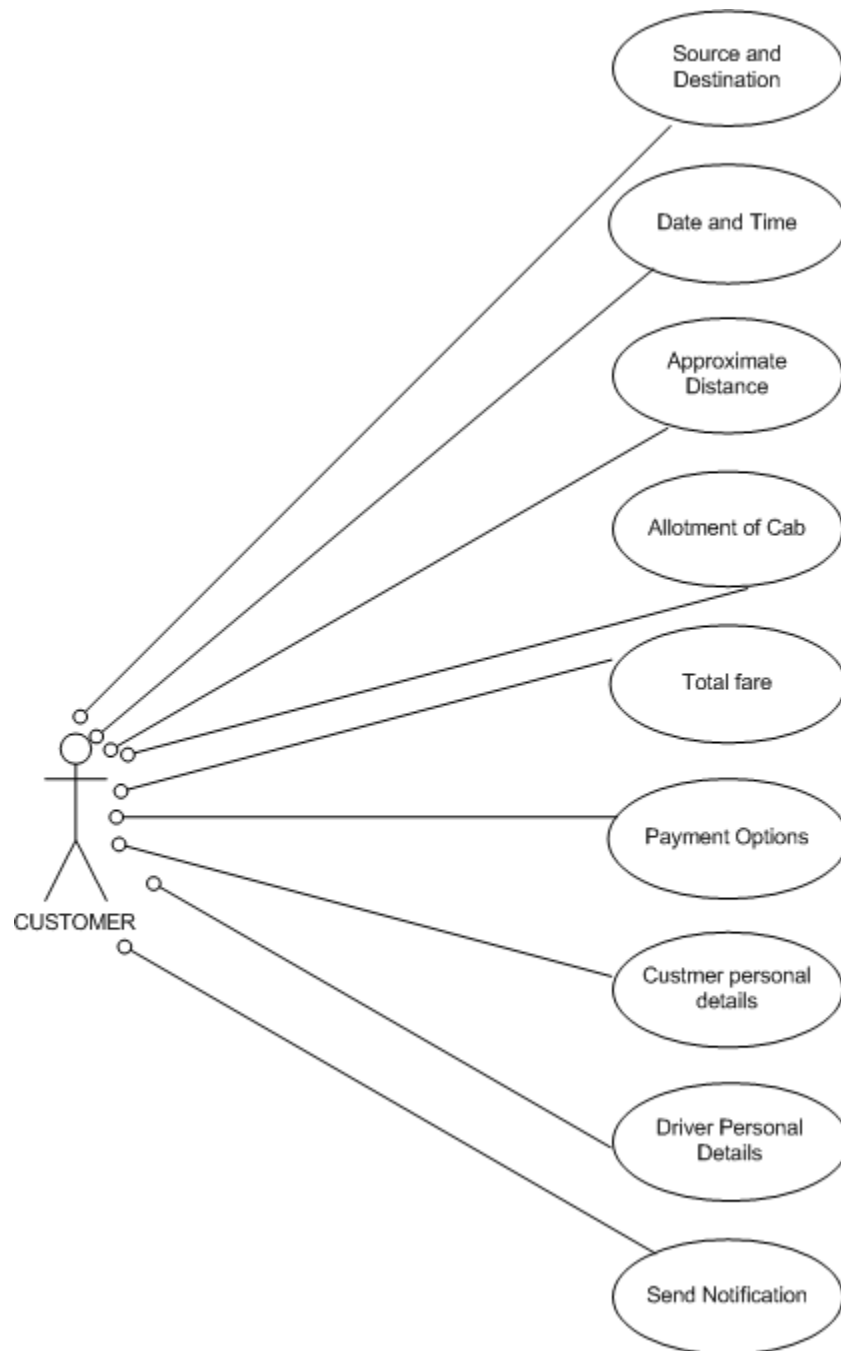


Figure 21: Use Case diagram of customer

3.5.2 Administrator

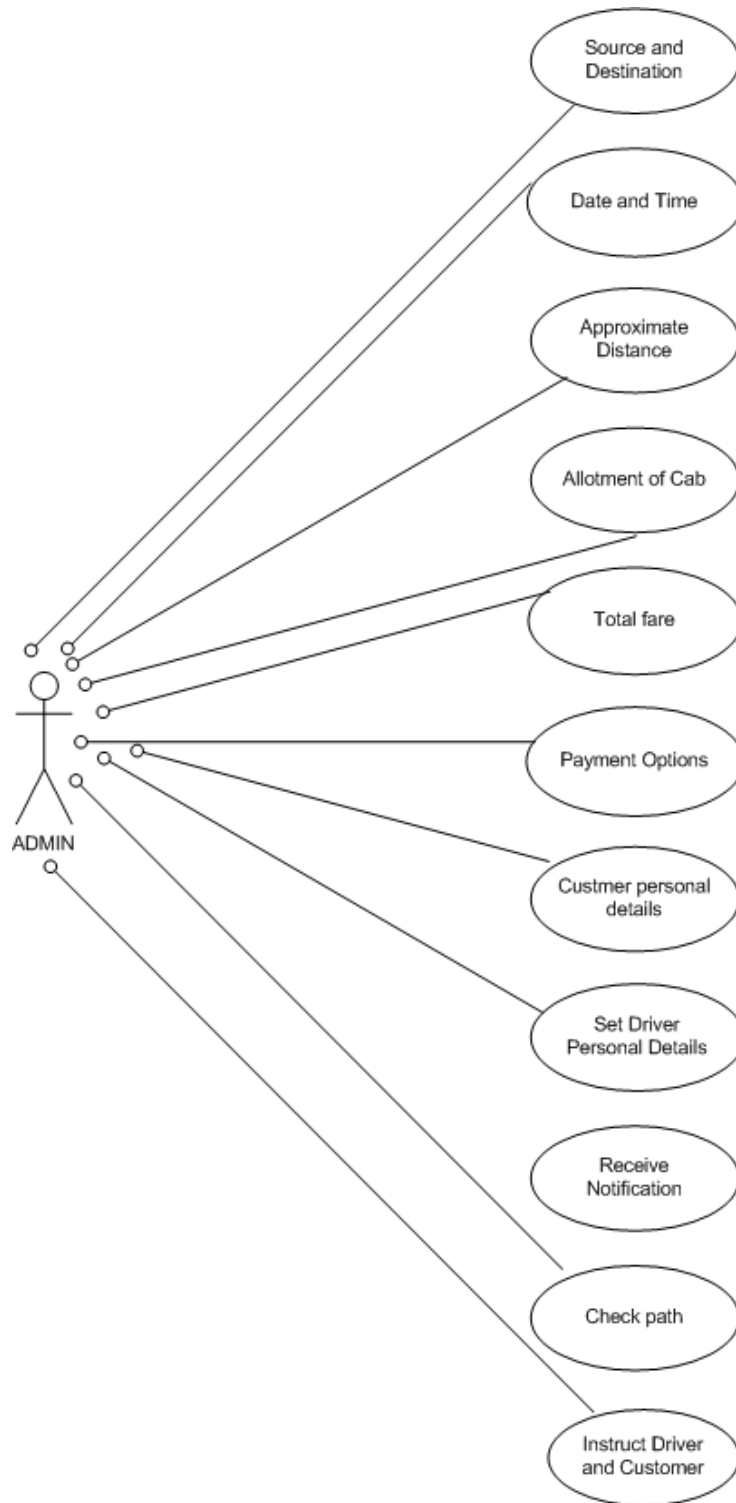


Figure 22: Use case diagram of administrator

3.6 SEQUENCE DIAGRAM

3.6.1 Maintain Cab Information

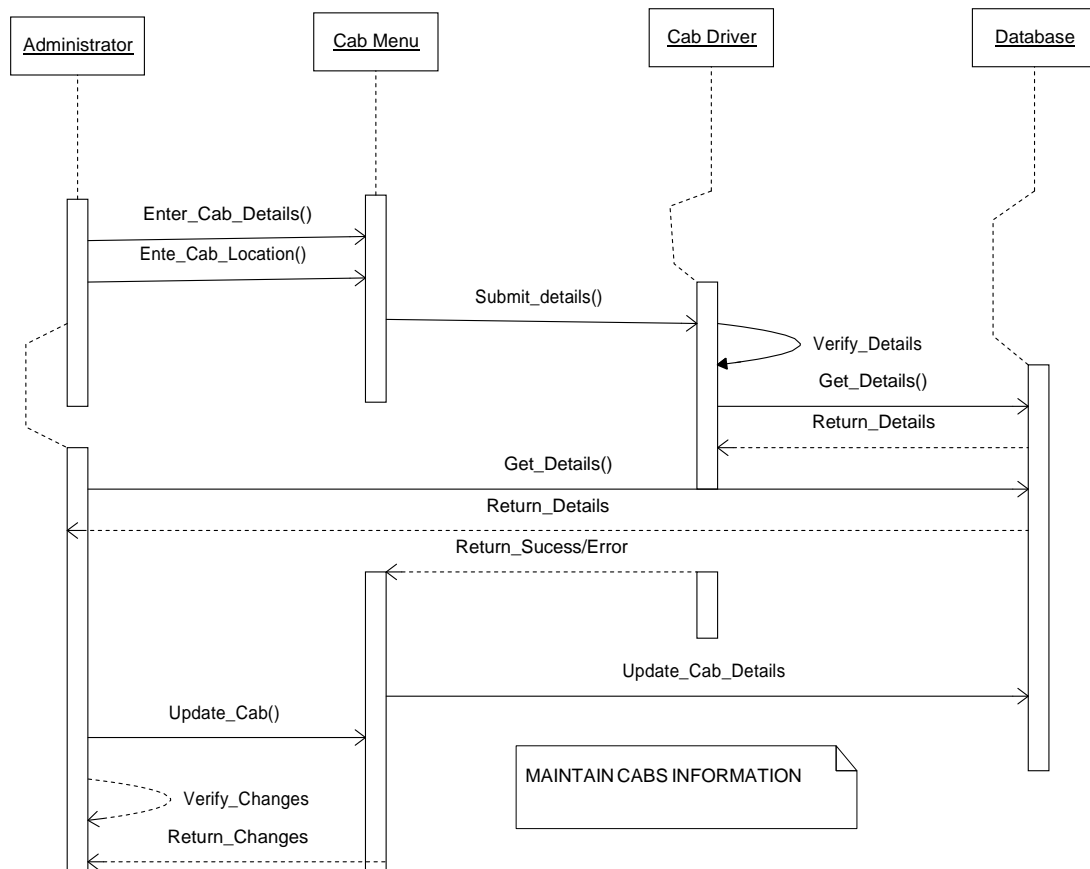


Figure 23: Sequence diagram to maintain cab information

3.6.2 Reservation

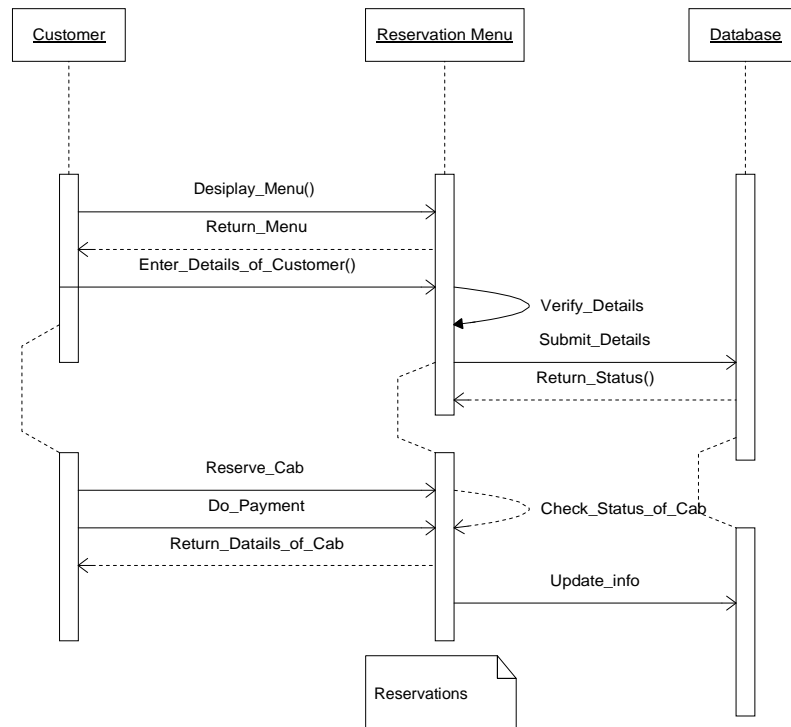
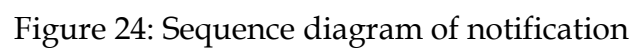


Figure 24: Sequence diagram of reservation

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CHAPTER 4

USER MANUAL

4.1 Login Page

This is the first page which shows the login screen. The user can login as an admin or as a salesperson. Different profiles have different access permissions. This is a page which has company name and logo. For a sample I have created my own page.



Figure 25: Login Page for admin and other users

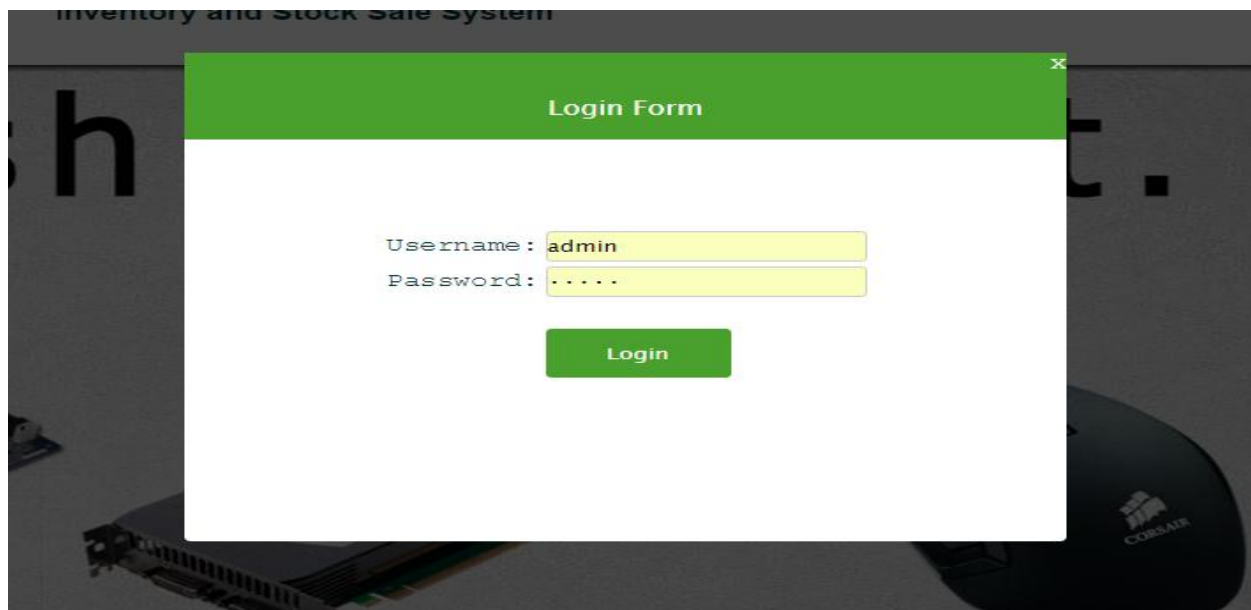


Figure: Login Pop-up Box

4.2 Dashboard

This is the dashboard page of the application , it will consist of all the features accessible to the user. It will be like an introduction page with all the features in the form of tiles or icons or tabs. The dashboard also shows the session date and time and also the person who is accessing the system (Admin or Salesperson)

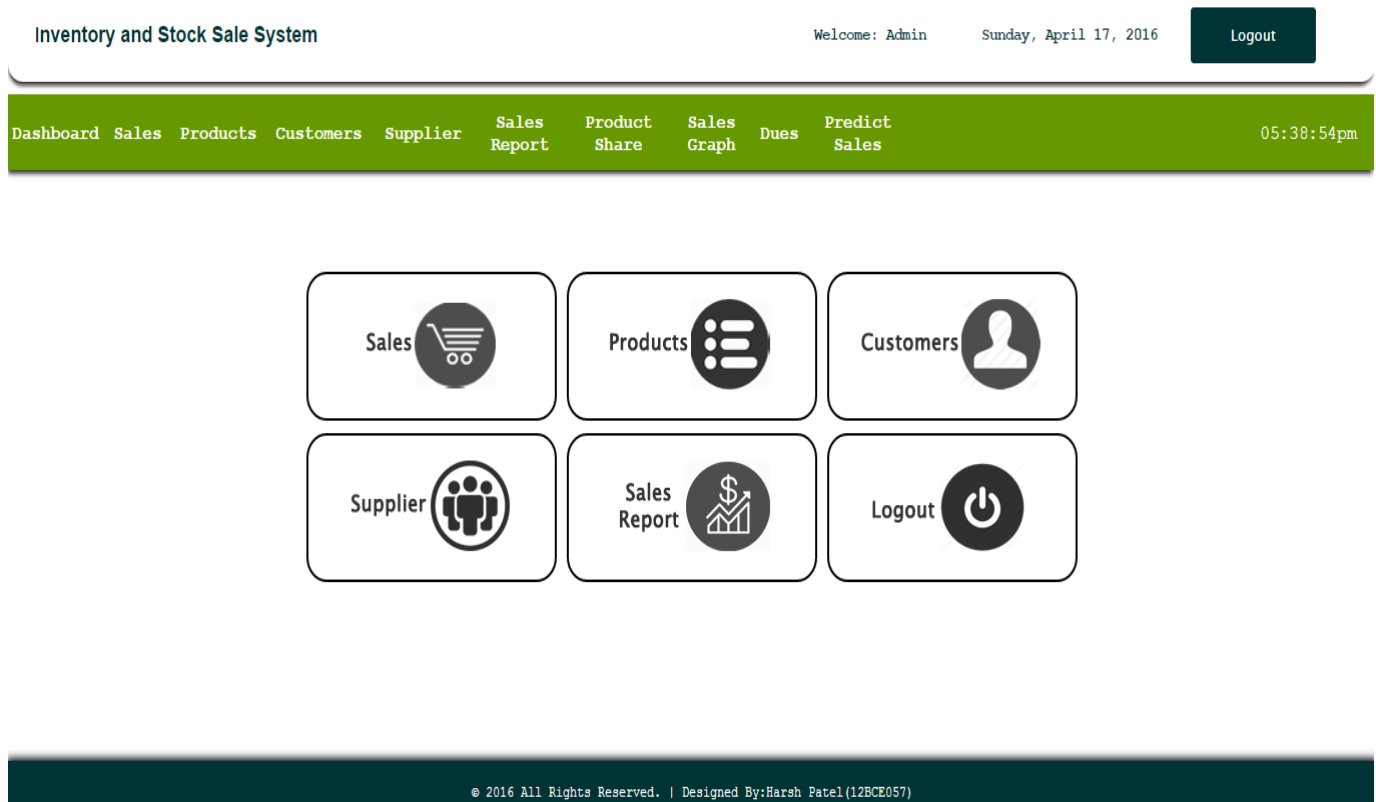


Figure :- Dashboard which consists of all features

4.3 Products Tab

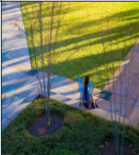

The products tab consists of all the details of all products along with their images. This tab will also have the search feature to search for any product. This tab will also have a button to download the data into an excel sheet. The admin can add, edit or delete products.

Inventory and Stock Sale System

Welcome: Admin Sunday, April 17, 2016 Logout

Dashboard Sales Products Customers Supplier Sales Report Product Share Sales Graph Dues Predict Sales 05:46:18pm

Search product... Search + Add Products Export to Excel

Products Information Table							
Category	Name	Quantity Left	Purchase	Retail	Supplier	Image	Action
Hardware	Gigabyte Motherboard	15 pcs.	Rs. 8000	Rs. 10000	Harsh Technologies		Edit Delete
Software Licence	Norton Security	10 pcs.	Rs. 999	Rs. 1200	Harsh Technologies		Edit Delete

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Figure :- The products tab with the all the features

Welcome: Admin

Add Item Form

Category:

Hardware

Name:

Name

Quantity:

Quantity

Purchase Amnt:

Purchase amnt

Retail:

Retail

Supplier:

Harsh Technologies

Image:

Choose File

No file chosen

Submit

WELCOME: Admin

Edit Item

Category:

Name:

Quantity:

Purchase Amnt:

Retail:

Supplier:

Image: No file chosen

Figure: Add and Edit Item Form

4.4 Customers and Suppliers Tab

The customers tab will have all the contact information of all customers and this will help in keeping track of all customers. The suppliers tab will help in keeping track of all suppliers who supply goods to the company or business.

Inventory and Stock Sale System

Welcome: AdminSunday, April 17, 2016Logout

DashboardSalesProductsCustomersSupplierSales ReportProduct ShareSales GraphDuesPredict Sales

06:00:04pm

Search customers...

Search

+ Add Customers

Export to Excel

Name	Contact	Address	Note	Action
Harsh Patel	12345	Ahmedabad	-	Delete
XYZ	12345688	Mumbai	-	Delete

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Figure :- Customers Tab

Inventory and Stock Sale System

Welcome: AdminSunday, April 17, 2016Logout

DashboardSalesProductsCustomersSupplierSales ReportProduct ShareSales GraphDuesPredict Sales

06:01:02pm

Search supplier...

Search

+ Add Supplier

Export to Excel

Supplier Name	Contact Person	Address	Contact No.	Note	Action
Harsh Technologies	Harsh Patel	Ahmedabad	8866507519	-	Edit Delete
abc suppliers	Yash	Science city,ahmedabad	1234567890	-	Edit Delete

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Figure: Supplier Tab

4.5 Product Share Tab

This tab will generate a two level pie chart which will categorically display the product share of all the products in the stock. This helps in visualizing the inventory stock. On clicking the pies we can get one level down.

For example this pie chart is categorized based on different categories , so to know the product share of Hardware we can click on the hardware pie and it will drill down further onto another level.

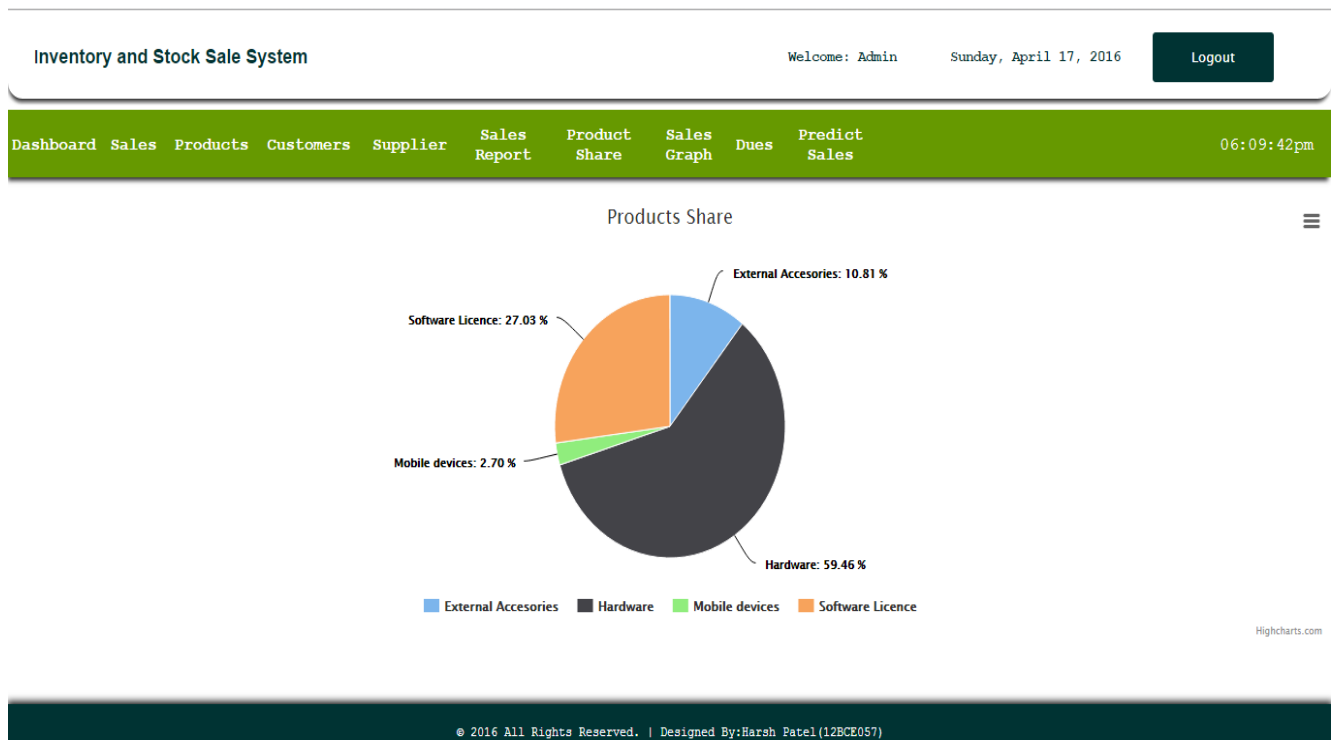


Figure :- Level 1 pie chart which differentiates all the information based on category

As we click on the hardware pie it drills down to the level 2 of the pie chart and displays the pie chart of all the products in the hardware category .

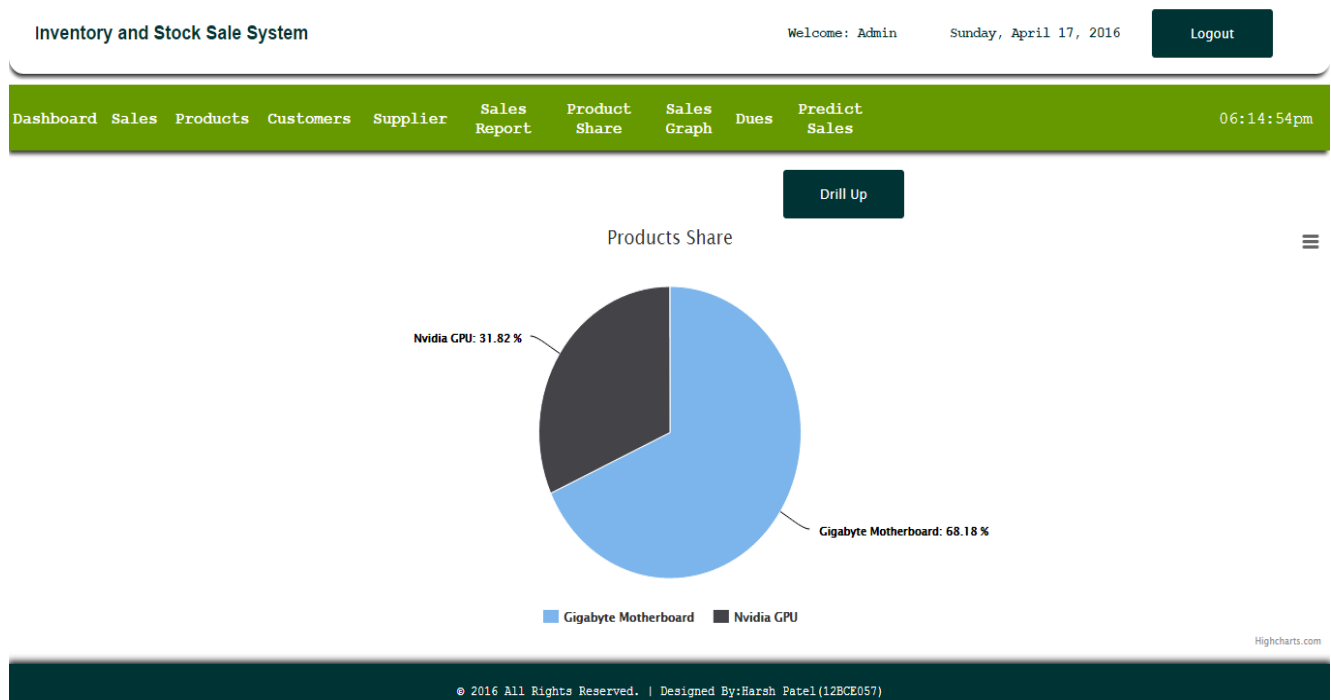


Figure: Level 2 Pie chart which shows all products in hardware category.

4.6 Sales Report Tab

This tab generates a sales report between any two dates. All the sales transactions , quantity , profits are displayed in a table with all the computations.

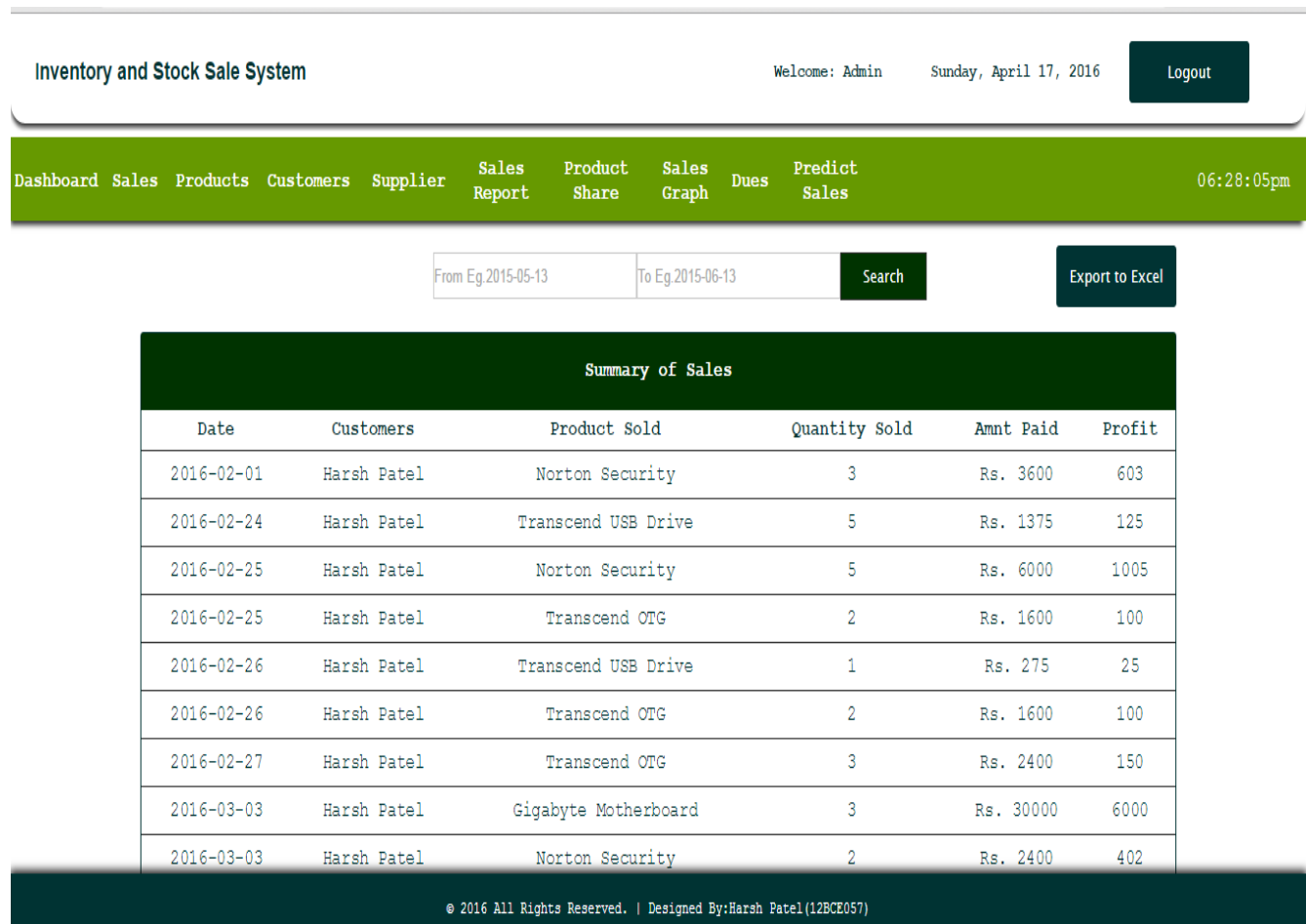


Figure:- Sales Report Generated

4.7 Dues Tab

This tab consists of all the account details and balance remaining to be paid by the suppliers. This helps in keeping track of account details.

Inventory and Stock Sale System

Welcome: AdminSunday, April 17, 2016Logout

DashboardSalesProductsCustomersSupplierSales ReportProduct ShareSales GraphDuesPredict Sales06:31:50pm

Search+ Add DuesExport to Excel

Dues Information Table			
Date	Supplier	Balance	Action
2016-04-05	Harsh Technologies	2500	Delete
2016-04-05	abc suppliers	4000	Delete
2016-04-05	abc suppliers	1234	Delete
2016-04-08	abc suppliers	6000	Delete

© 2016 All Rights Reserved. | Designed By:Harsh Patel(12BCE057)

Figure:- Dues Tab that keeps track of all dues

4.8 Sales Report Graph

The sales report graph helps in visualizing the sales report in graph form.

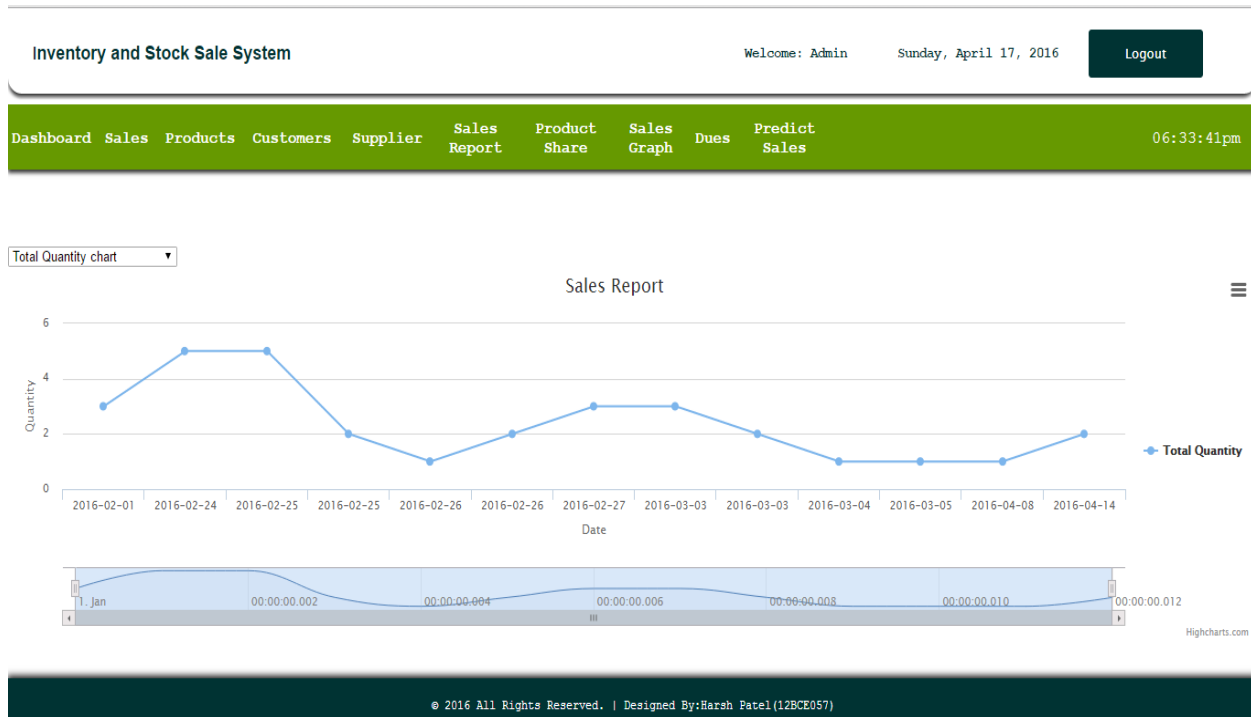


Figure:- Sales Report Graph

4.9 Predict Tab

This tab allows us to enter the date we want to predict the sales for we can enter any date and based on the linear regression algorithm it will forecast the sales of all the products based on that date.

localhost/major2/predict.php

Inventory and Stock Sale System

Welcome: Admin Sunday, April 17, 2016 Logout

Dashboard Sales Products Customers Supplier Sales Report Product Share Sales Graph Dues 06:36:53pm

yyyy-mm-dd Predict

Dues Information Table	
Product Name	Sales Predicted

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Figure:- Predict Tab

CHAPTER 5

TESTING

This is one of the most important phase of any project development. We did different types of testing while developing our application.

Module Testing: In this we tested each and every module of all the three application whether it is running or not. We tested the same not only on one android device but on different device. We have used devices like, Micromax A35, One Plus, Motorola, HTC desire. We have also used Samsung tablets for testing.

Integrated Testing: Module testing is performed after development of every module. But in this type of testing, we tried to check by combining more than two or three module together to check whether everything is working properly or not.

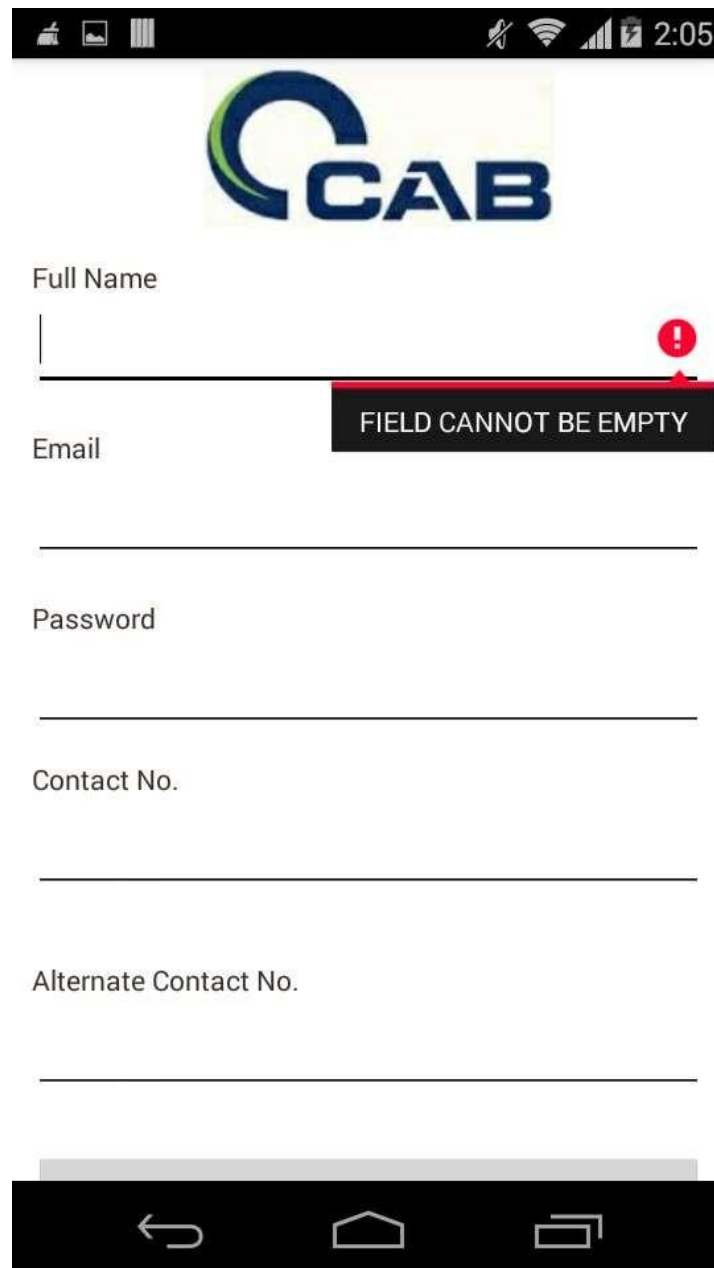
We started integrated testing, once we were done with all the module of customer side application. For this also we used different device.

System Testing: We performed system testing after the completion of all the three application, customer side application, admin side application and driver side application. So we started this testing very late.

In this, we also checked how fast it access the database and time it takes to send and receive the data from the database. This testing is very important because, whole system has to run smoothly. We performed this in all the different android devices.

We have attached some of the results of testing and the error we found out while using our application.

This is the Sign up page of the user. This image shows the invalid entry or no entry as the name field can't be empty.



The screenshot displays the CAB user sign-up interface. At the top, there is a status bar with icons for signal, Wi-Fi, and battery, along with the time 2:05. Below this is the CAB logo, which consists of a stylized blue and green 'C' followed by the letters 'CAB' in blue. The form contains five input fields: 'Full Name', 'Email', 'Password', 'Contact No.', and 'Alternate Contact No.'. The 'Full Name' field is currently empty and has a red exclamation mark icon to its right. A red error message box with the text 'FIELD CANNOT BE EMPTY' is positioned below the 'Full Name' field and above the 'Email' field. The bottom of the screen features a black navigation bar with three white icons: a back arrow, a home icon, and a multi-tasking icon.

Figure 45: Invalid entry

This image shows that the email field while signing in can't be empty otherwise it will show the error message and also any wrong email id will also be shown as an invalid email entry.

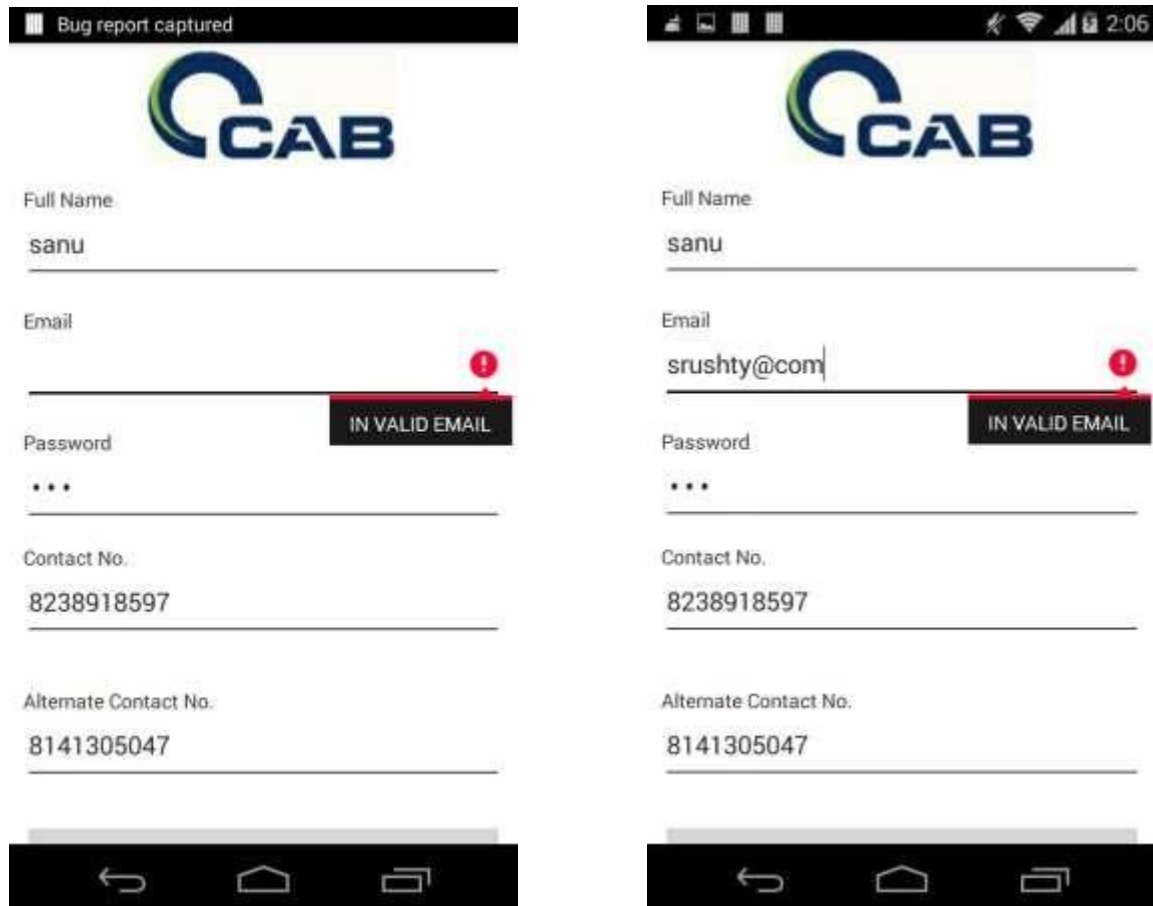


Figure 46: Invalid email entry

This image shows the user side login and any invalid entry in any field will prevent the user from logging in and an error message will be toasted as shown in the below image.

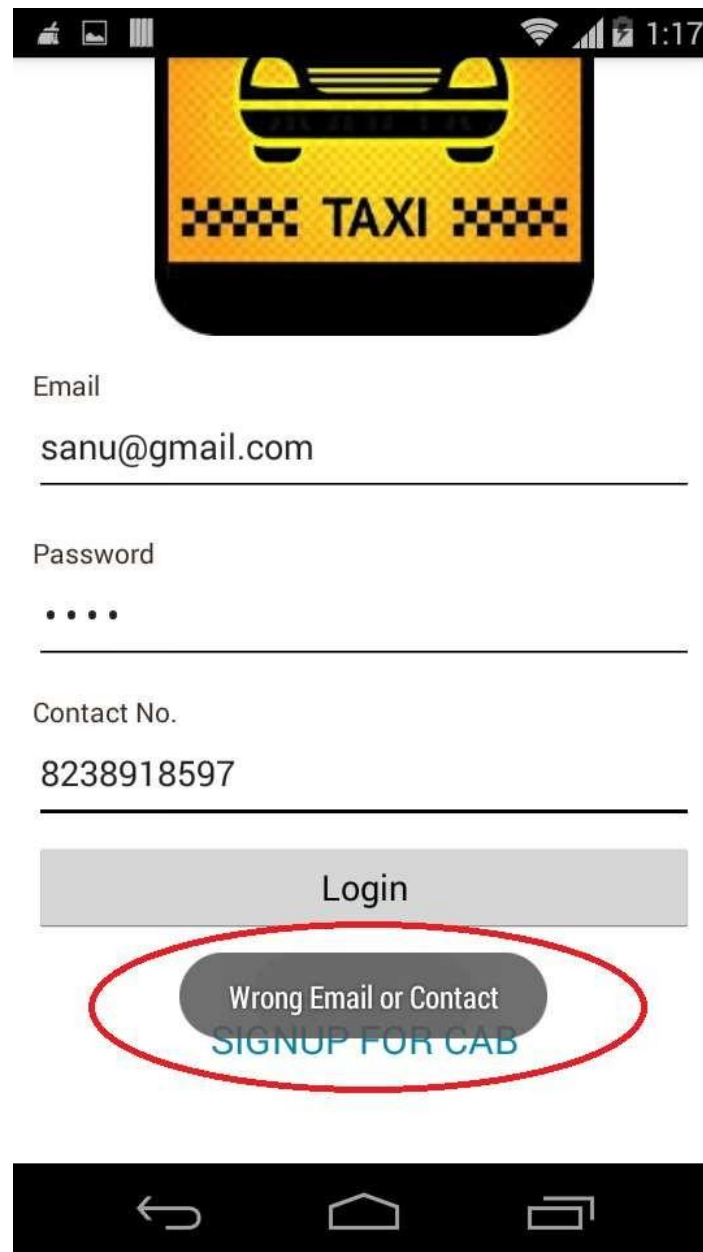


Figure 47: Error message

The image is from the user side's Login. Empty entries are considered as invalid entries.

2:08

TAXI

Email

Password

FIELD CANNOT BE EMPTY

Contact No.

Login

Wrong Email or Contact

SIGN UP FOR CAB

Figure 48: Invalid entry in login

This image shows wrong email id entered by the user. The user won't be able to log in as the entry he has made is incorrect.

Email

sanu@gmail

IN VALID EMAIL

Password

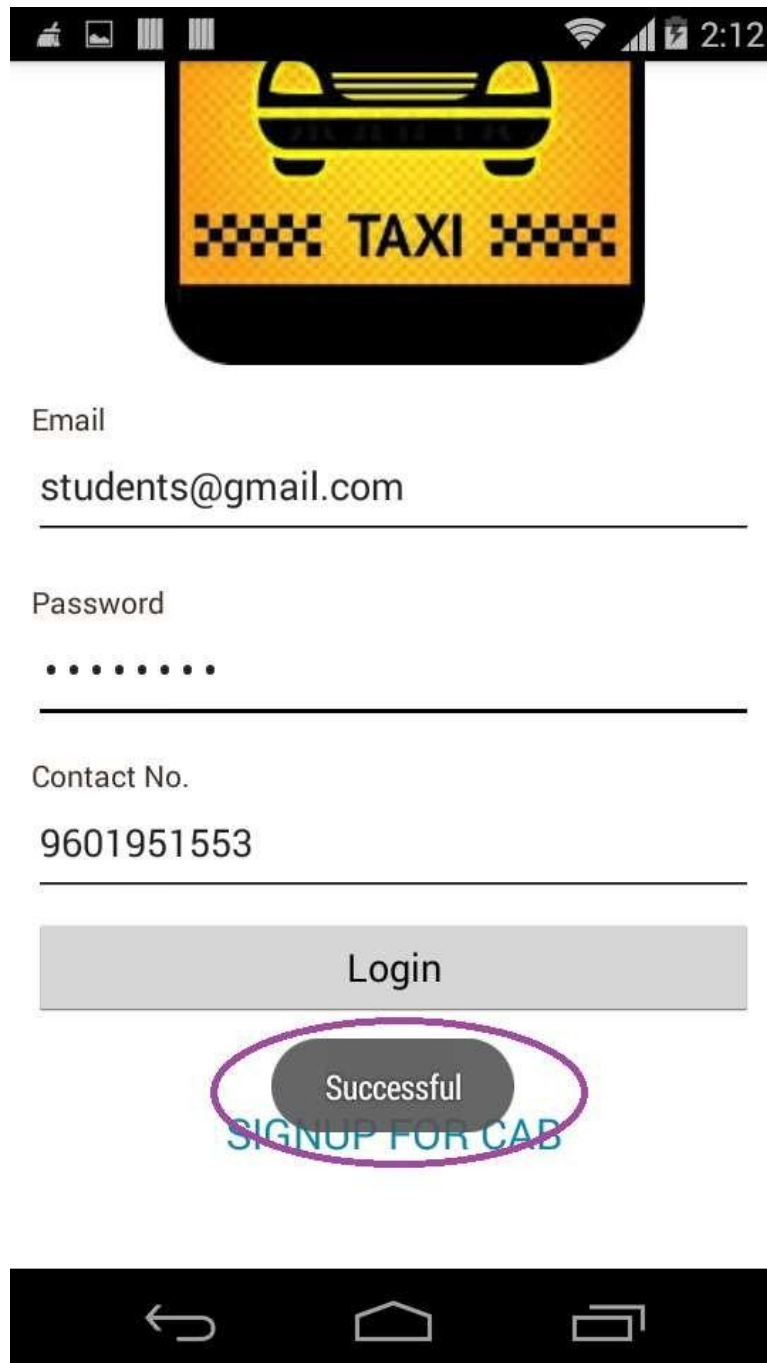
Contact No.

Login

SIGNUP FOR CAB

Figure 49: Invalid email entry

This is the example of all the correct entries entered by the user and hence he has logged in successfully.



2:12

TAXI

Email

students@gmail.com

Password

.....

Contact No.

9601951553

Login

Successful

SIGNUP FOR CAB

Figure 50: Successful Login

This image shows the message sent when the user has logged in and he has clicked the “Send Location” button provided in the Map. In the message, the latitude and longitude is provided to the user’s alternate contact number along with the city, state and country so as to locate the direction of the user.

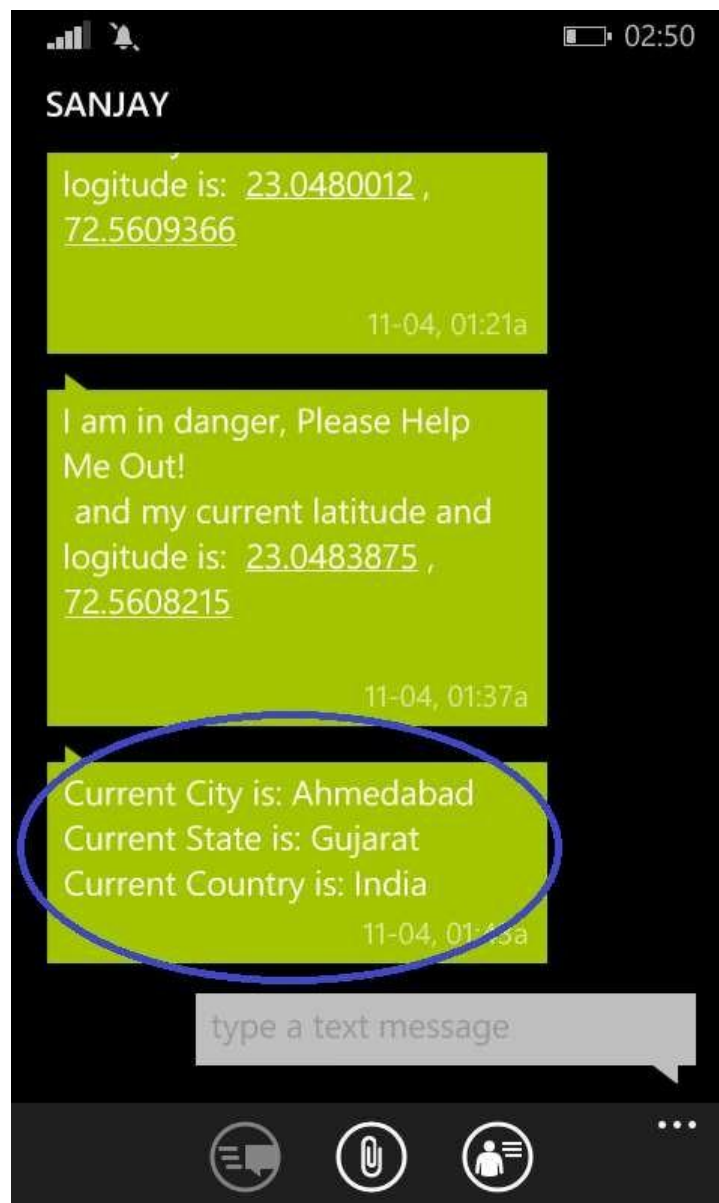


Figure 51: Message sent by the customer

This is from Admin side. Admin has to log in properly. Empty entries are considered as invalid and the password length must not be zero, otherwise it will be considered as an invalid entry.

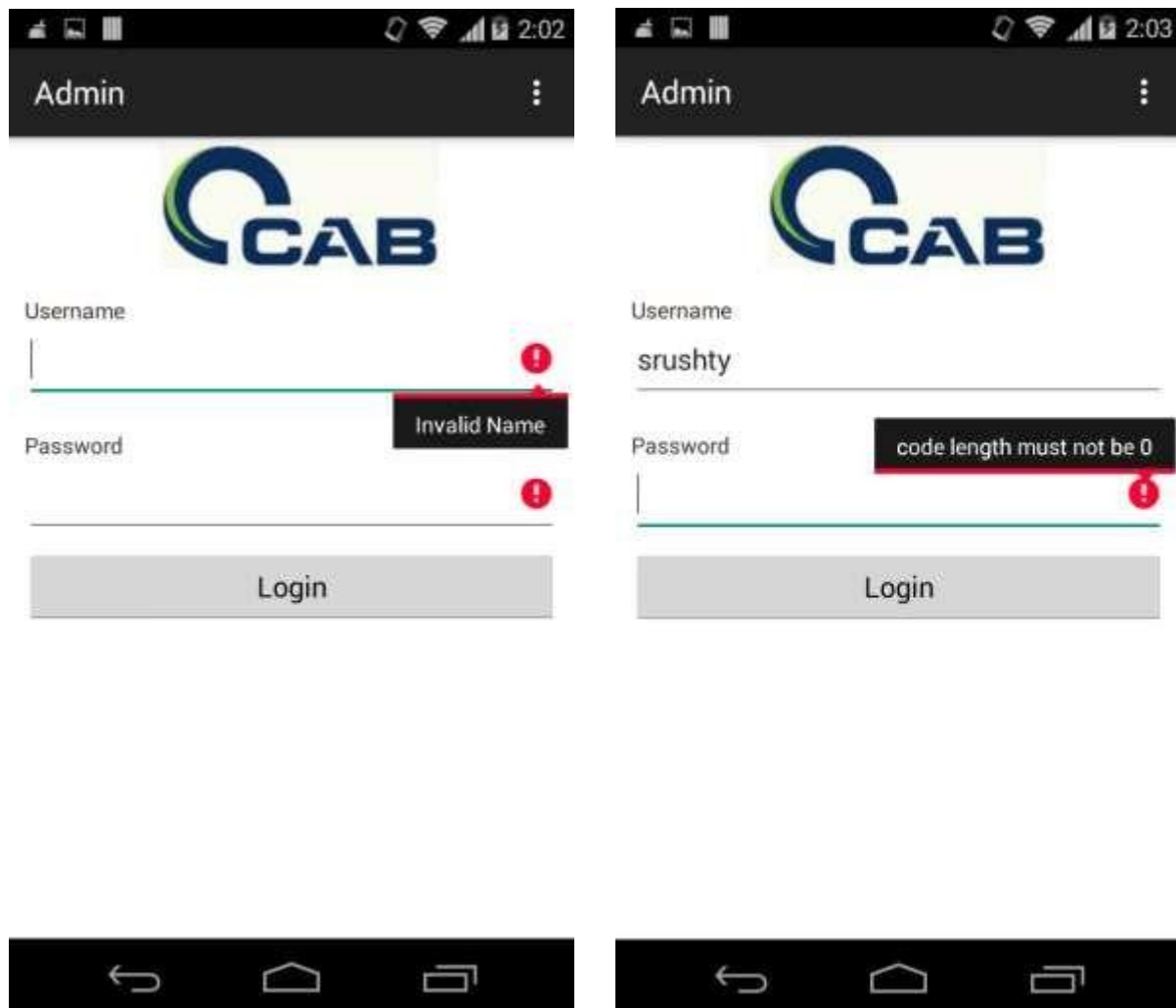


Figure 52: Invalid entries at Admin side

This first left side image shows that the username is correct but the password is not correct, that's why “wrong email or contact” message is toasted and in the right side image, password is correct but username is wrong.

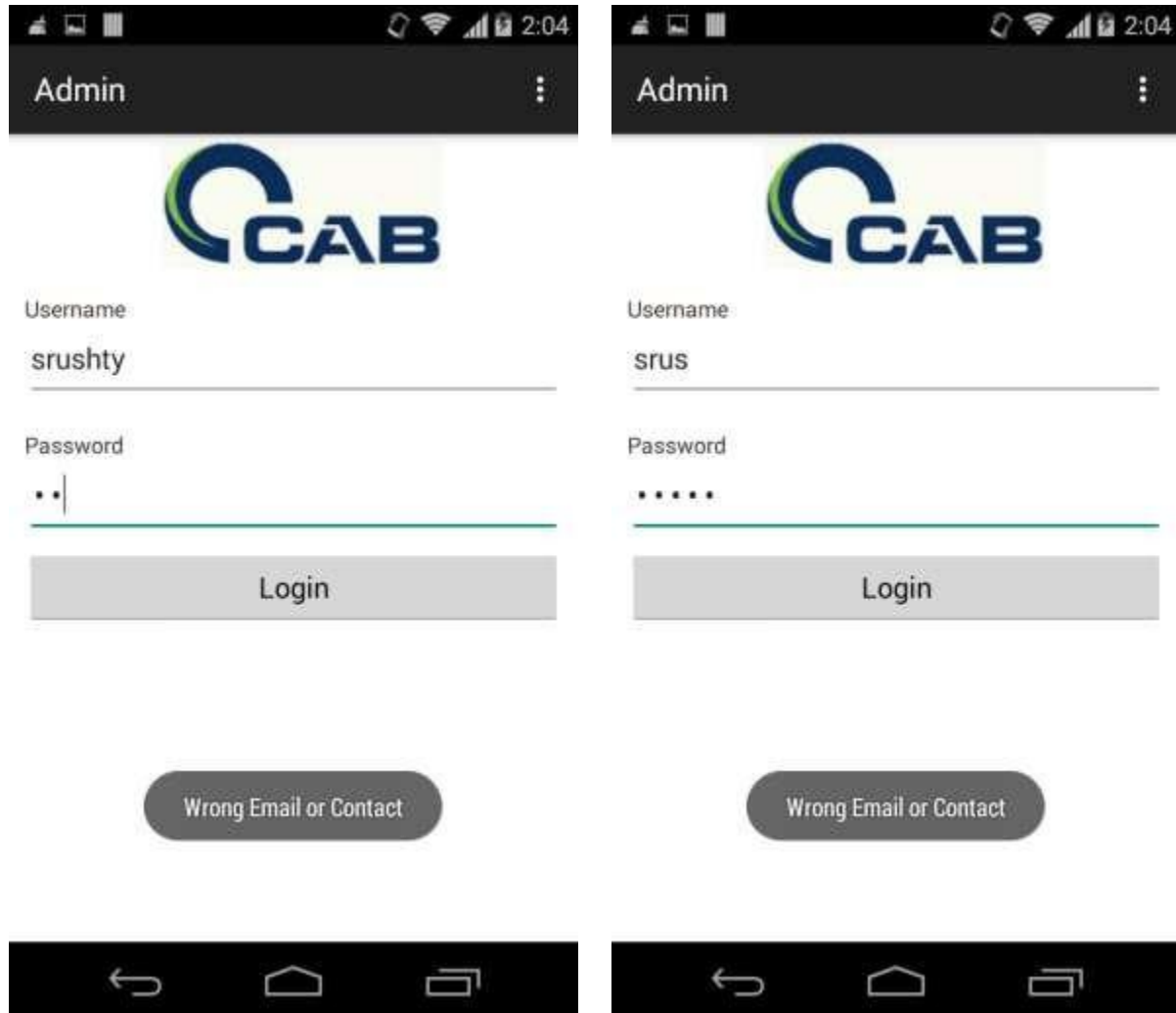


Figure 53: Invalid username and password entries

CHAPTER 6

FUTURE SCOPE

The application which I have developed helps any business or startup to get a bundled solution for inventory, stock and sales management. As we know every industry has an inventory and as technology is progressing every company needs a solution to this.

This is an age of technology and visual technology, So the data presentation in graphs can help the user to analyze large amount of data easily and do computations accordingly

Companies have many suppliers and it is difficult to keep track of them and their dues which are remaining to be paid , all these features need to be present in one bundled application

As data mining is growing companies need the feature of predicting their sales , so they could store in their inventory in advance and keep sufficient stock . Different algorithms can be developed for accurate prediction and this can be used to predict the sales of a particular product and this can help in increasing the profit of the company and this will help the company grow fast and enable good progress.

Hence this is the future scope of the project.

CHAPTER 7

CONCLUSION

The main aim of the project was to provide one stop solution to any company or business that deals with inventory, stock and sales .As we know there are many start-ups nowadays so the main aim was to build an application that will have all the features bundled into one place, so the users don't have to use different applications for doing one task this will help them to have just one applications and all their problems solved.

The project also allows the users to visually see the data in the form of graphs and charts ,this will enable more visual representation as it is attractive and help the company professionally and enables good progress of the country.

Working on this project has helped me learn new technologies and has also helped me learn about the new trends existing in the current technology world, this helped me in learning new technology and new languages.

CHAPTER 8

APPENDIX

8.1 TOOLS USED

Some of the tools which we have used are:

1. Xampp Server
2. Sublime Text
3. PHP 5.3
4. Java Script
5. HTML
6. CSS
7. MySQL
8. High Charts
9. Line Charts
10. PhpMyAdmin
11. MS Word
12. MS Excel
13. MS PowerPoint
14. Adobe Photoshop
15. FTP Server
16. FireBug
17. PostMan
18. Local Server

8.2 TECHNOLOGY USED

1. **GET and POST:** I have used both method for accessing database
2. **JSON:** I have used this to get data from server in appropriate format to display in charts.
3. **HighCharts:** Module used to present and generate charts
4. **FireBug:** I have used this technology to inspect css and detect bugs in the design preview

5. **PostMan:** In my development I have used this to inspect requests to server and the data fetched from the database.

CHAPTER 9

BIBLIOGRAPHY

1. <https://code.google.com/apis/console>
2. www.androidhive.info
3. stackoverflow.com/tags/android/info
4. <http://androidprogramme.blogspot.in>
5. <http://www.androidhive.info>
6. <http://www.vogella.com>
7. <https://android-arsenal.com>
8. <http://www.google.co.in/design>
9. <http://www.tutorialspoint.com/android>
10. <http://www.javatpoint.com/android-tutorial>
11. <http://www.flaticon.com/>
12. www.androidpit.com/how-to-solve-google-play-store-errors
13. <https://developers.google.com/maps/documentation/android/start>
14. www.codelearn.org/android-tutorial
15. www.lynda.com/Android-training-tutorials/947-0.html

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Hyosik Ahn,

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"Contextaware Mobile Platform for
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Energy Procedia, 2012.

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