

PROJECT REPORT ON
FARMCONNECT

**A PROJECT REPORT SUBMITTED TO PARTIAL
FULFILLMENT OF THE REQUIREMENT FOR THE AWARD
OF THE DEGREE OF BACHELOR OF COMPUTER
APPLICATIONS**



SUBMITTED BY
PRIYANSHU KUMAR

BEARING ROLL NO: 608722861035
UNDER THE GUIDANCE OF
M. KARTHEEK SIR
(FACULTY IN COMPUTERS)
PINNACLE DEGREE COLLEGE
AFFILIATED TO OSMANIA UNIVERSITY-HYDERABAD

**PINNACLE DEGREE COLLEGE
(AFFILIATED TO OSMANIA UNIVERSITY)**

**THE PROJECT REPORT ON
FARMCONNECT**

CERTIFICATE

**THIS IS TO CERTIFY THAT PRIYANSHU KUMAR HAS
SUCCESSFULLY COMPLETED THE PROJECT TITLED
“FARMCONNECT” AS PART OF THEIR COURSE IN COMPUTER
APPLICATIONS THE PROJECT DEMONSTRATES PROFICIENCY IN
WEB DEVELOPMENT, DATABASE MANAGEMENT,
PROGRAMMING AND USER INTERFACE DESIGN,
REFLECTING THE SKILLS ACQUIRED DURING THE COURSE. THIS
CERTIFICATE IS AWARDED IN RECOGNITION OF THEIR DEDICATED
EFFORT AND SUCCESSFUL EXECUTION OF THE PROJECT.**

PRIYANSHU KUMAR

**LECTURER
EXTERNAL**

PRINCIPAL

CERTIFICATE BY THE GUIDE

**THIS IS TO CERTIFY THAT THE PROJECT
ENTITLED “**FARMCONNECT**” IS A RECORD OF THE
RESEARCH WORK DONE BY PRIYANSHU KUMAR TO
GET THE BACHELOR OF COMPUTER APPLICATIONS
DEGREE FROM THE OSMANIA UNIVERSITY UNDER
MY GUIDANCE AND SUPERVISION.**

**THE SUBJECT OF WHICH THE PROJECT HAS
BEEN PREPARED IS HIS ORIGINAL WORK. THE
RESEARCH WORK PRESENTATION ENTIRELY AN
INDEPENDENT WORKS ON THE PART OF CANDIDATE
BUT FOR THE GENERAL OFFERED BY ME.**

**M. KARTHEEK SIR
LECTURER IN COMPUTER SCIENCE**

Arc Technologies,
1-5, Ganganna Garipalli,
Basinikonda, Madanapalli,
Annamayya (Dt)
+91-8466871175
Mail: ygmbca@gmail.com

30-04-2025

This is to certify that Priyanshu kumar, has successfully completed the project Titled "**FarmConnect**" the project was initiated on 01-04-2025 and successfully concluded on 30-04-2025.

Project overview:

- Objective: To provide farmers with accessible and relevant information about crop cultivation, best practices, and sustainable farming techniques, thereby improving their yields and livelihoods.
- Scope of work: FarmConnect develops a multilingual platform providing farmers with crop education, access to quality agricultural supplies, and support for sustainable practices.
- Outcome: FarmConnect aims to empower farmers by increasing their knowledge, improving access to quality resources, and promoting sustainable practices, ultimately leading to increased yields, incomes, and improved livelihoods.
- Technology used:
front-end: HTML,CSS,JavaScript,Bootstrap
Back-end: Node and Express JS
Database: MySQL




Ms. Rajinikanth,
Managing Director
Arc Technologies

Ms. Rajinikanth,
Managing Director, Arc technologies,

DECLARATION BY THE STUDENT

I'M PRIYANSHU KUMAR STUDENT OF BACHELOR OF COMPUTER APPLICATIONS FROM PINNACLE DEGREE COLLEGE HERE BY DECLARE THAT THIS PROJECT ENTITLED "A PROJECT REPORT ON FARMCONNECT" IS DONE BY ME.

A RESEARCH STUDY UNDERTAKEN BY ME TO "PROJECT REPORT ON FARMCONNECT" IN PARTIAL FULFILLMENT FOR THE AWARD OF THE BACHELORS OF COMPUTER APPLICATIONS DEGREE UNDER OSMANIA UNIVERSITY-HYDERABAD. IS THE RECORD OF RESEARCH WORK ORIGINALLY DONE BY ME UNDER THE GUIDANCE AND SUPERVISION OF M. KARTEEK SIR.

PRIYANSHU KUMAR

ACKNOWLEDGEMENT

I SINCERELY EXPRESS MY GRATITUDE TO MRS. Y. SRIDEVI (CORRESPONDENT), PINNACLE DEGREE COLLEGE, HYDERABAD, FOR THE GUIDANCE. I THANK HER FOR SPARING HER VALUABLE TIME AND PROVIDING CONTINUOUS SUPPORT THROUGHOUT THE COURSE OF THE PROJECT.

MY THANKS TO MY GUIDE KV. SATHYANARAYANA SIR, MRS SRAVANTHI MADAM AND MR. M.KARTEEK SIR FOR BEING SUPPORTIVE THROUGHOUT THE PROJECT AND FOR HELPING ME WITH MY MATTER AND FOR GIVING THEIR VALUABLE SUGGESTIONS.

I ALSO THANK MY FACULTY AND FRIENDS FOR HELPING AND GUIDING ME WITH MY PROJECT.

PRIYANSHU KUMAR



Project Report:

FarmConnect

“Connecting Farmers, Growing Together.”

Submitted by: Priyanshu Kumar

Roll no: 608722861035

Guided by: M. Kartheek Sir

(Faculty in computer)



Pinnacle Degree College
(AFFILIATED TO OSMANIA UNIVERSITY-HYDERABAD)

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Chapter-1:Abstract

FarmConnect is a multilingual platform designed to empower farmers in India with the knowledge and resources needed for successful and sustainable agriculture. This project addresses the challenges faced by farmers in accessing relevant information and quality agricultural products. FarmConnect provides comprehensive crop education, covering essential details like water requirements, soil suitability, pest management, and seasonal insights, all tailored to specific regions. Beyond education, the platform offers a convenient marketplace for farmers to acquire trusted agricultural supplies, including pesticides, fertilizers, and seeds, delivered directly to their doorsteps. A key feature of FarmConnect is its multilingual support, offering content in English, Hindi, and Telugu, ensuring accessibility for a diverse user base. The platform also promotes sustainable farming practices, guiding farmers towards eco-friendly methods. FarmConnect's farmer-centric approach, accessible information, quality assurance, and affordable solutions aim to cultivate a brighter future for Indian agriculture by connecting farmers with the tools they need to thrive.

Chapter-2: Project Introduction



Overview

FarmConnect is a comprehensive web platform designed to educate farmers and provide them with essential resources for effective and sustainable agricultural practices. The platform offers detailed crop information, farming tips, and a convenient online marketplace for purchasing agricultural products such as seeds, fertilizers, and pesticides. With multi-language support (English, Hindi, Telugu), FarmConnect aims to empower farmers by making agricultural knowledge and resources easily accessible in their preferred language.

Motivation

FarmConnect is designed to address the challenges faced by farmers in accessing reliable agricultural information and essential farming products. Traditional farming often lacks technological integration, leaving farmers without the knowledge needed to optimize crop growth and productivity.

This platform provides comprehensive resources for crop management, multilingual support (English, Hindi, and Telugu), and a seamless marketplace for purchasing farming tools and supplies. By leveraging modern technology, FarmConnect empowers farmers to make informed decisions and improve their agricultural practices. With secure user authentication, the platform also offers personalized experiences, helping farmers access tailored advice and product

recommendations. FarmConnect envisions a thriving agricultural ecosystem where farmers can connect, learn, and grow with ease.

Problem Definition

Many farmers struggle with fragmented access to agricultural knowledge, resulting in inefficient practices and lower yields. Limited availability of expert guidance, language barriers, and difficulties in sourcing quality products further exacerbate the challenges faced by the farming community.

FarmConnect aims to bridge this gap by providing:

- Comprehensive crop growth information and expert tips.
- Multilingual content for broader accessibility.
- A streamlined product marketplace for farming essentials.
- Secure user accounts and personalized recommendations.

By addressing these pain points, FarmConnect supports farmers in adopting smarter and more efficient farming practices for sustainable growth.

Existing System

In traditional farming practices, farmers face numerous challenges in accessing reliable information and purchasing essential products for crop management. The current methods involve consulting local agricultural experts, relying on informal advice, or visiting distant stores for farming essentials. These approaches are time-consuming and often lack accuracy.

Farmers who attempt to search for information online face difficulties due to language barriers, limited access to technology, and scattered resources that are hard to navigate.

Disadvantages of the Existing System:

- Information is often inaccessible to farmers who are not tech-savvy.
- Time-consuming process to gather farming knowledge and purchase products.
- Lack of personalized, actionable insights for crop growth.
- Limited or no regional language support, restricting accessibility for rural users.

Proposed System

FarmConnect is a modern, automated platform designed to revolutionize how farmers access agricultural knowledge and resources. It provides a centralized hub for educational content, expert tips, and an online marketplace for farming essentials. With secure user authentication and multilingual support (English, Hindi, and Telugu), it ensures that farmers from diverse backgrounds can benefit from the platform.

Advantages:

- **Reduced Human Effort:** Automated access to crop information and product purchases.
- **Time Efficiency:** Quick access to reliable information and a seamless buying process.
- **Multilingual Support:** Available in regional languages for better accessibility.
- **Accurate and Verified Data:** Expert advice and reliable product information.
- **Personalized Experience:** Secure user accounts with tailored recommendations for users.

By combining technology and agricultural expertise, FarmConnect empowers farmers to achieve better outcomes and promotes smarter, more sustainable farming practices.

Key Features

1. Crop Information Hub:

- Detailed data on various crops, including best seasons to grow, soil requirements, irrigation methods, fertilizers, and pest control.
- Interactive search functionality to quickly access information about specific crops.

2. Online Marketplace:

- Farmers can browse and purchase agricultural products.

- Products include fertilizers, pesticides, and other essential farming tools.
- Add-to-cart functionality and a secure checkout process.

3. User-Friendly Navigation:

- Intuitive and responsive interface for seamless navigation.
- Multi-language support ensures accessibility and inclusivity.

4. Personalized User Experience:

- User authentication for secure login and sign-up.
- Personalized shopping cart linked to user accounts.
- Persistent cart data available even after logging out.

5. Secure Transactions:

- JWT-based authentication for secure user sessions.
 - Password encryption using bcrypt.
-

Technologies Used

1. Frontend:

- HTML, CSS, and Bootstrap for responsive and aesthetic user interfaces.
- JavaScript for dynamic content rendering and user interactions.

2. Backend:

- Node.js with Express.js framework for server-side logic.
- RESTful APIs to handle data transactions.

3. Database:

- MySQL for data storage and management.
- Structured tables for user accounts, product catalog, and cart details.

4. Security:

- JWT (JSON Web Tokens) for secure user authentication.
- Bcrypt for password hashing.

5. Other Tools and Libraries:

- dotenv for environment variable management.
 - CORS middleware for handling cross-origin requests.
-

Project Workflow

1. User Registration and Login:

- Secure sign-up and login with email verification.

2. Product Browsing and Search:

- Users can view detailed product descriptions and filter products by type.

3. Cart Management:

- Add, update, and remove items from the cart.
- Cart contents persist across user sessions.

4. Checkout Process:

- Users can review their cart, view total prices including taxes, and proceed to checkout.

5. Crop Search Feature:

- Provides comprehensive crop information tailored to the user's language preference.
-

Future Enhancements

1. Payment Gateway Integration:

- Secure online payment options for purchasing agricultural products.

2. Farmer Community Forum:

- A platform for farmers to share experiences and solutions.
-

Conclusion

FarmConnect is more than just a website—it's a step toward revolutionizing the agricultural sector by empowering farmers with the knowledge and resources they need to succeed. With robust features, a user-centric design, and secure transaction processes, FarmConnect aims to become a reliable companion for farmers on their journey toward growth and sustainability.

CHAPTER 3

ANALYSIS

Software Requirement Specification (SRS)

The Software Requirement Specification (SRS) defines the objectives, functionalities, and requirements essential for the development of the FarmConnect platform. It serves as a blueprint for translating the client's ideas into a formal document that guides the development process.

3.1 User Requirements

Modules

1. **Crop Information**
 2. **Marketplace**
 3. **User Authentication**
-

Module 1: Crop Information

Provisioning:

- **Crop:**
 - Crop Name
 - Growth Season
 - Duration
 - Soil
 - Water Requirement
 - Irrigation
 - Temperature
 - Fertilizers
 - Pests

Functionalities:

- Users can select a crop and view expert advice for its growth.
- Information includes planting season, irrigation techniques, and pest control methods.

Queries:

- Which crop information do you want?
- What are the best practices for this crop?

Alerts:

- Please select a crop to get information.
 - Ensure you select the correct season.
-

Module 2: Marketplace

Provisioning:

- **Product:**
 - Product ID
 - Product Name
 - Price
 - Category
- **Order:**
 - Order ID
 - Customer Information

Functionalities:

- Users can browse farming products and add them to the cart.
- Product categories include seeds, fertilizers, and tools.

Queries:

- Which product category do you prefer?
- Do you want to proceed to checkout?

Alerts:

- Please select a product category.

- Ensure you have added products before proceeding.
-

Module 4: User Authentication

Provisioning:

- **User Account:**

- User ID
- Username
- Password

Functionalities:

- Secure user login and registration for personalized experiences.

Queries:

- What is your username?
- Enter your password.

Alerts:

- Please enter valid login credentials.
 - Registration successful!
-

3.2 Hardware Requirements

Client Side:

- Device: Smartphone or PC with an internet connection

Server Side:

- **Processor:** Intel(R) Core (TM) i5 @ 2.50GHz
- **SSD:** 4.61 MB (48,37,376 bytes)

Let me know if you need more enhancements or details.

Chapter-4: Development Phase

“From seed to screen, we're growing FarmConnect to nourish the roots of agriculture.”

The development phase of the **FarmConnect** project focused on turning initial ideas into a fully functional, user-centric platform. This stage involved carefully structuring the application architecture, building user interfaces, and integrating back-end services to deliver a seamless user experience for farmers.

Key Activities:

1. Front-End Development:

- Designed responsive web interfaces using **HTML**, **CSS**, and **Bootstrap** for a clean, accessible UI.
- Implemented interactive elements and user-friendly navigation with **JavaScript** for dynamic content updates.

2. Back-End Integration:

- Developed robust APIs using **Node.js** and connected them to an **SQL Database** for storing and fetching user data, products, and cart information.
- Implemented secure user authentication using **JWT (JSON Web Tokens)** for managing sessions.

3. Database Design:

- Structured database tables for **user management**, **product inventory**, and **shopping cart functionality** with relational links between tables to maintain data integrity.

4. Security Enhancements:

- Password encryption using **bcrypt** to protect user credentials.
- Implemented token-based authentication to prevent unauthorized access.

5. Testing and Optimization:

- Conducted extensive testing to identify and fix bugs.

- Optimized API endpoints to reduce response time and improve performance.

6. Multi-Language Support:

- Integrated language localization for **English, Hindi, and Telugu**, enabling farmers to access the platform in their preferred language.

Challenges Faced and Solutions:

- **Data Persistence:** Ensured consistent cart data by linking it to authenticated user accounts stored in the database.
- **Security:** Mitigated security vulnerabilities by validating API requests and encrypting sensitive information.
- **Responsive Design:** Made extensive use of CSS media queries and Bootstrap components to ensure the platform performs well across all devices.

This development phase laid the groundwork for a powerful, user-friendly platform aimed at empowering farmers with knowledge and tools to improve their productivity and access essential resources effortlessly.

Development Methodology & Process:

we use Iterative Model and partly aligns with the Agile Development Model in software development.

1. Iterative Model:

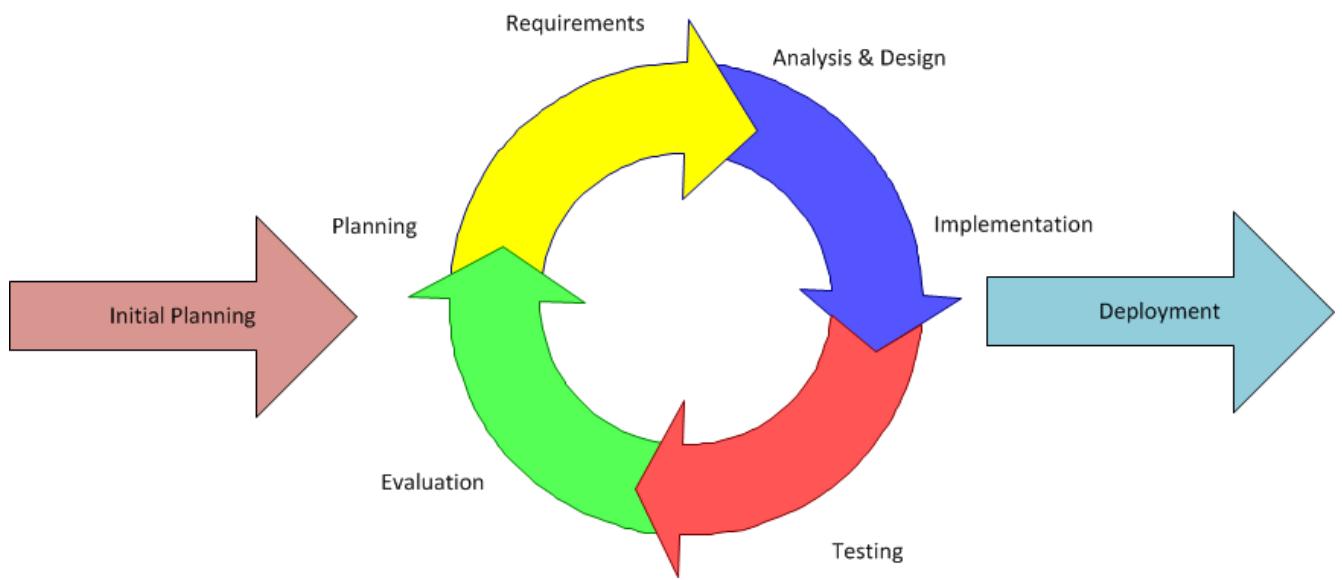
- Procedure:
 - You develop the application incrementally by adding features one at a time.
 - Testing occurs during each cycle (iteration) to ensure that the current feature works before moving to the next.
- Characteristics:
 - Gradual feature development and testing.
 - Allows identifying and fixing issues early.
 - Focuses on learning and refining the product as it evolves.

2. Agile Development Model:

- Procedure:
 - Continuous development and testing for each feature align with **Agile sprints**.
 - Testing the app from scratch at the end mimics an **Agile retrospective** and **system integration testing**.

➤ Characteristics:

- Feature-based iterations (sprints).
- Early and continuous testing and integration.
- Flexibility to adapt to changing requirements.



Hybrid iterative and Agile Development Model

Chapter-5: System Design and Architecture

1. Class Diagram

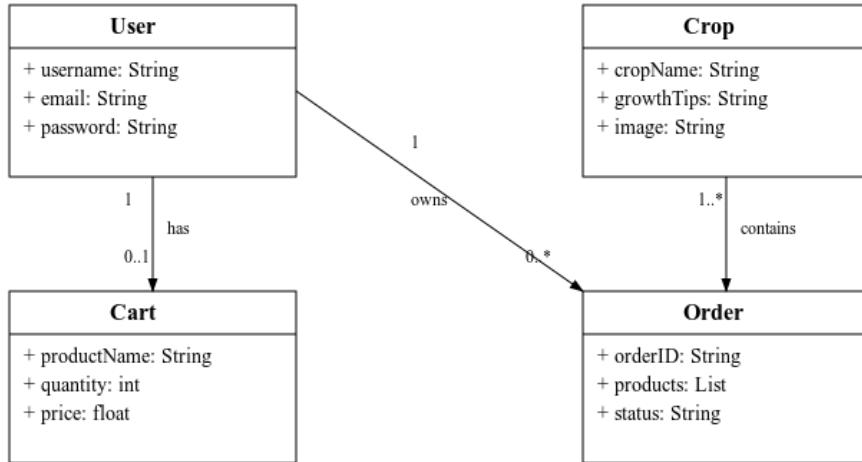
Class diagrams in FarmConnect depict the static structure of the system by illustrating the classes, their attributes, operations, and relationships. The following classes are defined:

Contents:

- **Classes:**
 - User
 - Crop Information
 - Product
 - Order
- **Relationships:**
 - Dependency, Generalization, and Association Relationships

Key Attributes and Relationships:

- User: username, password, user role, preferred language
- Crop Information: crop name, growth tips, season
- Product: product ID, product name, category, price
- Order: order ID, customer details, product list



Class Diagram for FarmConnect

2. Use Case Diagram

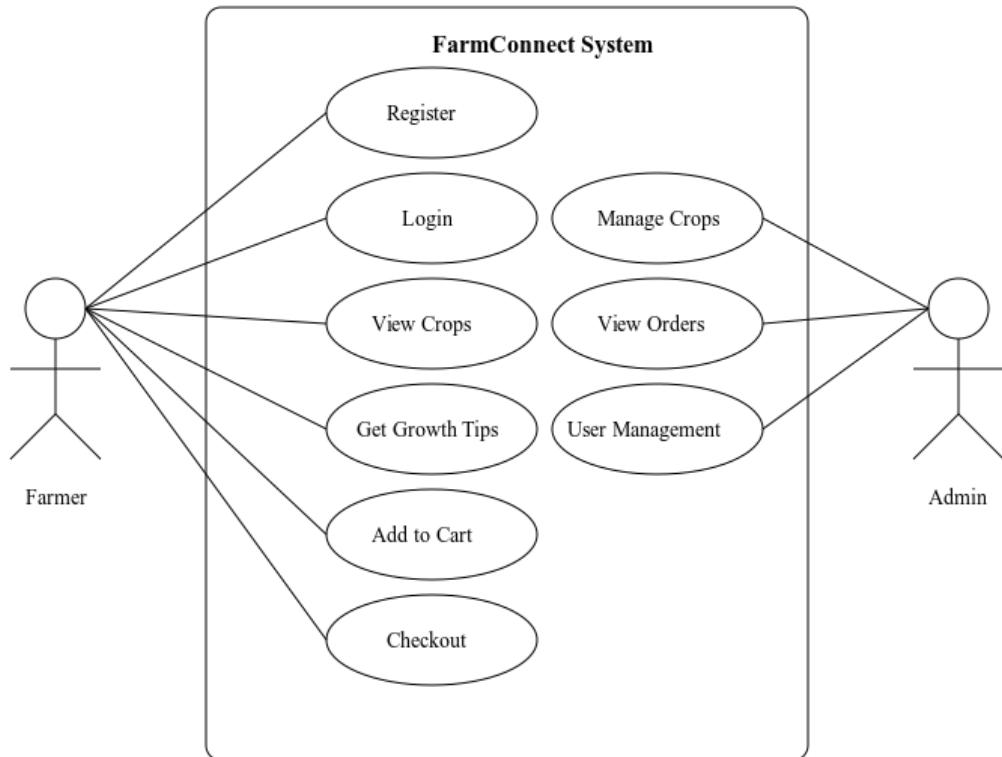
The use case diagram models the dynamic behaviour of FarmConnect by defining the interactions between users and the system functionalities.

Contents:

- **Actors:**
 - Farmer (Primary User)
 - Admin
- **Use Cases:**
 - Login/Registration
 - View Crop Information
 - Purchase Products
- **Relationships:**
 - Dependency, Generalization, and Association Relationships

Use Case Description:

- Farmers can log in to view crop information, check weather updates, and buy products.
- Admins manage product listings and content updates.



Use-case Diagram for Farmconnect

3. Sequence Diagram

Sequence diagrams in FarmConnect emphasize the time-ordered interactions between objects during key operations.

Key Operations:

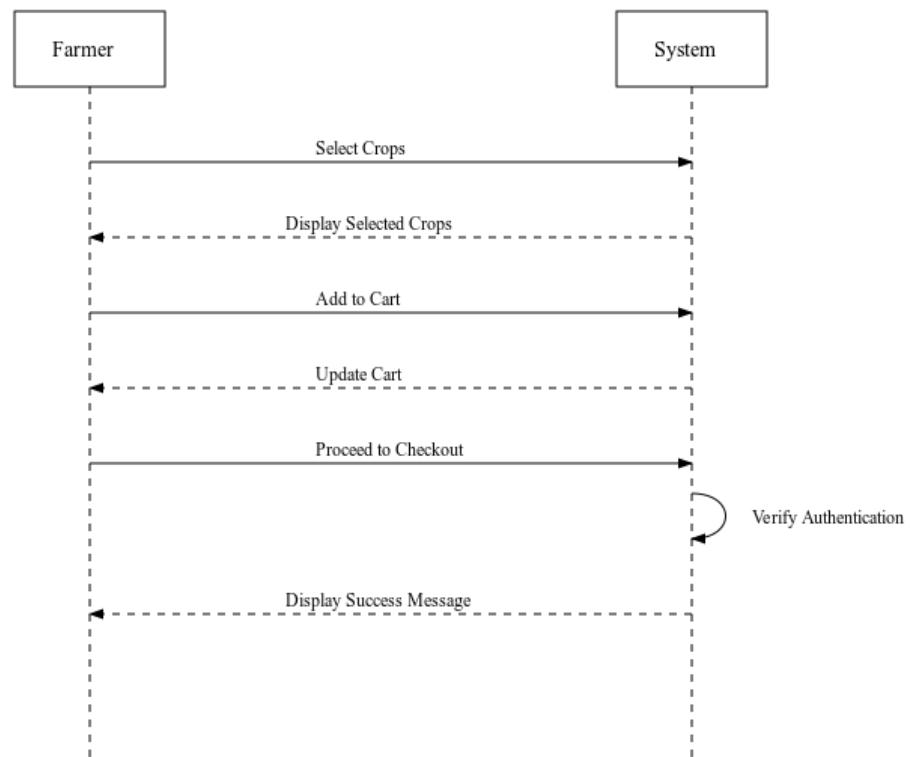
- Login and Authentication
- Viewing Crop Information
- Placing Orders
- Retrieving Weather Information

Features:

1. **Object Lifelines:** Represent the duration of each object during the interaction, such as User, Authentication Service, and Product Manager.
2. **Focus of Control:** Tall thin rectangles showing the execution period for various operations like login validation and product search.

Sequence Flow:

- Login Process:** User enters credentials -> Authentication Service validates -> User gains access
- Product Purchase:** User selects product -> Order Service processes order -> Payment Confirmation



Sequence Diagram for FarmConnect

4. Entity Relationship Diagram

I) Market Place: The marketplace module in FarmConnect allows farmers to explore and purchase essential farming products such as seeds, fertilizers, and tools. It connects buyers and sellers, facilitating smooth transactions through an intuitive interface.

- Entity:
 - User
 - Order
 - Product
 - Cart

- Payment

- Address

➤ Attribute:

- Email
- Price
- Username
- cart_id
- product_name
- quantity
- price
- image_url

➤ Primary Keys:

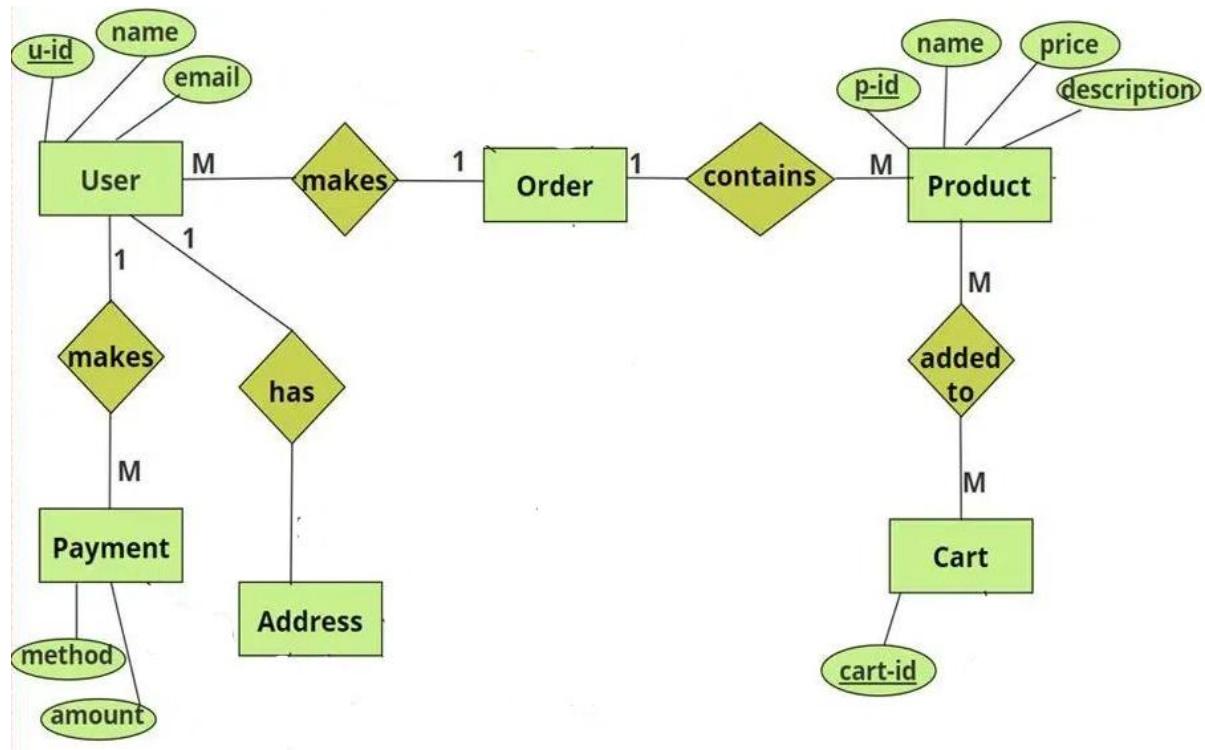
- user_id
- cart_id

➤ Relationships:

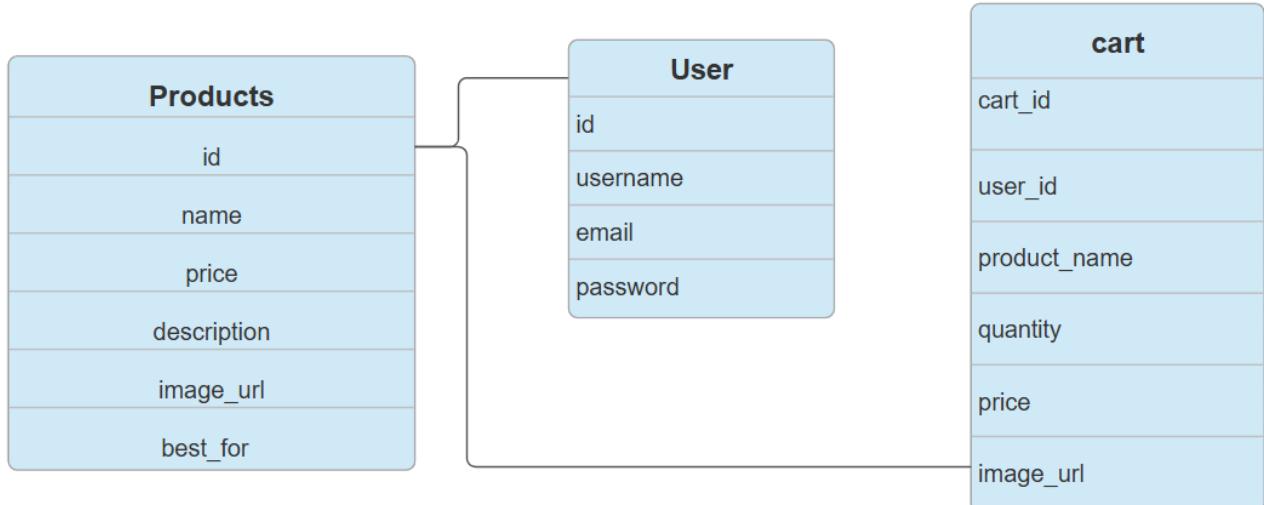
- Makes
- Has
- Contains
- Added

➤ Cardinality:

- One **User** can make many **Orders**.
- An **Order** contains multiple **Products**.



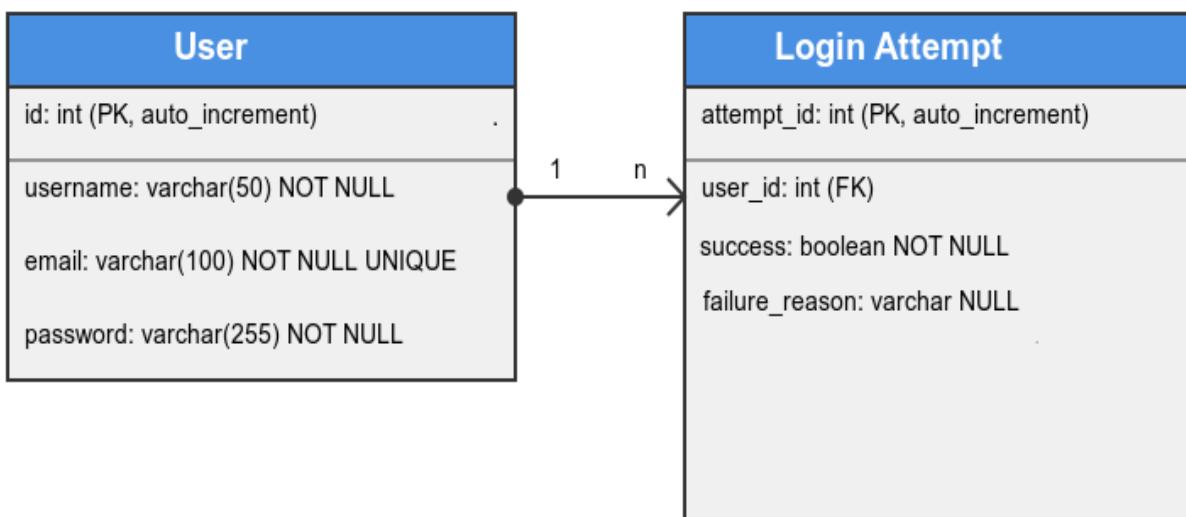
ER Diagram for market place



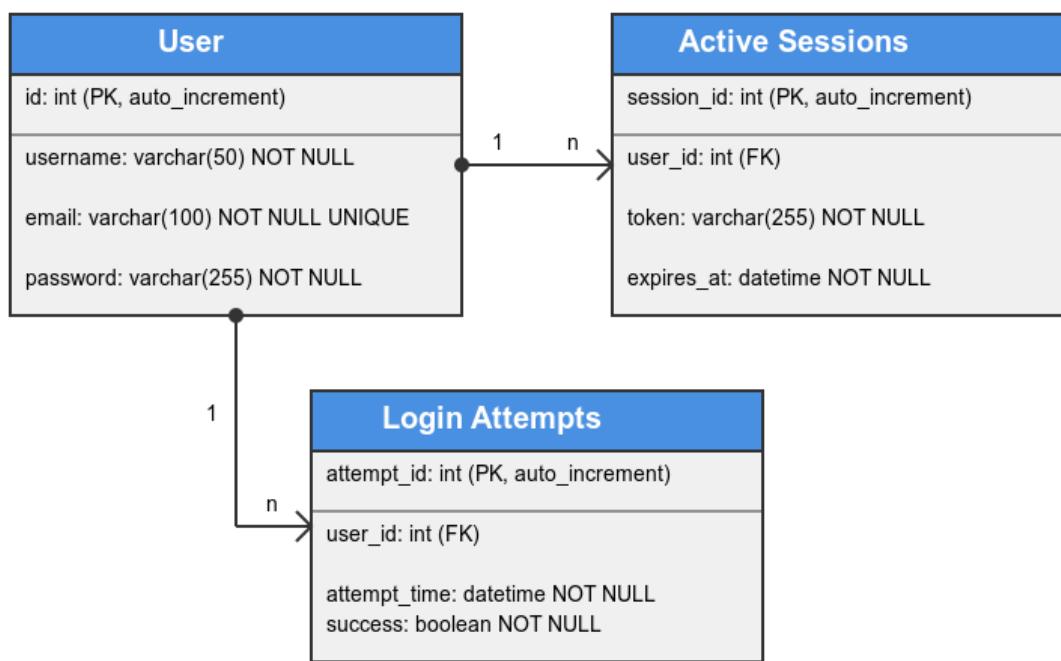
ER Diagram for marketplace DB

II) Sign in and Log in: The ER diagram for the Login and Sign-up system typically includes key entities like **User** and their associated attributes such as user_id, email, password, and name. The system establishes relationships to track user credentials securely, validate login attempts, and manage user sessions.

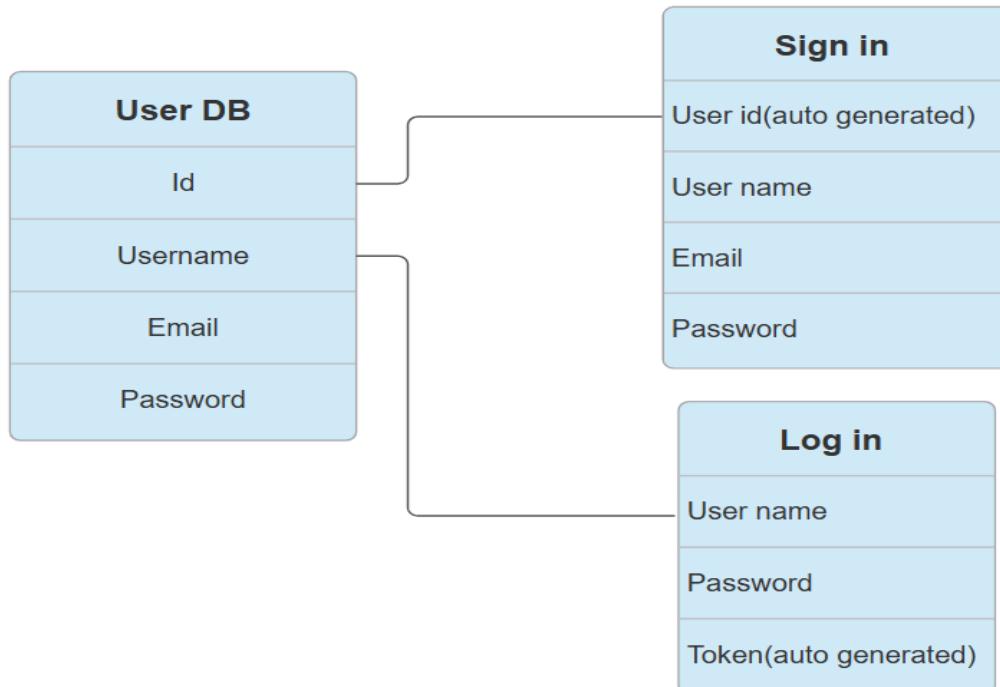
- Entity:
 - Entity name: **User**
- Attribute:
 - Id
 - Username
 - Email
 - Password
- Primary Keys:
 - Id
- Cardinality:
 - 1: N



ER Diagram for Log in



ER Diagram for Sign in



ER Diagram for User DB and

5. Data Flow Diagram

I) Marketplace

The Data Flow Diagram (DFD) for the **FarmConnect Marketplace** outlines the flow of information between users, system components, and external entities. This diagram helps visualize how data is processed and transferred within the platform, offering a clear understanding of user interactions and backend operations.

Description:

1. User Interactions:

- Users browse available products, add them to the cart, and proceed to checkout.
- Registered users can log in to access personalized features such as saved cart items and purchase history.

2. Data Flow:

- **Product Retrieval:** The system fetches product details from the database, including name, price, and stock status.
- **Cart Management:** When users add products to the cart, data such as product ID, quantity, and user ID are sent to the backend for storage.
- **Checkout:** User information (billing details, selected products) flows to the payment gateway for processing.

3. External Systems:

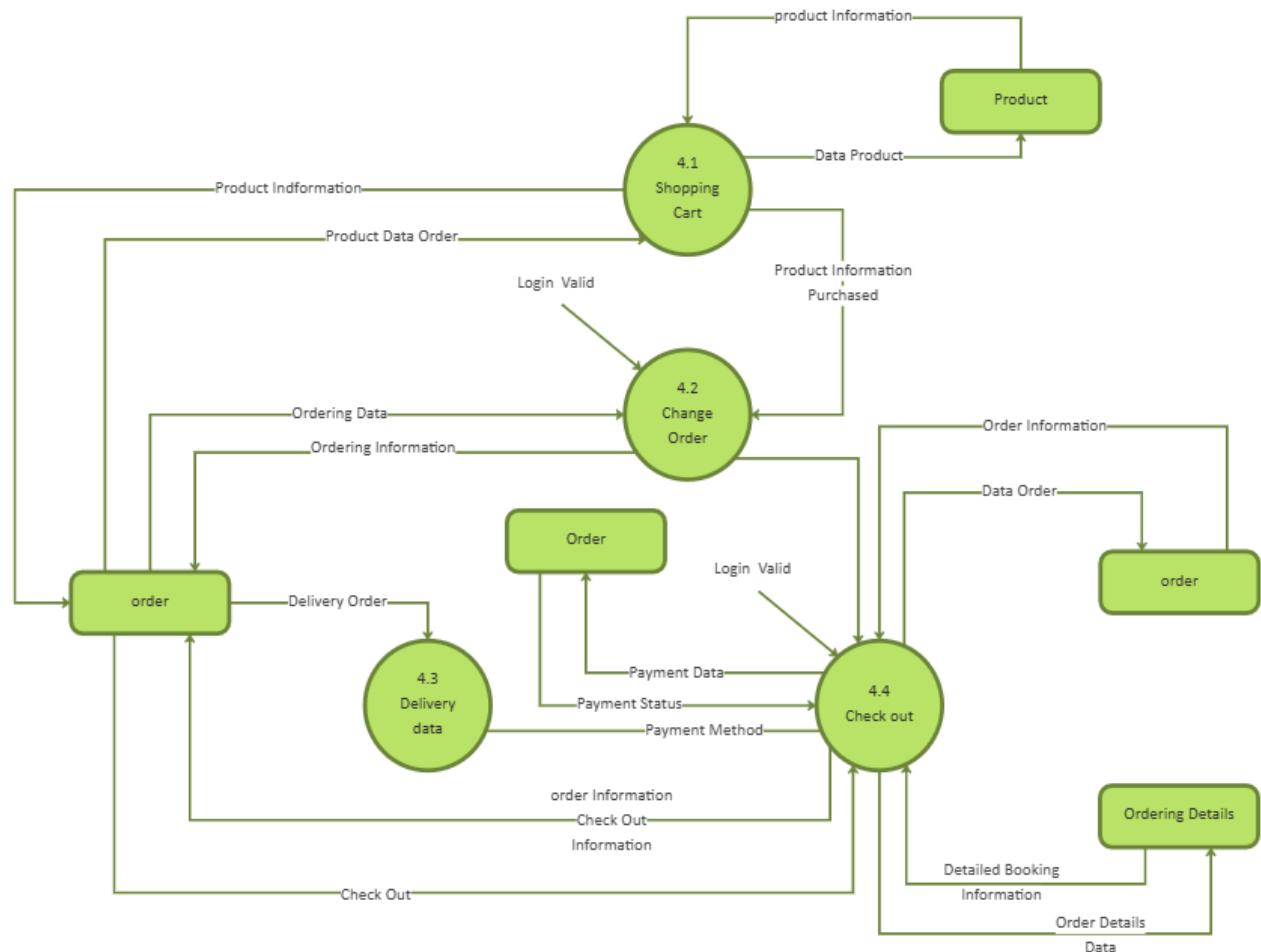
- Integration with payment gateways for secure payment processing.

4. Key Components:

- **User Interface:** Handles requests and displays products and cart items.

- **Backend Server:** Manages product data, user sessions, and orders.
- **Database:** Stores information on products, users, and transactions.

This DFD ensures a structured and efficient understanding of the FarmConnect marketplace's operations and interactions.



Data Flow Diagram for the market place(e-commerce)

II) Sign-in and Login

The **Data Flow Diagram (DFD)** for the **Sign-in and Login** process in FarmConnect illustrates how user credentials and system responses flow during authentication operations. It highlights the essential steps for user registration and login authentication.

Description:

1. Sign-in Process:

- Users provide **username, email, and password** through the sign-in interface.
- The system validates input data and checks if the email already exists in the database.
- If validation is successful, the user details are securely stored with a hashed password, and a success message is returned.

2. Login Process:

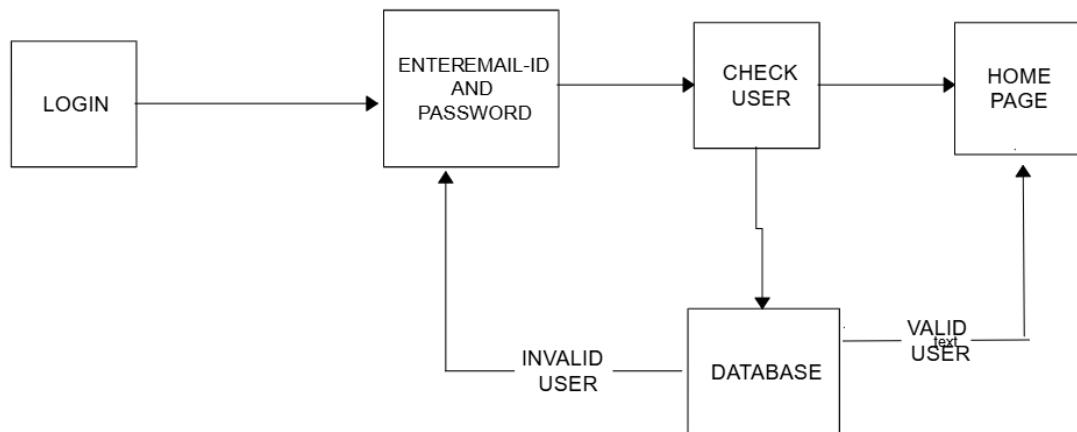
- Users enter their **email and password** on the login page.
- The system queries the database for matching user details.
- Passwords are verified against the hashed version using secure algorithms.
- If successful, the system generates a **JWT (JSON Web Token)** and responds with user session information.

3. Data Flow:

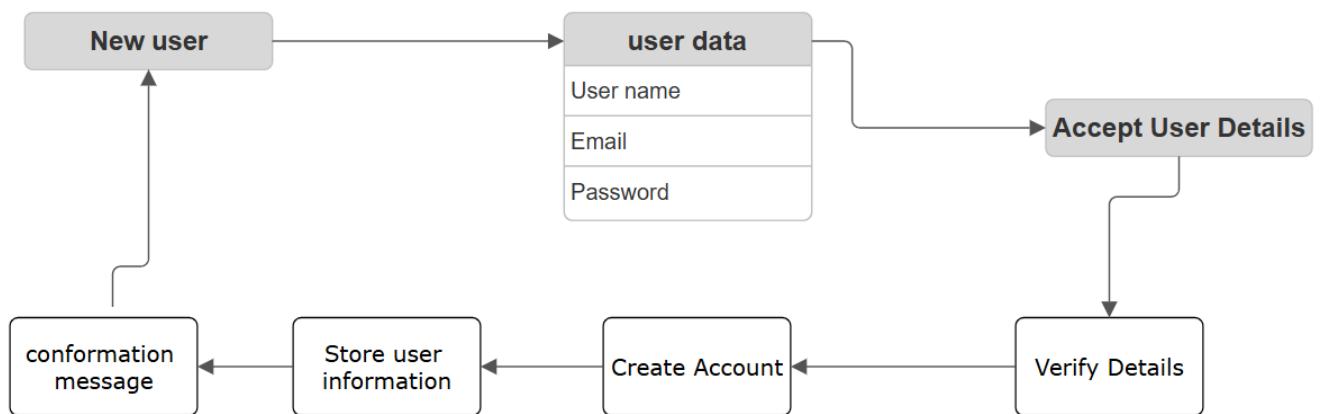
- **Input Validation:** Ensures required fields are filled correctly.
- **Data Storage:** Securely saves user credentials during sign-in.
- **Authentication:** Validates and authorizes user access during login.

- **Session Management:** Provides secure token-based session handling.

This DFD ensures a structured and secure flow of user information, enhancing data integrity and privacy for FarmConnect users.



Data Flow Diagram for User Login



Data Flow Diagram for User Sign in (User Registration)

Chapter-6: Source Code

HTML Snippets: This section includes the snippets about the different pages which were build using html

Index.html

```
<!DOCTYPE html>

<html lang="en">

<head>

    <!-- Bootstrap CSS from node_modules -->
    <link rel="stylesheet" href="/node_modules/bootstrap/dist/css/bootstrap.min.css">
    <!-- ./node_modules/bootstrap/dist/css/bootstrap.min.css -->

    <!-- Favicon -->
    <link rel="shortcut icon" href=".assets/vector/icon.ico" type="image/x-icon">
    <!-- Stylesheets -->
    <link rel="stylesheet" href=".assets/styles/main_screen.css">
    <link rel="stylesheet" href=".assets/styles/style.css">
    <title>FarmConnect</title>
    <!-- Scripts -->
    <script src=".Scripts/language.js"></script>
    <script src=".Scripts/app.js"></script>
    <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/font-awesome.min.css">
</head>
<body>
    <nav class="navbar navbar-expand-lg bg-light fixed-top" id="NAVBAR">
        <div class="container-fluid" id="innerNavBarDiv">
            <a class="navbar-brand text-white" target="_blank" style="min-width: 100px">
```

```
<div class="rounded-circle">  
  <h3 id="navH3" class="rounded-circle">FC</h3>  
</div>  
</a>  
  
<button  
  class="navbar-toggler bg-light"  
  type="button"  
  data-bs-toggle="collapse"  
  data-bs-target="#navbarSupportedContent"  
  aria-controls="navbarSupportedContent"  
  aria-expanded="false"  
  aria-label="Toggle navigation">  
  <span class="navbar-toggler-icon"></span>  
</button>  
  
<div class="collapse navbar-collapse" id="navbarSupportedContent">  
  <ul class="navbar-nav me-auto mb-2 mb-lg-0">  
    <li class="nav-item">  
      <a data-lang="nav1" class="nav-link" href=".index.html">Home</a>  
    </li>  
    <li class="nav-item">  
      <a data-lang="nav2" class="nav-link" href=".learning.html">Learning</a>  
    </li>  
    <li class="nav-item">  
      <a data-lang="nav3" class="nav-link" href=".shop.html">Shop</a>  
    </li>  
    <li class="nav-item">  
      <a data-lang="nav4" class="nav-link" href=".about.html">About</a>  
    </li>
```

```
</ul>

<ul class="navbar-nav ms-auto">
  <li class="nav-item">
    <a class="nav-link" id="signinbutton" href="sign_.html" role="button">Sign
    in</a>
  </li>
  <li class="nav-item dropdown">
    <a
      class="nav-link dropdown-toggle"
      data-lang="nav5"
      id="languageDropdown"
      role="button"
      data-bs-toggle="dropdown"
      aria-expanded="false" >
      Language
    </a>
    <ul
      class="dropdown-menu dropdown-menu-end"
      aria-labelledby="languageDropdown"
    >
      <li>
        <button class="dropdown-item" onclick="selectLanguage('en')">
          English
        </button>
      </li>
      <li>
        <button class="dropdown-item" onclick="selectLanguage('hi')">
```

```
Hindi
    </button>
</li>
<li>
    <button class="dropdown-item" onclick="selectLanguage('te')">
        Telugu
    </button>
</li>
</ul>
</li>
</ul>
</div>
</div>
</nav>

<div class="parentCoverPic">
    <div class="coverImage slider_container">
        <div class="slider">
            <div class="slide one">
                
            </div>
            <div class="slide one">
                
                <span class="caption">The Earth Provides, We Cultivate.</span>
            </div>
            <div class="slide tw0">
                
                <span class="caption">Cultivating a Better Future. </span>
            </div>
        </div>
    </div>
</div>
```

```
</div>

<div class="slide three">
    
    <span class="caption"> Grow with Nature. </span>
</div>

<div class="slide four">
    
    <span class="caption">
        Hands in the soil, heart in the harvest.</spam >
    </span>
</div>

<div class="slide five">
    
    <span class="caption">Sustainable Harvest. </span>
</div>
</div>

<div class="testimonial">
    <h2 align="center" style="background-color: #e8f5e9; color: #115a2e">
        Testimonials
    </h2>
    <div class="outerdiv">
        <div class="innerdiv">
            <!-- div1 -->
            <div class="div1 eachdiv">
                <div class="userdetails">
                    <div class="imgbox">
```

```
  
</div>  
  
<div class="detbox">  
    <p class="name">Rajesh Kumar, Farmer, Uttar Pradesh</p>  
    <p class="designation">Verified User</p>  
    </div>  
</div>  
  
<div class="review">  
    <h4>  
        FarmConnect has completely transformed my farming practices.  
        Their crop education resources helped me choose the right crops  
        for my soil and climate. Plus, the fertilizers I ordered arrived  
        on time and worked wonders. Highly recommend!  
    </h4>  
    </div>  
</div>  
  
<!-- div2 -->  
  
<div class="div2 eachdiv">  
    <div class="userdetails">  
        <div class="imgbox">  
            

```

```
</div>

<div class="detbox">

```

```
    <p class="name">Amit Sharma, Organic Farmer, Rajasthan</p>

```

```
    <p class="designation">Verified User</p>

```

```
</div>

```

```
</div>

<div class="review">

```

```
    <h4>The team was very supportive</h4>

```

```
    <p>

```

```
        "I was skeptical at first, but FarmConnect proved to be a

```

```
        lifesaver. Their sustainable farming tips not only improved my

```

```
        crop yield but also reduced my costs. The quality of their seeds

```

```
        is exceptional!)"

```

```
    </p>

```

```
</div>

```

```
</div>

<!-- div3 -->

```

```
<div class="div3 eachdiv">

```

```
    <div class="userdetails">

```

```
        <div class="imgbox">

```

```
            

```

```
</div>
```

```
<div class="detbox">  
    <p class="name dark">Karthika Naidu, Farmer, Telangana</p>  
    <p class="designation dark">Verified User</p>  
</div>  
</div>  
  
<div class="review dark">  
    <h4>Such a life-changing experience. Highly recommended!</h4>  
    <p>  
        “ The best part about FarmConnect is the customer support. They  
        patiently explained everything about seasonal crops in Hindi. It  
        feels like they genuinely care about the farmers' success. Truly  
        a trusted partner!.FarmConnect's home delivery of farming  
        supplies has saved me so much time and effort. The pesticides  
        and fertilizers they deliver are of top-notch quality. I can't  
        thank them enough for their reliable service”  
    </p>  
    </div>  
</div>  
  
<!-- div4 -->  
  
<div class="div4 eachdiv">  
    <div class="userdetails">  
        <div class="imgbox">  
              
        </div>  
    </div>
```

```
<div class="detbox">  
    <p class="name dark">Manoja Yadav, Farmer, Madhya Pradeshn</p>  
    <p class="designation dark">Verified User</p>  
</div>  
</div>  
  
<div class="review dark">  
    <h4>An overall wonderful and rewarding experience</h4>  
    <p>  
        “ "For years, I struggled with inconsistent yields, but  
        FarmConnect's crop education helped me understand the needs of  
        my crops better. ”  
    </p>  
    </div>  
</div>  
  
<!-- div5 -->  
  
<div class="div5 eachdiv">  
    <div class="userdetails">  
        <div class="imgbox">  
             </div>  
        <div class="detbox">  
            <p class="name">Harinder Singh, Farmer, Punjab</p>  
            <p class="designation">Verified User</p>  
        </div>  
    </div>  
    <div class="review">
```

<h4>

Awesome teaching support from TAs who did the bootcamp themselves. Getting guidance from them and learning from their experiences was easy.

</h4><p>“Being able to access farming knowledge in Hindi made all the difference for me. FarmConnect's user-friendly platform is a game changer for farmers like me who want to stay informed and updated.”

</p></div></div></div></div></div>

<div class="container">

<footer class="d-flex flex-wrap justify-content-between align-items-center py-3 my-4 border-top">
<div class="col-md-4 d-flex align-items-center">

<svg class="bi" width="30" height="24"><use
xlink:href="#bootstrap"></use></svg>

Priyanshu Kumar

</div>

<div class="socialhadle">

<i class="fa fa-github fa-2x" aria-hidden="true" ></i>

<i
class="fa fa-instagram fa-2x" aria-hidden="true" ></i>

<a href="https://www.linkedin.com/in/priyanshu-kumar-
97898424a/" target="_blank"><i class="fa fa-linkedin-square fa-2x" aria-
hidden="true" ></i>

```
<a href="https://leetcode.com/u/priyanshu-k1/" target="_blank"><i class="fa fa-code fa-2x" aria-hidden="true"></i></a>

</div>

</footer>

</div>

<script src="/node_modules/bootstrap/dist/js/bootstrap.bundle.min.js"></script>

</body>

</html>
```

Learning.html

```
<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8" />

<meta name="viewport" content="width=device-width, initial-scale=1.0" />

<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css" rel="stylesheet"

integrity="sha384-QWTKZyjpPEjISv5WaRU9OFeRpok6YctnYmDr5pNlyT2bRjXh0JMhjY6hW+ALEwIH" crossorigin="anonymous" />

<link href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/6.4.0/css/all.min.css" rel="stylesheet" />

<link rel="stylesheet" href=".assets/styles/teaching.css" />

<link rel="stylesheet" href=".assets/styles/main_screen.css" />

<link rel="stylesheet" href=".assets/styles/style.css" />

<link rel="shortcut icon" href=".assets/vector/icon.ico" type="image/x-icon" />

<title>FarmConnect</title>

<script src=".Scripts/language.js"></script>

<script src=".Scripts/app.js"></script>

<link rel="stylesheet"
```

```
    href="https://fonts.googleapis.com/css2?family=Material+Symbols+Outlined:opsz,wght,FILL,GRAD@20..48,100..700,0..1,-50..200" />

    <link rel="stylesheet"
    href="https://cdnjs.cloudflare.com/ajax/libs/animate.css/4.1.1/animate.min.css" />

    <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/font-awesome.min.css">

</head>

<body>

<nav class="navbar navbar-expand-lg bg-light fixed-top" id="NAVBAR">

<div class="container-fluid" id="innerNavBarDiv">

    <a class="navbar-brand text-white" href="https://priyanshu-k1.github.io/FarmConnect/main.html" target="_blank"
        style="min-width: 100px">

        <div class="rounded-circle">
            <h3 id="navH3" class="rounded-circle">
                FC
            </h3>
        </div>
    </a>

    <button class="navbar-toggler bg-light" type="button" data-bs-toggle="collapse"
        data-bs-target="#navbarSupportedContent" aria-
        controls="navbarSupportedContent" aria-expanded="false"
        aria-label="Toggle navigation">
        <span class="navbar-toggler-icon"></span>
    </button>

    <div class="collapse navbar-collapse" id="navbarSupportedContent">
        <ul class="navbar-nav me-auto mb-2 mb-lg-0">
            <li class="nav-item">
```

```
<a data-lang="nav1" class="nav-link" href="index.html">Home</a>
</li>

<li class="nav-item">
  <a data-lang="nav2" class="nav-link" href="learning.html">
    Teaching</a>
  >
</li>

<li class="nav-item">
  <a data-lang="nav3" class="nav-link" href="shop.html">Shop</a>
</li>

<li class="nav-item">
  <a data-lang="nav4" class="nav-link" href="about.html">about</a>
</li>
</ul>

<ul class="navbar-nav ms-auto">
  <li class="nav-item">
    <a class="nav-link" id="signinbutton" href="sign_.html" role="button">Sign in</a>
  </li>
  <li class="nav-item dropdown">
    <a
      class="nav-link dropdown-toggle"
      data-lang="nav5"
      id="languageDropdown"
      role="button"
      data-bs-toggle="dropdown"
      aria-expanded="false"
    >
      Language
    </a>
  </li>
</ul>
```

```
</a>

<ul
  class="dropdown-menu dropdown-menu-end"
  aria-labelledby="languageDropdown"
>

<li>
  <button class="dropdown-item" onclick="selectLanguage('en')">
    English
  </button>
</li>

<li>
  <button class="dropdown-item" onclick="selectLanguage('hi')">
    Hindi
  </button>
</li>

<li>
  <button class="dropdown-item" onclick="selectLanguage('te')">
    Telugu
  </button>
</li>

</ul>
</li>
</ul>
</div>
</div>
</nav>

<div id="titleDiv">
```

```
<h3 class=" auto-text text-light"></h3>
</div>

<div id="contentArea">
  <div class="searchBar">
    <div class="search-wrapper">
      <div class="search-box">
        <i class="fas fa-search search-icon"></i>
        <input type="text" class="form-control search-input" placeholder="Search for crops..." id="cropinputbox" data-placeholder="TeachingSearchPlaceHolder">
        <button class="btn btn-primary search-button " onclick="searchCrops()" data-lang="TeachingSearchButton">
          Search
        </button>
      </div>
    </div>
  </div>
  <div class="infoCard">
    <div class="cropData">
      <div class="imgArea" id="imgArea">
        
      </div>
      <div class="detailsArea" id="detailsArea">
        <h1 class="cropname text-light" id="cropname" align="center">Crop name will be here</h1>
        <div class="otherDeatils">
          <div class="outputBox">
            <div class="bundle">
              <label class="outputElements" data-lang="label1">Temperature: </label>
            </div>
          </div>
        </div>
      </div>
    </div>
  </div>
</div>
```

```
<p class="outputElements" id="Temp">Temp is here</p>
</div>

<div class="bundle">
    <label class="outputElements" data-lang="label2">Season: </label>
    <p class="outputElements" id="season">season is here</p>
</div>
</div>
</div>

<div class="outputBox">
    <div class="bundle">
        <label class="outputElements" data-lang="label3">Duration : </label>
        <p class="outputElements" id="Duration">Duration is here</p>
    </div>
</div>

<div class="bundle"><label class="outputElements" data-lang="label4">Soil:</label>
    <p class="outputElements" id="Soil">Soil is here</p>
</div>
</div>

<div class="outputBox">
    <div class="bundle"><label class="outputElements" data-lang="label5">Water :</label>
        <p class="outputElements" id="Water">Water is here</p>
    </div>
</div>
```

```
<div class="bundle">
    <label class="outputElements" data-lang="label6">Irrigation : </label>
    <p class="outputElements" id="Irrigation">Irrigation is here</p>
</div>

</div>

<div class="outputBox">
    <div class="bundle"><label class="outputElements" data-
lang="label7">Fertilizers : </label>
    <p class="outputElements" id="Fertilizers">Fertilizers is here</p>
    </div>

    <div class="bundle"> <label class="outputElements" data-lang="label8">Pests:
    </label>
    <p class="outputElements" id="Pests">Pests is here</p>
    </div>

    </div>

    </div>
</div>
</div>
</div>
</div>
</div>
</div>
</div>
</div>
</div>
<div class="container">
    <footer class="d-flex flex-wrap justify-content-between align-items-center py-3 my-4
border-top">
        <div class="col-md-4 d-flex align-items-center">
```

```
<a href="/" class="mb-3 me-2 mb-md-0 text-muted text-decoration-none lh-1">  
    <svg class="bi" width="30" height="24"><use  
xlink:href="#bootstrap"></use></svg>  
</a>  
  
<span class="mb-3 mb-md-0 text-muted">Priyanshu Kumar</span>  
</div>  
  
  
<div class="socialhadle">  
    <a href="https://github.com/priyanshu-k1" target="_blank"><i class="fa fa-  
github fa-2x" aria-hidden="true" ></i></a>  
  
    <a  
    href="https://www.instagram.com/why.not.priyanshuhuuu/?hl=en" target="_blank"><i  
    class="fa fa-instagram fa-2x" aria-hidden="true"></i></a>  
  
    <a href="https://www.linkedin.com/in/priyanshu-kumar-  
97898424a/" target="_blank"><i class="fa fa-linkedin-square fa-2x" aria-  
hidden="true"></i></a>  
  
    <a href="https://leetcode.com/u/priyanshu-k1/" target="_blank"><i class="fa fa-  
code fa-2x" aria-hidden="true"></i></a>  
  
</div>  
  
</footer>  
</div>  
  
<script  
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"  
integrity="sha384-YvpcrYf0tY3lHB60NNkmXc5s9fDVZLESaAA55NDzOxhy9GkclslK1eN7N6jleHz"  
crossorigin="anonymous"></script>  
  
<script src="https://cdn.jsdelivr.net/npm/typed.js@2.0.12"></script>  
  
<script  
src="https://cdnjs.cloudflare.com/ajax/libs/animejs/2.0.2/anime.min.js"></script>  
  
<script>  
var typed = new Typed(".auto-text", {
```

```
        strings: [
            "FarmConnect.",
            "Grow with Nature.",
            "The Earth Provides, We Cultivate.",
            "Learn,Buy,Farm"
        ],
        typeSpeed: 150,
        backSpeed: 150,
        loop: true,
    });
</script>
</body>
</html>
```

Shop.html

```
<!DOCTYPE html>

<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <link
      rel="stylesheet"
      href="/node_modules/bootstrap/dist/css/bootstrap.min.css"
    />
    <link
      rel="shortcut icon"
      href="./assets/vector/icon.ico"
      type="image/x-icon" />
    <link rel="stylesheet" href="./assets/styles/main_screen.css" />
    <link rel="stylesheet" href="./assets/styles/shop.css" />
    <!-- Single link for Material Symbols -->
    <link
      href="https://fonts.googleapis.com/css2?family=Material+Symbols+Outlined"
      rel="stylesheet"/>
    <!-- Shopping cart icon -->
    <span class="material-symbols-outlined nav-link" id="cart">
      shopping_cart
    </span>
    <!-- Add shopping cart icon -->
    <span class="material-symbols-outlined">add_shopping_cart</span>
    <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/font-awesome.min.css">
```

```
<script src=".//Scripts/language.js"></script>

<script src=".//Scripts/app.js"></script>

<title>FarmConnect</title>

</head>

<body>

<nav class="navbar navbar-expand-lg bg-light fixed-top" id="NAVBAR">

<div class="container-fluid" id="innerNavBarDiv">

<a

    class="navbar-brand text-white"

    href=""

    target="_blank"

    style="min-width: 100px >

        <div class="rounded-circle">

            <h3 id="navH3" class="rounded-circle">FC</h3>

        </div>

    </a>

<button

    class="navbar-toggler bg-light"

    type="button"

    data-bs-toggle="collapse"

    data-bs-target="#navbarSupportedContent"

    aria-controls="navbarSupportedContent"

    aria-expanded="false"

    aria-label="Toggle navigation">

        <span class="navbar-toggler-icon"></span>

    </button>

<div class="collapse navbar-collapse" id="navbarSupportedContent">

    <ul class="navbar-nav me-auto mb-2 mb-lg-0">
```

```
<li class="nav-item">
    <a data-lang="nav1" class="nav-link" href="index.html">Home</a>
</li>

<li class="nav-item">
    <a data-lang="nav2" class="nav-link" href="learning.html">
        Learning</a>
    </li>

<li class="nav-item">
    <a data-lang="nav3" class="nav-link" href="shop.html">Shop</a>
</li>

<li class="nav-item">
    <a data-lang="nav4" class="nav-link" href="about.html">about</a>
</li>
</ul>

<ul class="navbar-nav ms-auto">
    <li class="nav-item">
        <div class="cart-icon">
            <span class="material-symbols-outlined nav-link" id="cart"
                onclick="showCart()">
                shopping_cart
            </span>
            <span id="cart-count" class="cart-badge">0</span>
        </div>
    </li>
    <li class="nav-item">
        <a class="nav-link" id="signinbutton" href="sign_.html" role="button">Sign
            in</a>
    </li>
    <li class="nav-item dropdown">
```

```
<a  
    class="nav-link dropdown-toggle"  
    data-lang="nav5"  
    id="languageDropdown"  
    role="button"  
    data-bs-toggle="dropdown"  
    aria-expanded="false">  
    Language  
</a>  
  
<ul  
    class="dropdown-menu dropdown-menu-end"  
    aria-labelledby="languageDropdown">  
  
<li>  
    <button class="dropdown-item" onclick="selectLanguage('en')">  
        English  
    </button>  
</li>  
  
<li>  
    <button class="dropdown-item" onclick="selectLanguage('hi')">  
        Hindi  
    </button>  
</li>  
  
<li>  
    <button class="dropdown-item" onclick="selectLanguage('te')">  
        Telugu  
    </button>  
</li>  
</ul>
```

```
</li>

</ul>

</div>

</div>

</nav>

<div class="logoArea">
    
    <span class="covercaption">One place for all your needs.</span>
</div>

<div class="mainbody">
    <div class="itemholder" id="itemholder">

        </div>
    </div>

    <div class="container">
        <footer class="d-flex flex-wrap justify-content-between align-items-center py-3 my-4 border-top">
            <div class="col-md-4 d-flex align-items-center">
                <a href="/" class="mb-3 me-2 mb-md-0 text-muted text-decoration-none lh-1">
                    <svg class="bi" width="30" height="24"><use xlink:href="#bootstrap"></use></svg>
                </a>
                <span class="mb-3 mb-md-0 text-muted">Priyanshu Kumar</span>
            </div>

            <div class="socialhadle">
```

```

    <a href="https://github.com/priyanshu-k1" target="_blank"><i class="fa fa-
github fa-2x" aria-hidden="true" ></i></a>

    <a
    href="https://www.instagram.com/why.not.priyanshuhuuu/?hl=en" target="_blank"><i
    class="fa fa-instagram fa-2x" aria-hidden="true"></i></a>

    <a href="https://www.linkedin.com/in/priyanshu-kumar-
97898424a/" target="_blank"><i class="fa fa-linkedin-square fa-2x" aria-
hidden="true"></i></a>

    <a href="https://leetcode.com/u/priyanshu-k1/" target="_blank"><i class="fa fa-
code fa-2x" aria-hidden="true"></i></a>

</div>
</footer>
</div>
</div>
<script src="/node_modules/bootstrap/dist/js/bootstrap.bundle.min.js"></script>
</body>
</html>

```

CSS Snippets: This section includes the snippets about the different pages which were Styled using CSS.

Main_screen.css

```

@import
url("https://fonts.googleapis.com/css2?family=Poppins:ital,wght@0,10
0;0,200;0,300;0,400;0,500;0,600;0,700;0,800;0,900;1,100;1,200;1,300;1
,400;1,500;1,600;1,700;1,800;1,900&display=swap");

@import
url("https://fonts.googleapis.com/css2?family=Jersey+25&family=Mon
tserrat:ital,wght@0,100..900;1,100..900&family=Poppins:ital,wght@0,
100;0,200;0,300;0,400;0,500;0,600;0,700;0,800;0,900;1,100;1,200;1,30
0;1,400;1,500;1,600;1,700;1,800;1,900&display=swap");

```

```
@import
url("https://fonts.googleapis.com/css2?family=Jersey+10&display=swap");

@import
url("https://fonts.googleapis.com/css2?family=Sedgwick+Ave+Display&display=swap");

@import
url("https://fonts.googleapis.com/css2?family=Lugrasimo&family=Sedgwick+Ave+Display&display=swap");

@import
url("https://fonts.googleapis.com/css2?family=Lugrasimo&family=Sedgwick+Ave+Display&family=Tiro+Devanagari+Hindi:ital@0;1&display=swap");

@import
url("https://fonts.googleapis.com/css2?family=Lugrasimo&family=Roboto:ital,wght@0,100;0,300;0,400;0,500;0,700;0,900;1,100;1,300;1,400;1,500;1,700;1,900&family=Sedgwick+Ave+Display&family=Tiro+Devanagari+Hindi:ital@0;1&display=swap");

@import
url("https://fonts.googleapis.com/css2?family=Bebas+Neue&family=Lugrasimo&family=Roboto:ital,wght@0,100;0,300;0,400;0,500;0,700;0,900;1,100;1,300;1,400;1,500;1,700;1,900&family=Sedgwick+Ave+Display&family=Tiro+Devanagari+Hindi:ital@0;1&display=swap");

@import
url("https://fonts.googleapis.com/css2?family=Bebas+Neue&family=Bla
```

```
padding: 0;  
margin: 0;  
border: 0;  
box-sizing: border-box;  
}  
  
::-webkit-scrollbar {  
width: 7px;  
}  
  
::-webkit-scrollbar-track {  
background: #f1f1f1;  
}  
  
::-webkit-scrollbar-thumb {  
background:#198754;  
border-radius:10px;  
}  
  
::-webkit-scrollbar-thumb:hover {  
background: #555;  
}  
  
/* Body css */  
  
body {  
overflow-x: hidden;  
}  
  
/* Nav bar CSS */  
  
#navH3 {
```

```
display: flex;  
align-items: center;  
justify-content: center;  
height: 3rem;  
width: 3rem;  
animation: levitate 3s ease-in-out infinite alternate;  
}  
  
a {  
float: left;  
}  
  
/* a {  
filter: drop-shadow(5px 0px 10px #6554af);  
transition: filter 0.6s ease-in;  
} */  
  
#h3Text {  
color: #3a434c;  
}  
  
  
body {  
background-color: #f8f8f6; /* Light beige */  
color: #2e2e2e; /* Dark text for readability */  
}  
  
#NAVBAR .navbar-brand h3 {  
background-color: #d9c8b1; /* Warm beige */  
color: #ffffff; /* White text for contrast */
```

```
}

#NAVBAR .nav-link {
    color: #d9c8b1 !important; /* Warm beige links */
}

#innerNavBarDiv{
    background-color: #323e1e
}

#NAVBAR .nav-link:hover {
    color: #ffffff !important; /* White on hover */
}

#languageDropdown,
.dropdown-item {
    color: #2e2e2e; /* Text color for dropdown */
}

.dropdown-item:hover {
    background-color: #5a8a0f; /* Green on hover */
    color: #ffffff;
}

.slider_container .caption {
    background-color: rgba(90, 138, 15, 0.8); /* Deep green with
transparency */
    color: #ffffff; /* White text */
    padding: 5px 10px;
    border-radius: 5px;
}

h2 {
```

```
background-color: #e8f5e9; /* Pale green */  
color: #5a8a0f; /* Deep green */  
}  
  
button {  
background-color: #5a8a0f; /* Deep green */  
color: #ffffff;  
}  
  
button:hover {  
background-color: #d9c8b1; /* Beige on hover */  
}  
  
@keyframes levitate {  
0% {  
transform: translateY(0);  
}  
50% {  
transform: translateY(-4px);  
filter: drop-shadow(5px 0px 10px #6554af);  
}  
100% {  
transform: translateY(0);  
}  
}  
  
/* Cover picture parent div css */  
.parentCoverPic {  
display: flex;
```

```
width: 100vw;  
height: 98vh;  
align-items: center;  
justify-content: center;  
flex-direction: column;  
background-color:#E8F5E9;  
margin-top:3rem;  
border-radius: 10px; /* Optional: to add rounded corners */  
overflow: hidden  
}  
/* Cover picture css */  
.coverImage {  
width: 80%;  
max-width: 64rem; /* Maximum width */  
height: 100%;  
max-height: 30rem; /* Maximum height */  
border-radius: 15px;  
overflow: hidden;  
box-shadow: 0 1px 1px rgba(0, 0, 0, 0.15),  
0 2px 2px rgba(0, 0, 0, 0.15),  
0 4px 4px rgba(0, 0, 0, 0.15),  
0 8px 8px rgba(0, 0, 0, 0.15);  
}  
.slider_container {  
position: relative;
```

```
display: flex;  
justify-content: flex-start;  
align-items: center;  
overflow: hidden;  
}  
  
.slider {  
position: relative;  
width: 400%;  
height: 100%;  
display: flex;  
flex-direction: row;  
align-items: center;  
justify-content: space-between;  
animation: 30s cubic-bezier(1, 0.95, 0.565, 1) sliding infinite;  
}  
  
.slide {  
position: relative;  
min-width: 100%;  
height: 100%;  
}  
  
.slide img {  
width: 100%;  
height: 100%;  
/* object-fit:cover; Ensures proper resizing and cropping */  
}
```

```
.slide .caption {  
    position: absolute;  
    left: 0;  
    bottom: 5%;  
    font-size: 2rem;  
    font-weight: 400;  
    color: white;  
    text-transform: capitalize;  
    background: rgba(0, 0, 0, 0.348);  
    backdrop-filter: blur(10px);  
    padding: 1rem 5rem;  
    border-radius: 0 2rem 2rem 0;  
    white-space: nowrap; /* Prevents text wrapping */  
    overflow: hidden;  
}  
  
@keyframes sliding {  
    0% {  
        transform: translateX(0%);  
    }  
    20% {  
        transform: translateX(0%);  
    }  
    25% {  
        transform: translateX(-100%);  
    }  
}
```

```
        }

    45% {

        transform: translateX(-100%);

    }

    50% {

        transform: translateX(-200%);

    }

    70% {

        transform: translateX(-200%);

    }

    75% {

        transform: translateX(-300%);

    }

    90% {

        transform: translateX(-300%);

    }

    95%{

        transform: translateX(-400%);

    }

    100% {

        transform: translateX(-400%);

    }

}
```

.socialhadle{

```
display: flex;  
align-items: center;  
justify-content: center;  
gap: 30px;  
height:30%;  
}  
  
.fa{  
color: #0d0f12;  
transition: transform 0.6s ease-in-out;  
}  
  
.fa:hover{  
transform: scale(1.1);  
}  
  
/* Responsive Design */  
@media (max-width: 768px) {  
 .coverImage {  
 width: 90%; /* Reduced width for smaller screens */  
 height: 50%;  
 }  
  
.slider {  
 animation: 20s cubic-bezier(1, 0.95, 0.565, 1) sliding infinite; /*  
Faster animation */  
}
```

```
.slide .caption {  
    font-size: 1rem; /* Smaller text size */  
    padding: 0.5rem 2rem;  
}  
  
}  
  
@media (max-width: 480px) {  
    .parentCoverPic {  
        height: auto; /* Allow flexible height */  
    }  
  
.coverImage {  
    width: 100%; /* Full width for mobile */  
    height: auto; /* Maintain aspect ratio */  
}  
  
}  
  
.slide .caption {  
    font-size: 0.8rem;  
    padding: 0.3rem 1.5rem;  
}  
  
}
```

JS Snippets: This section includes the snippets of the JS code which are used to perform the functionality.

app.js

Search Crop function:



```
1  async function searchCrops() {
2    const inputBox = document.getElementById("cropinputbox").value.trim().toLowerCase();
3    const lang = localStorage.getItem("selectedLanguage") || "en";
4
5    // Format the crop name (capitalize first letter)
6    const formattedInput = inputBox.charAt(0).toUpperCase() + inputBox.slice(1);
7
8    if (!formattedInput) {
9      alert("Please enter a crop name.");
10     return;
11   }
12
13  try {
14    const response = await fetch("http://localhost:3000/api/getCropDetails", {
15      method: "POST",
16      headers: { "Content-Type": "application/json" },
17      body: JSON.stringify({ cropName: formattedInput, lang }),
18    });
19
20    if (!response.ok) {
21      throw new Error("Crop not found.");
22    }
23
24    const cropData = await response.json();
25
26    // Update the UI with crop details
27    updateUI(cropData, formattedInput);
28  } catch (error) {
29    alert(error.message);
30  }
31}
```

client-side registration function:

```
 1 document.addEventListener('DOMContentLoaded', function() {
 2   // Add event listener for the sign-in button (if any)
 3   const signinButton = document.getElementById('signin-btn');
 4   if(signinButton) {
 5     signinButton.addEventListener('click', function() {
 6       console.log('Sign-in button clicked');
 7     });
 8   }
 9
10  // Add event listener for signup form
11  const signupForm = document.getElementById('signupForm');
12  if(signupForm) {
13    signupForm.addEventListener('submit', async function(event) {
14      event.preventDefault();
15
16      const username = document.getElementById('usernameholder').value.trim();
17      const email = document.getElementById('emailholder').value.trim();
18      const password = document.getElementById('passwordholder').value.trim();
19
20      try {
21        const response = await fetch('http://localhost:3000/api/signup', {
22          method: 'POST',
23          headers: { 'Content-Type': 'application/json' },
24          body: JSON.stringify({ username, email, password })
25        });
26
27        if(response.ok) {
28          alert('Sign-up successful!');
29          localStorage.setItem("username", username);
30          window.location.href = './index.html';
31        } else {
32          const errorData = await response.json();
33          alert(errorData.error || 'Sign-up failed!');
34        }
35      } catch (error) {
36        console.error('Error during sign-up:', error);
37        alert('An unexpected error occurred.');
38      }
39    });
40  }
41
42  // Add event listener for login form
43  const loginForm = document.getElementById('loginForm');
44  if(loginForm) {
45    loginForm.addEventListener('submit', async function(event) {
46      event.preventDefault();
47
48      const email = document.getElementById('email').value.trim();
49      const password = document.getElementById('password').value.trim();
50
51      try {
52        const response = await fetch('http://localhost:3000/api/login', {
53          method: 'POST',
54          headers: { 'Content-Type': 'application/json' },
55          body: JSON.stringify({ email, password })
56        });
57
58        if(response.ok) {
59          const data = await response.json();
60          localStorage.setItem('username', data.username);
61          localStorage.setItem('token', data.token);
62          window.location.href = './index.html';
63        } else {
64          const errorData = await response.json();
65          alert(errorData.error || 'Login failed!');
66        }
67      } catch (error) {
68        console.error('Login error:', error);
69        alert('An unexpected error occurred.');
70      }
71    });
72  }
73
74  // Initialize cart if we're on the shop page
75  if(document.getElementById('itemholder')) {
76    updateCartCount();
77    fetchProducts();
78  }
79
80  // Update navigation state
81  const navLink = document.getElementById("signinbutton");
82  if(navLink) {
83    const username = localStorage.getItem('username');
84    if(username) {
85      const dropdownHTML = `
86        <div class="dropdown nav-item">
87          <button class="nav-link btn dropdown-toggle" type="button" id="userDropdown" data-bs-toggle="dropdown" aria-expanded="false">
88            Welcome, ${username}
89          </button>
90          <ul class="dropdown-menu" aria-labelledby="userDropdown">
91            <li><a class="dropdown-item" href="#" onclick="handleLogout()">Logout</a></li>
92          </ul>
93        </div>
94      `;
95      navLink.outerHTML = dropdownHTML;
96    } else {
97      navLink.textContent = 'Sign in';
98      navLink.href = 'sign_.html';
99    }
100  }
101});
```

client-side log in function:

```
● ● ●  
1 const loginForm = document.getElementById('loginForm');  
2 if (loginForm) {  
3   loginForm.addEventListener('submit', async function(event) {  
4     event.preventDefault();  
5  
6     const email = document.getElementById('email').value.trim();  
7     const password = document.getElementById('password').value.trim();  
8  
9     try {  
10       const response = await fetch('http://localhost:3000/api/login', {  
11         method: 'POST',  
12         headers: { 'Content-Type': 'application/json' },  
13         body: JSON.stringify({ email, password })  
14       });  
15  
16       if (response.ok) {  
17         const data = await response.json();  
18         localStorage.setItem('username', data.username);  
19         localStorage.setItem('token', data.token);  
20         window.location.href = './index.html';  
21       } else {  
22         const errorData = await response.json();  
23         alert(errorData.error || 'Login failed!');  
24       }  
25     } catch (error) {  
26       console.error('Login error:', error);  
27       alert('An unexpected error occurred.');  
28     }  
29   });  
30 }  
31 }
```

Client side log out function:

```
● ● ●  
1 function handleLogout() {  
2   localStorage.removeItem('username');  
3   localStorage.removeItem('token');  
4   window.location.href = './index.html';  
5 }
```

Server.js : Main function

```
● ● ●

1  async function searchCrops() {
2    const inputBox = document.getElementById("cropinputbox").value.trim().toLowerCase();
3    const lang = localStorage.getItem("selectedLanguage") || "en";
4
5    // Format the crop name (capitalize first letter)
6    const formattedInput = inputBox.charAt(0).toUpperCase() + inputBox.slice(1);
7
8    if (!formattedInput) {
9      alert("Please enter a crop name.");
10     return;
11   }
12
13  try {
14    const response = await fetch("http://localhost:3000/api/getCropDetails", {
15      method: "POST",
16      headers: { "Content-Type": "application/json" },
17      body: JSON.stringify({ cropName: formattedInput, lang }),
18    });
19
20    if (!response.ok) {
21      throw new Error("Crop not found.");
22    }
23
24    const cropData = await response.json();
25
26    // Update the UI with crop details
27    updateUI(cropData, formattedInput);
28  } catch (error) {
29    alert(error.message);
30  }
31 }
```

Search crop function backend



```
1 app.use('/assets', express.static(path.join(__dirname, './front-end/assets')));
2 app.get('/api/products', (req, res) => {
3   const query = 'SELECT * FROM products';
4   db.query(query, (err, results) => {
5     if (err) return res.status(500).json({ error: 'Database error' });
6     res.json(results);
7   });
8 });
```

Product rendering function



```
1 app.get('/api/cart/items', verifyToken, (req, res) => {
2   const userId = req.user.userId;
3
4   const query = `SELECT * FROM cart WHERE user_id = ? ORDER BY cart_id DESC`;
5
6   db.query(query, [userId], (err, results) => {
7     if (err) {
8       console.error('Error fetching cart items:', err);
9       return res.status(500).json({ error: 'Failed to fetch cart items' });
10    }
11    res.json(results);
12  });
13 });
14 );
```

Cart item display function



```
1 app.delete('/api/cart/remove/:cartId', verifyToken, (req, res) => {
2   const { cartId } = req.params;
3   const userId = req.user.userId;
4
5   const query = `DELETE FROM cart WHERE cart_id = ? AND user_id = ?`;
6
7   db.query(query, [cartId, userId], (err) => {
8     if (err) {
9       console.error('Error removing item:', err);
10      return res.status(500).json({ error: 'Failed to remove item' });
11    }
12    res.json({ message: 'Item removed from cart' });
13  });
14});
```

Delete item from cart function



```
1 app.post('/api/cart/add', verifyToken, (req, res) => {
2   const { product_name, price, image_url, quantity } = req.body;
3   const userId = req.user.userId;
4
5   const query = `INSERT INTO cart (user_id, product_name, price, image_url, quantity) VALUES (?, ?, ?, ?, ?)`;
6
7   db.query(query, [userId, product_name, price, image_url, quantity], (err) => {
8     if (err) {
9       console.error('Error adding to cart:', err);
10      return res.status(500).json({ error: 'Failed to add item to cart' });
11    }
12    res.status(201).json({ message: 'Item added to cart' });
13  });
14});
```

Add to cart function

```
1 class Rice {
2     pic = "/assets/crops/rice.png";
3     constructor(lang) {
4         if (lang === "hi") {
5             this.BestSeasonToGrow="खरीफ मौसम (मानसून सीजन). जून-जुलाई";
6             this.Duration="100-150 दिन";
7             this.Soil="विकासी दोमट या गाढ़युत दोमट मिट्टी";
8             this.WaterRequirement="पूरे बढ़ती मौसम के दौरान उच्च जल आवश्यकता। अधिकांश वृद्धि अवधि के लिए निरंतर जलभाराव आवश्यक है।";
9             this.Irrigation ="बाढ़ सिंचाइ";
10            this.Temperature="25-35°C";
11            this.Fertilizers="नाइट्रोजन, फास्फोरस, और पोटेशियम का संतुलित उपयोग अत्यंत महत्वपूर्ण है।";
12            this.Pests="कीट: तना कुच्छु, पत्तियाँ कूदने वाले कीट, फौजी कीड़े, लार्वा। ";
13        }
14    }
15    else if (lang === "te") {
16        this.BestSeasonToGrow="బుండ్ సీజన్ (ముస్కూన్ సీజన్): జూన్-జూలై";
17        this.Duration="100-150 దేళ్లలు";
18        this.Soil="ముట్టి లోప్పు లేదా ముట్టి తుమ్ముల ముట్టి";
19        this.WaterRequirement="ఎరుగుదల కాలం boyunca అధిక నీటి అవసరం. పెరుగుదల సమయంలో ఎక్కువ భాగం కోసం నిరంతర పరద అవసరం。";
20        this.Irrigation ="వరద నీరా సంరక్షణ";
21        this.Temperature="25-35°C";
22        this.Fertilizers="నైట్రోజన్, ఫాస్ఫోరస్, మరియు పొటాషిమియం సంతులితంగా ఉపయోగించడం అత్యంత ముఖ్యమైనది。";
23        this.Pests="కీటాలు: మెట్లు తీంచేవారు, ఇక్క జంపులు, అర్టీ వేటులు, లార్వాలు";
24    }
25    else {
26        this.BestSeasonToGrow = "Kharif Season (Monsoon Season): June-July";
27        this.Duration = "100-150 days";
28        this.Soil = "Clayey loam or silty loam soils";
29        this.WaterRequirements =
30            "High water requirement throughout the growing season. Continuous flooding is necessary for most of the growth period";
31        this.Irrigation = "Flood irrigation";
32        this.Temperature = "25-35°C";
33        this.Fertilizers =
34            "Balanced application of nitrogen, phosphorus, and potassium is crucial.";
35        this.Pests = "Pests: Stem borers, leaf hoppers, armyworms, grubs.";
36    }
37 }
38 }
39 // many other ....
```

Class to fetch the crop data



```
1  require('dotenv').config();
2  const mysql = require('mysql2');
3
4  const db = mysql.createConnection({
5      host: process.env.DB_HOST || 'localhost',
6      user: process.env.DB_USER || 'root',
7      password: process.env.DB_PASSWORD || '',
8      database: process.env.DB_NAME || 'GrowBeyondDB',
9  });
10
11 db.connect((err) => {
12     if (err) {
13         console.error('Database connection failed:', err);
14     } else {
15         console.log('Connected to SQL database');
16     }
17 });
18
19 module.exports = db;
20
```

DB connection function

```
1 router.post('/api/signup', async (req, res) => {
2   const { username, email, password } = req.body;
3   console.log({ username, email, password });
4
5   if (!username || !email || !password) {
6     return res.status(400).json({ error: 'All fields are required' });
7   }
8
9   try {
10    const userCheckQuery = `SELECT * FROM users WHERE email = ?`;
11    db.query(userCheckQuery, [email], async (err, results) => {
12      if (err) return res.status(500).json({ error: 'Database query error' });
13
14      if (results.length > 0) {
15        return res.status(409).json({ error: 'User already exists with this email' });
16      }
17
18      const hashedPassword = await bcrypt.hash(password, 10);
19      const query = `INSERT INTO users (username, email, password) VALUES (?, ?, ?)`;
20
21      db.query(query, [username, email, hashedPassword], (err, result) => {
22        if (err) return res.status(500).json({ error: 'User registration failed' });
23        res.status(201).json({ message: 'User registered successfully' });
24      });
25    });
26  } catch (error) {
27    res.status(500).json({ error: 'Internal server error' });
28  }
29});
```

User registration/sign in Function



```
1 router.post('/api/login', async (req, res) => {
2   const { email, password } = req.body;
3
4   try {
5     const query = `SELECT * FROM users WHERE email = ?`;
6     db.query(query, [email], async (err, results) => {
7       if (err) return res.status(500).json({ error: 'Database error' });
8
9       if (results.length === 0) return res.status(401).json({ error: 'Invalid credentials' });
10
11      const user = results[0];
12      const match = await bcrypt.compare(password, user.password);
13
14      if (match) {
15        const token = jwt.sign(
16          { userId: user.id, username: user.username },
17          JWT_SECRET,
18          { expiresIn: '1h' }
19        );
20        res.json({
21          token,
22          username: user.username,
23          message: 'Login successful'
24        );
25      } else {
26        res.status(401).json({ error: 'Invalid credentials' });
27      }
28    );
29  } catch (error) {
30    console.error('Login error:', error);
31    res.status(500).json({ error: 'Internal server error' });
32  }
33});
```

User login function

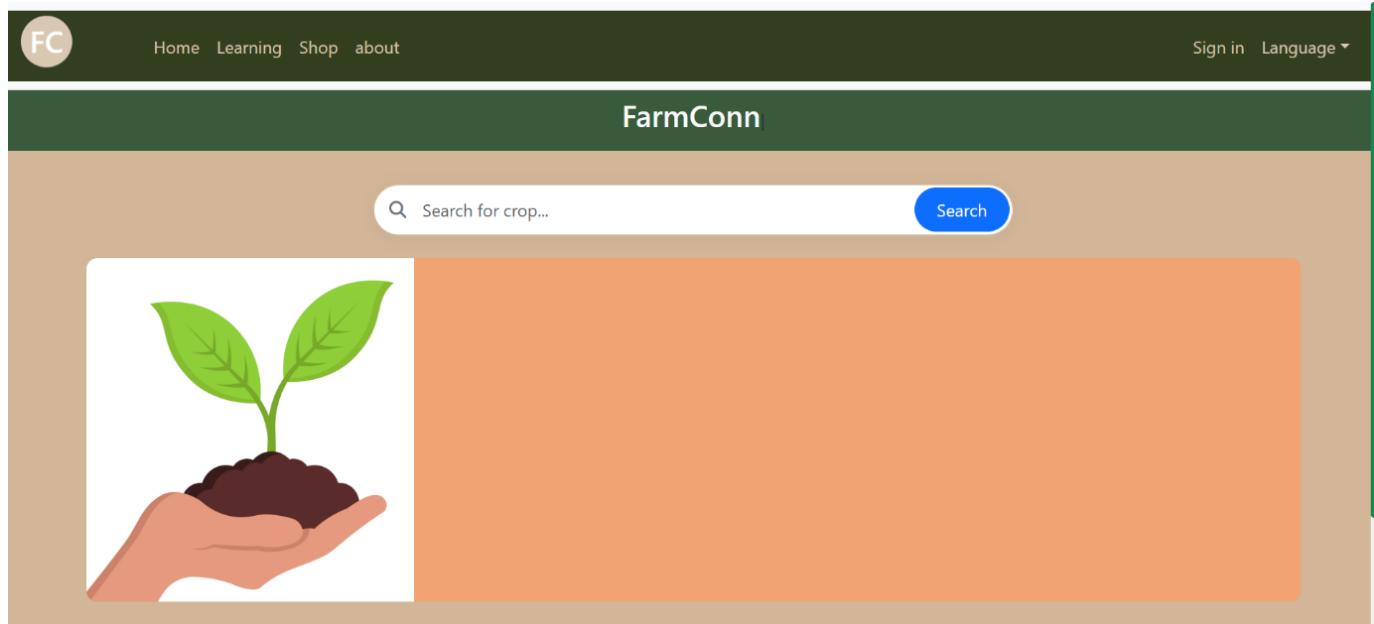
Chapter-7: Snap shots



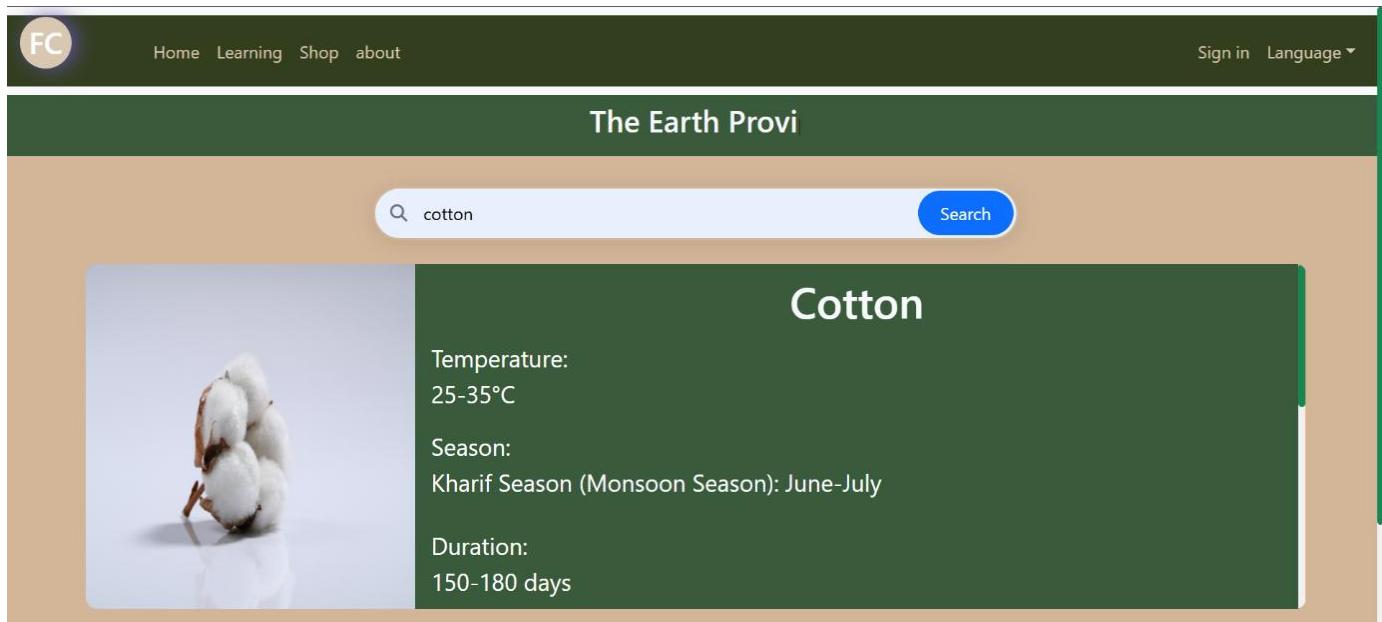
➤ Home Screen:

The image shows the Testimonials section of the FarmConnect website. The header "Testimonials" is displayed in green. There are four testimonial cards. The first card, highlighted in purple, belongs to Rajesh Kumar, a Farmer from Uttar Pradesh. He says: "FarmConnect has completely transformed my farming practices. Their crop education resources helped me choose the right crops for my soil and climate. Plus, the fertilizers I ordered arrived on time and worked wonders. Highly recommend!" The second card, in dark blue, belongs to Amit Sharma, an Organic Farmer from Rajasthan. He says: "The team was very supportive. ""I was skeptical at first, but FarmConnect proved to be a lifesaver. Their sustainable farming tips not only improved my crop yield but also reduced my costs. The quality of their seeds is exceptional!"" The third card, in light blue, belongs to Karthika Naidu, a Farmer from Telangana. She says: "Such a life-changing experience. Highly recommended! " The fourth card, in dark blue, belongs to Manoja Yadav, a Farmer from Madhya Pradesh, and Harinder Singh, a Farmer from Punjab. Both are verified users. They both say: "The best part about FarmConnect is the customer support. They patiently explained everything about seasonal crops in Hindi. It feels like they genuinely care about the farmers' success. Truly a trusted partner! FarmConnect's home delivery of farming supplies has saved me so much time"

➤ Learning page:



The screenshot shows the FarmConn website's learning page. At the top left is a circular logo with 'FC'. To its right are navigation links: Home, Learning, Shop, and about. On the far right are 'Sign in' and 'Language ▾'. The main title 'FarmConn' is centered above a search bar. The search bar contains the placeholder 'Search for crop...' and a blue 'Search' button. Below the search bar is a large image of a hand holding a small green seedling with two leaves growing out of dark brown soil.



This screenshot shows a learning page for cotton on 'The Earth Provision' website. The layout is similar to the first one, with a dark green header containing a 'FC' logo, navigation links, and user options. The main title 'The Earth Provi' is partially visible. Below the header is a search bar with the word 'cotton' and a blue 'Search' button. To the left of the search bar is an image of a cotton boll. To the right is a large green sidebar with the title 'Cotton' in white. Underneath the title are four facts: 'Temperature: 25-35°C', 'Season: Kharif Season (Monsoon Season): June-July', 'Duration: 150-180 days', and another fact that is partially cut off.

➤ Market place:

The screenshot shows a marketplace landing page. At the top, there's a navigation bar with a logo (FC), links for Home, Learning, Shop, and about, and a shopping cart icon with '0' indicating no items. Below the navigation is a large banner featuring a scenic view of a wheat field under a blue sky with white clouds. Overlaid on the banner is the word 'Marketplace' in a large, bold, white sans-serif font. A dark green horizontal bar across the middle of the banner contains the text 'One Place For All Your Needs.' in a smaller white font.

The screenshot shows a product grid on a marketplace website. The top navigation bar is identical to the one in the previous screenshot, with the FC logo, Home, Learning, Shop, about links, and a shopping cart icon with '0'. The main content area displays four products in separate cards:

- Atrazine WP**: An image of a green and white bag of Atrazine WP herbicide. Description: "Atrazine WP is a selective herbicide used to control a wide range of weeds." Best for: corn, sorghum, sugarcane. Price: 290.00₹. Buy Now button.
- Clorex Gold**: An image of a green plastic bottle of Clorex Gold insecticide. Description: "An insecticide containing Chlorpyrifos, an organophosphate insecticide." Best for: Cotton, potatoes. Price: 210.00₹. Buy Now button.
- Basagran**: An image of a yellow and white plastic container of Basagran herbicide. Description: "is a selective herbicide used to control a wide range of weeds, primarily broadleaf weeds." Best for: Rice, Soybeans. Price: 450.00₹. Buy Now button.
- Proflex Super**: An image of a green plastic bottle of Proflex Super insecticide. Description: "Super is an insecticide used to control a wide range of insect pests in various crops." Best for: Cotton, Vegetables. Price: 380.00₹. Buy Now button.

➤ Check out page:

Check Out

[Continue shopping](#)

Shopping cart 2

	Clorex Gold	₹210.00	Remove
	ATRAZINE WP	₹290.00	Remove

Shipping Address

Where's home? •••••
Address Pin code

Card details

Cardholder's Name
Cardholder's Name
1234 5678 9012 3457
Card Number

Check Out

[Home](#) [Learning](#) [Shop](#) [about](#)

Welcome, priyanshu-k1 Language ▾

	NPK	₹750.00	Remove
	Rogor	₹420.00	Remove
	NPK 21-0-0	₹650.00	Remove
	Panah Plus	₹290.00	Remove
	Clorex Gold	₹210.00	Remove

MM/YYYY •••
Expiration Cvv

Delivery	5 Days
Subtotal	₹3820
TAX	₹33
Total(Incl. taxes)	₹3853

[Checkout](#)

Order Confirmed

Your order has been confirmed. Thank you for shopping with us ❤️.

[Continue Shopping](#)

Priyanshu Kumar

➤ About page:

 Home Learning Shop about Welcome, priyanshu-k1 Language ▾

About Us

Welcome to FarmConnect, your trusted partner in farming and agriculture!

At FarmConnect, we are committed to empowering farmers with knowledge and resources to grow a better tomorrow. Our goal is to support you in making informed decisions about crops, their requirements, and effective agricultural practices—all in the language you are most comfortable with: English, Hindi, and Telugu.

What We Offer Crop Education We provide detailed information about various crops, including their water needs, soil type, temperature preferences, and more. Learn about pest management, fertilizers, and seasonal insights tailored to your region. Farming Resources Whether you need pesticides, fertilizers, or high-quality seeds, we've got you covered. We ensure timely delivery of all essential agricultural products right to your doorstep, saving you time and effort. Language Support We believe that knowledge is best understood in a language you are comfortable with. Our platform supports English, Hindi, and Telugu, making it accessible to farmers across India. Sustainable Solutions From organic farming tips to advanced sustainable practices, we guide you toward eco-friendly methods that benefit both your crops and the environment.

Why Choose Us? Farmer-Centric Approach: We prioritize your needs and challenges. Accessible Information: Our multilingual platform ensures that every farmer can access the guidance they need. Quality Assurance: All products delivered through us are tested and trusted for the best results. Affordable Solutions: We aim to make modern farming techniques and products accessible to all. Join us in cultivating a brighter future. Let's grow together with FarmConnect—because your success is our mission. Contact us today to learn more and explore the resources waiting for you!

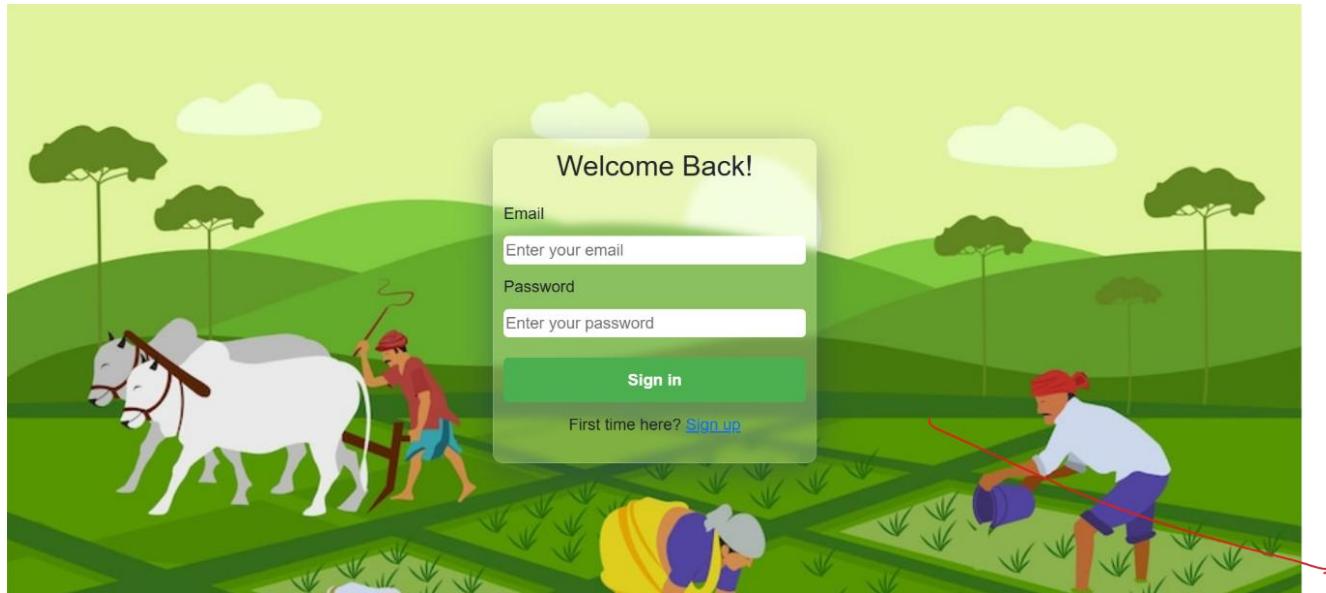
 Home Learning Shop about Welcome, priyanshu-k1 Language ▾



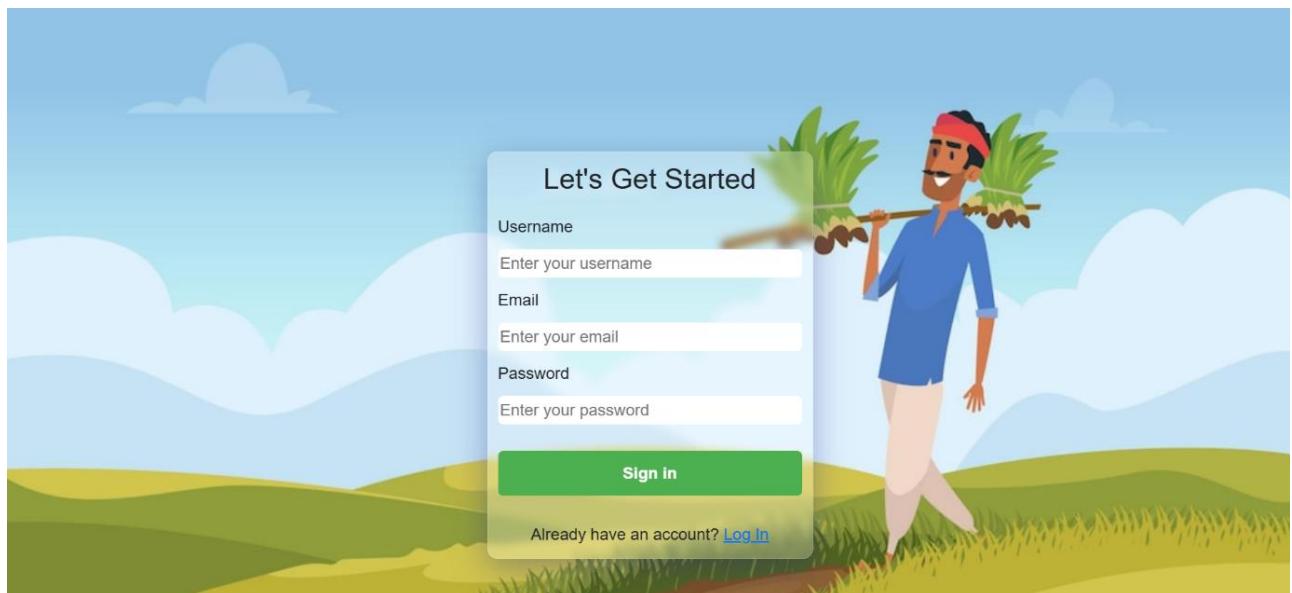
Priyanshu
kumar

Farming is our heritage,
innovation is our promise. Let's
nurture success, together.

➤ User login:



➤ User sign in:



Chapter-8: Conclusion



The *FarmConnect* project serves as a comprehensive solution for modern farmers, providing educational resources and a seamless e-commerce platform to purchase essential agricultural products. By integrating features such as crop-specific learning, multi-language support, user authentication, and dynamic cart management, the platform ensures accessibility, convenience, and efficiency for users across diverse regions.

The development process embraced a hybrid model combining Iterative and Agile methodologies, enabling continuous testing and refinement. This approach ensured a high-quality, user-friendly application tailored to meet farmers' evolving needs.

Through strategic backend integration, robust security measures, and a well-structured user interface, *FarmConnect* successfully bridges the gap between technology and traditional farming practices. The project stands as a testament to the power of technology in enhancing agricultural productivity and knowledge dissemination.

Looking ahead, there is immense scope for growth, including the integration of AI-based crop recommendations, weather forecasting features, and advanced analytics for smarter decision-making. *FarmConnect* sets the foundation for future innovation and contributes to a sustainable and connected farming ecosystem.

Chapter-9: Bibliography

The **Bibliography** section of this documentation provides a comprehensive list of references, resources, and tools utilized during the development of the **FarmConnect** project. This includes technical documentation, frameworks, libraries, and research materials that guided the implementation of various features and functionalities. By acknowledging these sources, we highlight the importance of collaborative knowledge and innovation in software development.

2. Websites and Documentation:

- [MDN Web Docs](#) — For JavaScript and web API references
- [W3Schools](#) — For HTML, CSS, and Bootstrap tutorials
- [Node.js Documentation](#) — Backend framework reference
- [MySQL Documentation](#) — Database management reference

3. Tools and Frameworks:

- **Frontend:** HTML5, CSS3, Bootstrap, JavaScript
- **Backend:** Node.js, Express.js
- **Database:** MySQL
- **Libraries:** JSON Web Tokens (JWT), bcrypt
- **Development Tools:** Visual Studio Code, Postman, GitHub
- **AI chatbot:** ChatGPT, Gemini, GitHub Copilot

4. APIs and External Services:

Google Fonts — For custom fonts

5. Tutorials and Blogs:

- "Getting Started with REST APIs" from Medium
- "JWT Authentication in Node.js" from Dev.to
- Code with harry (YouTube): [link](#)
- Programming with Mosh (YouTube):[link](#)