

eCart

A PROJECT REPORT

Submitted by

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&

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In fulfilment for the award of the degree of

DIPLOMA ENGINEERING

in

**Information and Communication
Technology**



**Marwadi
University**

Faculty of Diploma Studies

Marwadi University, Rajkot



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CERTIFICATE

This is to certify that the project entitled **eCart** has been carried out by **Aditya Pandya (91800957005)** under my guidance in partial fulfilment of the degree of Diploma Engineering in Information and Communication Technology (6th semester) of Marwadi University, Rajkot during the academic year 2020-21.

Date: 4-Apr-2021

Internal Guide

Prof.Kavan Dave

&

Prof. Kapil Shukla

Head of Department

Prof. Chandrasinh Parmar



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Acknowledgement

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Abstract

The Problem

Nowadays, in India a lot of people shops glossary and also other products from malls and retails stores. After a survey, we found that all of the consumers used to stay in cashiers' queues to pay their shopping bills. According to human psychology waiting in any queues is very annoying in this continuously fast-growing world. We also found that in the international market amazon came into the smart solution they named this product "Amazon Smart Cart". According to our calculations, it is too much overpriced (i.e., 1500\$ to 2000\$). That's way other small malls and retailers store cannot afford this Amazon Smart Cart. In India, no one uses this smart cart in the store instead off they were using a traditional cart.

The Solution

We are coming up with a new product This amazing revolutionary product can change the entire mall shopping industry. and we called "eCart". We are developing a cost-effective and smarter Shopping Cart which price at just only \$200 each sound good right? at this affordable price, every big and small mall can use our smart eCart system. That will enhance the shopping experience of the consumers.

In our system, the customer has to download Android or iOS App and pair them with the Mall's eCart by scanning QR code. After the paring customer can be shopping very comfortably when a customer scans a product via RFID sensor which mounted on the eCart, then eCart automatically identify the product and send a notification in the customer Smart phone also our system adds product & price in Sub bill and add Sub Total. All the activities handle by the "eCart App". After the shopping a customer can "directly pay their bill by our App" and also customer can download a Shopping bill by the App. This easy to check out method customer no longer have to wait in the cashier queue. By using our system, we can solve a human error which more happens in billing process while lots of customers are visiting the mall in one hour.

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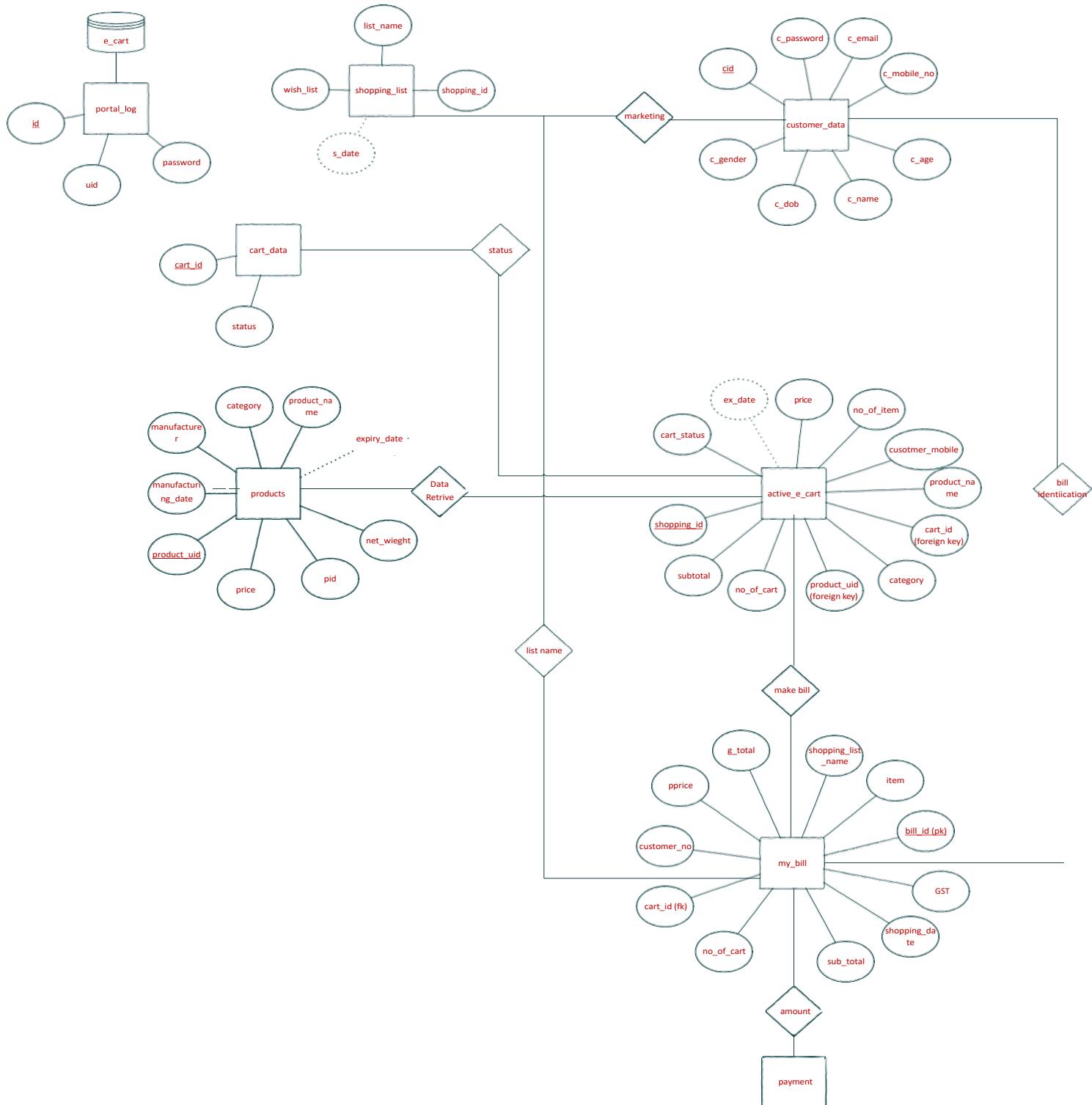


Figure 1 ER-Diagram

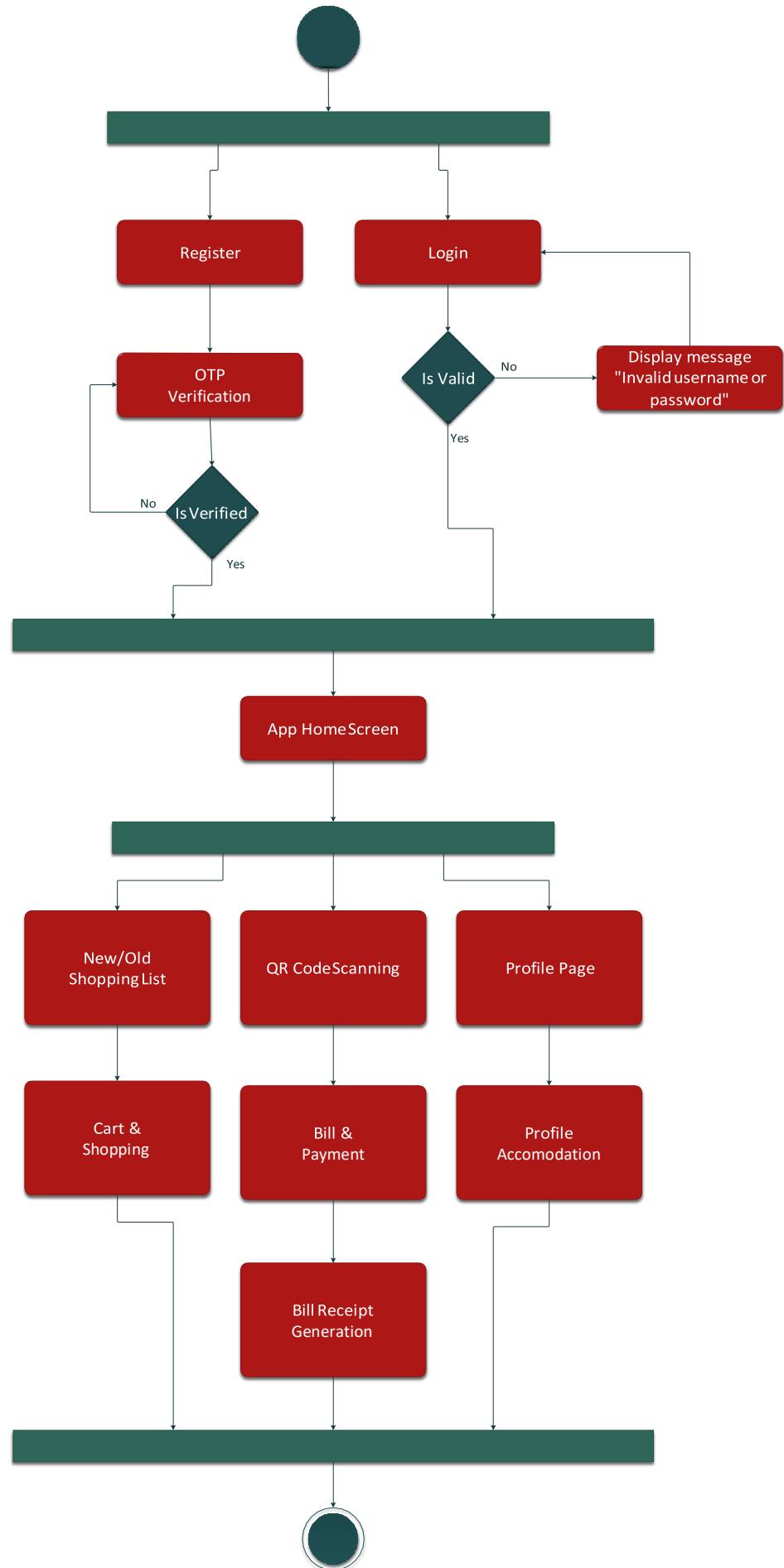


Figure 3 Activity Diagram

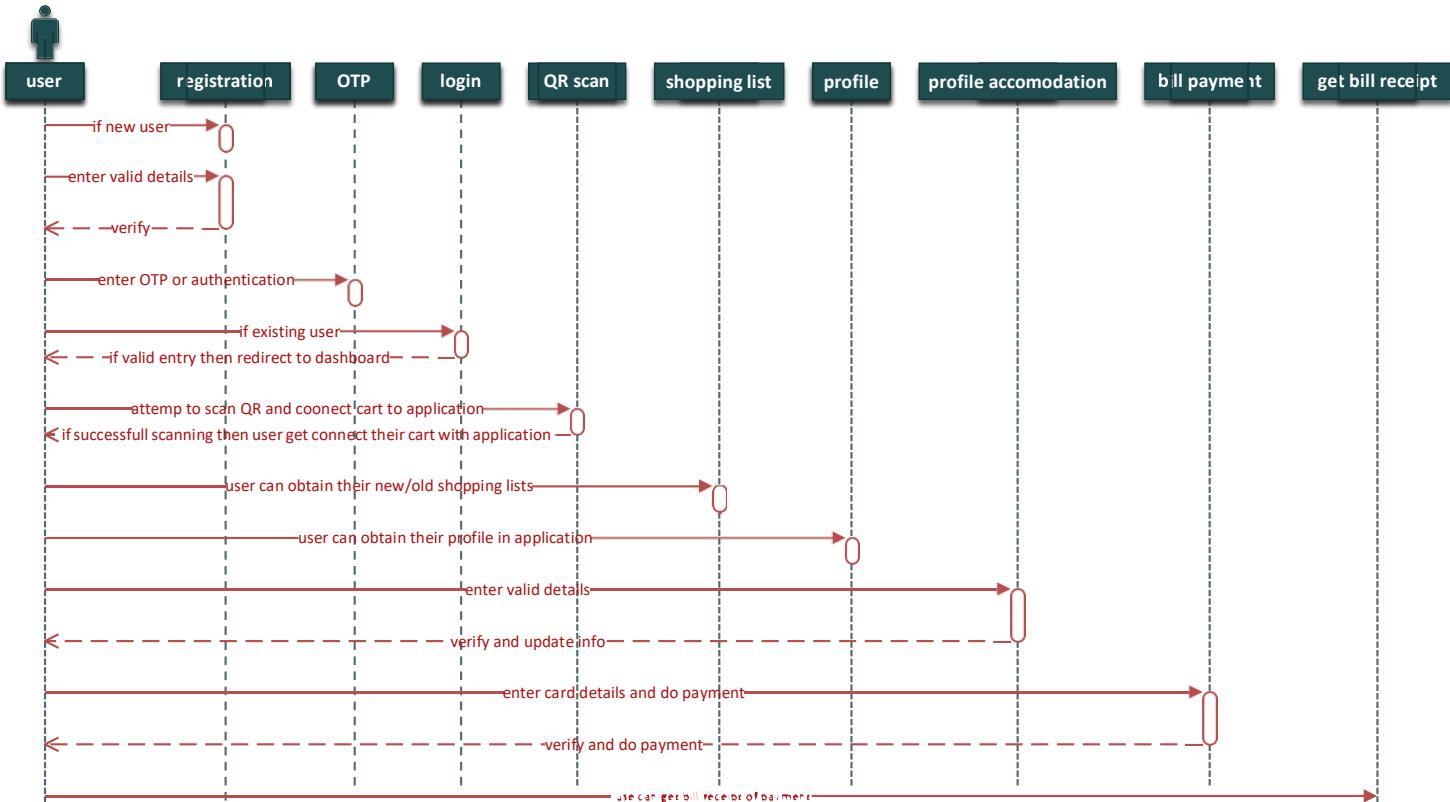


Figure 4 Sequence Diagram

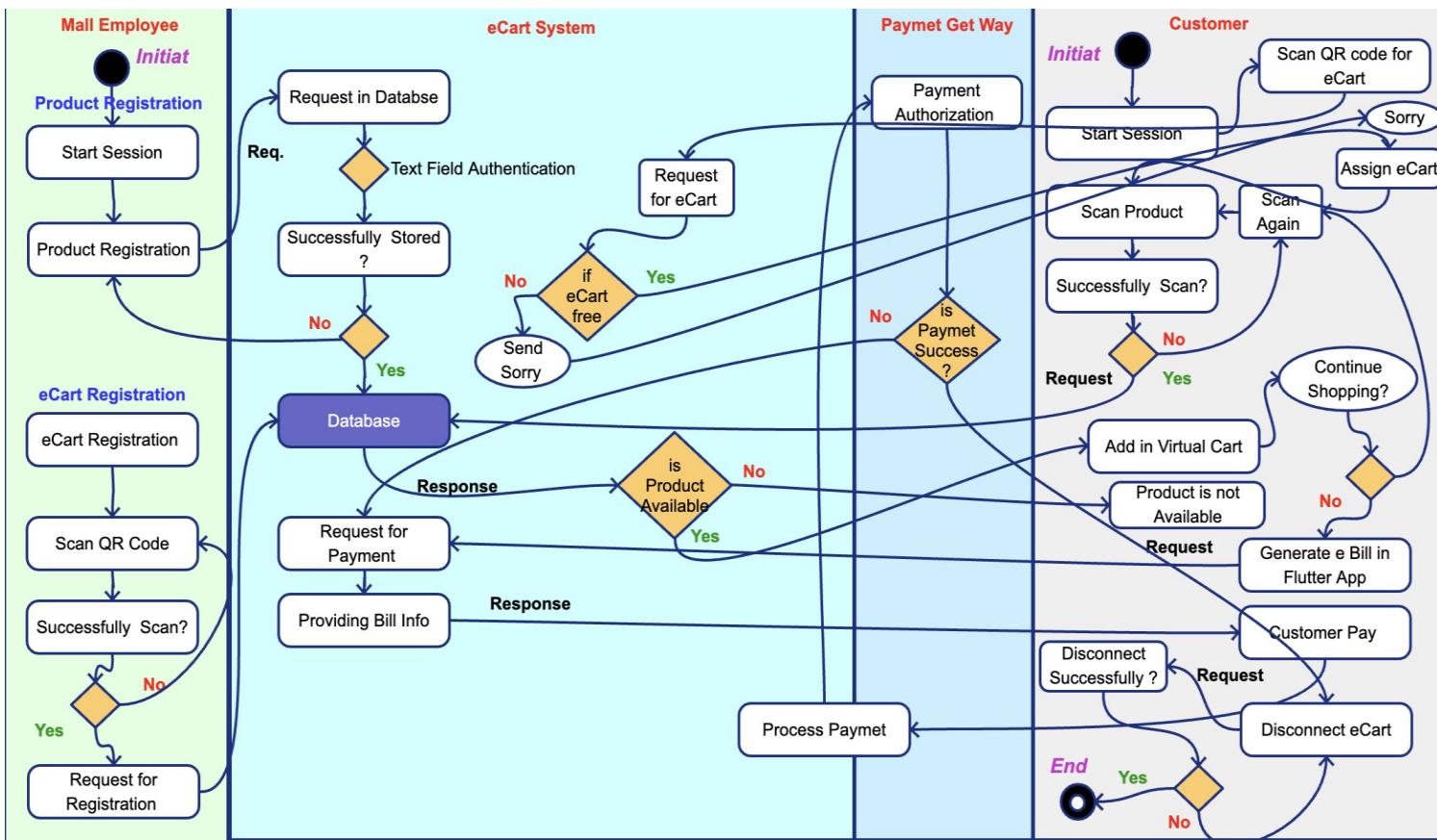


Figure 6 Swimlane Diagram

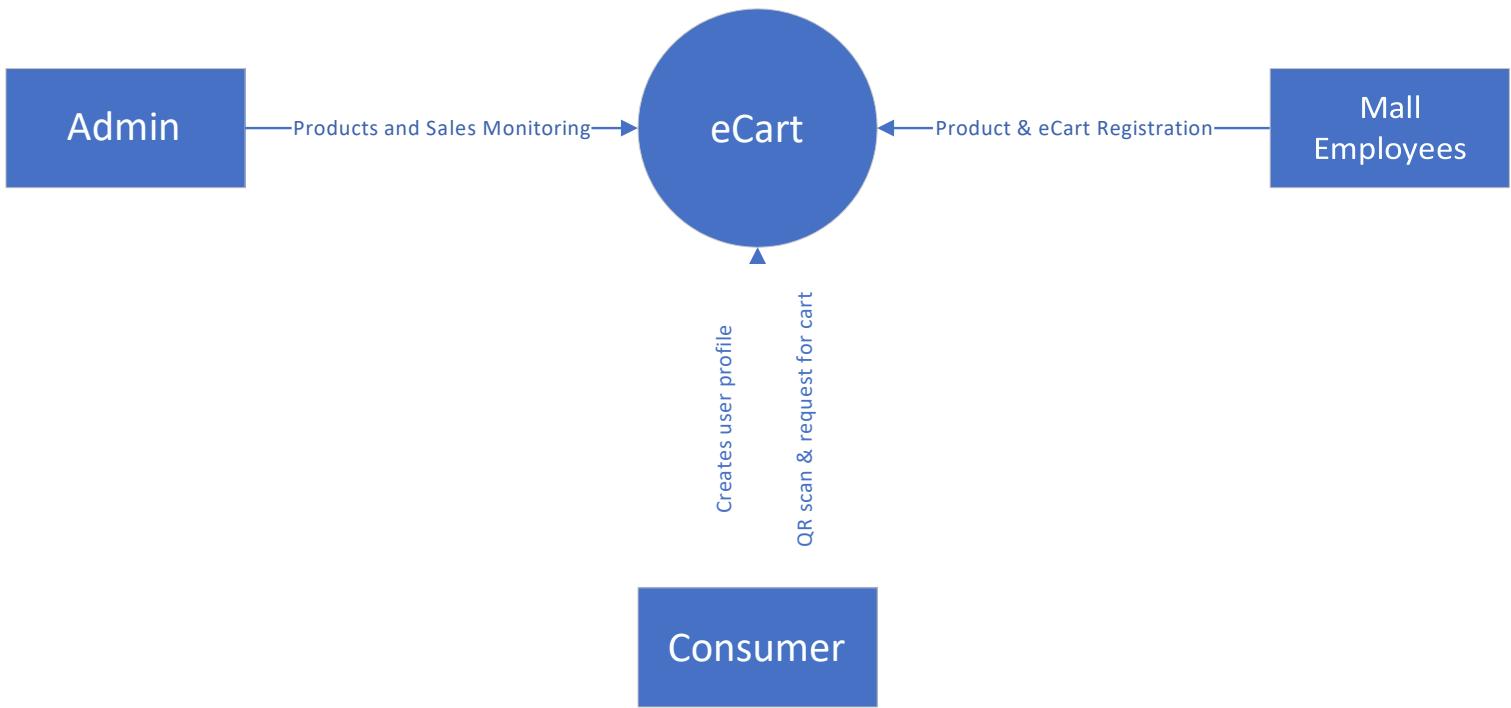


Figure 5 DFD Diagram (LEVEL 0)

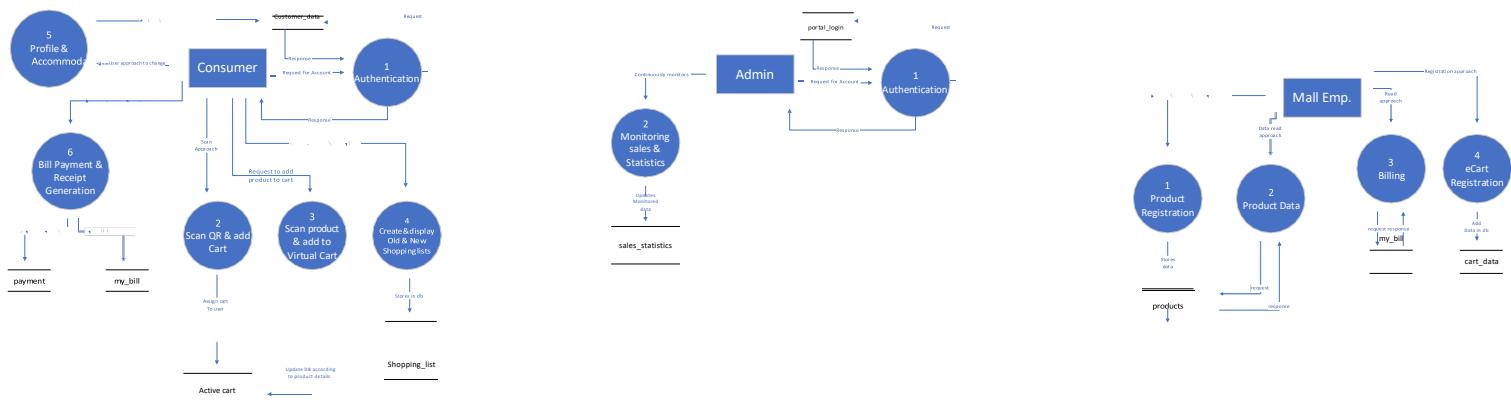


Figure 5 DFD Diagram (LEVEL 1)

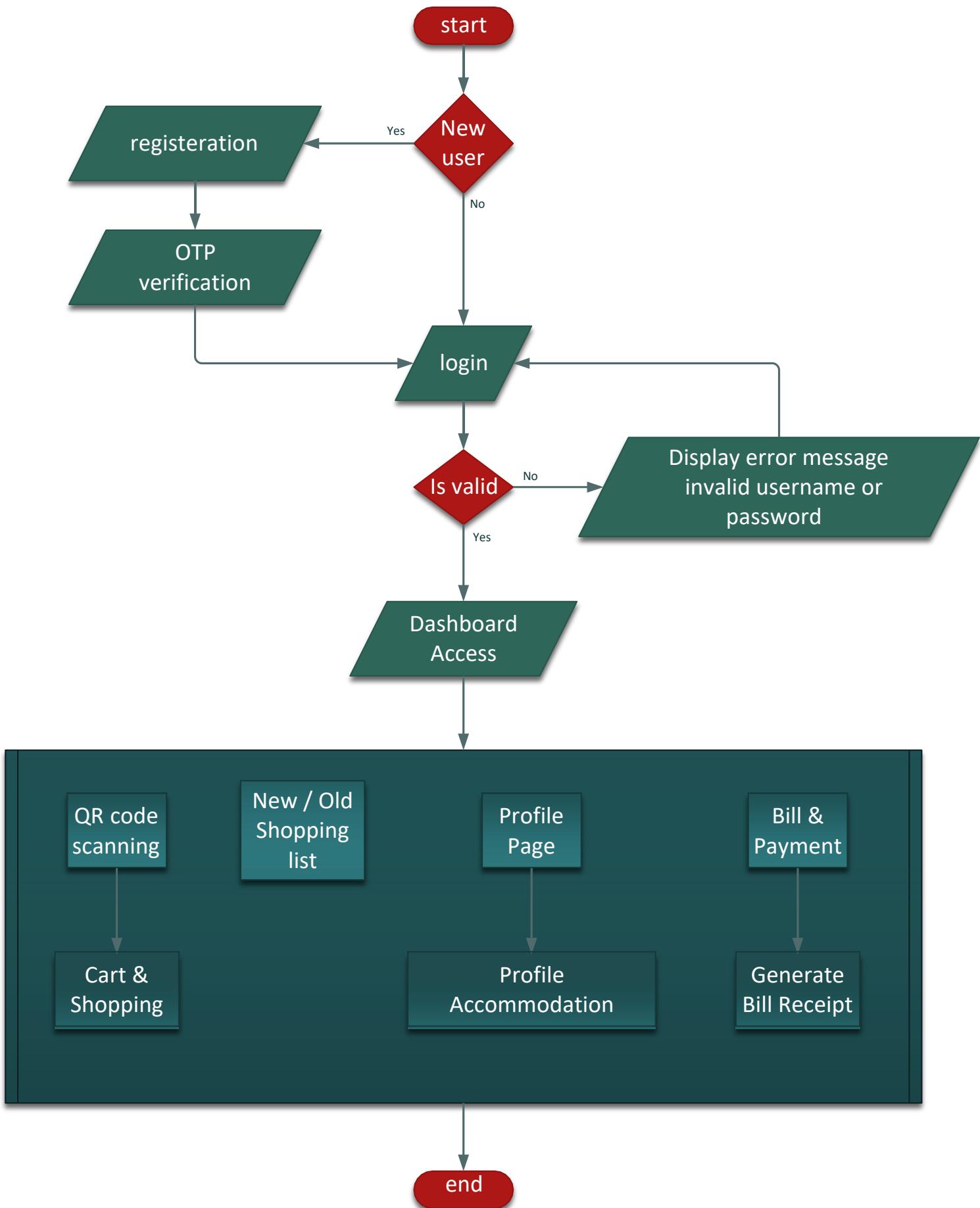


Figure 6 Flow Chart

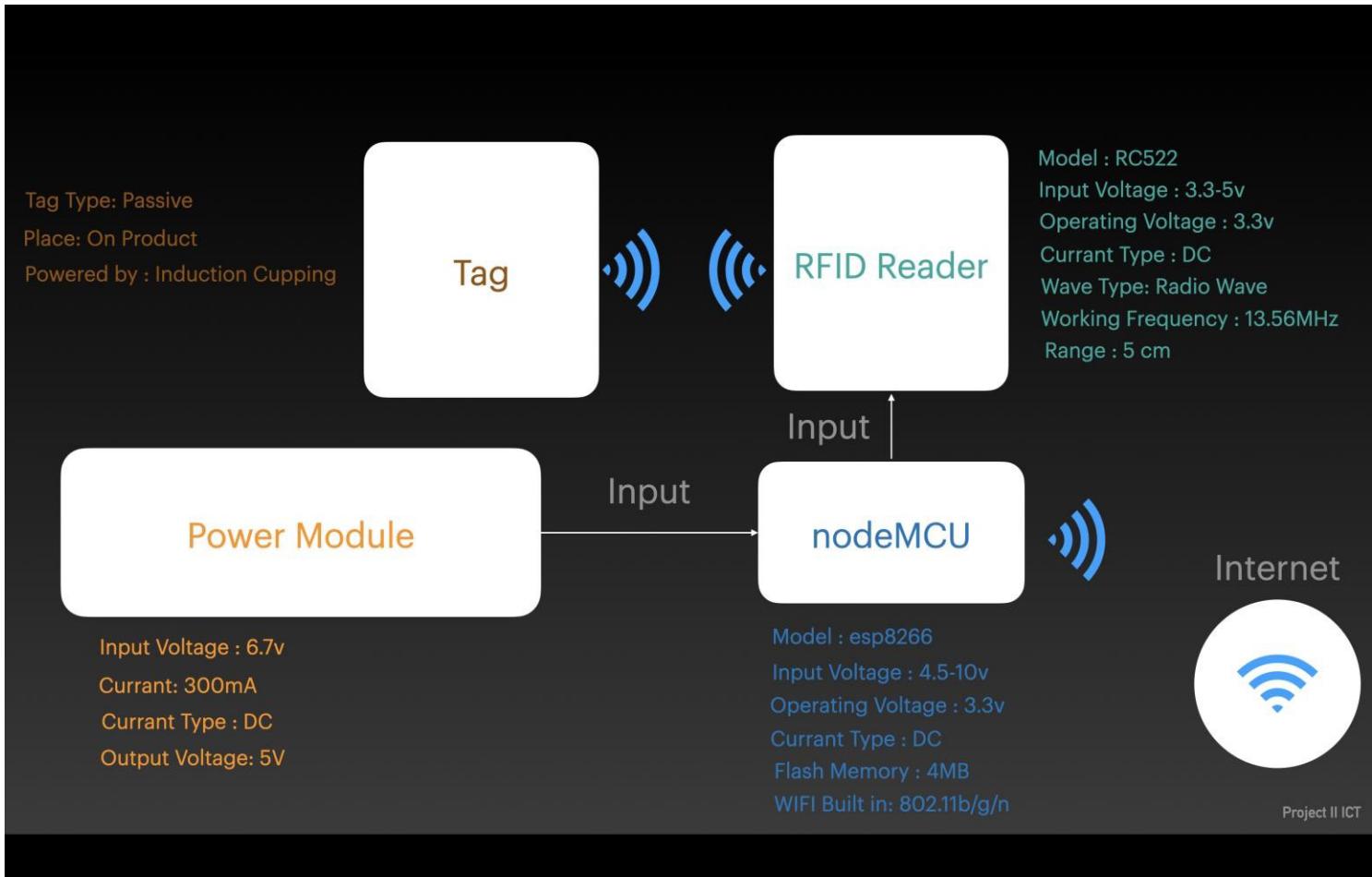


Figure 8 Block Diagram

1. Introduction

1.1 Document Purpose

This document is used for to understand the flow of the system. It described the system characteristics, flow of software, how to use the system. Document is mainly used for user to understand what about system do, what is the system used for and why this system being developed.

1.2 Product Scope

In our system, the customer has to download Android or iOS App and pair them with the Mall's eCart by scanning QR code. After the paring customer can be shopping very comfortably when a customer scans a product via RFID sensor which mounted on the eCart, then eCart automatically identify the product and send a notification in the customer Smart phone also our system adds product & price in Sub bill and add Sub Total. All the activities handle by the "eCart App". After the shopping a customer can "directly pay their bill by our App" and also customer can download a Shopping bill by the App. This easy to check out method customer no longer have to wait in the cashier queue. By using our system, we can solve a human error which more happens in billing process while lots of customers are visiting the mall in one hour.

1.3 Intended Audience and Document Overview

There is tow thing in system 1st one is eCart Which is use by the mall customer's and 2nd one is Flutter App which also use by the customers. Both of the thing uses during the shopping. The main use of this System is to make shopping and paying bills easier and avoiding a human error.

1.4 Definitions, Acronyms and Abbreviations

Table 1. Definitions

Administrator	A person who responsible for maintain all over system.
Consumer/ customer	A person who come for the shopping in mall
eCart	Electronic smart shopping cart
Login	A process to get an access of any system.
Actor	An actor was object of any system like consumer.
Database	Collection of data to store in any computer system.
Primary Key	Primary key identified uniquely record from table.
Table	Collection of record in relational database.

Table 2. Abbreviation

UML	Unified Modeling Language - It is a general-purpose, developmental, modeling language in the field of software engineering that is intended to provide a standard way to visualize the design of a system.
ER diagram	Entity-Relationship diagram - that displays the relationship of entity sets stored in a database.
DFD	Data Flow Diagram - describes the processes that are involved in a system to transfer data from the input to the file storage and reports generation.
Firebase	Firebase Is a platform developed by Google for creating mobile and web applications and develop Realtime database.
IDE	Integrated Development Environment – Is a software application that provides facilities for developing software-based application.
GB	Giga Byte – is a storage unit
SRS	Software Requirement Specification – is a document that specifies A-Z requirements of software or hardware or both.
PK	Primary Key – is a key that used in database from where whole information can get using primary key.

1.5 Document Conventions

Throughout document, upper heading is 18 font-size, sub-heading is 14 font-size and description follow the 12 font-size and whole document used text style is Times New Roman. Margin in this document is 3 cm from left margin and 2.5 cm from bottom, right and top margin. Throughout document maintain 1.5 line spacing.

1.6 References

- <https://www.google.co.in>
- <http://www.telusko.com>
- [https://www.instructables.com/MFRC522-RFID-Reader-
Interfaced-With-NodeMCU/](https://www.instructables.com/MFRC522-RFID-Reader-Interfaced-With-NodeMCU/)

2. Overall Description

1.1 Product Perspective

This product is helpful for the saving of consumer time, avoiding human error, make system easier and smarter, Avoiding a stand in cashier queue. Also, we can apply data analytics on the customers buying behavior and targeted advertising.

2.2 Product Functionality

In our system, the customer has to download Android or iOS App and pair them with the Mall's eCart by scanning QR code. After the paring customer can be shopping very comfortably when a customer scans a product via RFID sensor which mounted on the eCart, then eCart automatically identify the product and send a notification in the customer Smart phone also our system adds product & price in Sub bill and add Sub Total. All the activities handle by the "eCart App". After the shopping a customer can "directly pay their bill by our App" and also customer can download a Shopping bill by the App. This easy to check out method customer no longer have to wait in the cashier queue. By using our system, we can solve a human error which more happens in billing process while lots of customers are visiting the mall in one hour.

3.3 Users and Characteristics

Main functionality from admin side:

1. Admin can login and logout.
2. Admin can add, update, delete product record.
3. Admin can monitor cells and statistics
4. Admin can manage and monitoring eCart.
5. Admin can approve the blood requests.
6. Admin can remove manually from the shopping log.

Main functionality from consumer's app side:

1. Customer can create account
2. Customer can Login logout
3. Customer can Scan QR codes for that start shopping
4. Customer can Add or remove product by the scanning product's RFID tag
5. Customer can Count number of product purchase
6. Customer can Make a bill with proper format with GST
7. Customer can Pay by the App
8. Customer can download bill in PDF format

Main functionality from eCart:

1. Identify the product
2. Send RFID's Tag code to the database server via nodeMCU
3. Count number of products in the cart
4. QR code on eCart for identify and pair with the customer app and eCart

Main functionality of server

1. Store Database (customer & mall inventory)
2. Sending response to the customer in mall
3. Read and write operation
4. Handle all kind of event

4.4 Operating Environment

Software Requirement:

Operating system : Windows 7 or higher & macOS

IDE : Android studio & XCode

Front-end : Dart and Swift

Back-end : Google Firebase

Database : Google firebase

Hardware Requirement (application side):

Processor : Intel core i3 or higher

RAM : 4GB RAM or more

Hard-disk : 20GB or more

Hardware Requirement (hardware side):

Micro controller unit (MCU) : nodeMCU (esp8266)

Sensor : mfrc522 RFID

Battery : lithium-ion battery

Display : oLED Display

Voice Feedback : Pizo Bazar

5.5 Design and Implementation Constraints

- I want to use this system so you must have to register yourself in Android & iOS Application first .
- Then you have to pair your smart phone with the card via scanning QR code
- After completion of shopping, you have to scan QR code again for the disconnect with the eCart

6.6 User Documentation

If you want to use this eCart so first you have to download android or iOS application from the play store or App Store. After the downloading you have to register yourself or login if you had previously registered and login to the app. Then Scan the QR code which is available on the card after this successfully scanning QR code now you are paired with your eCart. Then you have to scan RFID tag which is available on every mall product. The scanner is available on your eCart. Enjoy the smart shopping experience. After the completion of shopping, you can pay your shopping bill with your app. Then scan again QR code which is available on the eCart to disconnect with the eCart. Customer can also download shopping bill in PDF format.

7.7 Assumptions and Dependencies

- User must have smart phone with camera
- User must have a knowledge of English.
- Product does require back-end database firebase for storing data.

3. Specific Requirements

3.1 External Interface Requirements

3.1.1 User Interfaces

User of the system provide for user authentication. That is provide graphical user interface. User is help for to verify the user is valid or not by username or password.

3.1.2 Hardware Interfaces

In this hardware must be used for run this application like processor, hard-disk for storing the data and needed file for this application. Cart side hardware needed in this project so if consumer scan and get product details in their mobile.

3.1.3 Software Interfaces

Following are software used for eCart:

- Operating system: We are used operating system from mall side for run our application and best support for run this application.
- Database: Database is used mainly for to store data of all over the data of application. In this system we save the shopping record of consumer.
- Android Studio 4: This is application is used Flutter & Dart language so Android studio is best supporter for this language.

3.1.4 Communications Interfaces

This application is based on Android & IOS application.

3.2 Functional Requirements

The System must provide following functionality:

- Keeping record of shopping items.
- Keeping record of past shopping.
- Keeping record of user details.

3.3 Behavior Requirements

3.3.1 Use Case View

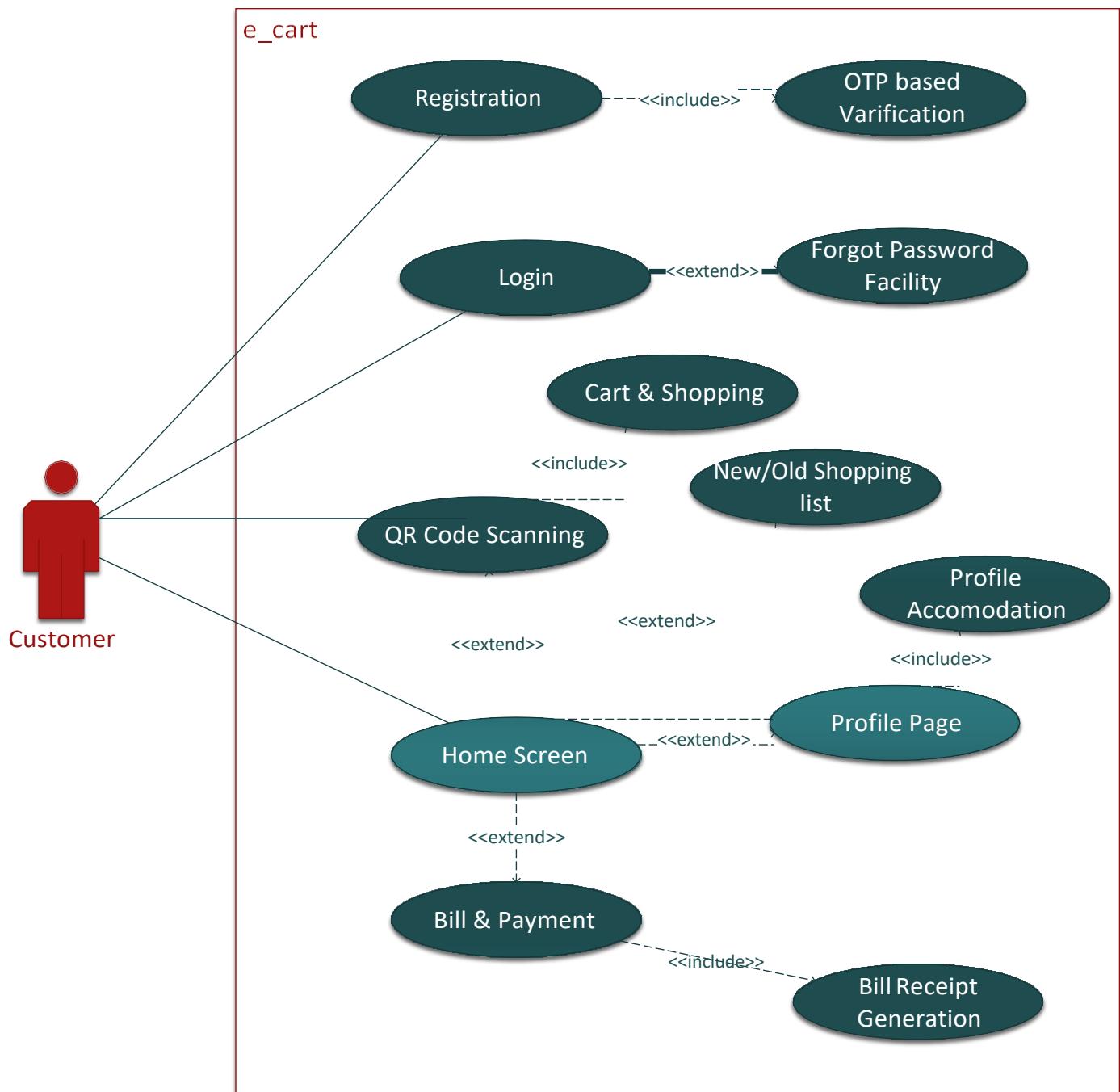


Figure 3.1 Use-case Diagram

Given below is the description of above picture of use-case diagram:

User/Consumer:



- User can Login and Logout.
- User can Register their self.
- User can scan QR code and able to pair cart to app and then he/she will be able to shop
- User can add, update, delete shopping list
- User can update their info in profile and able to delete.
- Admin can pay bill of their shopping items and can get invoices.

4. Other Non-functional Requirements

4.1 Performance Requirements

Following Non-functional requirement will be there used:

- Secure access to login unauthorized person.
- 24 X 7 Available
- Better component used for design the system.

4.2 Safety and Security Requirements

This application provides login page for entering in the system for security concern.

If admin login successfully, then after all rights are given to admin.

4.3 Software Quality Attributes

In this application used Google Firebase Realtime Database for storing data of system.

There are many different versions available for storing data, but we more prefer this version because of higher version take consumption CPU power and computability and slower the performance of the system.

Appendix A – Data Dictionary

DB Name	e_cart
No. of Table in Firebase (Online)	7
No. of Table in SQLite (Local)	1

Column1	Column2
<u>Key</u>	<u>Color</u>
Primary Key 	Red
Unique key 	Orange
foreign key 	Pink
candidate key 	Brown

Table 1	portal_login
<i>id</i>	<i>int</i>
<i>uid</i>	<i>int</i>
<i>pwd</i>	<i>varchar</i>

Table 2	products
<i>products</i>	<i>Datatype</i>
<i>pid</i>	<i>int</i>
<i>product_uid</i>	<i>varchar</i>
<i>product_name</i>	<i>varchar</i>
<i>category</i>	<i>varchar</i>
<i>pprice</i>	<i>double</i>
<i>manufacturing_date</i>	<i>varchar</i>
<i>expiry_date</i>	<i>varchar</i>
<i>manufacturer</i>	<i>varchar</i>
<i>net_weight/ volume</i>	<i>varchar</i>

Table 3	<u>customer_data</u>
<i>customer_data</i>	<i>dataType</i>
cid	int
customer_name	varchar
mobile_no	long int
e_mail	varchar
password	varchar
gender	varchar
dob	varchar
age	varchar

Table 4	<u>ae_cart</u>
<i>ae_cart</i>	<i>dataType</i>
cart_id	int
product_uid	varchar
shopping_id	int
no_of_cart	int
customer_mo	long int
product_name[item]	varchar
Pprice	double
category	varchar
expiry_date	varchar
no_of_item	int
sub_total	double
cstatus	Boolean

Table 5	<u>cart_data</u>
<i>cart_data</i>	<i>dataType</i>
cart_id	int
status	Boolean

Table 6	payment
payment	datatype
payid	int
amount_pay	double

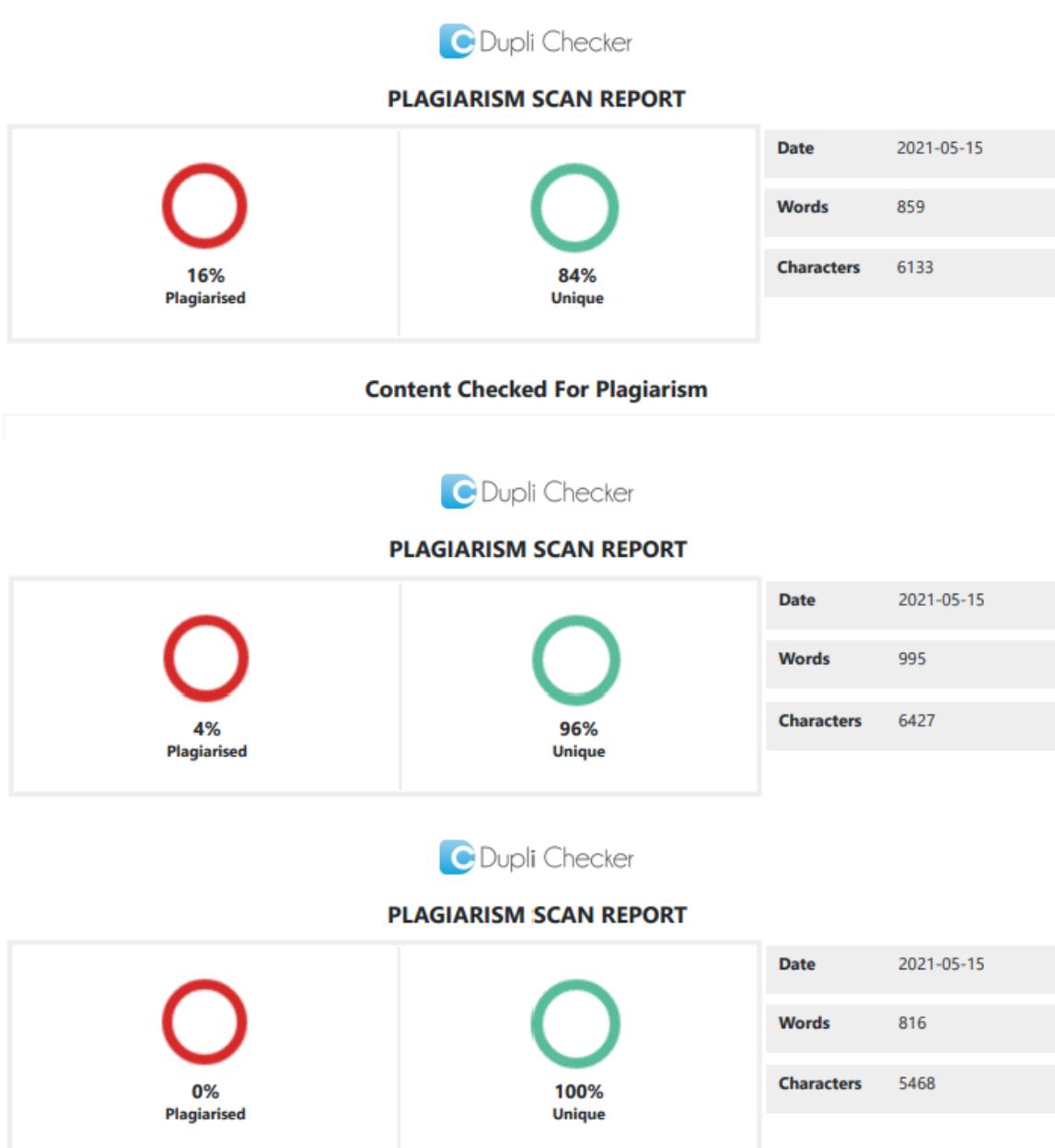
Table 7	my_bill
my_bill	dataType
bill_id	int
wid	int
slist_name	varchar
pprice	double
cart_id	int
customer_mo	long int
no_of_cart	int
sdate	varchar
item	varchar
sub_total	double
GST	double
gtotal	double

Table 8	product_uid
value	varchar

Appendix B – Plagiarism Report

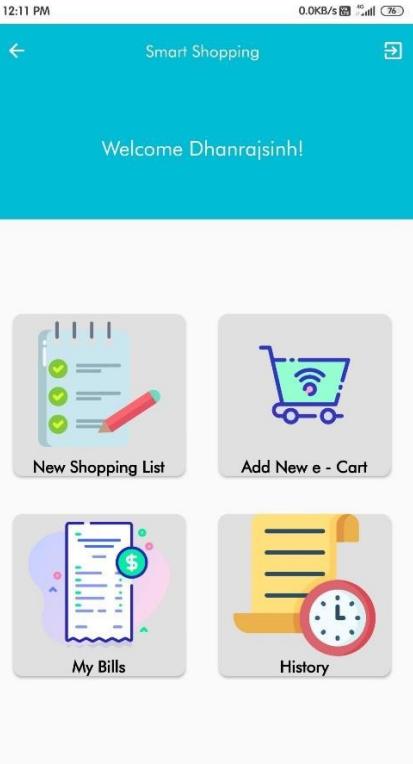
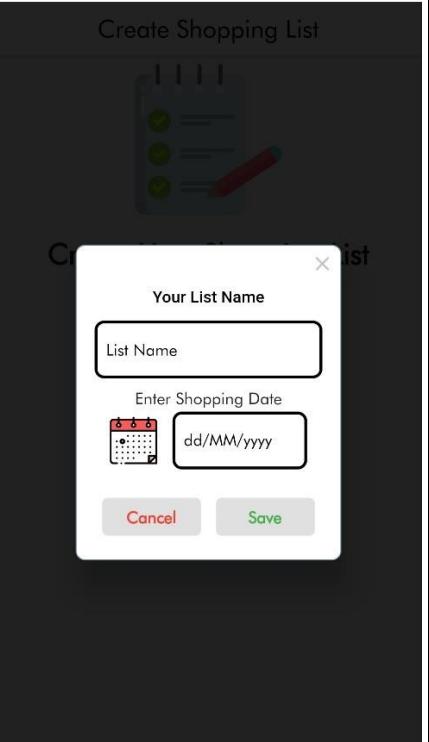
I have submitted three reports which can be access by following link:

<https://drive.google.com/drive/folders/11c6qsSXb6xZcn9UZAJtcmzniMRWIUGQP?usp=sharing>



Appendix C – User Manual

<p>12:10 PM 2.5KB/s </p> <p style="text-align: center;">Smart Shopping</p>	<p>12:10 PM 4.4KB/s </p> <p style="text-align: center;">e - CART</p> <p style="text-align: center;">NEW USER</p> <p style="text-align: center;">LOG IN</p>	<p>12:10 PM 0.1KB/s </p> <p style="text-align: center;">← Register</p> <p>Plz, Register Yourself...</p> <p>Name</p> <p>Mobile Number</p> <p>Email</p> <p>Password</p> <p>Gender</p> <p><input checked="" type="radio"/> Male</p> <p><input type="radio"/> Female</p> <p>Select Your Birth Date</p> <p> dd/MM/yyyy</p>
<p>12:10 PM 0.0KB/s </p> <p style="text-align: center;">← Login</p> <p>Email</p> <p>Password</p> <p style="text-align: center;">LOG IN</p> <p style="text-align: center; font-size: small;">Forgot Password</p>	<p>12:10 PM 0.0KB/s </p> <p style="text-align: center;">← Forgot Password</p> <p style="text-align: center;">Don't Worry</p> <p>Mobile Number</p> <p>We will send your Password in Entered Mobile Number</p> <p style="text-align: center;">Send Me</p> <p style="text-align: center; font-size: small;">Back to Login</p>	<p>12:11 PM 2.9KB/s </p> <p style="text-align: center;">Create Shopping List</p> <p style="text-align: center; color: #00AEEF;">Create your Shopping List before go for Shopping</p> <p style="text-align: right; font-size: small;">● ● ● ●</p>

<p>12:11 PM 0.2KB/s 4G 76%</p> <p>Scan QR Code</p>  <p>Scan QR Code and pair your Smart Phone with e - Cart</p> <p>● ● ● ●</p>	<p>12:11 PM 0.2KB/s 4G 76%</p> <p>Smart Shopping</p>  <p>Enjoy the amazing smart & fast shopping experience with e-Cart</p> <p>● ● ● ●</p>	<p>12:11 PM 0.0KB/s 4G 76%</p> <p>Easy to Check out</p>  <p>Pay your shopping bill with a smart phone and avoid waiting queues at the cash counter</p> <p>LET'S GO</p> <p>● ● ● ●</p>
<p>12:11 PM 0.0KB/s 4G 76%</p> 	<p>12:11 PM 0.0KB/s 4G 76%</p> <p>Create Shopping List</p>  <p>Create Your Shopping List</p> <p>+ NEW</p> <p>12:11 PM 0.0KB/s 4G 76%</p> 	

12:12 PM 0.0KB/s 4G 76%

Create Shopping List



Create Your Shopping List

+ NEW

My List 11-05-2021

12:11 PM 0.0KB/s 4G 76%

My Bills



My Bills

My Shopping List Pending

12:11 PM 1.2KB/s 4G 76%

Profile



Profile

Name	Dhanrajsinh
Mobile No	7433035109
Email	dhanrajsinhparmar712@gmail.com
Gender	male
DOB	19-08-2002

Edit Profile

12:12 PM 1.2KB/s 4G 76%

Edit Profile

Let's make change...

Name

Mobile Number

Email

Gender

Male

Female

Select Your Birth Date

dd/MM/yyyy



PLAGIARISM SCAN REPORT



16%
Plagiarise
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Date 2021-05-15

Words 859

Characters 6133

Content Checked For Plagiarism

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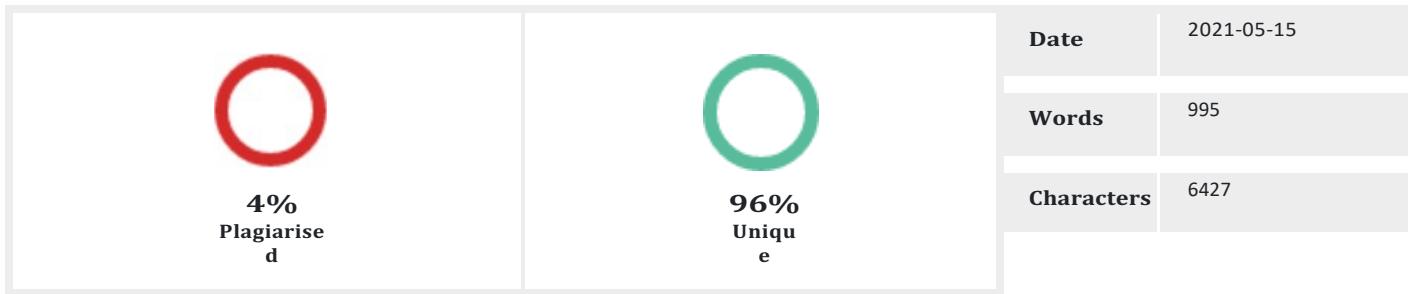
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1.2 Product Scope

In our system, the customer has to download Android or iOS App and pair them with the Mall's eCart by scanning QR code. After the pairing customer can be shopping very comfortably when a customer scans a product via RFID sensor which mounted on the eCart, then eCart automatically identify the product and send a notification in the customer Smart phone also our system adds product & price in Sub bill and add Sub Total. All the activities handle by the "eCart App". After the shopping a customer can "directly pay their bill by our App" and also customer can download a Shopping bill by the App. This easy to check out method customer no longer have to wait in the cashier queue. By using our system, we can solve a human error which more happens in billing process while lots of customers are visiting the mall in one hour.

1.3 Intended Audience and Document Overview

There is two thing in system 1st one is eCart Which is use by the mall customer's and 2nd one is Flutter App which also use by the customers. Both of the thing uses during the shopping. The main use of this System is to make shopping and paying bills easier and avoiding a human error.

1.4 Definitions, Acronyms and Abbreviations

Table 1. Definitions

Administrator A person who responsible for maintain all over system.
 Consumer/ customer A person who come for the shopping in mall eCart
 Electronic smart shopping cart

Login A process to get an access of any system.

Actor An actor was object of any system like consumer. Database

Collection of data to store in any computer system. Primary Key

Primary key identified uniquely record from table. Table

Collection of record in relational database.

Table 2. Abbreviation

UML Unified Modeling Language - It is a general-purpose, developmental, modeling language in the field of software engineering that is intended to provide a standard way to visualize the design of a system.

ER diagram Entity-Relationship diagram - that displays the relationship of entity sets stored in a database.

DFD Data Flow Diagram - describes the processes that are involved in a system to transfer data from the input to the file

Storage and reports generation.

Firebase Firebase Is a platform developed by Google for creating mobile and web applications and develop Realtime database.
IDE Integrated Development Environment – Is a software application that provides facilities for developing software-based application.

GB Giga Byte – is a storage unit

SRS Software Requirement Specification – is a document that specifies A-Z requirements of software or hardware or both. **PK Primary Key** – is a key that used in database from where whole information can get using primary key.

1.5 Document Conventions

Throughout document, upper heading is 18 font-size, sub-heading is 14 font-size and description follow the 12 font-size and whole document used text style is Times New Roman. Margin in this document is 3 cm from left margin and 2.5 cm from bottom, right and top margin. Throughout document maintain 1.5 line spacing.

1.6 References

- <https://www.google.co.in>
- <http://www.telusko.com>
- <https://www.instructables.com/MFRC522-RFID-Reader-Interfaced-With-NodeMCU/>

2. Overall Description

1.1 Product Perspective

This product is helpful for the saving of consumer time, avoiding human error, make system easier and smarter, Avoiding a stand in cashier queue. Also, we can apply data analytics on the customers buying behavior and targeted advertising.

2.2 Product Functionality

In our system, the customer has to download Android or iOS App and pair them with the Mall's eCart by scanning QR code. After the pairing customer can be shopping very comfortably when a customer scans a product via RFID sensor which mounted on the eCart, then eCart automatically identify the product and send a notification in the customer Smart phone also our system adds product & price in Sub bill and add Sub Total. All the activities handle by the "eCart App". After the shopping a customer can "directly pay their bill by our App" and also customer can download a Shopping bill by the App. This easy to check out method customer no longer have to wait in the cashier queue. By using our system, we can solve a human error which more happens in billing process while lots of customers are visiting the mall in one hour.

3.3 Users and Characteristics Main

functionality from admin side:

1. Admin can login and logout.
2. Admin can add, update, delete product record.
3. Admin can monitor cells and statistics

5. Admin can approve the blood requests.
6. Admin can remove manually from the shopping log.

Main functionality from consumer's app side:

1. Customer can create account
2. Customer can Login logout
3. Customer can Scan QR codes for that start shopping
4. Customer can Add or remove product by the scanning product's RFIDtag
5. Customer can Count number of product purchase
6. Customer can Make a bill with proper format with GST
7. Customer can Pay by the App
8. Customer can download bill in PDF format

Main functionality from eCart:

1. Identify the product
2. Send RFID's Tag code to the database server via nodeMCU
3. Count number of products in the cart
4. QR code on eCart for identify and pair with the customer app and eCart

Main functionality of server

1. Store Database (customer & mall inventory)
2. Sending response to the customer in mall
3. Read and write operation
4. Handle all kind of event

4.4 Operating Environment Software Requirement: Operating system : Windows 7 or higher & macOS

IDE : Android studio & XCode

Front-end : Dart and Swift

Back-end : Google Firebase

Database : Google firebase

Hardware Requirement (application side):

Processor : Intel core i3 or higher RAM

: 4GB RAM or more

Hard-disk : 20GB or more

Hardware Requirement (hardware side):

Micro controller unit (MCU) : nodeMCU (esp8266)

Sensor : mfrc522 RFID

Battery : lithium-ion battery

Display : oLED Display

Voice Feedback : Pizo Bazar

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The Unified Modeling Language (UML) is a general-purpose, developmental, modeling language in the field of software engineering that is intended to provide a standard way to visualize the design of a system..... It was developed at Rational Software in 1994–1995, with further development led by them through 1996.

https://en.wikipedia.org/wiki/Unified_Modeling_Language

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Title: [ER Diagram: Entity Relationship Diagram ...](#)

What is ER Diagram? ER Diagram stands for Entity Relationship Diagram, also known as ERD is a diagram that displays the relationship of entity sets stored in a database. In other words, ER diagrams help to explain the logical structure of databases. ER diagrams are created based on three basic concepts: entities, attributes and relationships. <https://www.guru99.com/er-diagram-tutorial-dbms.html>

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5.5 Design and Implementation Constraints

- I want to use this system so you must have to register yourself in Android & iOS Application first .
- Then you have to pair your smart phone with the card via scanning QR code
- After completion of shopping, you have to scan QR code again for the disconnect with the eCart

6.6 User Documentation

If you want to use this eCart so first you have to download android or iOS application from the play store or App Store. After the downloading you have to register yourself or login if you had previously registered and login to the app. Then Scan the QR code which is available on the card after this successfully scanning QR code now you are paired with your eCart. Then you have to scan RFID tag which is available on every mall product. The scanner is available on your eCart. Enjoy the smart shopping experience. After the completion of shopping, you can pay your shopping bill with your app. Then scan again QR code which is available on the eCart to disconnect with the eCart. Customer can also download shopping bill in PDF format.

7.7 Assumptions and Dependencies

- User must have smart phone with camera
- User must have a knowledge of English.
- Product does require back-end database firebase for storing data.

3. Specific Requirements

3.1 External Interface Requirements

3.1.1 User Interfaces

User of the system provide for user authentication. That is provide graphical user interface. User is help for to verify the user is valid or not by username or password.

3.1.2 Hardware Interfaces

In this hardware must be used for run this application like processor, hard-disk for storing the data and needed file for this application. Cart side hardware needed in this project so if consumer scan and get product details in their mobile.

3.1.3 Software Interfaces

Following are software used for eCart:

- Operating system: We are used operating system from mall side for run our application and best support for run this application.
- Database: Database is used mainly for to store data of all over the data of application. In this system we save the shopping record of consumer.
- Android Studio 4: This is application is used Flutter & Dart language so Android studio is best supporter for this language.

3.1.4 Communications Interfaces

This application is based on Android & IOS application.

3.2 Functional Requirements

The System must provide following functionality:

- Keeping record of shopping items.
- Keeping record of past shopping.
- Keeping record of user details.

3.3 Behavior Requirements

3.3.1 Use Case View

Figure 3.1 Use-case Diagram

Given below is the description of above picture of use-case diagram:

User/Consumer:

- User can Login and Logout.
- User can Register their self.
- User can scan QR code and able to pair cart to app and then he/she will be able to shop
- User can add, update, delete shopping list

- User can update their info in profile and able to delete.
- Admin can pay bill of their shopping items and can get invoices.

4. Other Non-functional Requirements

4.1 Performance Requirements

Following Non-functional requirement will be there used:

- Secure access to login unauthorized person.
- 24 X 7 Available
- Better component used for design the system.

4.2 Safety and Security Requirements

This application provides login page for entering in the system for security concern. If login successfully, then after all rights are given to admin.

admin

4.3 Software Quality Attributes

In this application used Google Firebase Realtime Database for storing data of system. There are many different versions available for storing data, but we more prefer this version because of higher version take consumption CPU power and computability and slower the performance of the system.

Appendix A – Data Dictionary

DB Name e_cart

No. of Table in Firebase  7

No. of Table in SQLite  1

Column1 Column2

Key Color

Primary Key 	Red
Unique key 	Orange
foreign key 	Pink
candidate key 	Brown

Table 1 portal_login

id	int
uid	int pwd
	varchar

Table 2 products

products	Datatype
pid	int
product_uid	varchar
product_name	varchar
category	varchar pprice
	double
manufacturing_date	varchar
expiry_date	varchar

volume varchar

Table 3 customer data

```
customer_data      dataType  
cid int  
customer_name    varchar  
mobile_no long int e_mail  
                           varchar password  
                           varchar  
gender   varchar  
dob     varchar  
age     varchar
```

Table 4 ae_cart

```

ae_cart    dataType
cart_id    int
product_uid    varchar
shopping_id    int
no_of_cart    int
customer_mo long int
product_name[item]    varchar
Pprice    double
category varchar
expiry_date    varchar
no_of_item    int
sub_total double
cstatus Boolean

```

Table 5 cart_data

cart_data dataType
cart_id int
status Boolean

Table 6 payment

```
payment datatype  
payid      int  
amount_pay double
```

Table 7 my_bill

```
my_bill    dataType  
bill_id    int  
  
wid int  
slist_name varchar  
pprice    double  
cart_id    int  
customer_mo long int  
no_of_cart int  
sdate      varchar
```

```
sub_total double
GST double gtotal
double
```

Table 8 product_uid

value varchar

Appendix C – User Manual

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