

Srushti Power System

Submitted by

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MCA

ST ALOYSIUS COLLEGE (Deemed to be University)

MANGALORE, KARNATAKA

Under the guidance of

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Assistant Professor

St. Aloysius Institute of Management
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Owner of SrushtiPowerSystem

SrushtiPowerSystem
Ankola

Submitted to



**ST ALOYSIUS INSTITUTE OF MANAGEMENT AND INFORMATION
TECHNOLOGY (AIMT)**

ST ALOYSIUS COLLEGE (Deemed to be University)

MANGALORE, KARNATAKA

2025



**ALOYSIUS INSTITUTE OF MANAGEMNT AND INFORMATION TECHNOLOGY
ST ALOYSIUS COLLEGE (DEEMED TO BE UNIVERSITY)
MANGALORE, KARNATAKA**

CERTIFICATE

This is to certify that the project titled

Srushti Power System

Submitted by

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MCA

**Aloysius Institute of Management and Information Technology (Aimit)
St Aloysius College (Deemed to be University
Mangalore**

As a part of MCA 3rd/5TH SEM , is a bonafide record of the work carried out at

**SRUSHTI POWER SYSTEM
ANKOLA**

During the year

2025

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- 1.
- 2.

CERTIFICATE OF AUTHENTICATED WORK

This is to certify that the project report entitled Srushti Power System submitted to Aloysius Institute of Management and Information Technology (AIMIT), St Aloysius College, Mangalore affiliated to Mangalore University in partial fulfilment of the requirement of MCA 3rd sem is an original work carried out by Mr.Abhishek Gaonkar Register no. 2317065 under my guidance. The matter embodied in this project is authentic and is genuine work done by the student and has not been submitted whether to this University, or to any other University / Institute for the fulfilment of the requirement of any course of study.

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Date: 17-01-2025

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Abhishek Gaonkar

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Signature of the Guide

Date: 17-05-2025

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CHAPTER 1: INTRODUCTION

1.1 Background

Srushti Power System is a dedicated solar shop specializing in the sale of various solar-powered products. Their offerings include solar water heaters, solar panels, solar bulbs, street lights, solar home lights, LED panels, and solar electronics. These products are designed to harness solar energy, offering eco-friendly and sustainable solutions for home and commercial use. By providing a wide range of solar items, Srushti Power System helps customers reduce their reliance on traditional energy sources, promoting energy efficiency and contributing to environmental conservation.

1.2 Objectives

Objectives provided by Srushti Power System are as follows:

- To Provide Web based interface to a Srushti Power System owner to manage his Srushti Power System activities.
- To track the Information about orderd solar Products to a customer.
- To reduce the Manual work of the Srushti Power System.
- To develop an optimized and fast website using which customers can easily browse products and place an order.
- To sell the products using online payment.
- To increase revenue through e-commerce.
- To develop a database to store information about products and customers.

1.3 Purpose, Scope, and Applicability

1.3.1 Purpose

This document specifies the requirement of design process is to produce a detailed description of the requirements for the Srushti Power System. This SRS(Software Requirment Specification) will allow for a complete understanding of what is to be expected from the newly introduced system which is to be constructed. A clear understanding of the system and its' functionality will allow for the correct software to be developed for the end user and will be used for the development of the future stages of the project. This SRS will provide the foundation for the project. From this SRS, The Srushti Power System can be designed, constructed, and finally tested.

1.3.2 Scope

The project simplifies the process of purchasing and sales of Solar Products. It helps to save time and cost. Since the service is available for 24*7; users can purchase at any time.

Admin: The admin is one who is the owner of the Srushti Power System shop who manages the online Solar shop and he has authorization to manage this online SPS Solar shop.

Customers: The Customers are the normal users who can buy the different categories of Solar Products in this online SPS Solar shop.

As the goal of this project is to develop an online system to sell products, this system will be designed keeping in mind the conditions stated above. It may help in effective and efficient order management. It is very possible to observe the customer potential and purchase patterns because all the ordering history is stored in the database. It is efficiently managing all the operations of an online store within a single platform.

1.3.3 Applicability

An online Solar Shop project is a software application that enables users to buy solar water heaters, solarpanels, solar bulbs, street lights, solar home lights, LED panels, and solar electronics. These products are designed to harness solar energy. for Home, Office, Roads via the internet.

1.4 Achievements

Undertaking the above project, personally has given me the opportunity to learn completely new set of technologies and concepts which I was unaware before. Also, has helped me understand process better within the organization. This project uses CSS, Javascript, ReactJS as frontend and NodeJS as a backend and ReactJS as admin. We learnt how to test the software against the bugs and errors.

1.5 Organization of Report

Chapter 1: Introduction

The system being developed is introduced in this chapter. A description of the background and context of the project is specified. Concise statement of the aims and objectives of the project along with the purpose, scope and applicability are mentioned.

Chapter 2: Survey of technologies

This chapter provides a detail of all the technologies which are used to complete the project. This also demonstrates the awareness and understanding of the available technologies related to the topic of the project.

Chapter 3: Requirements and Analysis

The requirements of that lead to the development of the system are mentioned and analysed in this chapter. This includes the problem definition, requirement specification and planning and scheduling. The details of the overall problem and the sub problems are provided in the problem definition phase. The hardware required to run the product in the system is clearly specified. The software requirements such as operating system and other software to link and install the software are listed in this section.

Chapter 4: System Design

System Design describes the features and operations in detail, including the data design, functional and interface design, process diagrams, details description of functions and the test case design. The Basic Modules section briefly describes all the modules and the functionality of these modules. The next section is the Data Design which consists of how to organize, manage and manipulate the data. This section again has two Subsections- Schema design and Data Integrity and constraints.

Chapter 5:**Implementation and testing**

This chapter defines the plan of implementation and standards used in implementation, code efficiency, and testing approach, integrated testing, Modifications and improvements of project.

Chapter 6:

Conclusions This chapter summarizes the entire work. It explains all the points that have been made in the earlier chapters. It also includes the limitations of the system, listing all the criticism encountered during the demonstration of the software. It also proposes the future scope of the project i.e., new areas of investigation prompted by developments. It also explains the limitations of the system and the future possible enhancements of the system.

CHAPTER 2: SURVEY OF TECHNOLOGIES

2.1 HTML & CSS

Hypertext Markup Language (HTML) is the standard markup language for creating web pages and web applications. With Cascading Style Sheets (CSS) and JavaScript it forms a triad of cornerstone technologies for the World Wide Web. Web browsers receive HTML documents from a web server or from local storage and render them into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.

2.2 ReactJS:

ReactJS is a popular JavaScript library used for building user interfaces, particularly single-page applications. Developed by Facebook, it allows developers to create reusable UI components that manage their state efficiently. React uses a virtual DOM, enabling fast updates and rendering for dynamic content. It follows a declarative approach, making code easier to read and debug. Widely adopted for its flexibility and performance, React is a key tool in modern web development.

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CHAPTER 3: REQUIREMENTS AND ANALYSIS

3.1 Problem Definition

The problem that a SPS solar shop seeks to solve is the inefficiency and inconvenience of the traditional Srushti Power System. Prior to the availability of Srushti Power System, Customer had to visit the Solar shop, buying the Products in Solar shop is really a hectic task. This process was often time consuming and inconvenient. This will lead to inefficiencies like possibility of human errors. An online Solar Shop seeks to solve these problems by providing of process of selling the Products through online. By using an online SPS Solar Shop, Customers can easily buy the Products for Home, Office etc. This process is more convenient and accessible for Customers who can buy the products at any time, from anywhere in the world. For Solar Shop, an online Solar Shop can help automate the buying of Solar products process and human errors. This is designed for the particular need of the organization to carry out the operations in a effectively and smoothly.

3.2 Requirements Specification

1. Introduction

1.1 Purpose

This document specifies the requirement of design process is to produce a detailed description of the requirements for the Online (SPS) Solar Shop. This SRS will allow for a complete understanding of what is to be expected from the newly introduced system which is to be constructed. A clear understanding of the system and its' functionality will allow for the correct software to be developed for the end user and will be used for the development of the future stages of the project. This SRS will provide the foundation for the project. From this SRS, The Online (SPS)Solar Shop can be designed, constructed, and finally tested.

1.2 Document Conventions The document is prepared using WPS Office and has used the font type 'Times New Roman'. The fixed font size that has been used to type this document is 12pt with 1.5 line spacing. It has used the bold property to set the headings of the document. Standard IEEE template is the template used to organize the appearance of the document and its flow.

1.3 Intended Audience and Reading Suggestions The intended audience of this document would be the Admin/Manager of the Solar Shop, Customers and the project team with the objective to refer and analyze the information. The SRS document can be used in any case regarding the requirements of the project and the solutions that have been taken. The document would finally provide a clear idea about the system that is building.

A brief outline of the document is,

1. Overall Description
2. System Features
3. External Interface Requirements
4. Non-Functional Requirements

1.4 Project Scope

The project simplifies the process of sales of Solar Products. It helps to save time and cost. Since the service is available for 24*7; users can purchase at any time. The proposed system will have the users:

Admin: The admin is one who is the owner of the (SPS)Solar shop who manages the online Solar shop and he has authorization to manage this online Solar shop.

Customers: The Customers are the normal users who can buy the different Solar Products in this online Solar shop.

As the goal of this project is to develop an online system to sell products, this system will be designed keeping in mind the conditions (easy to use, feasibility and user friendly) stated above. It may help in effective and efficient order management. In every short time, the collection will be obvious, simple and sensible. It is very possible to observe the customer potential and purchase patterns because all the ordering history is stored in the database. It is efficiently managing all the operations of an online store within a single platform.

1.5 References

Textbooks referred:

A. Learning React: Modern Patterns for Developing React Apps

Authors: Alex Banks, Eve Porcello **Published Year:** 2020

B. React Up & Running: Building Web Applications

Author: Stoyan Stefanov **Published Year:** 2016

Websites referred:

<https://scrimba.com/learn-react-c0e>

2. Overall Description

2.1 Product Perspective

The system considers customer and admin/manager perspectives. It has an online system – where customers are able to buy the Solar Products. The Systems are based on a common database. They are integrated with each other, meaning the relevant data is exchanged. The subsystem “User Interface” is an element of the online system and it represents the web interface for customers to buy online according to their choice of selection.

2.2 Product Features

- Easy to buy without physically being present at the Solar Shop.
- To provide an online payment method.
- To save time and effort for the Customers.
- Homestep Delivery

- Can be added Additional Features according to the Future requirements
- Reduce Manual Labor
- Easy and Fast Retrieval of information
- User Friendly

2.3 User Classes and Characteristics

The system has two user levels.

Admin: The admin can log in to this website and can perform the following activities:

- Login
- Add/Delete Products
- Manage Products
- View Orders
- View Payment

Customer: The Customer can register to this website and can perform the following activities:

- Registration
- Login
- View Product details
- Buying Products
- Make Payment

2.4 Operating Environment

- Operating system: Windows 7 and above
- Browsers: Chrome, Edge or any other browsing application
- Processor: Intel dual core or above
- Processor Speed: Minimum 2 GHz
- RAM: 4 GB or above
- Hard Disk: Minimum 40 GB

2.5 Design and Implementation Constraints

The design of the application has to be done in such a way that it has to be supported for all windows devices. The user interface design should be user-friendly. The following are the design constraint from a software standard perspective.

- System should allow the users to login into the system only after their registration.
- System should allow admin to update the details of the products in the system.
- System will display the details of the Solar products to the user from which they can
- View the products in Cart but the products that they add.

2.6 User Documentation

The user manual provided to the client will give a clear idea of interacting with the system. It will be written in a simple understandable language concealing the inner complexity of the system. A hard copy of the user manual will be delivered to the client with the delivery of the system.

2.7 Assumptions and Dependencies

The project is mainly web-based. It can be used on computers.

- Each User must have a Username and Password.

- There is only one Administrator.
- Server must always run under windows system.
- Proper Browser should Installed.
- Data should be properly connected to the browser.

The main requirement is an internet connection with good speed for better performance.

3. System Features

3.1 System Feature 1: User Registration and Authentication

3.1.1 Description and Priority

This allows users to create accounts and log in securely.

Priority Type: High

3.1.2 Stimulus/Response Sequences

Stimulus: User will request the Registration page of the server

Response: The system will display Registration page

Stimulus: User enters the details and clicks on sign up button

Response: If it is valid the system creates a user account and logs the user in. If invalid, the system displays an error message.

3.1.3 Functional Requirements

REQ1: Customer is required to fill the registration form by giving name, email, password.

REQ2: The system will authenticate the user. If the user is authenticated, he is directed to Home page.

3.2 System Feature 2: Products

3.2.1 Description and Priority

The customer should be able to browse and order the Solar Products.

Priority Type: High

3.2.2 Stimulus/Response Sequences

Stimulus: User Login to his account.

Response: System will Redirect to his Personal account.

Stimulus: User request to add to cart

Response: System will display add to cart details

Stimulus: User request to order Solar Products.

Response: System provides form to order Solar Products.

Stimulus: User Request to Pay Via Online

Response: System Will Display Payment Page

3.2.3 Functional Requirements

REQ1: The customer should be able to order the Solar Products.

REQ2: The customer should be able to add the products to the cart.

3.3 System Feature 3: Admin

3.3.1 Description and Priority

Admin can add details of Solar products that are available in his online shop. He can Add, View, Update, Delete the details.

Priority type: High

3.3.2 Stimulus/Response Sequences

Stimulus: Admin will request the login page of server

Response: System will display login page

Stimulus: Admin enters Username and Password and clicks on login button

Response: Admin page is displayed if username and password are correct

Stimulus: Admin request to add Solar products details to List Items

Response: System provides form to add Solar products details

Stimulus: Admin request to view Solar products details

Response: System provides Listview form to view Solar products details

Stimulus: Admin request to update details

Response: System provides form to update Solar products details

Stimulus: Admin request to delete Solar products details

Response: System provides form to delete solar products details

Stimulus: Admin request to display the order details

Response: System will display order details

Stimulus: Admin request to display the delivery details

Response: System will display delivery details

3.3.3 Functional Requirements

REQ1: Admin should be able to add, update, delete the solar products.

REQ2: Admin should be able to view the orders, delivery address, product details

4. External Interface Requirements

4.1 User Interfaces

User UI:

- Home Page: Displays product to buy.
- Product Pages: Shows detailed information on selected products.
- Shopping Cart: Lets users add and buy products.
- Checkout: Collects shipping and payment details for orders.

Admin UI:

- Product Management: Adding, updating, and deleting product.
- Order Management: Tracking and handling customer orders.

4.2 Hardware Interfaces

This system requires basic computer that consists of CPU, monitor, keyboard and mouse or laptop for input and output.

- Hard Disk: Minimum 40 GB Hard Disk
- RAM: Minimum 4 GB RAM or Above
- Processor: Intel Pentium or Above

4.3 Software Interfaces

- Backend language: NodeJS
- Front-end languages: HTML&CSS,ReactJS
- Database:MongoDB,Cloudinary,Stripe
- Code editor: VS code.
- Operating system: Windows

4.4 Communications Interfaces

Like any web-based system HTTP protocol is used to transfer data the website is secured with HTTPS so that data is transferred securely.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

- Application works with any windows OS.
- Software should respond within the estimated time to display results to the user.
- Should have a good memory space.

5.2 Safety Requirements

- The system shall be capable of restoring itself to its previous state in the event of failure (e.g., a system crash or power loss).
- The system shall be able to display a menu at all times to facilitate manual order taking should the need arise.
- Authorization: Checking for the entity and provide features for them.

5.3 Security Requirements

- People other than registered users should not be able to access the system.
- Only the respective user can change their details.
- Authentication is done during the login.
- The system searches for the email id during add user.

5.4 Software Quality Attributes

- Availability: The system shall be available during 24*7.
- Correctness: The extent to which the program satisfies specifications, and fulfills the user's mission objectives
- Reliability: Specify the factors required to establish the required reliability of the software system at the time of delivery. Mean time between failures and mean time to recovery
- Robustness: Strength of the system to handle system functions accurately and maintain the database without facing unexpected failures
- Testability: Effort needed to test to ensure performs as intended
- Usability: How easily a person can be taken the benefits of the system and the user friendliness.

6. Other Requirements

- Permission from the organization is required to use its logo and other properties in the system.
- In the long term the database should be able to handle and manage a large amount of data

3.3 Planning and Scheduling

In online (SPS) Solar shop project define the project scope clearly defines the project's goals, objectives, and deliverables. Identify the key features and functionalities required for the Solar shop. Create a project plan to develop a detailed project plan that outlines the tasks, timelines, and resources needed for the project. Identify the dependencies between tasks and the critical path for the project. Assign responsibilities is to identify the team members who will be responsible for each task and ensure they understand their roles and responsibilities. Develop a project schedule

will create a detailed schedule that outlines when each task will be completed and who will be responsible for it.

Use a project management tool such as Microsoft Project to create the schedule. Identify and manage risks will identify potential risks that may impact the project and develop a plan to mitigate or manage them. Monitor progress will monitor the progress of the project regularly to ensure it is on track. Use project management software to track the completion of tasks and milestones. Test and deploy test the system thoroughly to ensure it is working as expected. Once testing is complete, deploy the system to the live environment. Training users on how to use the Online Solar shop System. Evaluate the project: Evaluate the project to identify what went well and what could be improved for future projects.

3.4 Software and Hardware Requirements

Hardware requirements

- Processor: Intel dual core or above
- Processor speed: Minimum 2 GHz
- Hard disk: Minimum 40GB
- RAM: 4GB or above

Software requirements

- Operating system: Windows 7 or above
- Text editor: VS Code
- Web Browsers: Google Chrome/ Mozilla Firefox/ Internet explorer

CHAPTER 4: SYSTEM DESIGN

4.1 Basic Modules

User Modules:

Registration/Login
Home
Products
Cart
My Order
Payment

Admin Modules:

Admin Login
Add/Delete Product
Manage Order

4.2 Data Design Project Structure

Database design is done before building it to meet the needs of end-users within a given information system that the database is intended to support.

Primary key: The primary key of a table uniquely identifies each record in the table, so that an individual record can be located without confusion.

Foreign Key: It is a key used to link two tables together. The Primary key is the target that a foreign key can reference. The Foreign key identifies a column or a set of columns in one table that refers to set of columns in another table.

NOT NULL: It allows you to specify that a column may not contain NULL values.

Database Table:

customer

Attribute	Data Type	Constraints
User_name	Varchar(50)	Primary Key
email	Varchar(50)	Not Null
locality	Varchar(200)	Not Null
city	Varchar(50)	Not Null
state	Varchar(50)	Not Null
country	Varchar(50)	Not Null
zipcode	int	Not Null

Product

Attribute	Data Type	Constraints
Product_id	Int(20)	Primary Key
Product_name	Varchar(200)	Not Null
Product_image	image	Not Null
Product_price	float	Not Null

Cart

Attribute	Data Type	Constraints
Product_id	Int(20)	Primary Key
Product_name	Varchar(200)	Not Null
Product_image	image	Not Null
Product_price	float	Not Null
User_name	Int(20)	Primary Key
quantity	int	Not Null

orderplaced

Attribute	Data Type	Constraints
Order_id	Int(20)	Primary Key
Product_name	Varchar(200)	Not Null
Product_image	image	Not Null
Product_price	float	Not Null
User_name	Int(20)	Primary Key
quantity	int	Not Null
Order_date	datetime	Not Null
status	Varchar(50)	Not Null

Payment

Attribute	Data Type	Constraints
User_name	Int(20)	Foreign Key
Stripe_order_id	Varchar(100)	Null
Stripe_payment_id	Varchar(100)	Primary key
Stripe_payment_status	Varchar(100)	Null
paid	boolean	Not Null

4.2.1 schema design

4.2.2 Data Integrity and Constraints

Primary key: The primary key of a table uniquely identifies each record in the table, so that an individual record can be located without confusion. The PRIMARY KEY constraint uniquely identifies each record in a table. Primary keys must contain UNIQUE values, and cannot contain NULL values. A table can have only ONE primary key; and in the table, this primary key can consist of single or multiple columns

Foreign Key: It is a key used to link two tables together. Primary key is the target which a foreign key can reference. Foreign key identifies a column or a set of columns in one table that refers to set of columns in another table. A FOREIGN KEY is a field in one table, that refers to

the PRIMARY KEY in another table. The table with the foreign key is called the child table, and the table with the primary key is called the referenced or parent table.

NOT NULL constraint: It allows you to specify that a column may not contain NULL values. The NOT NULL constraint enforces a column to NOT accept NULL values. This enforces a field to always contain a value, which means that you cannot insert a new record, or update a record without adding a value to this field.

4.3 procedural design

4.3.1 Logic Diagrams

4.3.3.1 Use Case Diagrams

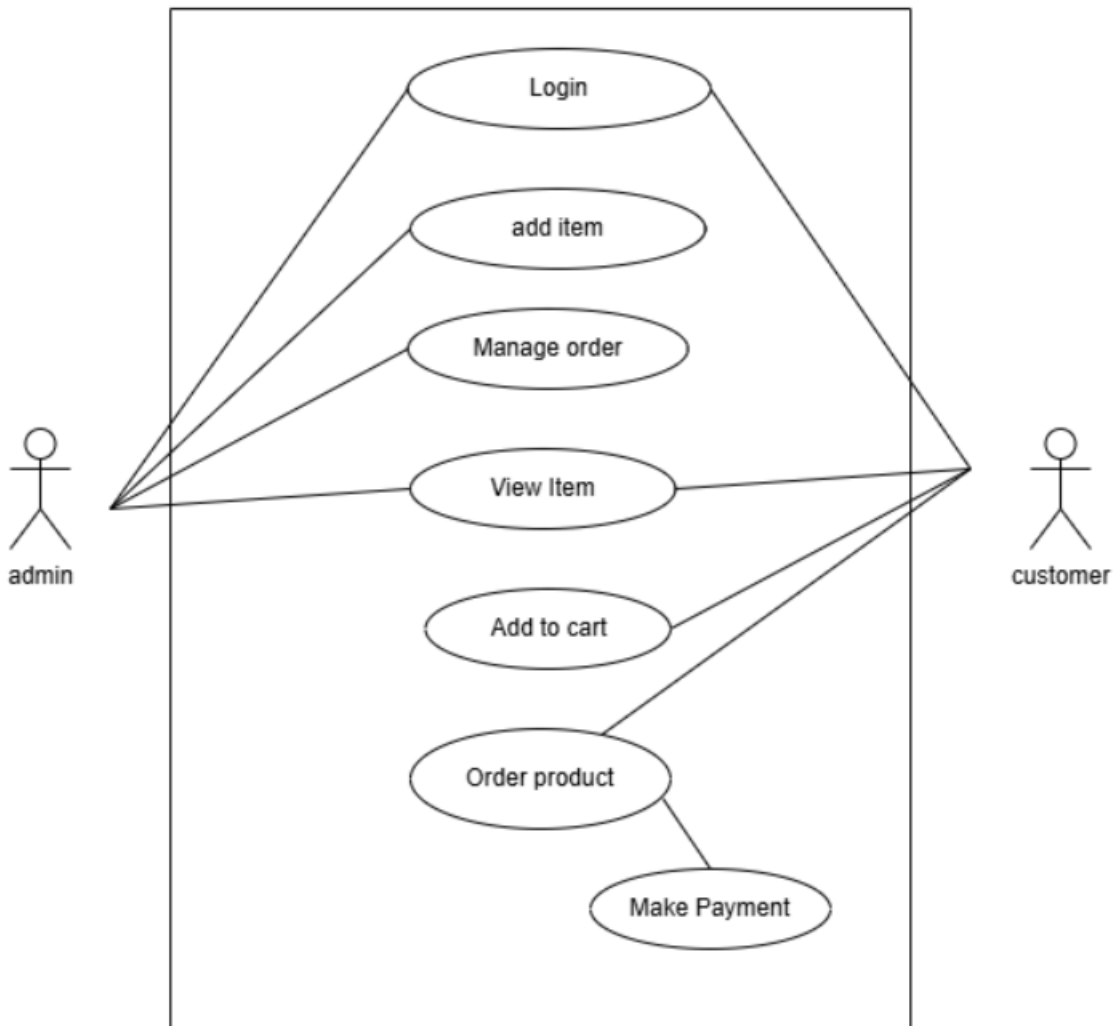
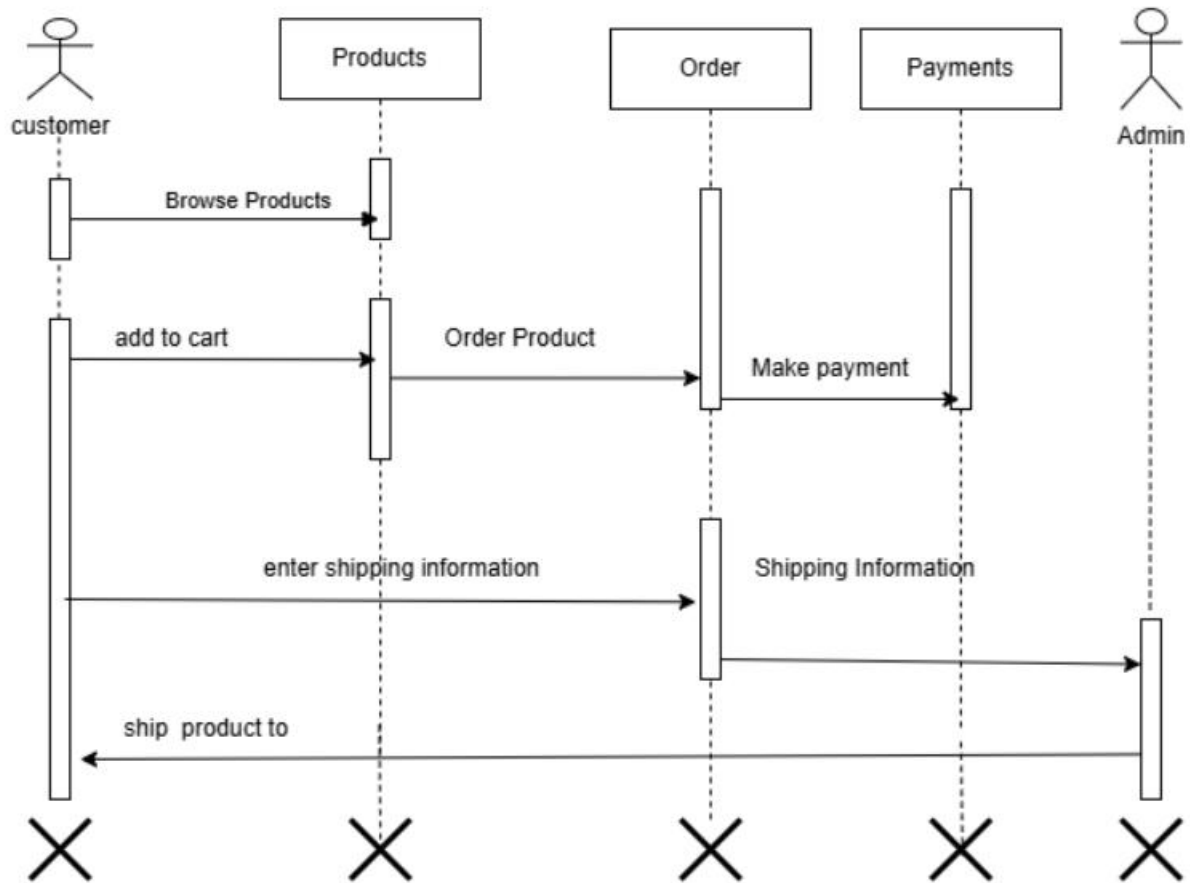


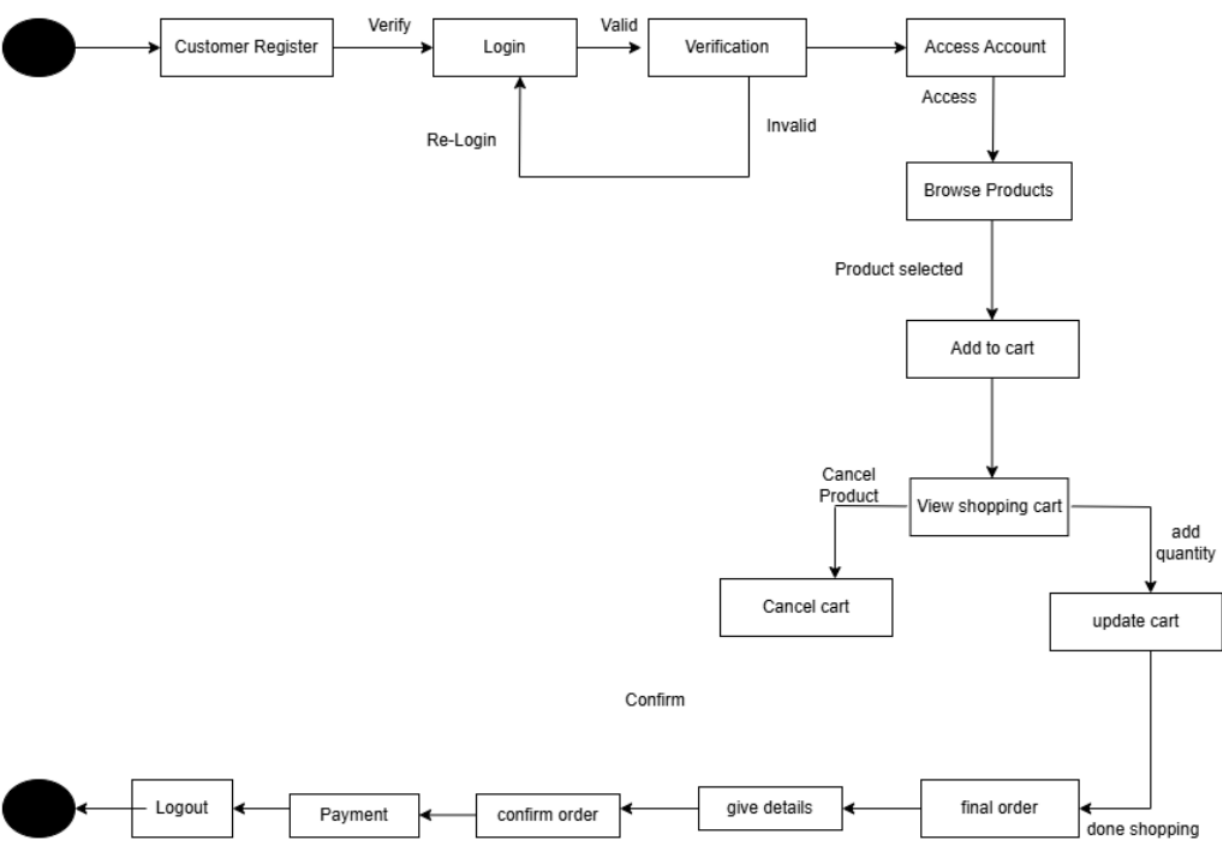
Figure 1: Use Case Diagram

4.3.3.2 Class Diagram

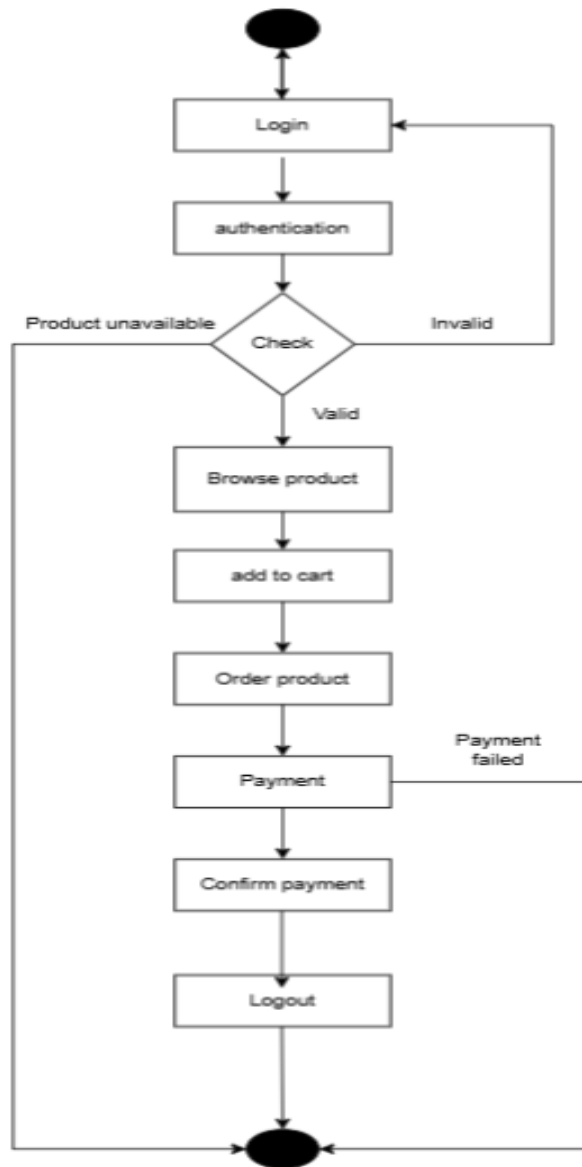
(4.3.3.3 Sequence State Chart)



(4.3.3.4 State Chart Diagram)



4.3.3.5 Activity Diagram



DFD (Level 0)

Context flow diagram is a top level (also known as level 0) data flow diagram. It contains only one process node that generalizes the functions of the entire system in relationship to external entities.



DFD (Level 1)

A level 1 data flow diagram (DFD) is more detailed than a level 0 but not as detailed as a level

2 DFD. It breaks down the main processes into sub processes that can then be analyzed and improved on a more intimate level.

4.3.3.6 ER Diagram

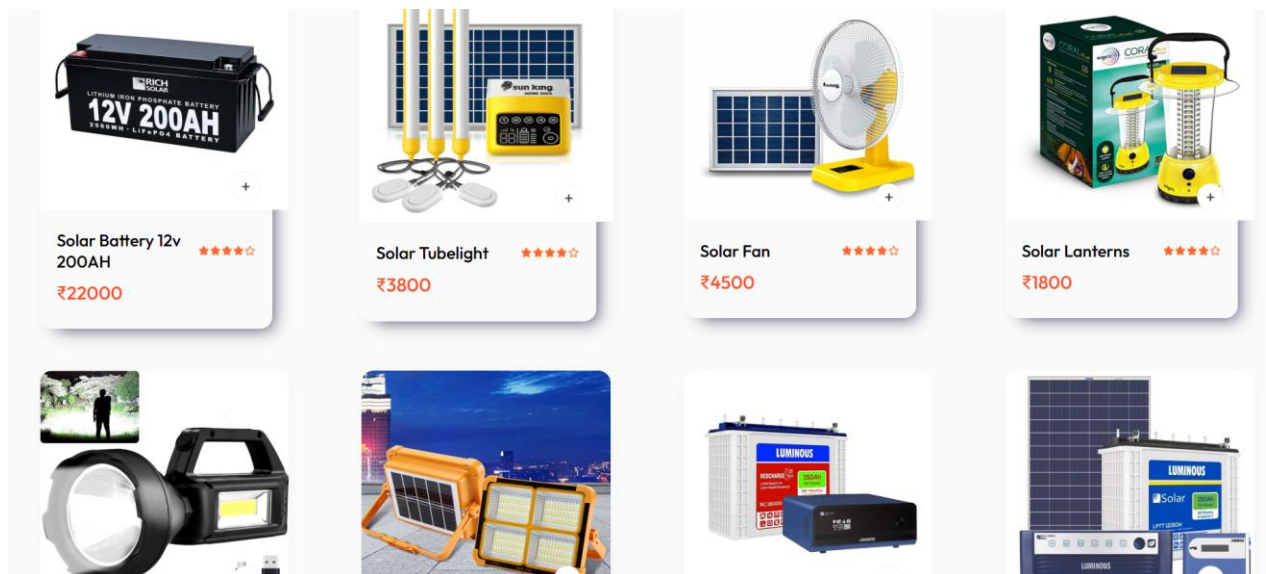
4.4 User Interface Design

4.4.1 User Interface Design

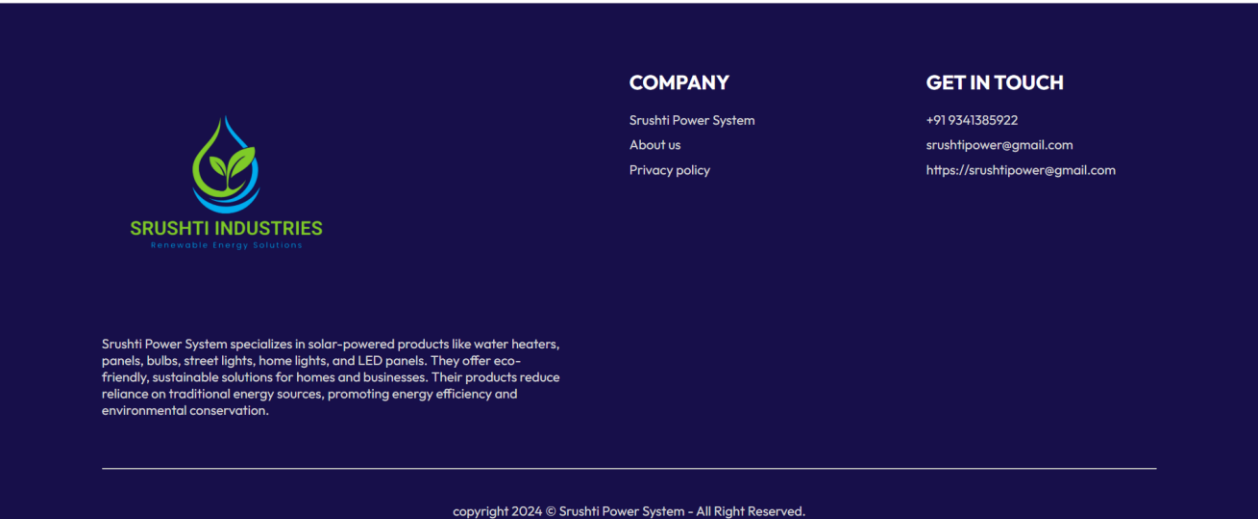
Home Page



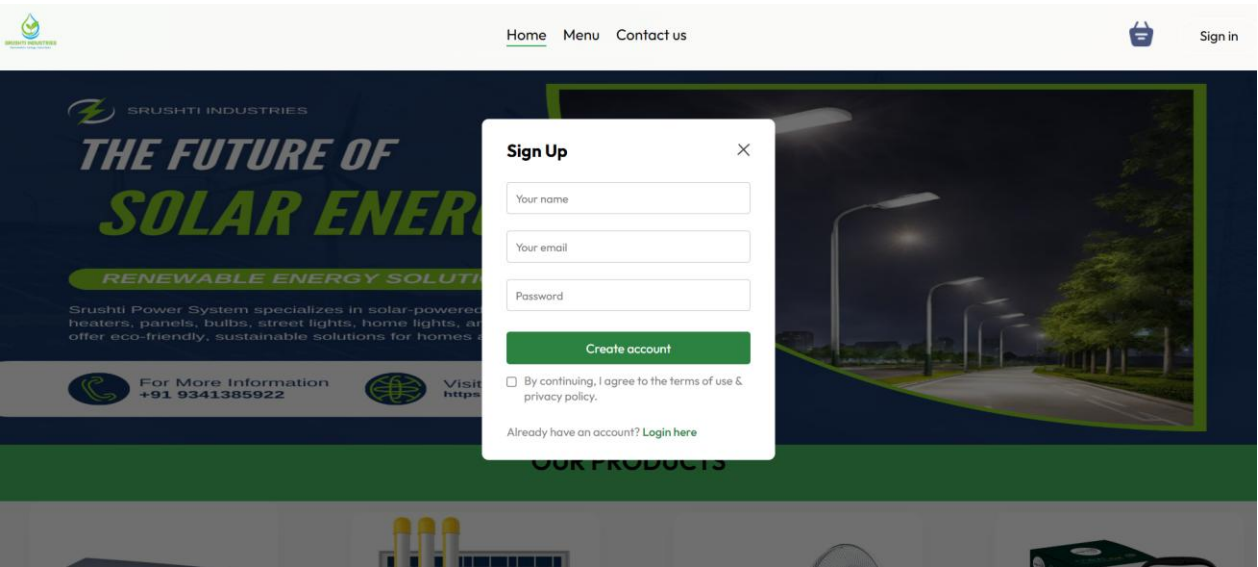
Menu Page



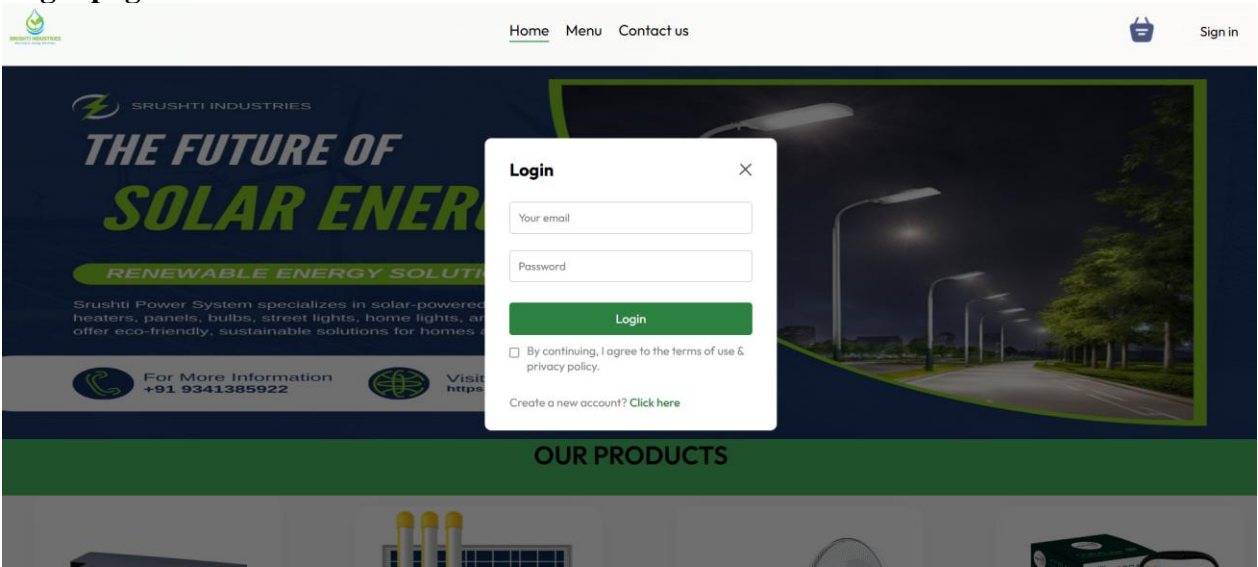
Contact Us Page



Registration Page




Login page



Cart Page



Proceed to Checkout Page



Solar Fan

₹4500

1

₹4500

Clear

Delivery Information

Abhishek

Gaonkar

abhihimalayagaonkar@gmail.com

poojageri bhasgod

ankola

karnataka

581314

india

9148536059

Cart Totals

Subtotal

₹30300

Delivery Fee

₹5

Total

₹30305

Select Payment Method

☐ COD (Cash On Delivery)

☐ Online Payment (Stripe)


PLACE ORDER

Payment Gateway page

← TEST MODE


Pay

₹30,300.00




Solar Tubelight

₹3,800.00



Solar Fan

₹4,500.00



Solar Battery 12v 200AH

₹22,000.00

Pay with link

Or pay with card

Email

abhihimalayagaonkar@gmail.com

Card information

4242 4242 4242 4242

01 / 30

377

VISA

Cardholder name

Abhishek Gaonkar

Country or region

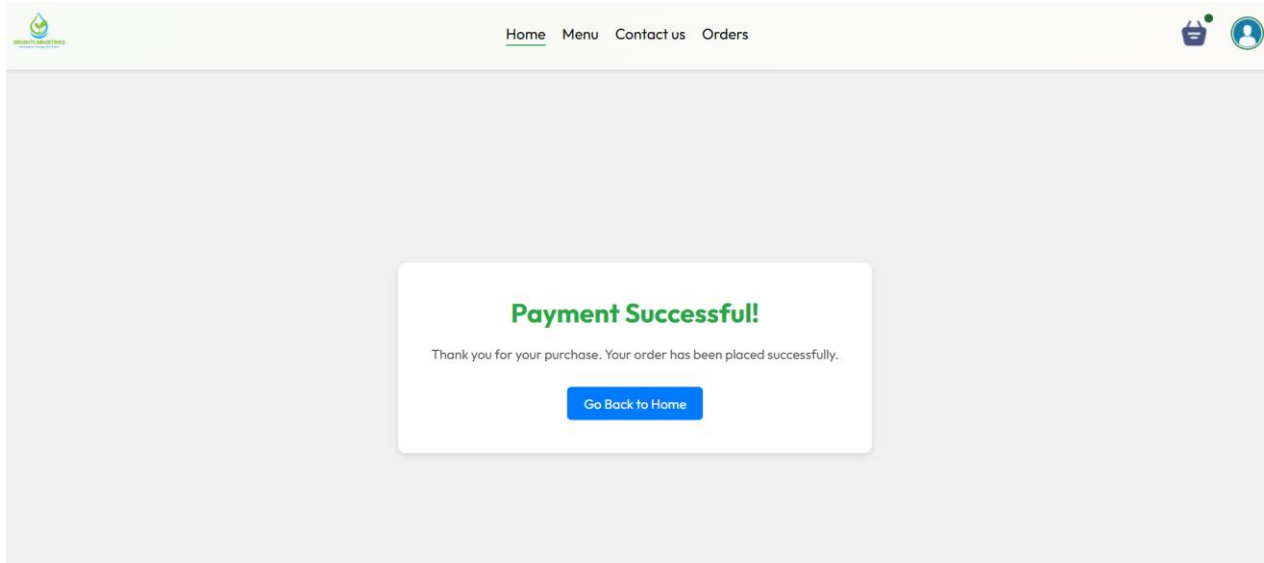
India

☐ Securely save my information for 1-click checkout

Pay faster on this site and everywhere Link is accepted.

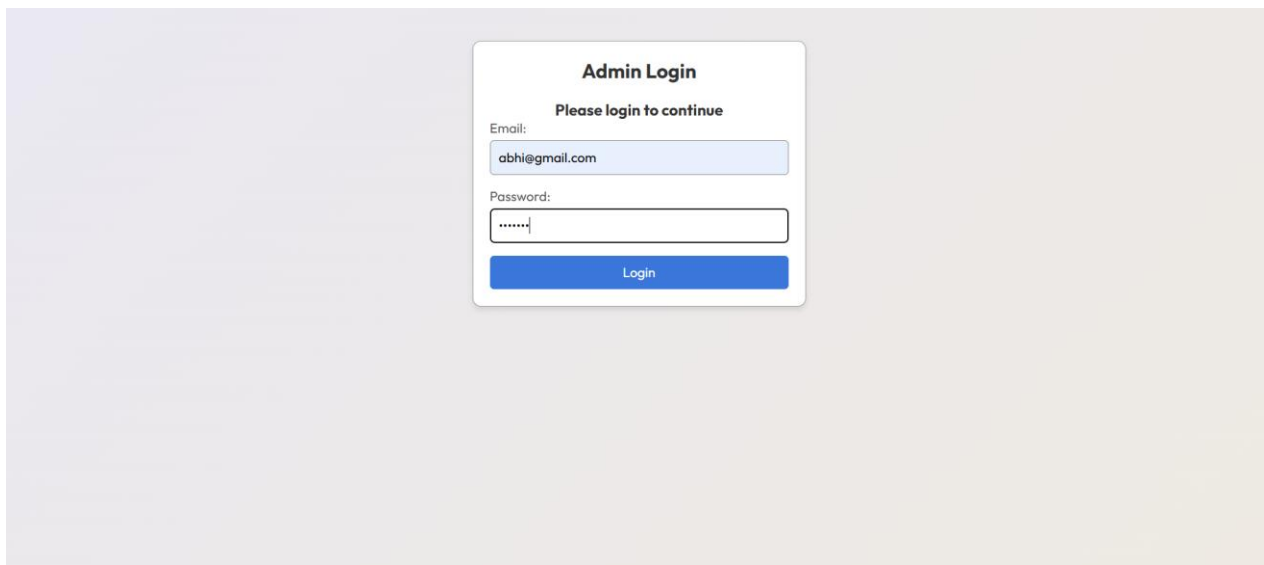
Pay

Payment Successful Page

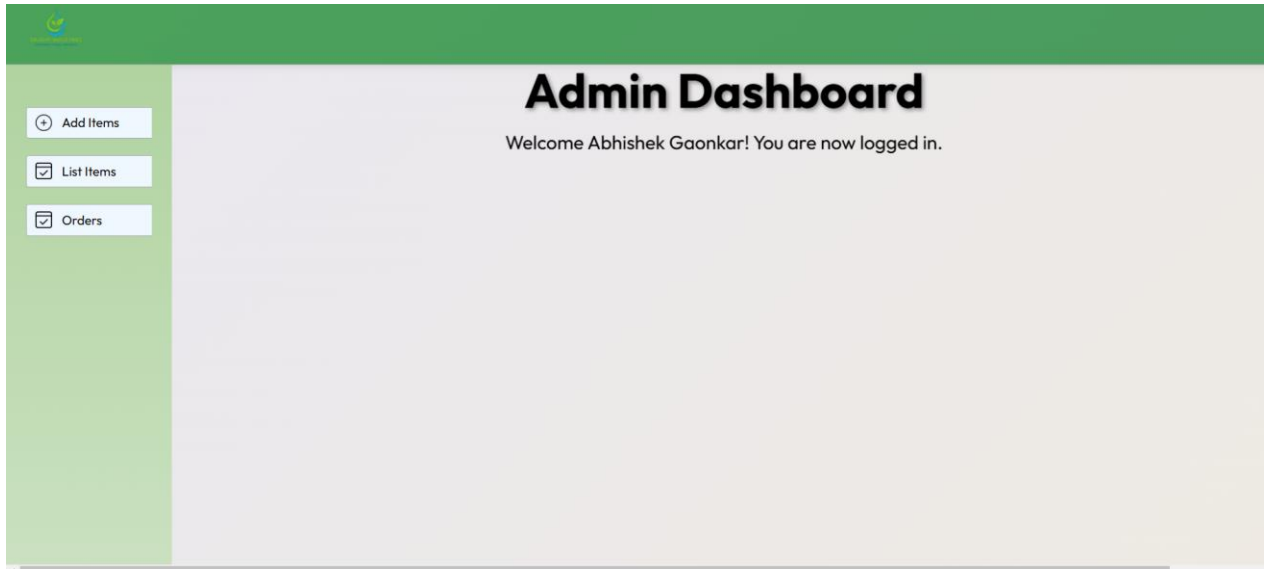


4.3.2 Admin Page Design

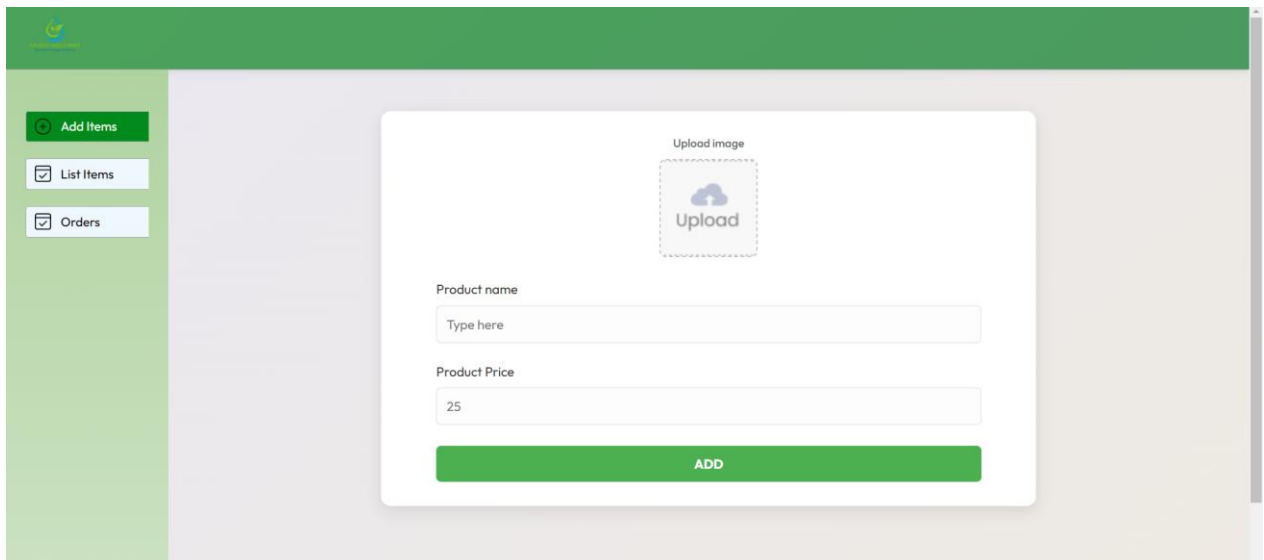
Admin Login Page



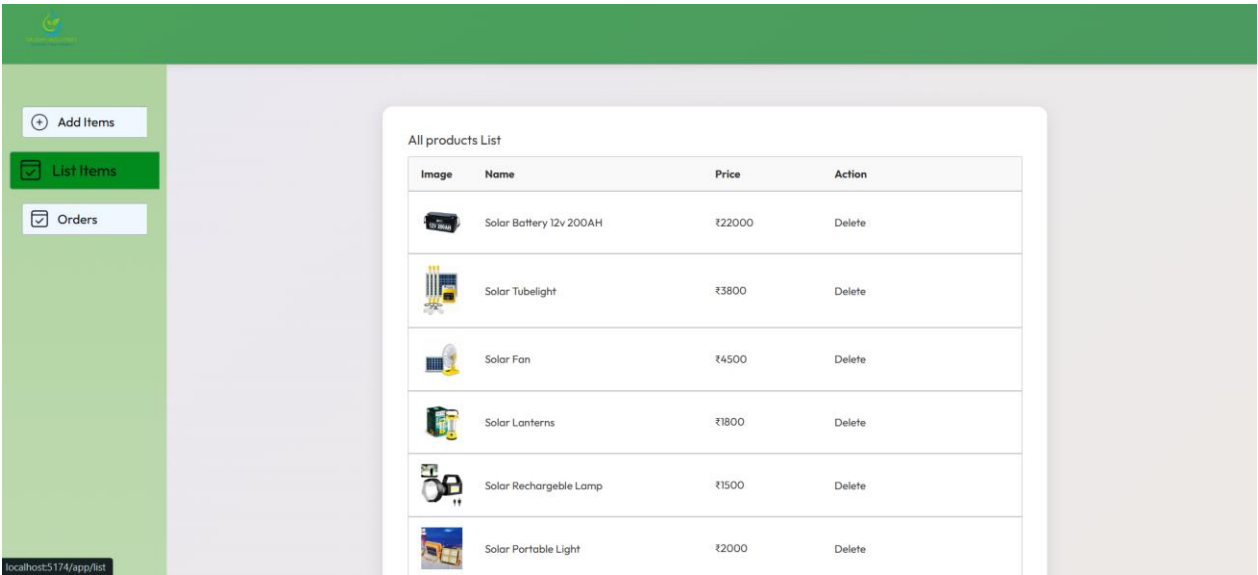
Admin Dashboard



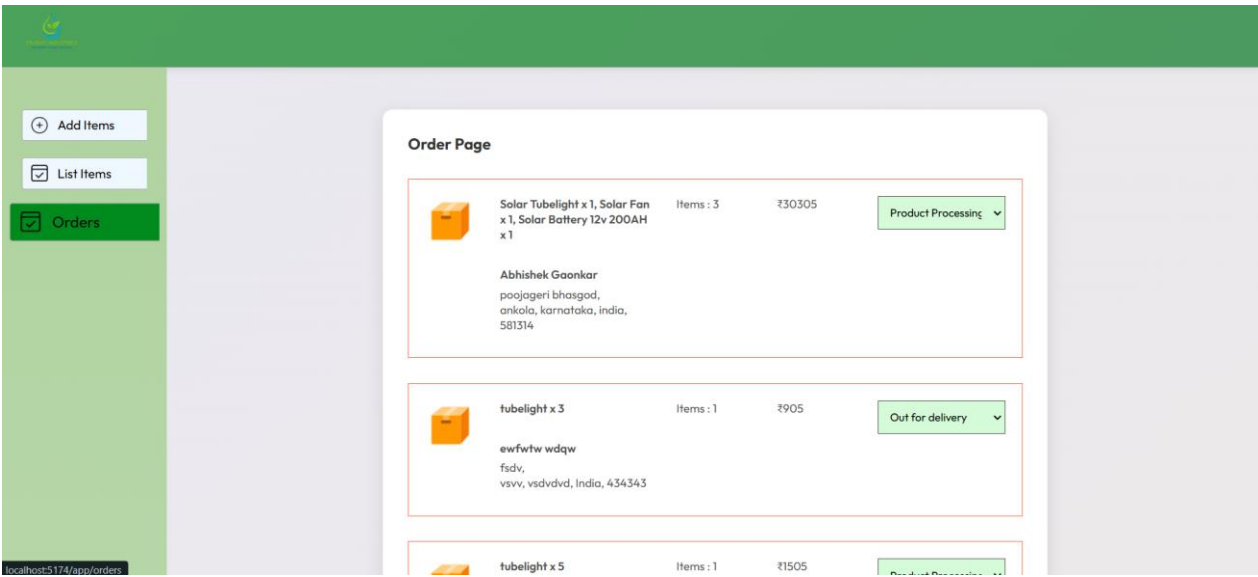
Add Items Page



List Items Page



Orders Page



CHAPTER 5: IMPLEMENTATION AND TESTING

5.1 Introduction

Implementation is the stage in the project where theoretical design is turned into a working system and is giving confidence on the new system for the users that will work efficiently and effectively. It involves careful planning, investigation of the current system and its constraints on implementation, design of methods to achieve the changeover, an evaluation, of change over methods. Apart from planning major task of preparing the implementation are education and training of users.

The implementation phase deals with issues of quality, performance, baselines, libraries, and debugging. The end deliverable is the product itself. During the implementation phase, the system is built according to the specifications from the previous phases. This includes writing code, performing code reviews, performing tests, selecting components for integration, configuration, and integration.

5.2 Testing Objective

The objectives of testing are:

- Testing is a process of executing a program with the intent of finding errors.
- A successful test case is one that discovers an as of yet and discovered error. System testing is a stage of implementation which is aimed at ensuring that the system works accurately and efficiently as per the user need, before the live operation commences as stated before, testing is vital to the success of a system testing makes a logical assumption that if all parts of system are correct the goal will successfully be achieved. A series of tests are performed before the system is ready for the user acceptance test.

5.3 Unit Testing:

Unit testing is a software testing technique where individual units or components of software are tested in isolation from the rest of the system to ensure they are functioning correctly. In the context of an online Solar shop system, unit testing would involve testing the individual modules or units of the system to ensure that they are performing as expected.

In an online Solar shop system, some of the key modules might include user registration and payment processing.

During unit testing, the developer would write test cases for each module to verify its functionality. The tests could include checking inputs and outputs, boundary conditions, error handling, and any other relevant functional requirements. Unit testing is an important part of the software development process because it helps to identify and fix bugs early in the development cycle, which can save time and money in the long run. By testing each module in isolation, developers can quickly identify and fix issues before they become more complex and difficult to debug.

5.4 Integration Testing

Integration testing is a type of software testing that checks the interaction between different modules or components of a system to ensure that they work together as intended. In the context of an online Solar shop system, integration testing would involve testing the integration of the various modules or components to ensure that they function correctly when used together.

In an online Solar shop system, there might be modules or components for user registration, payment processing, and email notifications. Integration testing would involve testing how these components work together to complete a process, from user registration to payment processing to email confirmation. During integration testing, test cases would be created to verify the functionality of the integrated system.

Testing:

User Registration:

Test Case ID	Test Condition	Expected output	Result
1	If numbers or symbols are entered in name field	"Name can only contain letters"	SUCCESS
2	If any field is left empty	"All fields are required"	SUCCESS
3	If email format is entered incorrectly	"Invalid email format"	SUCCESS
4	Confirm password	"password and confirm password do not match"	SUCCESS
5	Strong password	"Password must be at least 8 characters long and contain at least one uppercase letter, one lowercase letter, one number, and one special character."	SUCCESS
6	If checkbox email exists already	"Please agree to the terms of use & privacy policy"	SUCCESS
7	If registered email exists already	"Existing user found with the same email address"	SUCCESS
8	On successfully registering	Redirect to Home page of registered user	SUCCESS

User Login

Test case ID	Test Condition	Expected Output	Result
1	If any field is empty	"All fields are required"	SUCCESS
2	If email format is entered incorrectly	"Invalid email format"	SUCCESS
3	If entered email is entered	"Email not registered"	SUCCESS
4	If entered password is wrong	"Wrong Password"	SUCCESS
5	If successfully logged in	Redirect to home page of registered users	SUCCESS

Cart page

Test case ID	Test Condition	Expected Output	Result
1	If cart is empty	It should show empty cart	SUCCESS
2	If '-' button is clicked	Should decrease the quantity,price and total price.	SUCCESS
3	If '+' button is clicked	Should decrease the quantity,price and total price.	SUCCESS
4	If remove button is clicked	Should decrease the quantity,price and total price.	SUCCESS

Checkout page

Test case ID	Test Condition	Expected Output	Result
1	If payment Successful	Should display modal payment Successful in website	SUCCESS
2	If payment failed	Should redirect to payment failed page	SUCCESS

CHAPTER 6: CONCLUSIONS

6.1 Conclusion

The Online baby shop Management provides the customers with an ease of accessing and viewing the baby products and their details. They can order products as per their wish and perform all their tasks easily through this portal. Customer can view the updated product details. Admin will be managing the overall system; he can add, view, update and delete the customers, baby products and other information's. Working on this project is a good experience. We understand the importance of planning and designing as a part of software development. System aims to simplify day to day operations and increase performance efficiency of online baby shop. It also helps baby shopkeeper to run smooth business and help customer to easily.

6.2 Limitations of the System

- Internet is mandatory.
- Currently is only a web application, it is not as an android or an IOS application.
- No provision is incorporated for making payment in on-line mode.
- Searching the product option is not available.

6.3 Future Scope of the Project

There is a big scope for enhancing the functionality of online baby shop system in the future. We intend to update the system in the future by adding the following features.

- In future, this web application could be integrated with android and IOS application.
- Provision is incorporated for making payment in on-line mode.
- In future, searching option will be included.

REFERENCES

- Learning React: Modern Patterns for Developing React Apps
Authors: Alex Banks, Eve Porcello Published Year: 2020
- <https://scrimba.com/learn-react-c0e>

Appendix A: Glossary

SRS: Software Requirement Specification

OS: Operating System

GUI: Graphical User Interface

HTML: Hypertext Markup Language

CSS: Cascading Style Sheets

HTTPS: Secure Hypertext Transfer Protocol

HTTP: Hypertext Transfer Protocol

Payment