

A Project Report

On

**“EFarmer”**

Batch Details

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**Farmer’s Mart: A Next-Gen E-Commerce Hub for Fresh and Diverse Grocery Shopping**

**CHAPTER : 1**

**ABSTRACT**

The "E-commerce Website for Grocery Retail" project introduces a user-friendly online platform designed to revolutionize grocery shopping. Providing a diverse array of grocery products, the website prioritizes convenience through an intuitive interface, personalized user accounts, and advanced search features. Security is paramount, with robust payment gateways ensuring safe financial transactions and data privacy.

Efficiency is a key focus, with streamlined order processing, real-time inventory management, and reliable delivery options enhancing the overall customer experience. Embracing contemporary e-commerce trends, the platform boasts responsive design, catering to users across various devices. This initiative aims to bridge the gap between traditional and modern grocery shopping, catering to the fast-paced lifestyles of today's consumers.

The project's vision extends beyond facilitating transactions, aiming to create a reliable, secure, and efficient digital space for users to meet their grocery needs. The integration of technology not only enhances the accessibility of the platform but also contributes to a seamless, end-to-end shopping experience.

Ultimately, this e-commerce website seeks to redefine grocery retail by combining the convenience of online shopping with the reliability and diversity essential for a comprehensive grocery shopping experience.

**CHAPTER : 2**

**INTRODUCTION**

Welcome to the forefront of e-commerce innovation - welcome to Farmer’s Mart, where we redefine the grocery shopping experience. In an era defined by rapid technological advancements and an increasing demand for convenience, Farmer’s Mart emerges as a comprehensive solution for modern consumers. At its core, Farmer’s Mart is not just an online marketplace; it's a dynamic hub designed to seamlessly integrate tradition with technology. The platform introduces an intuitive interface, ensuring that navigating through a vast array of fresh and diverse grocery items is as simple and enjoyable as a stroll through a physical store.

Our vision extends beyond mere transactions. We aim to be a reliable and efficient digital space, offering personalized recommendations and efficient order processing to optimize the shopping journey. From farm-fresh produce to pantry staples, Farmer’s Mart curates a comprehensive product range to cater to the varied needs and preferences of our users.

Security is a paramount consideration. Robust payment gateways and stringent data privacy measures ensure that every transaction on Farmer’s Mart is safe and secure. We prioritize not only the efficiency of the shopping experience but also the trust and peace of mind of our users. Farmer’s Mart strives to go beyond the conventional boundaries of e-commerce, aspiring to be a space where consumers can explore, discover, and rely on for their comprehensive grocery needs. It's more than a website; it's a revolutionary marketplace that harmonizes tradition with technology.

**CHAPTER : 3**

**LITERATURE REVIEW**

1. **E-farmer Management System for Agrarian Service Centre in Sri Lanka (**Karunarathna, KNNS Vida agama, DU**)**

The E-farmer Management System (EFMS) would be built with the use of Web based technology with C# language, to provide integration and accessibility for the benefit of the users. The system uses centralized database system where all the clients are able to connect to EFMS network.

This research was conducted using quantitative and qualitative methodologies. To expose quantitative values, document reviews were used. To expose qualitative values, interviews, observations and case studies were used. EFMS is the best solution for farmers who face lack of communication and efficiency of the agrarian service centers in Sri Lanka. It will give a new phase to the Sri Lankan agricultural sector.

**Advantages:-**

* Automation and technology streamline farming processes, saving time and labor.

**Limitations:-**

* The adoption of technology often requires substantial upfront investments, challenging for smaller or resource-limited farmers.

1. **E-Farmer Self Service(**Tharani K ,Varsini N ,Revathi K ,Sri Karthick M**)**

The website will guide the farmers to access new farming techniques, compare current market rate of different products, the total sale and the earned profit for the sold products. The website builds a platform for farmers to ensure greater profitability through direct farmer to farmer, farmer to agent and farmer to customer communication. The website will act as a unique and secure way to perform agro-marketing. This project allows viewing various products available and enables users to purchase desire products instantly by online payment.

**Advantages:-**

* Real-time data aids in informed decision-making about weather, market trends, and best practices.

**Limitations:-**

* Reliance on technology can be problematic if farmers lack access to reliable internet connectivity or electricity.

1. **E-Farmer(**D Novianti , Dewi Anjani**)**

A software Testing is one of the stages in building an application where the test device that is implemented imperfectly certainly has a bad effect on the resulting software. E-farmer is an android based application that can provide a farmer experience to calculate the yield of profits for each harvest. The purpose of testing E-farmer is to see the error rate that occurs in the software. So that by testing this application, it is hoped that the application made is in accordance with the function and purpose of the application. Where this test uses the Black-box Testing method with the Boundary Value Analysis approach. The results obtained from this study are testing shows that the application has a success rate of 88, 89%. Three fields need to be improved, namely the id petani, year, and semester fields.

**Advantages:-**

* Online platforms connect farmers directly to consumers, reducing reliance on intermediaries.

**Limitations:-**

* The collection and storage of sensitive farm data raise concerns about privacy and potential misuse.

1. **E-Farmer (**Abdul Mufti , Dewi Anjani ,D Novianti**)**

This study aimed to find out the influence of the promotional mix toward sales levels with the study on farmers to support the sale of agricultural output. The application of E-commerce E-Farmer ' For Android ' is a media promotion and information are expected to meet the needs of farmers to market the results of his farm. This research using the method of survey respondents with the farmers who use the application e-commerce e-farmer ' for Android '. Testing is done using simple regression analysis and test F to do a test of the hypothesis.

The results obtained are the promotion of E-Commerce applications using ' E-Farmer for Android "effect simultaneously against the level of sales.

**Advantages:-**

* Efficient resource use, automation, and data-driven decisions can lower operational costs.

**Limitations:-**

* Farmers may need to acquire new skills to effectively use e-farming technologies, which can be a barrier for some.

1. **E-Farmer Management System for Empowering Sri Lankan Small-Scale Agriculture-Based Producers (**KPP Sandareka , RMM Pradeep , MPL Perera , N.Wedasinghe**)**

According to the Ministry of rural development, the main objectives of Dedicated economic centers are, Ensure obtaining reasonable prices for agriculture producers for their crops by providing a targeted market, Provide an opportunity for small scale producers to minimize their transport costs and wastage in transportation, Provide opportunities for wholesale traders to purchase fresh fruits and vegetables, directly from producers, Encourage the business community by providing a competitive marketing environment for

wholesale traders. Create an opportunity to distribute area specific agricultural products among consumers in all parts of the island, provide facilities for consumers to purchase food items at discounted prices. Marketing agro products are different when comparing to other marketing processes. As shown in fig 1 A large number of small-scale producers (farmers) and large-scale producers are participated in the marketing process because of The lengthiness of traditional market channels and unnecessary interference of the middle person to the marketing process, farmers are unable to get a reasonable price for their valuable crops. Intermediate persons become key players of the marketing system as they have more power to decide the prices of agro products than farmers. farmers have no idea about the market condition of their harvest.

**Advantages:-**

* E-farming allows for income diversification through online sales, agro-tourism, and value-added products.

**Limitations:-**

* Farmers may become overly dependent on specific suppliers for technology, seeds, or other inputs.

1. **E-farmer: A study of how image processing tools may be used to detect plant disease (**Gauri Shankar Singh , Simpi Raj , Sonali Kumari**)**

Due to changes in climate, Crops are infected, resulting in lower agriculture production. It has an impact on the agricultural financial system. If crops are corrupted with diseases, it becomes more difficult to find what types of diseases are infected on crops. So here latest Technology like artificial intelligence (AI), machine learning (ML), and deep learning can be put to good use in agriculture. These technologies can be used to identify the disease on crops and also can stop affecting the crops by disease. Suggested an application that will help the farmers to identify the disease on plants by scanning the leaves or uploading the image of leaves. Image input will be given by the user and it will start processing the image then it will compare it with the already trained dataset. Convolutional Neural Network (CNN), Visual geometry group −16 (VGG-16), DenseNet-121, Inception V3 algorithms are used to scale the image and collect information about the leaves based on their characteristics such as color.

**Advantages:-**

* Farmers can monitor and control operations remotely for flexibility and convenience.

**Limitations:-**

* Inadequate infrastructure, such as poor roads or lack of electricity, may hinder the effective implementation of e-farming technologies.

1. **E-BUSINESS TO SUPPORT SALES OF FARMER CROPS BASED ON MOBILE APPLICATIONS (**Muhammad Aiman Abdul Hafizh , Ari Purno Wahyu Wibowo**)**

The agricultural sector is essential because it is the leading sector and supports the Indonesian economy. Sukapura Village is one of the producers of plant products in the Kertasari District. But on the other hand, most of the farmers experienced problems, and several obstacles emerged, such as the accumulation of harvests that were sold at low prices, which resulted in losses, and the difficulty of distribution because it was pretty complicated. Of course, this situation must be improved so that people can enjoy Indonesian agricultural products. One of them is by building an android-based application "Petani Sejahtera" which is specifically made as an alternative to make it easier for farmers. It can break the distribution chain of agricultural products. You can directly contact the courier who has collaborated with the manager by displaying information on product price lists, farmers' products, and harvested products, which will later be distributed during the main harvest period. So that later, farmers will find it easier to see the products planted and do not have to think about how to distribute the products. The purpose of making this "Petani Sejahtera" Application is to help farmers more easily distribute their products to various suppliers, so there is no accumulation of harvest yields.

**Advantages:-**

* E-farming fosters innovation, encouraging the development of new technologies and agricultural research.

**Limitations:-**

* Clarifying who owns and controls the data generated by e-farming technologies can be a source of dispute.

1. **Voice Enabled Information Desk: Farmer to E-Farmer (**Anita B. Bhosle , Swati Nadkarni**)**

Voice enabled Information Desk, to empower the rural Indian farmers with latest and most upgraded information. This paper will discuss how Information Desk can explain/guide/respond features of government scheme and other information in a native/regional language of the user. Interaction between a user and an Information Desk is done by utilizing a voice command generated by the user. User friendly interaction between the user and the voice enabled Information Desk. Information Desk will provide the user with advices / suggestions in regional language. Experimental results for accuracy and error is 89.58% and 10.42% respectively.

**Advantages:-**

* Data analysis aids in predicting crop yields, market trends, and optimal planting schedules.

**Limitations:-**

* Increased adoption of e-farming technologies may lead to market saturation, potentially reducing the competitive advantage for early adopters.

1. **Mobile Technology and Agriculture: A Symbiotic Relationship**

Exploring the symbiosis between mobile technology and agricultural practices, this literature review assesses the impact of mobile interfaces on farmer adoption of e-commerce platforms. It scrutinizes global trends in mobile technology penetration in rural areas, providing E-Farmer with strategic insights to optimize its platform for mobile accessibility and user engagement.

**Advantages:-**

* Digital tools assist farmers in financial planning, budgeting, and accessing credit.

**Limitations:-**

* The production and disposal of electronic devices may contribute to environmental pollution.

1. **Future Trends in Agricultural E-commerce: Paving the Way for eFarmer**

Anticipating the future, this literature review explores emerging trends in agricultural e-commerce. By staying ahead of the curve, eFarmer can position itself as an innovator, adapting its strategies to meet evolving needs. The review examines technological advancements, consumer behaviors, and market dynamics, providing a glimpse into the future landscape of agricultural e-commerce.

**Advantages:-**

* Online platforms enable farmers to participate in the global marketplace, reaching international consumers.

**Limitations:-**

* Overemphasis on technology may lead to a loss of traditional farming knowledge and practices.

**CHAPTER : 4**

**OBJECTIVES**

1. Redefine the traditional grocery shopping experience by introducing an innovative and efficient online platform that seamlessly integrates with modern consumer lifestyles.
2. Streamline order processing, inventory management, and delivery logistics to optimize operational efficiency, ensuring timely and reliable delivery of a diverse range of fresh grocery items.
3. Curate a comprehensive product range, from farm-fresh produce to pantry staples, catering to the diverse needs and preferences of consumers, and providing a one-stop solution for their grocery requirements.

**CHAPTER : 5**

**EXPERIMENTAL DETAILS/METHDOLOGY**

**HARDWARE REQUIREMENTS**

This section gives the details and specification of the hardware on which the system is expected to work.

Processor : Intel Core

RAM : 4 GB DDR4 RAM

Monitor : 14 , Color

ROM : 40 GB

Keyboard : Standard 102 keys

Mouse : Optical

**SOFTWARE REQUIREMENTS**

This section gives the details of the software that are used for the development.

Environment : Sublime Text (or) VS Code

Front-End : Html, Css , Php

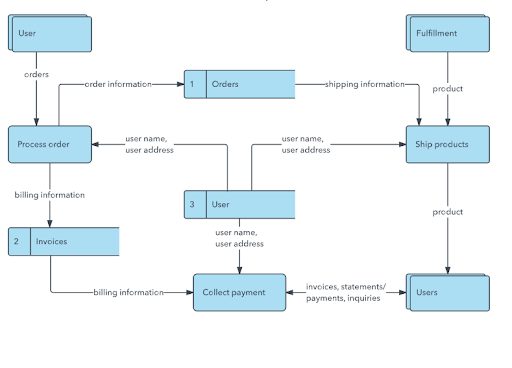
Back-End : MS SQL Server

Coding Language : Full Stack Web Development

Operating System : Windows 11

Browser : Google Chrome

**Architecture Diagram**



**CHAPTER : 6**

**PROPOSED METHOD**

1. The proposed methods for Farmer’s Mart include a user-centric design for an intuitive interface and streamlined navigation.
2. A comprehensive product curation system will manage a diverse range of groceries.
3. Efficient order processing will be achieved with real-time inventory tracking.
4. Data analytics will optimize inventory management for timely restocking.
5. Responsive customer support will address queries promptly. Continuous innovation and updates will ensure the platform remains competitive.
6. Sustainable practices, like eco-friendly packaging, will be explored.
7. Rigorous quality assurance testing will guarantee platform stability and reliability.

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**EXPECTED OUTCOME**

* The Farmer’s Mart project envisions delivering an intuitive and secure online grocery shopping platform, simplifying user navigation and ensuring data privacy.
* The outcome anticipates efficient order processing, real-time inventory tracking, and optimized inventory management for timely restocking.
* By focusing on sustainability and quality assurance, the project aims to provide a competitive and reliable solution for consumers seeking diverse and eco-friendly grocery options.
* The project aspires to reshape the digital grocery retail landscape, offering a trustworthy, responsive, and environmentally conscious platform.
* Enhanced Accessibility for Farmers.
* Streamlined Agricultural Transactions.
* Improved Agricultural Supply Chain Efficiency.
* User Empowerment and Engagement.
* Trust and Reliability.
* Positive Economic Impact on Farmers.
* Environmental Impact and Sustainable Practices.
* Community Development in Rural Areas.
* Contribution to Digital Inclusion

**CHAPTER : 8**

**TIMELINE FOR EXECUTION OF PROJECT**

The project is estimated to be completed in Four months, with the following milestones:

**Month 1**: Project Planning and Design

**Month 2**: Development and Testing

**Month 3**: Deployment

**Month 4**: Maintenance and Support

**CHAPTER : 9**

**CONCLUSION**

In conclusion, the E-Farmer e-commerce website project holds great potential for transforming the agricultural landscape. By leveraging digital technologies, E-Farmer aims to empower farmers, enhance their access to essential products, and contribute to the overall development of the agricultural sector.

Farmer’s Mart is poised to revolutionize online grocery retail by prioritizing user-centric design, comprehensive product curation, and robust security measures. The streamlined approach, maintains a focus on efficient order processing, real-time inventory management, and responsive customer support. With an unwavering commitment to innovation, sustainability, and quality assurance, Farmer’s Mart aims to redefine the digital grocery shopping experience, providing a reliable and environmentally conscious platform for contemporary consumers.

**CHAPTER : 10**

**REFERENCES**

**WEB LINKS**

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