

ShopZen

AN INTERNSHIP PROJECT REPORT

Submitted by

NISHIN GOSWAMI

[191290116034]

In partial fulfillment for the award of the degree Of

BACHELOR OF ENGINEERING

in

Information Technology

Gyanmanjari Institute of Technology, Bhavnagar



Gujarat Technological University, Ahmedabad

April,2023



Gyanmanjari Institute of Technology

Survey No. 30, Sidsar road, near Iscon Eleven

Bhavnagar – 364001, Gujarat, India

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **ShopZen** has been carried out by **Nishin Goswami** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology**, 8th Semester of Gujarat Technological University, Ahmedabad during the academic year 2022-23.

Prof. Nilesh Kodifad

Internal Guide

Prof. Amit Maru

Head of the Department



Gyanmanjari Institute of Technology

Survey No. 30, Sidsar road, near Iscon Eleven

Bhavnagar – 364001, Gujarat, India

DECLARATION

We hereby declare that the Internship report submitted along with the Internship entitled **ShopZen** submitted in partial fulfillment for the degree of Bachelor of Engineering in Information Technology to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me at **Moon Technolabs Pvt. Limited**. Under the supervision **Mr. Hardik Vyas** and that no part of this report has been directly copied from any students report or taken from any other source, without providing due reference.

Name of the Student

Sign of Student

Nishin Goswami

ACKNOWLEDGEMENT

I would like to express my sincere gratitude and appreciation to all those who have supported me during my internship at Moon Technolabs. I am thankful to Mr. Hardik Vyas, who provided me with constant guidance, encouragement, and support throughout my internship. Their vast knowledge, valuable insights, and expertise in the field of Web Development that helped me develop new skills and broaden my understanding of the industry. I am also grateful to the entire team at Moon Technolabs for providing me with a conducive work environment and giving me the opportunity to work on various projects that have helped me improve my technical skills. I would also like to thank my colleagues for their support and valuable feedback that helped me learn and grow during my internship.

Finally, I am grateful to everyone who contributed to my learning experience at Moon Technolabs. It was an invaluable experience that I will take with me throughout my career.

NISHIN GOSWAMI

ABSTRACT

This project is an e-commerce website built using React JS and Firebase for the database. The website provides a user-friendly interface where customers can browse products, add items to their cart, and checkout securely. The project leverages the power of Firebase's real-time database to ensure that all product information, including pricing and availability, is always up to date. Customers can create and manage their accounts, track their orders. The site also has an admin portal where administrators can manage products, view order history, and track update product status. Overall, this e-commerce project is designed to provide a seamless and secure shopping experience for customers while providing easy management for administrators.

LIST OF FIGURES

Figure No	Figure Description	Page No
Figure 4.1.1	Use Case Diagram	10
Figure 4.1.2	Activity Diagram	11
Figure 4.2.1	Login Screen and otp screen	12
Figure 4.2.2	Dashboard and Profile	13
Figure 4.2.3	Loan Application form	14
Figure 4.2.4	Pending Application	15
Figure 4.2.5	Accepted Application	16
Figure 4.2.6	Rejected Application	17
Figure 4.2.7	Active Loan	18
Figure 4.2.8	Complete loan	19

LIST OF SYMBOLS

SYMBOLS FOR USE CASE DIAGRAM:



SYMBOLS FOR SYSTEM FLOW DIAGRAM:

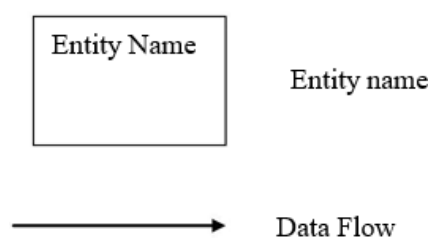
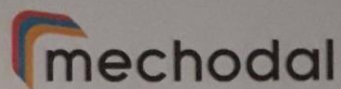


TABLE OF CONTENTS

Acknowledgement	i
Abstract	ii
List of Figures	iii
List of Tables	iv
List of Symbols	v
Table of Contents	vi
Chapter: 1	Overview of the Organization
	1.1. History of Organization 1
	1.2. Scope of Work 2
	1.3. Organization Chart 0
	1.4. Capacity of Organization 0
Chapter: 2	Introduction to Project
	2.1 Introduction 4
	2.2 Purpose 4
	2.3 Objective 4
	2.4 Scope 0
	2.5 Technologies used 0
Chapter: 3	System Analysis
	3.1 Study of Current System 6
	3.2 Problem and Weaknesses of Current System 6
	3.3 Requirements of New System 6
	3.3.1 User Requirements 6
	3.3.2 System Requirements 6
	3.4 System Feasibility 7
	3.4.1 Technical Feasibility 7
	3.4.2 Time Schedule Feasibility 7
	3.4.3 Operational Feasibility 7
	3.4.4 Implementation Feasibility 8
	3.5 Proposed System 8
	3.5.1 Advantages of Proposed System 8

Chapter: 4	System Design	9
	4.1 Detail Design	10
	4.1.1 Use-case Diagram	10
	4.1.2 Activity Diagram	11
	4.2 Database Design	12
	4.3 Screens	0
Chapter: 5	Implementation Planning	20
	5.1 Implementation Environment	21
	5.2 Program/Modules Specification	21
	5.3 Coding Standards	21
	5.4 Coding Scenario	22
Chapter: 6	Testing	23
	6.1 Testing Plan/ Strategy	24
	6.2 Testing Methods	25
	6.2.1 Test Cases	26
Chapter: 7	Limitations and Future Enhancement	30
	7.1 Limitations	31
	7.2 Future Enhancement	31
Chapter: 8	Conclusions	33
References		34



FF-7, Nakshatra complex, Near Bhagwati circle,

Kaliyabid, Bhavnagar, Gujarat 364002

www.mechodal.com

Date: 03rd April 2022

CERTIFICATE OF COMPLETION INTERNSHIP

To

Dear Kanjariya Mayank

Gyanmanjari Institute of Technology,

Bhavnagar

This is to certify that **Kanjariya Mayank**, Student of B.E-I.T has completed his **3 Months** internship with us from **03-January-2022 to 03-April-2022**.

As a part of internship, he has done a study on "**Basic and advanced App developing, Frontend app design & develop and Backend app develop**" in App department During that tenure with us, we found **Kanjariya Mayank**, sincere and result oriented

During this internship **Gahan Gosai** were a guild of this department and help to intern **Kanjariya Mayank**,

We wish **Kanjariya Mayank**, All the best for his future endeavours

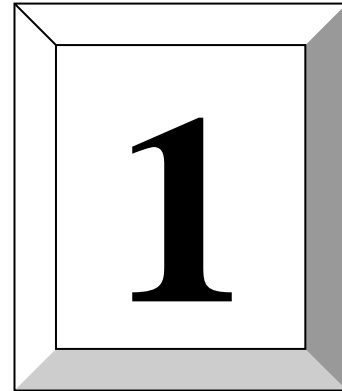
Thank You.



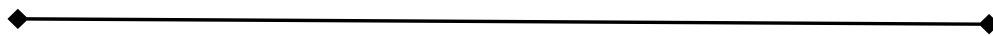
Mechodal Technology

(Authorized Signatory of Mechodal technology)

Scanned by TapScanner



Chapter 1: Overview of the Organization



- 1.1. History of Organization**
- 1.2. Scope of Work**
- 1.3. Organization Chart**
- 1.4. Capacity of Organization**

1.1.History of Organization:

Moon Technolabs Pvt. Ltd. was founded by an inspired team of entrepreneurs from India, having more than the decade of experience in Outsourcing business of Software Development in worldwide by virtue of this the company has developed a perfect business model to deal with outsourcing engagement effectively and efficiently.

In a short span of time of our formation, we have grown exponentially just by our dedication to work and clients across the globe. Our team of programmers, engineers, strategists, graphic designers, and consultants work together to create a complete end-to-end solution that is compelling and dynamic. We develop solutions to fit clients specific business objectives.

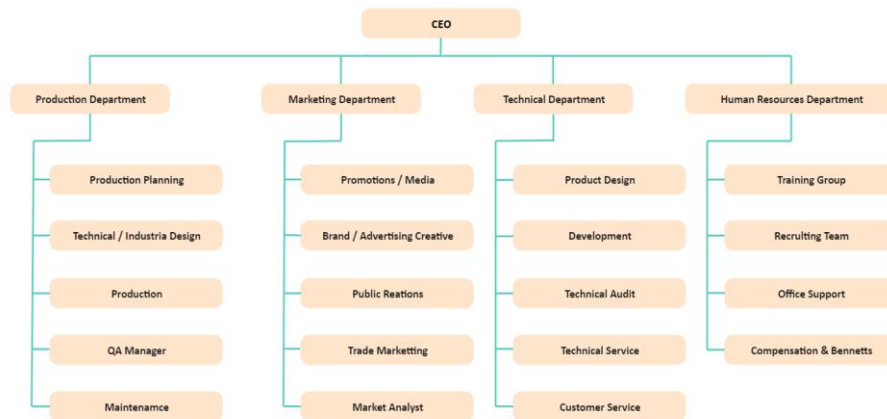
Moon Technolabs has established expertise in an area of Offshore Application Development & Maintenance, Application Migration and Re-engineering, Product Development & Support, Enterprise Solutions, Web Development, Game Development, Mobile Solutions. Our Quality Initiatives has ensured that we deliver as per the expectation in terms of cost, time and quality. With more than 80% of our current work coming from repeat client and references, it speaks volume about our client's satisfaction.

1.2.Scope Of Work

We put resources into development to enable our customers to release new potential over their associations. What makes Moon Technolabs one of a kind is our pool of talented developers, industry skill, and a genuine comprehension of what to do so as to succeed. With an industry experience that traverses quite a few years, we offer a plenty of customer driven services by empowering undertakings to accomplish upper hand through adaptable and cutting edge worldwide delivery models.

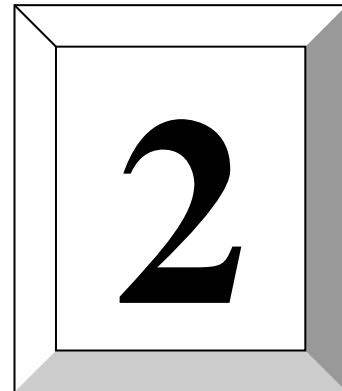
We mean to overhaul business activities with Big Data analytics, Internet of Things (IoT), Artificial intelligence and cloud computing. Our group encourages ventures to react to this competitive technological world and scale as indicated by transformation objects - from development to people.

1.3. Organization Chart



1.4. Capacity of Organization

Our company strength is about 250 employees and our company has two headquarters one in Ahmedabad and another in USA.



Chapter 2: Introduction to Project

- 2.1 Introduction**
- 2.2 Purpose**
- 2.3 Scope**
- 2.4 Objective**
- 2.5 Technologies Used**

2.1 Introduction:

This e-commerce project is a modern and efficient solution designed to provide a seamless and secure shopping experience for customers. The project is built using React JS, which is a powerful JavaScript library that enables developers to create dynamic user interfaces with ease. The project's database is implemented using Firebase, a cloud-based platform that enables real-time data synchronization and efficient data storage. By combining React JS and Firebase, the project provides fast and reliable performance, even with heavy traffic.

The website's user-friendly interface allows customers to easily browse and purchase products, create and manage their accounts, and track their orders. In addition, administrators can use the admin portal to manage products, view order history, and track inventory levels.

Overall, this e-commerce project is a robust and scalable solution that provides businesses with an efficient platform to reach out to their customers and streamline their operations.

2.2 Purpose:

The purpose of an e-commerce website is to provide a platform for businesses to showcase and sell their products or services online. The website allows customers to browse a wide range of products or services, compare prices, and store from the comfort of their own homes. Through the website, customers no longer have to go to a store to make a purchase, making shopping more convenient and accessible.

An e-commerce website can also help businesses reach a larger audience beyond their local or regional market. By going online, businesses can tap into global markets and sell their products to customers from all over the world. This increases the potential customer base and opens up new revenue streams for the company.

In addition, with an e-commerce website, companies can track and analyze the behavior of their customers, such as their buying patterns, preferences, and search queries. This data can help companies make informed decisions about their product offerings, pricing, and marketing strategies to improve their overall performance.

2.3 Scope:

- 2.3.1 Dealer Login id and password are generated by admin side.
- 2.3.2 User can login through id and password.
- 2.3.3 Dealer app dealer fill the form for user.
- 2.3.4 User id and password are given by dealer.
- 2.3.5 User can not fill the loan applicaton form

2.4 Objective:

ShopZen is an e-commerce website that allows businesses to showcase and sell their products online. The objectives of ShopZen are as follows:

1. Provide a user-friendly platform: The main goal of ShopZen is to provide a user-friendly platform that allows customers to easily search and buy products online. The website should be easy to navigate and provide a seamless shopping experience.

2. Improve brand visibility: ShopZen should help businesses increase their brand visibility by showcasing their products online and promoting their brand through digital marketing strategies. The site should include features such as product reviews, personalized recommendations, and social media integration to help businesses build their brand identity.

3. Increase sales: ShopZen should be designed to increase sales by providing businesses with efficient tools to manage their product catalog, process orders and accept payments online. The site should also include features such as discount codes, upselling and cross-selling to encourage customers to make additional purchases.

4. Improve customer satisfaction: ShopZen should be designed to improve customer satisfaction by providing reliable customer service, easy returns and refunds, and a secure payment process. The site should also include features such as product descriptions, images, and reviews to help customers make informed purchasing decisions.

5. Collect customer data: ShopZen should help businesses collect customer data such as purchase history, preferences, and search queries. This data can be used to make informed business decisions about product offerings, pricing, and marketing strategies.

6. Expand your market reach: ShopZen should help businesses expand their market reach beyond their local or regional markets by reaching out to global markets and selling their products to customers from around the world. The website should be designed to support multiple currencies and languages to make it easy for customers around the world to store.

Overall, ShopZen's goal is to provide businesses with an efficient platform to showcase and sell their products, improve customer satisfaction, increase sales, and enhance their brand visibility.

2.5 Technologies Used:

2.5.1 Design:

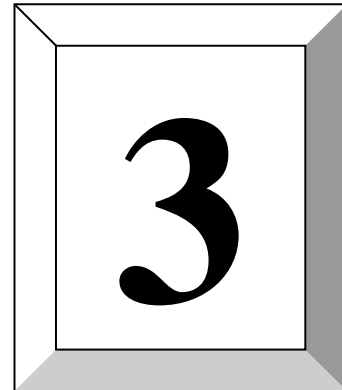
- HTML
- CSS
- Bootstrap 5
- Core Ui

2.5.2 Logic:

- React.js
- React Redux

2.5.3 Database:

- Google Firebase



Chapter 3: System Analysis

- 3.1. Study of Current System**
- 3.2. Problem and Weaknesses of Current System**
- 3.3. Requirements of New System**
- 3.4. System Feasibility**
- 3.5. Proposed System**

3.1 Study of Current System

E-commerce has grown rapidly in recent years. More and more consumers are using online shopping because it is more convenient and offers a wider selection of products. The current e-commerce system in today's market is dominated by various platforms such as Amazon, eBay, and Walmart. These platforms have made it easy for retailers to set up online stores and sell their products to a larger audience. The advent of mobile commerce has also made shopping more convenient, as consumers can purchase products through their smartphones. Social media integration has also enabled businesses to market their products to a larger audience. Despite challenges such as security concerns and competition, the e-commerce industry is expected to continue growing in the coming years.

3.2 Problem and Weaknesses of Current System

An online e-commerce website may have various problems and weaknesses, including:

- **Technical issues:** technical issues such as website downtime, slow load times, and broken links can negatively impact the user experience and discourage customers from completing their purchases.
- **Security vulnerabilities:** Online e-commerce websites store sensitive customer data such as payment details and personal information. Therefore, security breaches and hacker attacks can lead to loss of customer trust and financial losses for the company.
- **Competition:** The e-commerce market is highly competitive, and companies need to constantly innovate and improve their online offerings to stay ahead of the competition.
- **Inventory management:** Managing inventory can be challenging for e-commerce businesses, as they need to ensure they have enough stock to meet customer demand while avoiding overstocking, which can lead to

waste and financial loss.

- **Shipping and logistics:** E-commerce companies need to ensure that they have reliable shipping and logistics partners to deliver products to customers quickly and efficiently.
- **Returns and customer care:** Handling returns, refunds, and customer inquiries can be time-consuming and difficult for e-commerce companies, and requires dedicated staff and systems for effective management.
- **Payment processing:** E-commerce businesses need to provide customers with secure and convenient payment options, which can be challenging to set up and manage.
- **Website design and usability:** a poorly designed website can deter customers and hurt sales. E-commerce companies need to offer a user-friendly website with a seamless checkout process to entice customers to complete a purchase.
- **Reliance on third-party platforms:** E-commerce businesses that rely heavily on third-party platforms for advertising or sales are vulnerable to sudden changes in policies or pricing structures that can negatively impact their business.

Overall, e-commerce businesses need to be aware of these issues and vulnerabilities and take proactive measures to mitigate them and ensure a successful and sustainable online presence.

3.3 Requirements of New System

3.3.1 User Requirements

The new e-commerce system should provide a user-friendly interface that is easy to

navigate and search for products. It should offer a secure and convenient payment system with multiple payment options. The system should also offer a personalized shopping experience with recommendations based on the user's preferences and purchase history. It should offer the ability to track orders and provide real-time delivery status information. The system should also allow for easy returns and refunds. In addition, the system should have strong security measures in place to protect user data and ensure a safe shopping experience. Finally, the system should be available 24/7 and provide reliable customer support.

3.3.2 System Requirements

- **Usability**

The UI of the ShopZen should be user friendly so that users can navigate easily through it.

- **Reliability**

Error handling mechanism must be robust to avoid failure of operation and in case of server failure the payment should be reverted to the user without any due harm.

3.4 System Feasibility

The feasibility of system can be tested in four dimensions:

3.4.1 Technical Feasibility

Since the project uses reliable tools such as open source technologies like react js and firebase, the system can be implemented efficiently and without any hassles. The duo of this technology can process data and queries efficiently and also create user-friendly applications. Therefore, this project has a good technical feasibility.

3.4.2 Time Schedule Feasibility

The time feasibility of a new e-commerce website depends on several factors such as the complexity of the website, the availability of resources, and the experience of

the development team. A realistic schedule with clear milestones and contingency plans should be established to ensure timely completion of the project.

3.4.3 Operational Feasibility

The operational feasibility of a new e-commerce website is high because the necessary technology and infrastructure are already in place and the demand for online purchases is increasing. However, factors such as usability, security and scalability should be considered when designing and implementing the website to ensure long-term success.

3.4.4 Implementation Feasibility

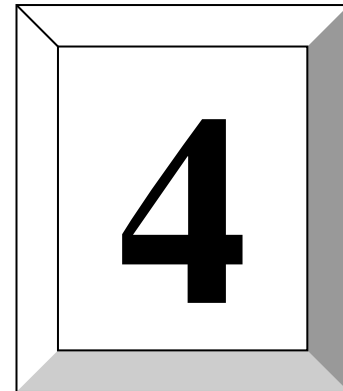
The requirements mentioned above can be fulfilled using various technologies available. React js the implementation of the project is feasible.

3.5 Proposed System

The proposed e-commerce system is designed to provide a user-friendly interface with mobile responsiveness, secure payment processing, and personalized recommendations. It also offers efficient order processing, 24/7 customer support, robust search capabilities, and integration with social media. Multiple shipping options, advanced inventory management, and comprehensive analytics and reporting are also included. The system aims to provide customers with a seamless shopping experience while enabling the company to effectively manage operations and optimize sales.

3.5.1 ADVANTAGES OF PROPOSED SYSTEM:

- Very fast and accurate.
- User-friendly interface.
- Secure Payment processing.
- Quick checkout process.
- 24/7 customer support.
- Easy way to payment.
- Multiple shipping options.



Chapter 4: System Design



4.1 Detail Design

4.1.1 Use-Case Diagram

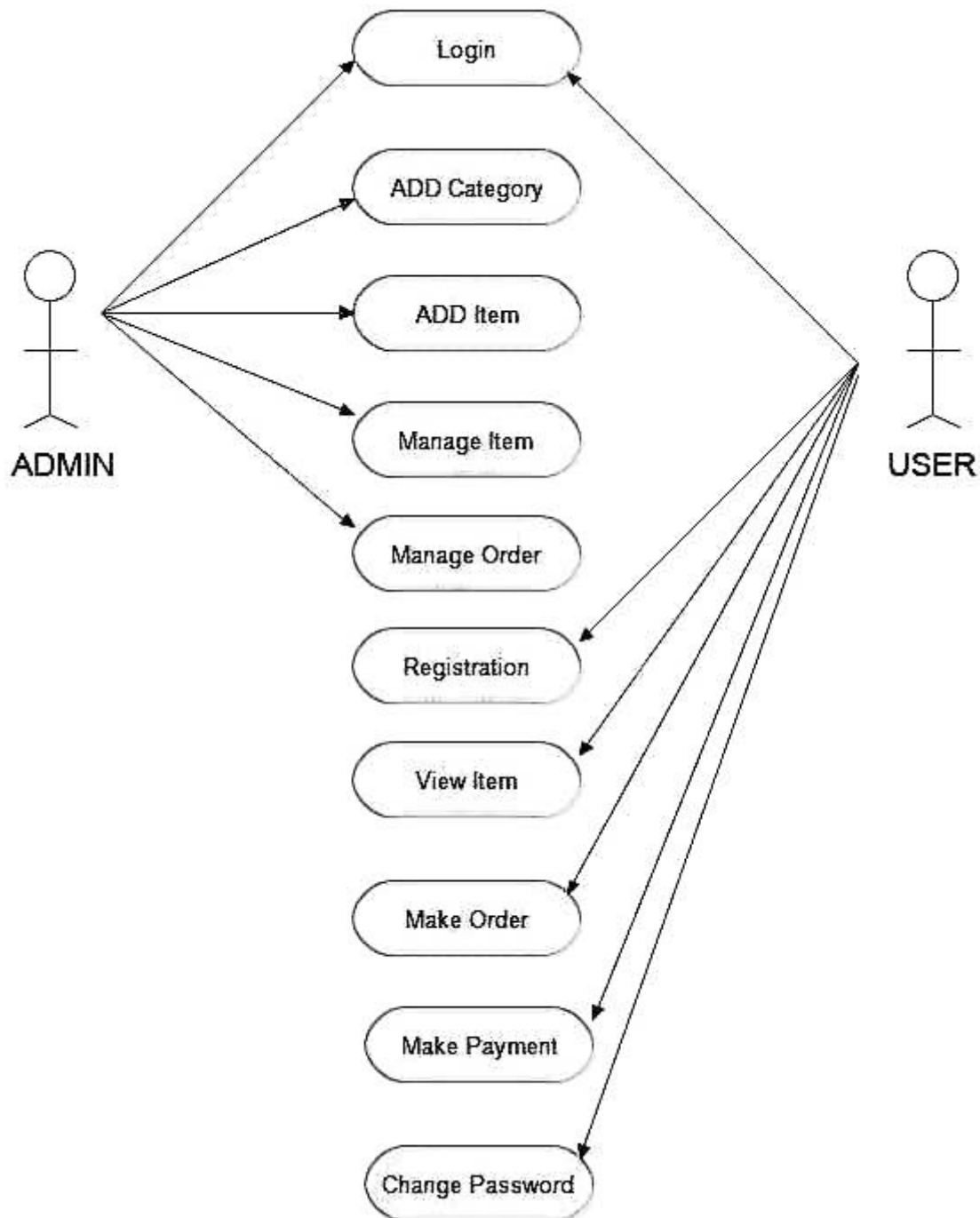
4.1.2 Activity Diagram

4.2 Database Design

4.3 Screens

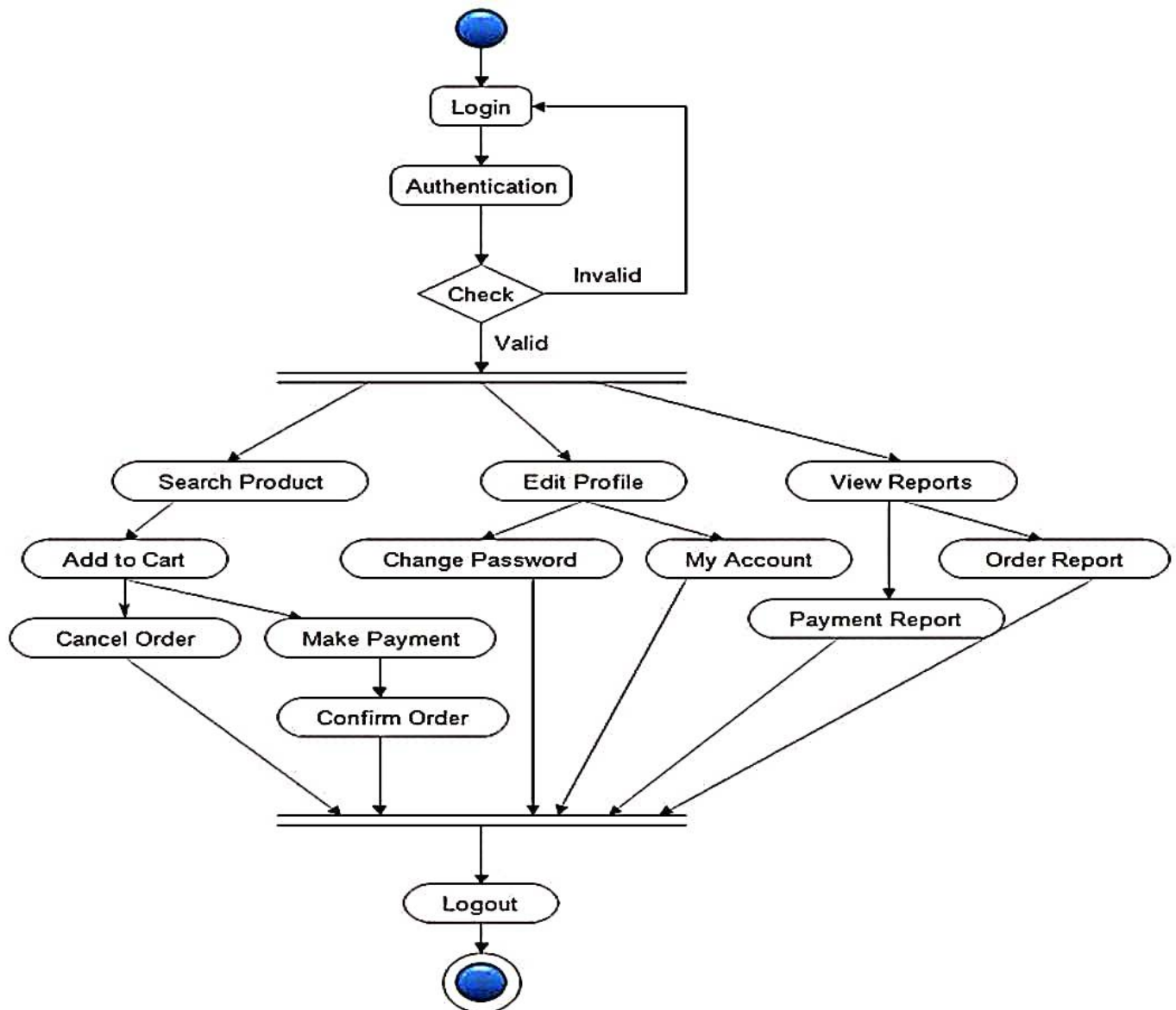
4.1 Detail Design

4.1.1 Use-Case Diagram



[Fig.4.1.1: Use Case Diagram]

4.1.2 Activity Diagram



[Fig.4.1.2: Activity Diagram]

4.2 Database Design

Firestore Database

The screenshot shows the Firebase Firestore console for the 'ShopZen' project. The left sidebar contains navigation options: Project Overview, Authentication, Firestore Database, Storage, Product categories, Build, Release & Monitor, Analytics, Engage, All products, and a 'Customize your nav!' section. The main area displays the 'Electronics' collection under the 'shopzen-79045' database. A document named '9tJeYeBAvASG8CyhYTWW' is selected, showing its fields: category (Electronics), description (Easy upgrade for faster boot up, shutdown, application load and response...), id (10), price (109), product_image (https://fakestoreapi.com/img/61U7T1koQqL_AC_SX679_j), and quantity (1). The database location is noted as 'asia-south1'.

Users console:

The screenshot shows the Firebase Authentication console for the 'ShopZen' project. The left sidebar is the same as the previous screenshot. The main area displays the 'Authentication' section with tabs for Users, Sign-in method, Templates, Usage, Settings, and Extensions. The 'Users' tab is active, showing a list of users with columns: Identifier, Providers, Created, Signed In, and User UID. The list contains four users, all created on April 22, 2023, and signed in on the same date. The bottom of the list shows 'Rows per page: 50' and '1 - 4 of 4'.

Singular User in Database

+ Add field

▼ address

▼ cart

createdAt: April 22, 2023 at 11:38:38 AM UTC+5:30

displayName: "nishin4"

email: "ng24@gmail.com"

isOnline: false

name: "nishin4"

▼ orders

uid: "8IG8Xn5SyHd6C8IrmLu40fcKEXx2"

Singular Product in Database

+ Add field

category: "Electronics"

description: "Easy upgrade for faster boot up, shutdown, application load and response (As compared to 5400 RPM SATA 2.5" hard drive; Based on published specifications and internal benchmarking tests using PCMark vantage scores) Boosts burst write performance, making it ideal for typical PC workloads The perfect balance of performance and reliability Read/write speeds of up to 535MB/s/450MB/s (Based on internal testing; Performance may vary depending upon drive capacity, host device, OS and application.)"

id: 10

price: 109

product_image: "https://fakestoreapi.com/img/61U7T1koQqL_AC_SX679_.jpg"

quantity: 1

rating: 2.9

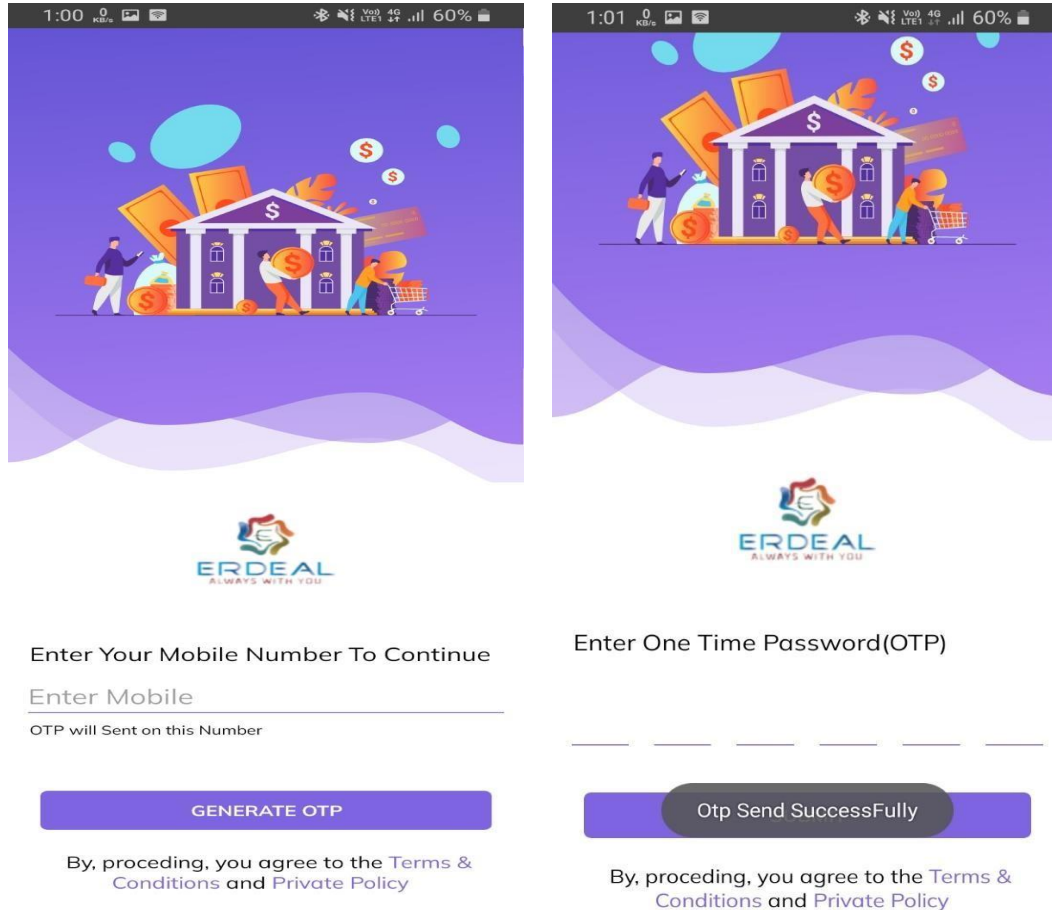
title: "SanDisk SSD PLUS 1TB Internal SSD"

total: 109

uid: "9tJeYeBAvASG8CyhYTww"

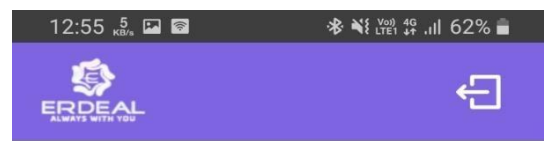
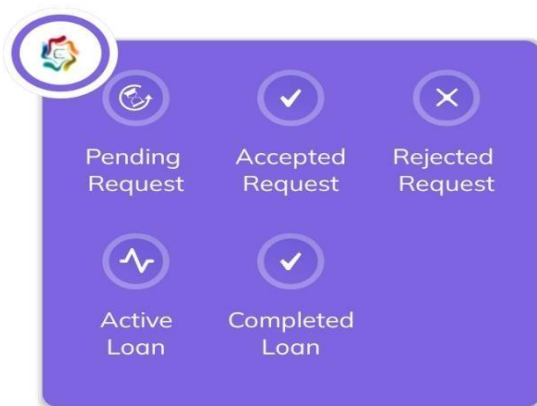
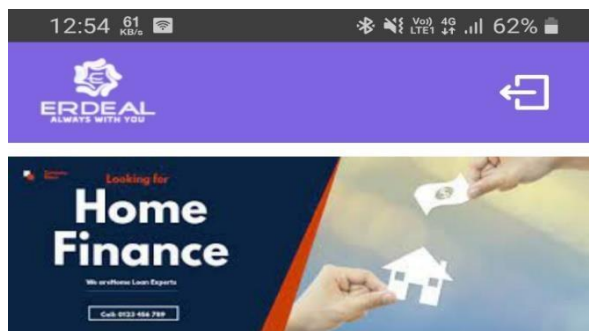
4.3 Screens

Login and otp Screen:



[Fig.4.3.1: Login and otp screen]

Dashboard And Profile:



User Profile



Full Name
mayank

Contact Number
8000434869

Your Address
bhavanagr



[Fig.4.3.2: Dashboard Profile]

Loan Application Form:

12:55 62%
← Make a new Application

1 2 3 4

Mobile Model name
vivo

Model Number
8687676564

Mobile Price
20000

Next

12:57 61%
← Make a new Application

1 2 3 4

Reference name
a

Reference mobile Number
1234567870

Reference 2 name
b

Reference 2 mobile Number
1234567879

Reference 3 name
c

Reference 3 mobile Number
1234567890

+
Mobile phone original

Next

12:57 61%
← Make a new Application

1 2 3 4

PAN card Number
ya

Aadhar card number
123456789004

PAN Card
Image Selected

Aadhar Card
Image Selected

Bank AC No :
99646649104

Bank Name
hahidn

IFSC Code
ja87773

Next

12:56 61%
← Make a new Application

1 2 3 4

Full Name
abc

Father Name
xyz

DOB
2022/05/02

Mobile Number
1234567890

Your Address
sihor

Country
India

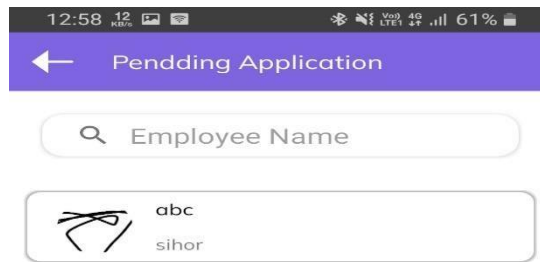
State
gujarat

city
bhavnagar

+
Upload your Image

Next

[Fig.4.3.3:Loan Application Form]

Panding Application:**[Fig.4.3.4:Panding Application]**

Accepted Application:

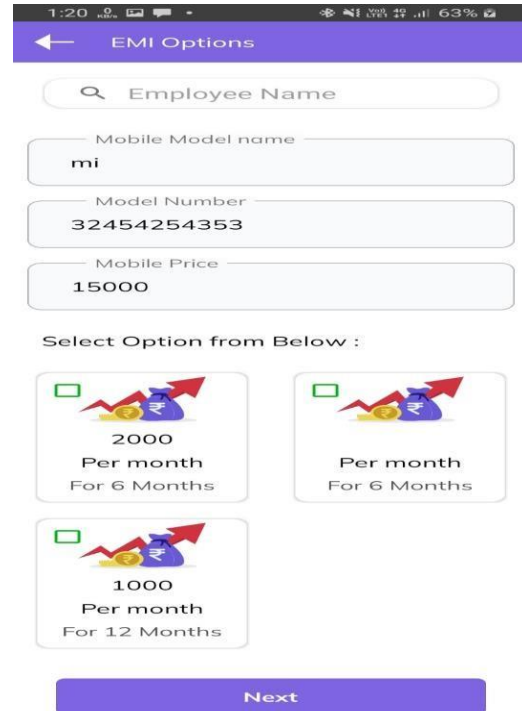

12:58 61%

← Accepted Application

Employee Name

ggac
776868686868

mjk1
123567890888



1:20 63%

← EMI Options

Employee Name

Mobile Model name
mi

Model Number
32454254353

Mobile Price
15000

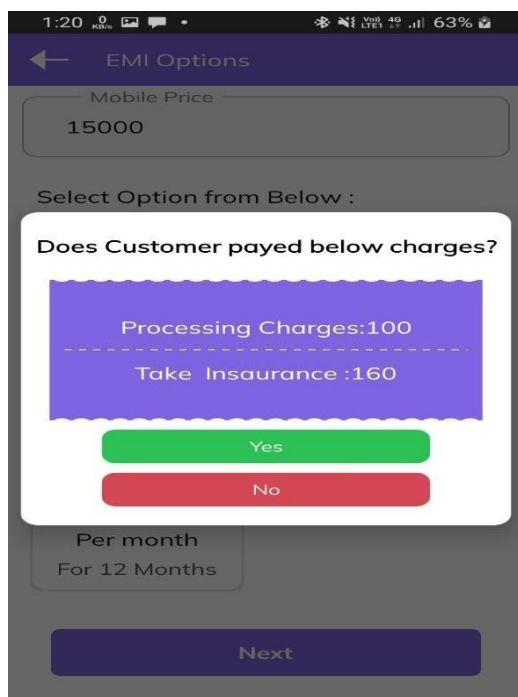
Select Option from Below :

2000
Per month
For 6 Months

Per month
For 6 Months

1000
Per month
For 12 Months

Next



1:20 63%

← EMI Options

Mobile Price
15000

Select Option from Below :

Does Customer pay below charges?

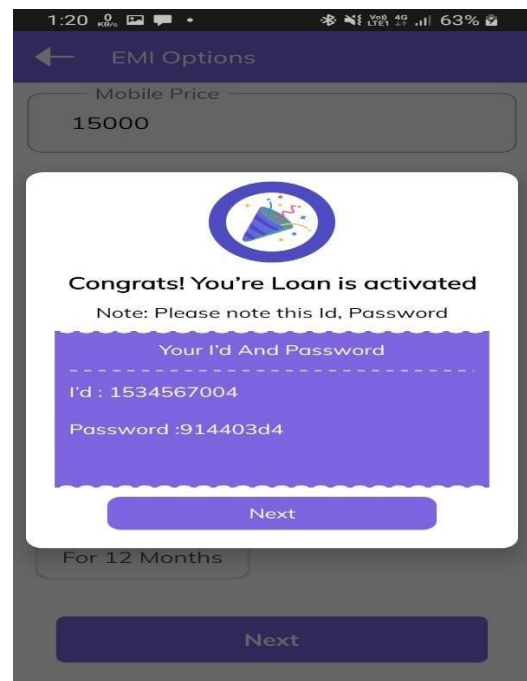
Processing Charges:100
Take Insurance :160

Yes

No

Per month
For 12 Months

Next



1:20 63%

← EMI Options

Mobile Price
15000

Congrats! You're Loan is activated

Note: Please note this Id, Password

Your I'd And Password

I'd : 1534567004

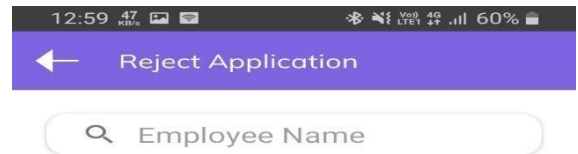
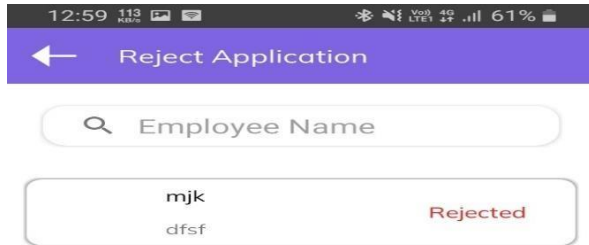
Password :914403d4

Next

For 12 Months

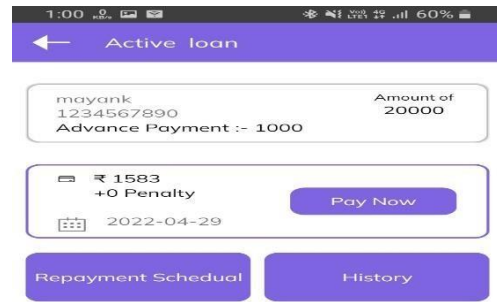
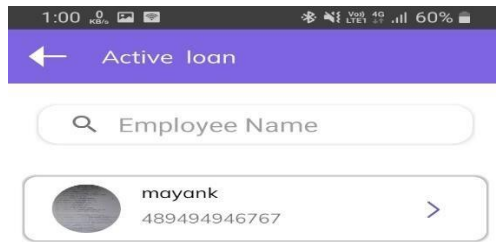
Next

[Fig.4.3.5: Accepted Application]

Rejected Application:

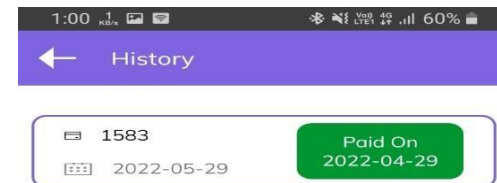
No Data Found

[Fig.4.3.6: Rejected Application]

Active Loan :

1:00 60%
← Repayment Scheduling

#	Principal	Interest	Due Date
1	₹19000	₹1583	2022-05-29
2	₹19000	₹1583	2022-06-29
3	₹19000	₹1583	2022-07-29
4	₹19000	₹1583	2022-08-29
5	₹19000	₹1583	2022-09-29
6	₹19000	₹1583	2022-10-29
7	₹19000	₹1583	2022-11-29
8	₹19000	₹1583	2022-12-29
9	₹19000	₹1583	2023-01-29
10	₹19000	₹1583	2023-03-01
11	₹19000	₹1583	2023-04-01
12	₹19000	₹1583	2023-05-01



Penalty charges and Overdue interest applicable on repayment post due date for each installment :

First Overdue Day Penalty charges

Penalty charges for 1-30 days:- 500

Penalty charges for Next 30 to 60 Days:- 1000

Penalty charges for More than 60 Days:- 2000

[Fig.4.3.7: Active Loan]

Completed Loan:

1:00 32 KB/s VoD 4G LTE 60%

← Completed Loan

🔍 Employee Name

hx 373465676767 >

mayank 123409874563 >

1:00 1 KB/s VoD 4G LTE 60%

← Completed Loan

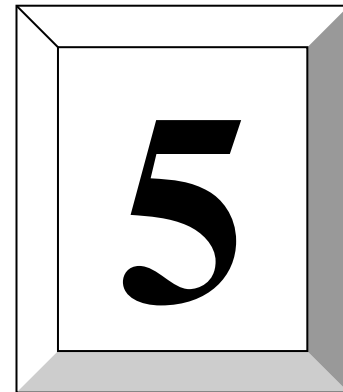
mayank 123409874563 Amount of 43000

History

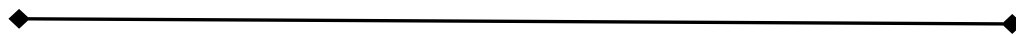
20500 2022-05-29 **Paid On 2022-04-29**

20500 2022-05-29 **Paid On 2022-04-29**

[Fig.4.3.8: Completed Loan]



Chapter 5: Implementation Planning



- 5.1 Implementation Environment**
- 5.2 Program/Modules Specification**
- 5.3 Coding Standards**
- 5.4 Coding Scenario**

5.1 Implementation Environment

The application is a single-server, multi-client application. Multiple users can log in to use the system.

Multi-user vs. single-user

A single-user web application is designed to serve only one user at a time, while a multi-user web application is designed to be used by multiple users simultaneously. In a single-user web application, the user has exclusive access to the system and can perform any operation in the application without worrying about data conflicts. In a multi-user web application, on the other hand, multiple users can access and use the system simultaneously. The application must handle concurrent access and manage any data conflicts that may arise. Multi-user web applications typically require more complex security and user management features to ensure that the system remains secure and that users can access only the data they are authorized to use.

GUI vs. non-GUI

GUI (Graphical User Interface) and non-GUI are two different approaches to building web applications. GUI-based web applications have a user interface that uses visual elements such as buttons, menus, forms, and images to allow users to interact with the application. Non-GUI web applications, also known as command-line applications, have no graphical interface and rely on text-based input and output.

GUI-based web applications are more user-friendly and intuitive, making it easier for users to navigate and interact with the application. Non-GUI web applications are generally simpler and more streamlined, making them easier to develop and maintain. However, they may not be as accessible to users who are unfamiliar with command-line interfaces.

5.2 Program/Modules Specification

- Web app development made with React.js
- User Module: - User can purchase products.
- Admin Module:- Admin can track, change status, view and block user.

5.3 Coding Standards

Coding techniques incorporate many facts about software development. Although they usually have no impact on the functionality of the application; they contribute to an improved comprehension of source code. All forms of source code are

Purpose of Coding Standards and Best Practices

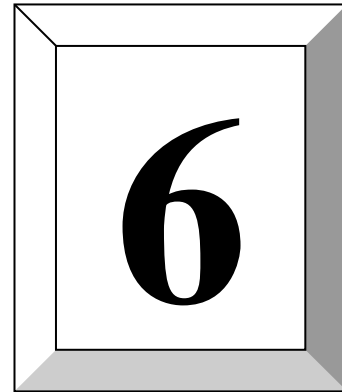
To develop reliable and maintainable applications, you must follow coding standards and best practices. The naming conventions, coding standards and best practices described in this document are compiled from our own experience and by referring to various guidelines. There are several standards that exist in the programming industry. None of them are wrong or bad and you may follow any of them. What is more important is, selecting one standard approach and ensuring that everyone is following it.

In this phase of software development, the design is related to a system converted into a machine-readable code that can be compiled and executed. Although the coding phase does not affect the structure of the system, it has a great impact on the internal structure of the module, which affects the testability, under the stability of the system.

5.4 Coding Scenario

I used React.js in this web app. This way I made each component reusable and reduced the footprint so that each functionality can be reused when needed.

Also, using Firebase helped make the website secure by storing and authenticating each individual user when they log in and make a purchase.



Chapter 6: Testing



6.1 Testing Plan

6.2 Test Strategy

6.3 Testing Methods

6.3.1 Test Cases

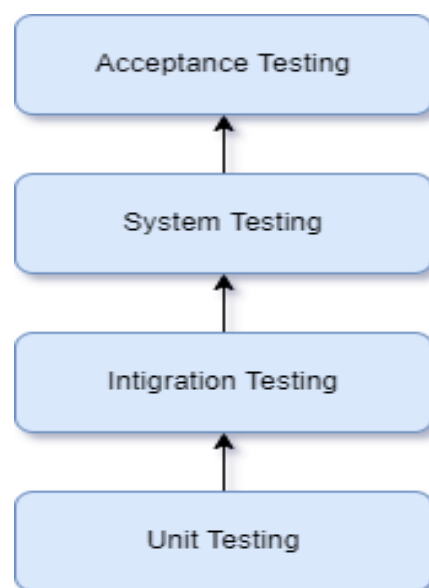
6.1 Testing Plan

The objective of the system testing is to ensure that all individual programs are working as expected, that the programs link together to meet the requirements specified and ensure that the computer system and the associated clerical and other procedures work together. Systems are not designed as entire systems but they are tested as single systems. The analyst must perform both unit and system testing.

Different types of testing methods are available. We have tested our system for different aspects like Does the system meet the goals for which it has been designed? This was a very important question that stood before us as the system was designed to be implemented on such a large network.

To fulfill its goal of being able to run on different systems we went through a series of tests at different places where this is supposed to be used the most. As we need to make our system efficient enough, we need to test it thoroughly.

Finally, we tested the system with real-time data, for which it is actually designed. We are successful in satisfying our needs as it was designed according to client's requirements. But it is very necessary to maintain this system and so our work is not still over.



6.2 Testing Strategy

Once source code has been generated, the software must be tested to uncover as many errors as possible before delivery to the customer. Our goal is to design a series of test cases that have a high likelihood of finding errors. Software testing techniques provide systematic guidance for designing tests that (1) Exercise the internal logic of software components (2) Exercise the inputs and outputs domains of the program to uncover errors in program function, behaviour and performance.

During the early stages of testing, a software engineer performs all tests. However, as the testing process progresses, testing specialists may become involved. Reviews and other activities can and do uncover errors, but they are not sufficient. Every time the program is executed, the customer tests it! Therefore, you have to execute the program before it gets to the customer with the specific intent of finding and removing all errors. In order to find the highest possible number of errors, tests must be conducted systematically and test cases must be designed using disciplined techniques.

6.2.1 Testing Objectives

Testing is a process of executing a program with the intention of finding an error.

A good test case is one that has a high probability of finding an as-yet undiscovered error.

A successful test is one that uncovers an as-yet undiscovered error.

6.2.2 Unit Testing

Unit testing is a software development process in which the smallest testable part of an application, called units, are individually scrutinized for proper operation. Unit testing is often automated but it can also be done manually. This testing mode is a component of Extreme Programming (XP), a pragmatic method of software development that takes a meticulous approach to building a product by means of continual testing and revision.

Unit testing involves only those characteristics that are vital to the performance of the unit under test.

This encourages developers to modify the source code without immediate concerns about how such changes might affect the functioning of the units or the program as a whole. Once all of the units in a program have been found to be working in the most efficient and error free manner possible, larger components of the program can be evaluated by means of integration testing.

6.2.3 System Testing

Now, it's time for whole System testing. We have found some cosmetic bugs and minor bugs. We have fixed it and tested it again. We worked on each error and exception that we got while testing and most of them are resolved or handled programmatically.

6.2.4 Recovery Testing

It is a system test that forces the software to fail in a variety of ways and verifies that recovery is properly performed.

6.2.5 Performance Testing

It is designed to test the run-time performance of software within the context of an integrated system performance testing occurs throughout all steps in the testing process.

6.3 Testing Methods

Acceptance Testing

Acceptance testing can be connected by the end user, customer, or client to validate whether or not to accept the product. Acceptance testing may be performed as part of the hand-off process between any two phases of development. The acceptance test suite is run against the supplied input data or using an acceptance test script to direct the tester. Then the results obtained are compared with the expected results. If there is a correct match for every case, the test suite is said to pass.

Alpha & beta testing

The alpha test is conducted at the developer's site by a customer. The software is used in a natural setting with the developer

“looking over shoulder” of the user and recording errors and usage problems.

Alpha test is conducted in a controlled environment. The beta testing is conducted at one or more customer sites by the end-user of the software. Unlike alpha testing, the developer is generally not present. Therefore, the beta test is a “live” application of the software in an environment that cannot be controlled by the developer.

Black-box testing

Also known as functional testing. Software testing techniques where by the internal working of the item being tested are not known by the tester. For example, in a black box test on software design the tester only knows the inputs and what the expected outcomes should be and not how the program arrives at those outputs. The tester does not ever examine the programming code and does not need any further knowledge of the program other than its specification.

The advantages of this type of testing include:

- The test is unbiased as the designer and the tester are independent of each other.
- The tester does not need knowledge of any specific programming languages.
- The test is done from the point of view of the user, not the designer. Test cases can be designed as soon as the specifications are complete.

The disadvantages of this type of testing include:

- The test can be redundant if the software designer has already run a test case.
- The test cases are difficult to design. Testing every possible input stream is unrealistic because it would take an inordinate amount of time: hence many program paths will go untested.

White Box Testing

Also known as glass box, structural, clear box and open box testing. A software testing technique where by explicit knowledge of the internal workings of the item being tested are used to select the test data. Unlike black box testing, white box testing uses specific knowledge of programming code to examine outputs. The test is accurate only if the tester knows what the program is supposed to do.

6.4 Test Cases

To minimize the number of errors in software, a rich variety of test design methods have evolved for software. These methods provide the developer with a systematic approach to testing. More importantly, methods provide a mechanism that can help to ensure the completeness of the test and provide the highest likelihood for uncovering errors in software.

An engineering product can be tested in one of the two ways:

Knowing the specified function that product has been designed to perform, tests can be conducted that demonstrate each function is fully operational while at the same time searching for errors in each function.

Knowing the internal workings of a product, tests can be conducted to ensure that “all gear mesh “, that is, internal oppression are performed according to specifications and all internal components have been adequately exercised. Here are the test cases that we had made for our application.

Test Case For Login

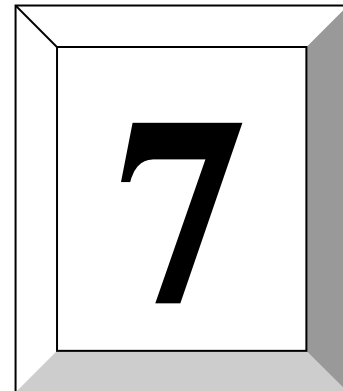
- Check the Email
- Check Password

Test Case For Sign Up

- Input username and email check if they are duplicate in database
- Input atleast 6 digit password.
- All this field are required.

Test Case Purchase

- Check if logged in and if product is available in inventory.
- Input address, state, city, pin code and mobile number correctly.
- Enter correct card number if purchasing through online payment.



Chapter 7: Limitations and Future Enhancement

7.1 Limitations

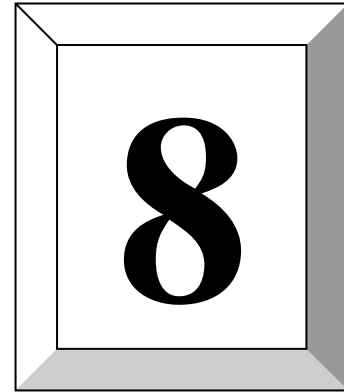
7.2 Future Enhancement

Limitations

- Without Internet website is not accessible.
- Admin needs to be online to chat with customer.
- Users are expected to insert correct address.

Future Enhancement

- Product review.
- AI generated answers in customer service chat.



Chapter 8: Conclusion



8.1 Conclusion

Conclusion

In this app admin is main part of this application.in this app I learn lots of thing in this loan application. Finlay I complete this project and client are very satisfied for this loan application.

REFERENCES

[1] Quora. (2009) For Solution of Question

[Online] [Accessed from February to April 2022]

<https://www.quora.com/>

[2] Stack Overflow. (2008) Coding Related Question Solution

[Online] [Accessed from February to April 2022]

<https://stackoverflow.com/>

[3] GitHub. (2007) GitHub Support Community

[Online] [Accessed from February to April 2022]

<https://github.community>

[4] Android Tutorial

[Online] [Accessed from February to April 2022]

<https://www.android.net/>

[5] Google Drive API. [~2012] To read, write, and sync files in Google Drive.

[Online] [Accessed from February to April 2022]

<https://developers.google.com/drive/api/v3/about-sdk>