CAPSTONE PROJECT REPORT

(Project duration June-July 2025)

Farm Basket

Submitted by

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Python full stack and 9S090

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Abstract

The Event Management and Farm Basket is a three-tier, web-based multi-vendor marketplace that directly connects farmers with consumers to eliminate middlemen. The platform enables farmers to independently list organic products, manage stock, set competitive prices, and track their sales. It is built using Django for backend, PostgreSQL for database management, and Tailwind CSS for a responsive frontend. Farm Basket provides role-based dashboards for farmers, customers, and administrators to manage their respective tasks efficiently. A key feature is the live vegetable market price display that supports fair trade. The system promotes sustainable agriculture by offering transparent and direct farm-to-consumer transactions.

Introduction:

The agricultural sector is facing a major issue where middlemen purchase fresh produce from farmers at very low prices and sell them to consumers at significantly higher rates. This creates huge profit gaps, leaving farmers underpaid and financially unstable. Farm Basket is proposed as a solution to this problem by offering a platform where farmers can sell their organic products directly to consumers. It aims to remove the dependency on intermediaries and provide fair pricing to both farmers and buyers. By focusing on direct selling, the platform helps farmers increase their profits while consumers get fresh organic produce at affordable prices.

Why Choose Farm Basket

1. **Direct Farmer-to-Consumer Sales:**
   Farm Basket eliminates middlemen, allowing farmers to sell their products directly to consumers and retain full control over pricing.
2. **Live Market Price Transparency:**
   The platform displays real-time vegetable market prices, helping both farmers and consumers make informed and fair pricing decisions.
3. **Organic Product Focus:**
   Unlike many other apps, Farm Basket specializes in promoting organic, farm-fresh produce, supporting healthy and sustainable farming practices.
4. **Multi-Vendor Marketplace:**
   Multiple farmers can independently list their products, like Amazon's seller model, creating a diverse, farmer-driven marketplace.

Tools and Technologies Used

- **Frontend:** HTML, CSS, Tailwind CSS, JavaScript
- **Backend:** Python, Django
- **Database:** PostgreSQL (managed via pgAdmin)
- **IDE:** VS Code / PyCharm
- **Version Control:** Git, GitHub

Modules

Major Modules

1. **Customer Module**
    - User Registration & Login
    - Product Browsing
    - Cart Management
    - Order Placement & Tracking
    - Market Price Comparison

2. **Farmer Module**
    - Vendor Registration & Login
    - Product Listing & Management
    - Order Management
    - Sales Reports
    - Market Price Viewing

3. **Admin Panel Module**
    - Farmer Approval & Management
    - Product Monitoring
    - Order oversight
    - Live Market Price Updates
    - User Management

Minor Modules

1. **Authentication Module**
    - Secure login and logout system for all user types (Customer, Farmer, Admin).
    - Ensures role-based access and session management.

2. **Notification Module**
    - Provides real-time alerts for order confirmations, order status updates.
    - Can support email and SMS notifications.

3. **Feedback & Review Module**
    - Allow users to give ratings and reviews for products.
    - View reviews for every product.

4. **Profile Management Module**
    - Allows users to update their personal info, contact details, delivery addresses.
    - Supports easy profile editing from the user dashboard.

5. **Search & Filter Module**
    - Enables users to search for products by name, category, farmers make fair pricing
    - Helps users quickly find relevant items with sorting and filtering options

6. **Payment Module (Optional)**
    - Payment Gateway Integration (e.g., Razorpay, Stripe)
    - Payment confirmation and tracking

7. **Live Market Price Integration (Optional)**
    - Displays current vegetable market prices to help farmers make fair pricing
    - Can be updated manually by the admin or integrated with APIs

Tables

1. Users Table:

Field Name	Data Type	Description
User id (PK)	Integer	Unique ID for each user
name	Varchar	Full name of the user
email	Varchar	Email address of the user
role	Varchar	Type of user: Customer, Farmer, Admin
phone number	Varchar	User's contact number
password	Varchar	Hashed password
address	Text	User’s delivery or contact address

2. Products Table:

Field Name	Data Type	Description
product_id (PK)	Integer	Unique ID for each product
farmer_id (FK)	Integer	Links to farmer who listed the product
Price	Decimal	Price of the product per unit
name	Varchar	Product name
Category	Varchar	Type
Stock	Varchar	Available quantity
description	Text	Product details
image	File Path	Path to Product image in media folder

3. Orders Table:

Field Name	Data Type	Description
Order id	Integer (PK)	Unique ID for each order
Customer id	Integer (FK)	References
Product id	Varchar	References
Quantity	Decimal	Number of units ordered
total price	Integer	Auto – calculated
Order date	Integer	Ticketstamp of the order
status	Varchar	Order status

4. Reviews Table:

Field Name	Data Type	Description
Review id	Integer (PK)	Unique ID for each review
Product id	Integer (FK)	References products.product_id
User id	integer	References User.user_id
rating	Integer	Rating out of 5
comment	Text	User feedback

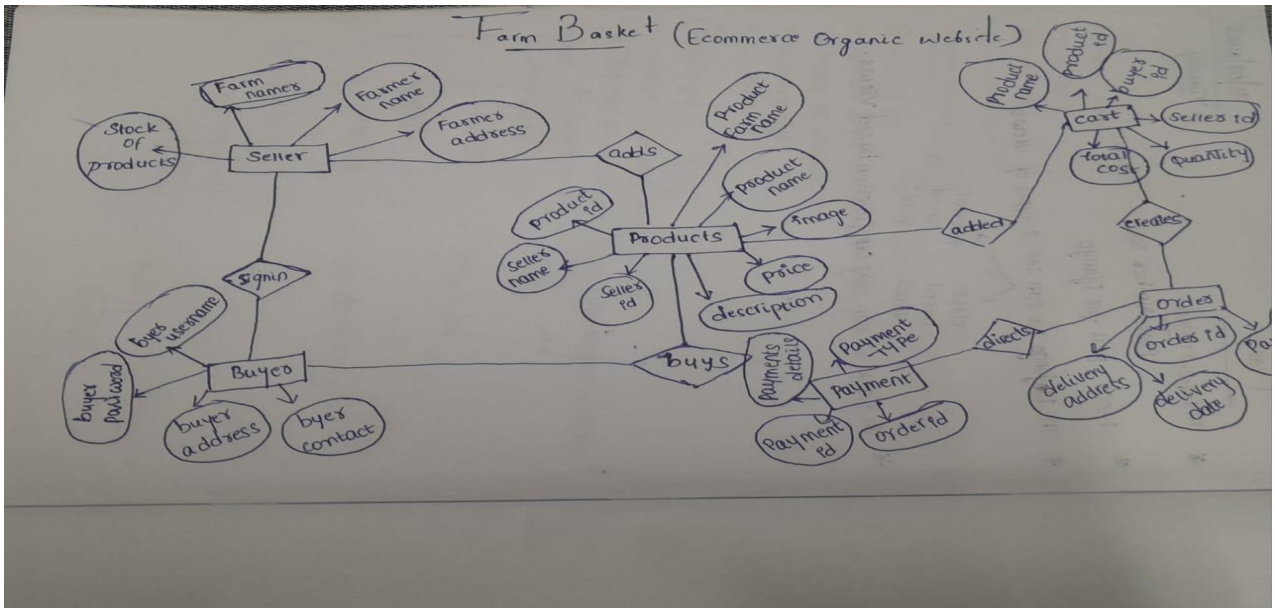
5. Market Price Table:

Field Name	Data Type	Description
Market id	Integer (PK)	Unique ID
commodity	Varchar	Crop name
Modal price	decimal	Most frequent price
Date reported	decimal	Date of market data

6. Admin Table:

Field Name	Data Type	Description
admin id	Integer (PK)	Unique admin id
Email	Varchar	Login email
Password	Varchar	Hashed password
role	Varchar	Admin role

ER diagram:



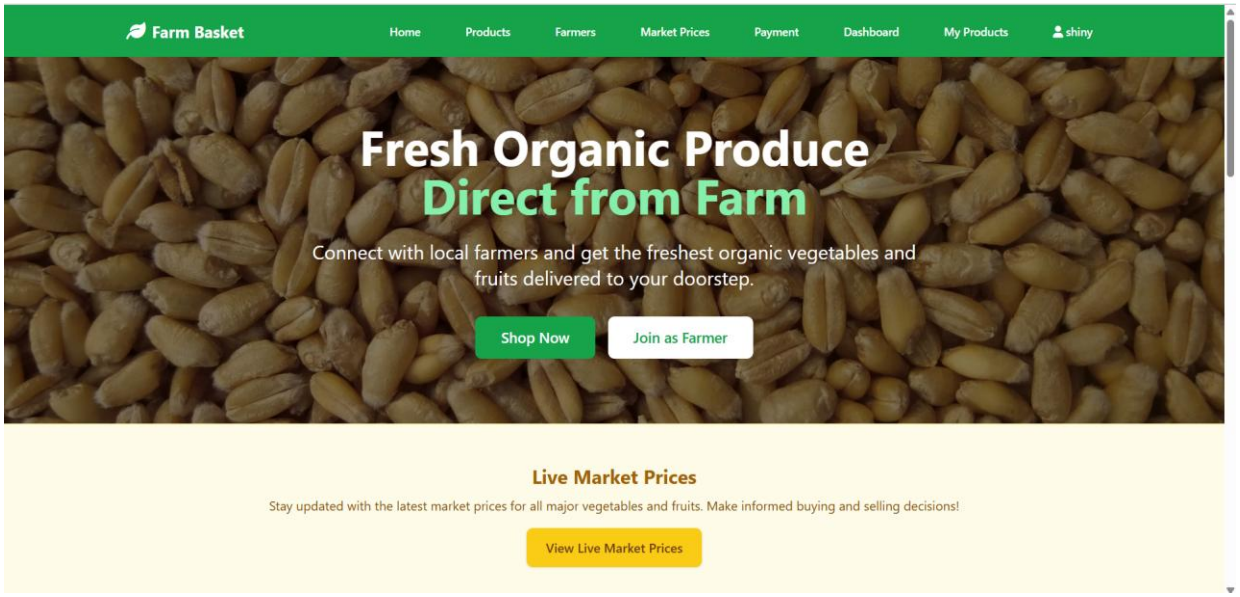
Description:

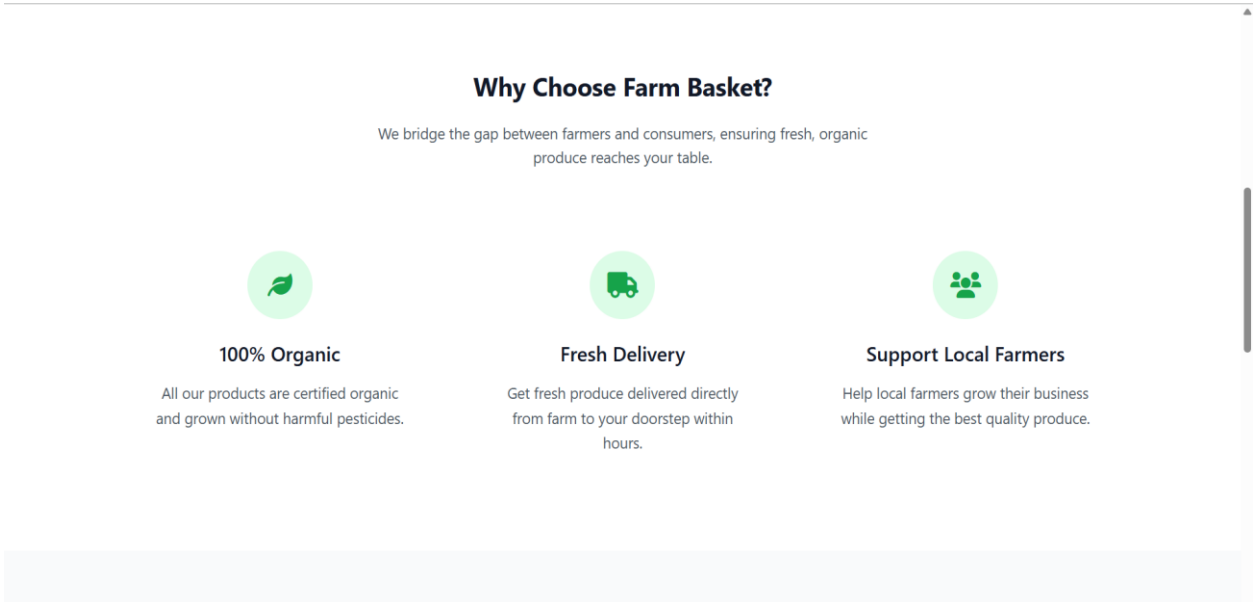
Farm Basket is a full-stack, web-based multi-vendor platform designed to empower farmers by connecting them directly with consumers. The application eliminates intermediaries in the agricultural supply chain, ensuring better profit margins for farmers and fair prices for customers. Built using Django (Python) for backend logic, PostgreSQL for data management, and Tailwind CSS for a modern and responsive interface, the system supports three roles: Customer, Farmer, and Admin.

The platform allows farmers to list organic products, manage orders, view live market prices, and generate sales reports. Customers can browse products, add to cart, place orders, and track their delivery. Admins oversee the entire ecosystem — approving vendors, monitoring products, and updating market prices. Optional modules like payment gateway integration, notifications, and feedback systems enhance the functionality and user experience.

Screenshots:

Home page:





Shop by Category

Explore our wide range of fresh organic produce

Vegetables
Fresh organic vegetables

Fruits
Seasonal fresh fruits

Herbs
Fresh aromatic herbs

Grains
Coming Soon

How It Works

Simple steps to get fresh produce

1. **Browse Products**
Explore our wide selection of fresh organic produce from local farmers.

2. **Place Order**
Add items to your cart and place your order with secure payment.

3. **Get Delivery**
Receive fresh produce delivered directly to your doorstep.

How It Works

Simple steps to get fresh produce

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Farm Basket

Connecting farmers directly to consumers with fresh, organic produce.

Quick Links

- Home
- Products
- Farmers
- Market Prices
- Payment

Support

- FAQ
- Help Center
- Feedback

Connect

Fresh Organic Products

Discover fresh, organic produce from local farmers

Search | Category | Type | Sort By

Search products... | All Categories | All Types | Name

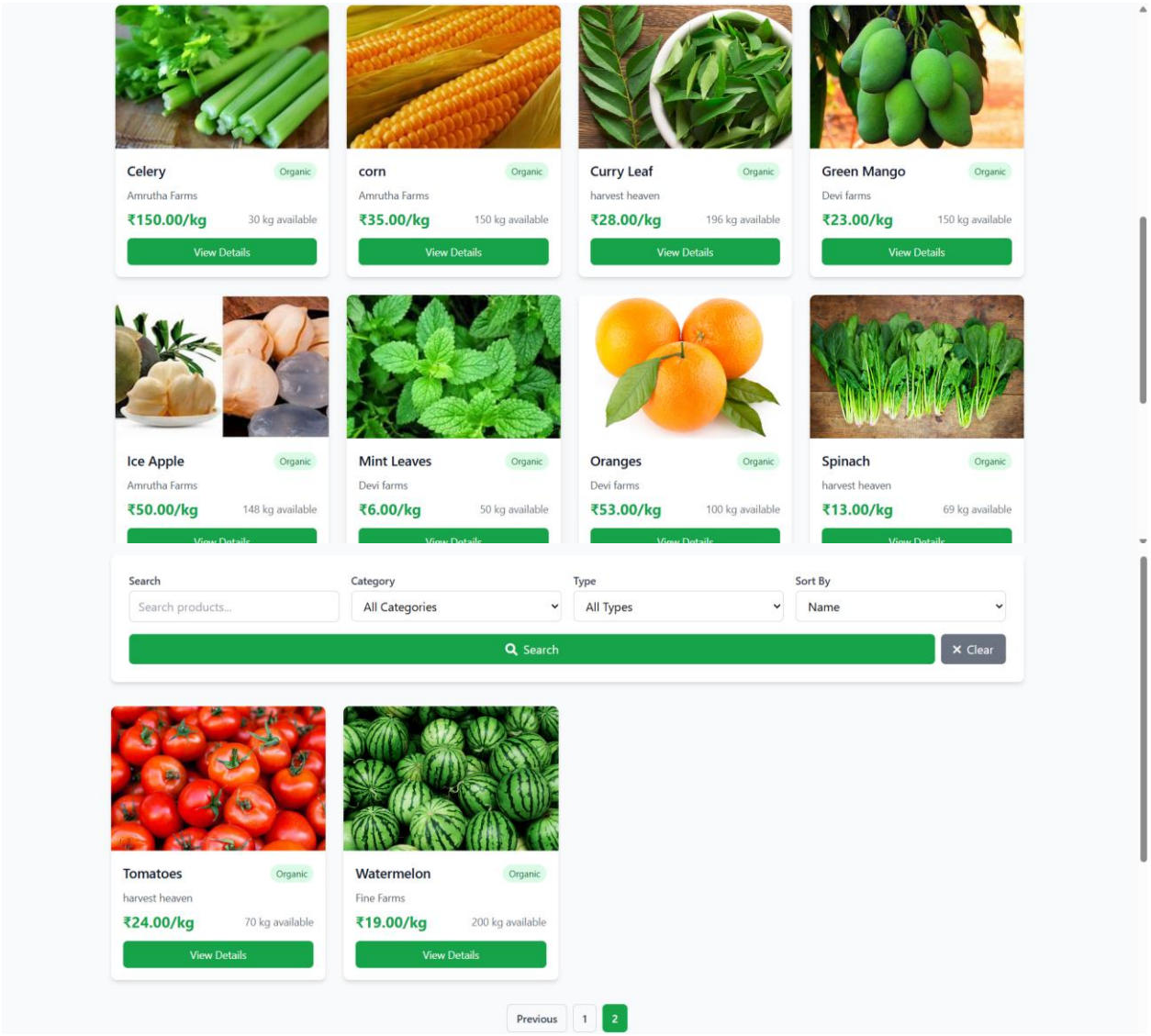
Search | Clear

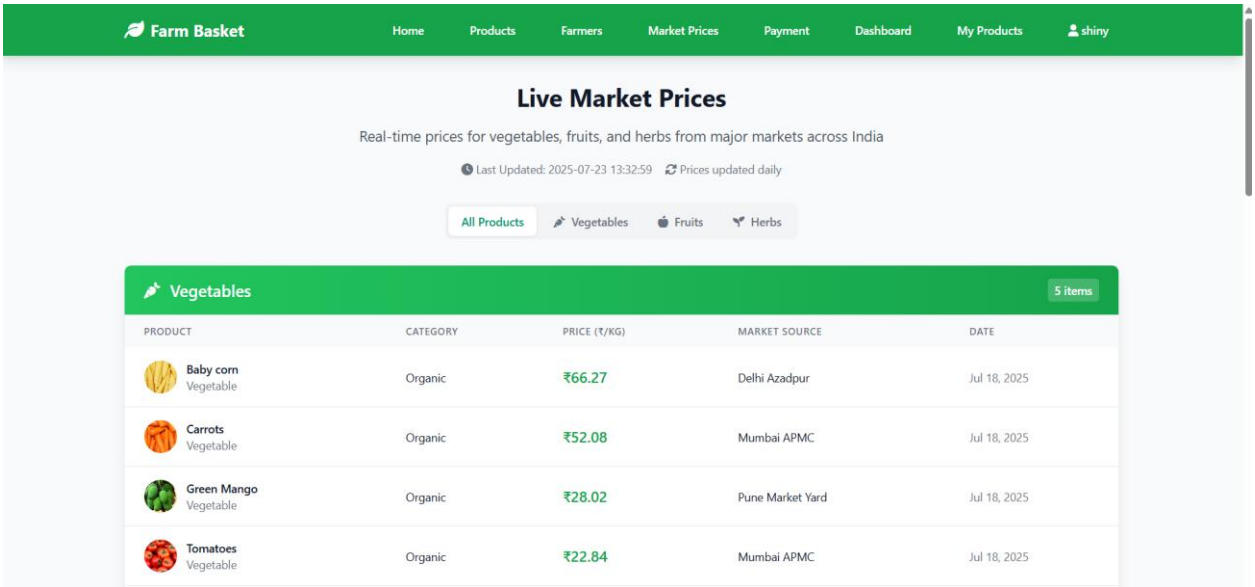
Baby corn Organic
Devi farms
₹55.00/kg 99 kg available

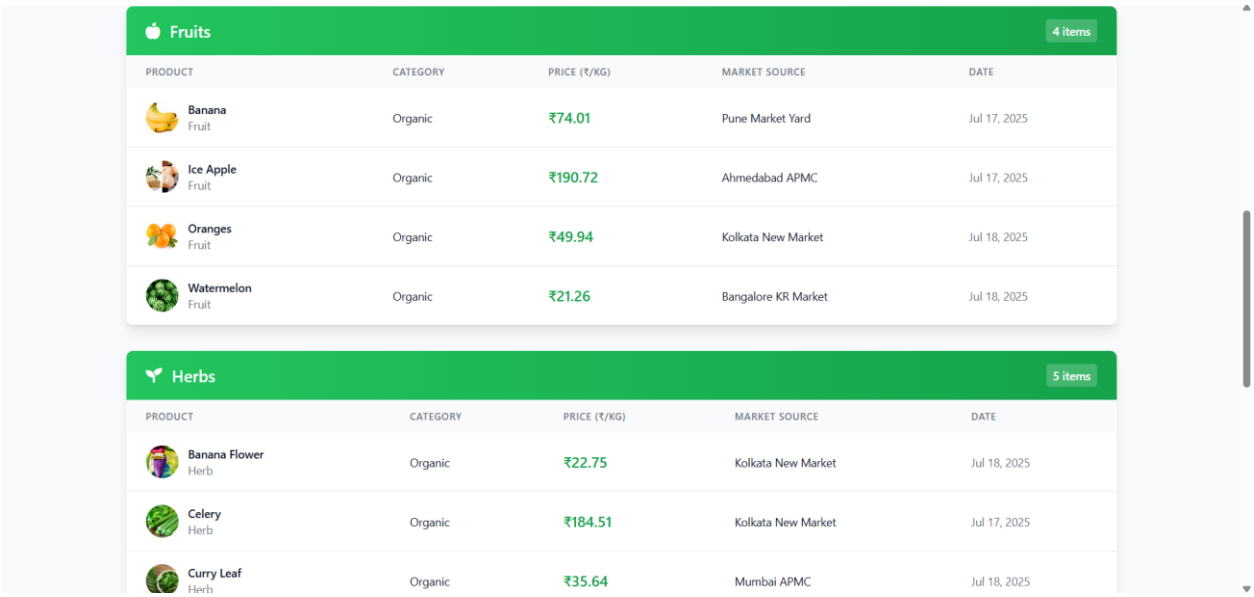
Banana Organic
Amrutha Farms
₹48.00/kg 150 kg available

Banana Flower Organic
Devi farms
₹20.00/kg 50 kg available

Carrots Organic
Devi farms
₹36.00/kg 99 kg available


Celery
Organic
Amrutha Farms
₹150.00/kg
30 kg available
View Details
corn
Organic
Amrutha Farms
₹35.00/kg
150 kg available
View Details
Curry Leaf
Organic
harvest heaven
₹28.00/kg
196 kg available
View Details
Green Mango
Organic
Devi farms
₹23.00/kg
150 kg available
View Details
Ice Apple
Organic
Amrutha Farms
₹50.00/kg
148 kg available
Mint Leaves
Organic
Devi farms
₹6.00/kg
50 kg available
Oranges
Organic
Devi farms
₹53.00/kg
100 kg available
Spinach
Organic
harvest heaven
₹13.00/kg
69 kg available
Search
Search products...
Category
All Categories
Type
All Types
Sort By
Name
Search
Clear
Tomatoes
Organic
harvest heaven
₹24.00/kg
70 kg available
View Details
Watermelon
Organic
Fine Farms
₹19.00/kg
200 kg available
View Details
Previous
1
2


Farm Basket
Home
Products
Farmers
Market Prices
Payment
Dashboard
My Products
shiny
Live Market Prices
Real-time prices for vegetables, fruits, and herbs from major markets across India
Last Updated: 2025-07-23 13:32:59
Prices updated daily
All Products
Vegetables
Fruits
Herbs
Vegetables
5 items
PRODUCT
CATEGORY
PRICE (₹/KG)
MARKET SOURCE
DATE
Baby corn
Vegetable
Organic
₹66.27
Delhi Azadpur
Jul 18, 2025
Carrots
Vegetable
Organic
₹52.08
Mumbai APMC
Jul 18, 2025
Green Mango
Vegetable
Organic
₹28.02
Pune Market Yard
Jul 18, 2025
Tomatoes
Vegetable
Organic
₹22.84
Mumbai APMC
Jul 18, 2025



Feature Enhancement Suggestions:

1. Payment Gateway Integration
    - Enable secure online transactions using Razorpay, Stripe, or PayPal.
    - Add payment receipts and transaction history for farmers and customers.
2. Image Compression & Cloud Storage
    - Store uploaded product images in cloud storage (like AWS S3 or Cloudinary) with automatic compression to improve loading times.
3. Order Delivery Tracking
    - Integrate basic delivery status updates or third-party logistics API to track order delivery in real-time.
4. Mobile App Companion
    - Build a React Native or Flutter app version for farmers/customers with push notifications.
5. Farmer Analytics Dashboard
    - Include graphs for total sales, top products, profit over time, etc., using Chart.js or Django REST API + React/Vue.js.
6. Multilingual Support
    - Add Hindi, Telugu, Punjabi, etc., to make the platform more accessible to regional farmers.

Conclusion:

The Farm Basket project successfully demonstrates how technology can be used to address real-world problems in agriculture by bridging the gap between farmers and consumers. By removing intermediaries and providing a transparent, role-based e-commerce solution, the platform promotes fair pricing, sustainability, and accessibility of organic produce. The system is scalable, modular, and ready for further enhancements like API integrations, mobile app expansion, and real-time market data feeds. Overall, this project contributes significantly to digital agriculture and farmer empowerment in rural and semi-urban areas.