IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.301
Volume 3, Issue 1, September 2023

AGROMART

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Abstract: *AgroMart For several years, farmers in India have had little liberty in choosing markets and purchasers for their produce. All states in the country, except three, agree that marketing and selling of farm produce must be directed through state-owned mandis, retail markets where mediators (middlemen) crush farmers to increase margins. According to research, mediators have become dominating buyers of the agricultural market, resulting in them taking control over the plight of the farmers and gulping all the profits. The farmers work day and night expecting a good yield. They use a lot of financial resources, lending money and buying fertilizers, seeds etc. So, they have the right to enjoy every rupee gained on their crop .In this context, we propose a system which brings farmers close to the retailers cutting the middlemen. The middlemen usually take up to 70% of the profits of farmers leaving them helpless. Our system consists of a mobile or web application which will serve as a platform for farmers, the growers and retailers or customers to sell and buy their farm products. This system aims at giving a profitable price to farmers for their farm products, cutting the middlemen. This allows the retailers or the customers to buy products from the farmers at a lower than the normal price. This system is used by farmers and users. Farmers upload their product with details and buyers view these details and book that product within a time. The System also got support for Krishi Bhavan to know the precautions for the climate change and allowances form the government to farmers.*

Keywords: Products, farmer, Krishi Bhavan, MERN stack, System requirements

I. INTRODUCTION

The AgroMart project proposes a solution to the long-standing issue of farmers in India being forced to sell their produce through state-owned mandis and middlemen who take a large portion of their profits, leaving them with very little to show for their hard work. The project aims to bring farmers closer to retailers and customers, effectively cutting out the middlemen and allowing farmers to sell their produce directly. The proposed system is a mobile or web application that acts as a platform for farmers and retailers/customers to sell and buy farm products. This system offers farmers a profitable price for their products and allows customers to purchase them at lower prices than the normal market rate. The project also includes support from Krishi Bhavan to provide farmers with information on precautions for climate change and government allowances. Overall, the AgroMart project aims to empower farmers and provide them with greater control over their livelihoods

The proposed AgroMart system benefits both farmers and consumers. Farmers are no longer at the mercy of middlemen who exploit them and take away the majority of their profits. They can now sell their products directly to retailers and consumers, ensuring they receive a fair price for their hard work. Consumers, on the other hand, get access to fresh produce at lower prices, as the absence of middlemen reduces the cost of the product. The system also benefits the environment, as it reduces the need for transportation and storage of produce, which contributes to the carbon footprint. The AgroMart system is a win-win situation for all parties involved and has the potential to revolutionize the agricultural industry in India

II. METHODOLOGY

The methodology for the AgroMart project involves developing a web-based application that connects farmers directly with retailers or customers, bypassing the traditional middlemen. The application serves as a platform for farmers to

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upload details about their farm products, including prices and quantities. Retailers and customers can then view these details and purchase products directly from the farmers, resulting in a more profitable price for the farmers and a lower price for the customers. To ensure the success of the project, the application must be user-friendly, easy to navigate, and accessible to both farmers and users. The application must also be scalable, allowing for future expansion and growth. Additionally, the project includes support from Krishi Bhavan, which provides valuable information to farmers about climate change and government allowances. This information can help farmers make informed decisions about which crops to plant and how to maximize their profits. The AgroMart project aims to empower farmers by providing them with greater control over the sale of their produce, allowing them to earn a fair price for their hard work and resources. The project also benefits customers by providing them with access to high-quality produce at a lower price. By cutting out the middlemen, the project can help bridge the gap between farmers and customers, resulting in a more sustainable and profitable agricultural industry in India.

III. EXISTING AND PROPOSED SYSTEMS

A) Existing Systems: AgroMart

In India, most of the farmers depend on middlemen for proper distribution and sales of the crops harvested. This limits their choice of bargaining or choosing a middleman to sell the crops at the correct time. Having a middleman also leads to misuse of power and authority as they take control over the farmers and gulp all their profits. Having less contact / information about other middlemen also leads in dealing with a single middleman for a longer period of time.The farmers have to spend days in Krishi Bhavan or local body offices for applying compensation and getting details about government plans

B) Limitations of Existing Systems

The prevailing reliance on middlemen in India's agricultural sector presents numerous limitations that impede farmers' progress and prosperity. This dependency curtails their bargaining power, leading to unfavorable pricing terms, while middlemen capitalize on their authority to siphon profits and establish enduring control. Farmers' restricted access to information about alternative middlemen confines them to prolonged dealings with a single entity. This system fosters opacity in transactions, perpetuates dependency, hampers decision-making due to lack of real-time market data, engenders inefficiencies, and facilitates the misuse of government initiatives. Moreover, bureaucratic complexities compel farmers to expend excessive time pursuing compensation and information. These challenges collectively undermine equitable gains, stall innovation, and perpetuate income disparities, necessitating comprehensive reforms encompassing technological integration, financial inclusivity, policy adjustments, and skill enhancement to empower farmers and engender a more just agricultural landscape.

C) Proposed System: AgroMart

In this digital era, we are having an option to sell or contact people through the internet.The farms have the option to cut the middleman and sell or buy their products directly in the market .They can choose different sellers and buyers depending on their offers. This system also removes the large profit gap that the middlemen usually take away, which may be up to 70% of the total profit in some cases. Farmers can upload their products with details, which helps the buyers. As the system includes Krishi Bhawan , the farmers can access all the notifications from the Government and it will be easy for the to apply the compensation for any natural disaster that destroys their farms.

D) Advantages of AgroMart

The proposed AgroMart system offers several distinct advantages in the current digital landscape. Firstly, it capitalizes on the convenience of online connectivity, empowering farmers to directly engage with buyers and sellers, thereby eliminating the need for middlemen. This not only broadens market options but also facilitates better price negotiations based on real-time offers. By eradicating the prevalent profit gap claimed by middlemen—often as high as 70%—AgroMart ensures that farmers retain a significantly larger portion of their earnings, bolstering their economic prospects.

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The system's ability for farmers to upload detailed product information enhances transparency, enabling buyers to make informed decisions. Moreover, the integration of Krishi Bhawan notifications serves as a pivotal resource, granting farmers easy access to crucial government updates and compensation mechanisms in case of unforeseen natural disasters. This comprehensive support mechanism streamlines bureaucratic processes and enhances farmers' resilience. In essence, AgroMart embodies the essence of empowerment, enabling farmers to take charge of their sales, access relevant government support, and ensure fairer compensation for their hard work.

E) Comparative Analysis

The existing agricultural setup in India hinges heavily on middlemen, compelling farmers to rely on them for distribution and sales of their crops. This dependence curtails their ability to negotiate and select optimal middlemen, leading to compromised profits due to the misuse of power. Furthermore, limited awareness of alternative middlemen traps farmers in prolonged dealings with a single party, while bureaucratic hurdles characterize interactions with Krishi Bhavan for compensation and government plans.

In contrast, the proposed AgroMart introduces a transformative shift by harnessing the digital revolution. This platform empowers farmers to bypass middlemen and directly engage with buyers, widening their market options and dismantling the substantial profit gaps often exploited by intermediaries. By enabling direct transactions and enhancing transparency, AgroMart aims to provide equitable earnings for farmers while offering easy access to government support through Krishi Bhavan. The comparative analysis underscores the potential of AgroMart to not only rectify the existing limitations but also to usher in a more transparent, profitable, and efficient agricultural ecosystem.

IV. BACKGROUND

The agricultural landscape in India has long been marred by restricted choices for farmers in selecting markets and buyers for their produce. A majority of states, with the exception of three, have enforced a system mandating the marketing and selling of agricultural products exclusively through state-owned mandis, where intermediaries (middlemen) wield significant control, often to the detriment of farmers' profits. Research indicates that these middlemen have become dominant players in the agricultural market, exerting influence that leads to unfair profits and economic hardships for farmers. Despite their strenuous efforts and considerable investment in resources such as fertilizers, seeds, and finances, farmers find themselves deprived of a fair share of the earnings they so rightfully deserve. This discrepancy highlights the urgent need for change in the prevailing system.

In response to this issue, we propose the implementation of a revolutionary system known as AgroMart. This system aims to bridge the gap between farmers and retailers, effectively eliminating the intermediaries that have traditionally siphoned off a substantial portion of farmers' profits, often as high as 70%. AgroMart operates as a dynamic mobile or web application, serving as a robust platform for farmers, growers, retailers, and customers to engage in direct transactions related to the buying and selling of agricultural products. The primary objective is to empower farmers by facilitating direct interactions with retailers, allowing them to secure profitable prices for their products while bypassing the middlemen. In turn, this enables retailers and customers to access agricultural products at prices lower than the conventional market rates. The system's architecture encompasses user-centric features, with farmers uploading detailed product information that potential buyers can peruse and reserve within predefined timeframes.

Furthermore, AgroMart integrates seamless support from Krishi Bhavan, providing valuable insights into climate change precautions and governmental allowances tailored to benefit farmers. In terms of technology, the proposed system is built on a foundation of cutting-edge technologies, including NODE.JS, REACT.JS, and EXPRESS.JS. By leveraging these advanced frameworks, AgroMart is poised to create a transformative shift in the agricultural sector, empowering farmers, enhancing transparency, and fostering a fairer economic ecosystem for all stakeholders involved.

V. RESULTS AND DISCUSSIONS

Testing is the major quality measures employed during the software development. After the coding phase, computer programs available are executed for testing purpose. Testing not only has to uncover errors introduced during coding, but also locates errors committed during previous phase. Thus the aim testing is to uncover requirements design or coding errors in the program.

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Testing is a process of executing a program with intension of finding an error.
A good test case is on that has a highest probability of finding an as yet undiscovered error.
A successful testing is one that covers an as yet undiscovered error
Our objective is to design tests that systematically uncover different classes of errors and to do so with minimum amount of time and effort. Testing demonstrate that software functions appear to be working according to specification, that performance requirements appears to have been met. Data collected as testing is conducted provide a good indication of software reliability and some indication of software quality as a whole. But there is one thing that testing cannot do: Testing cannot show the absence of defects it can only show that software defects as present.

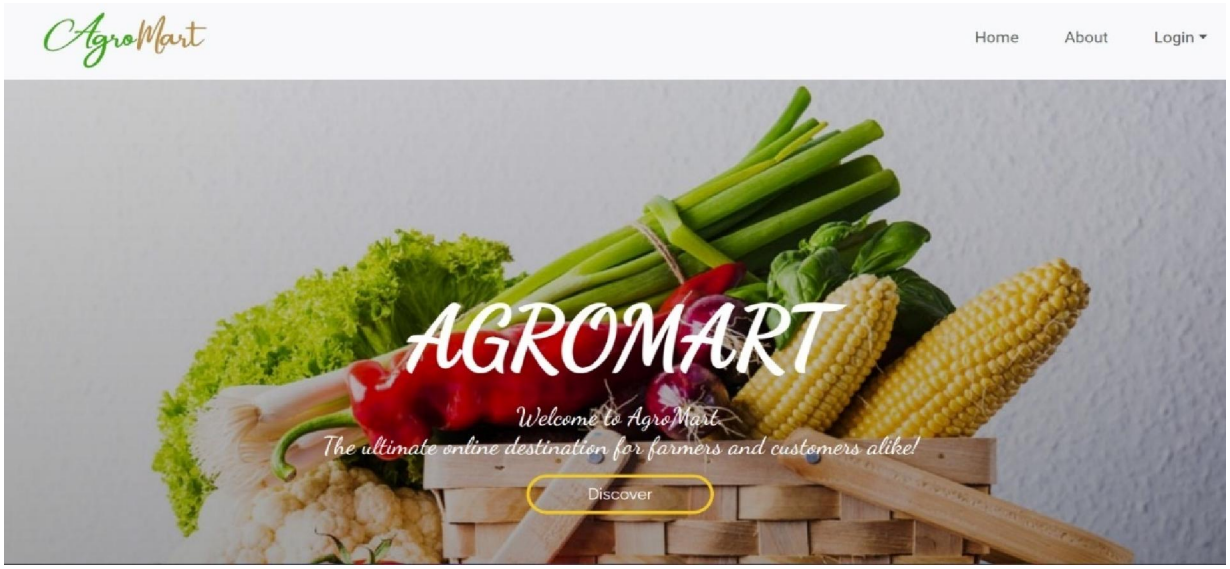

Figure 1: Home Page

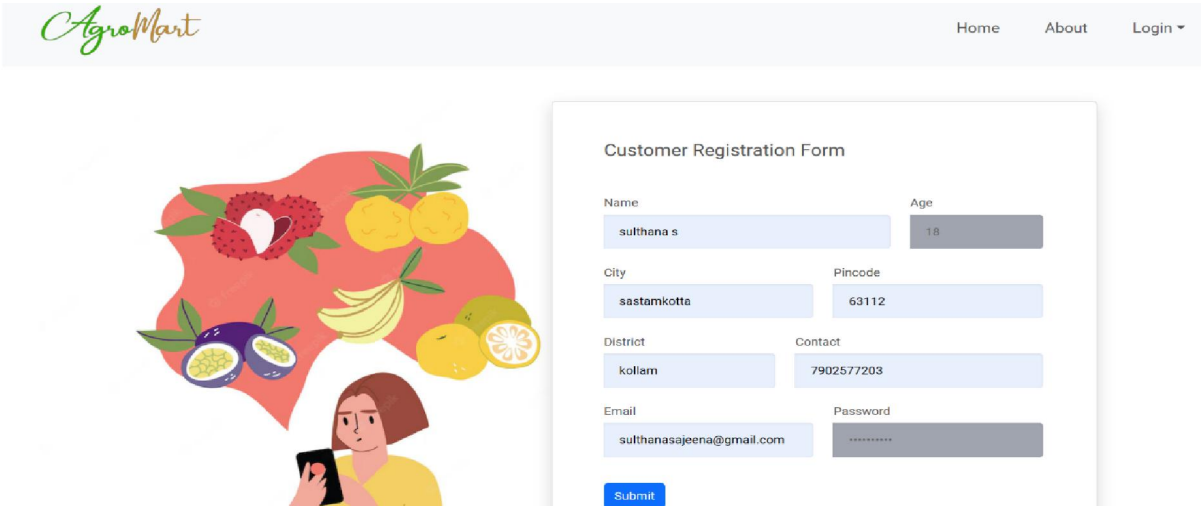

Figure 2: Customer Registration Page

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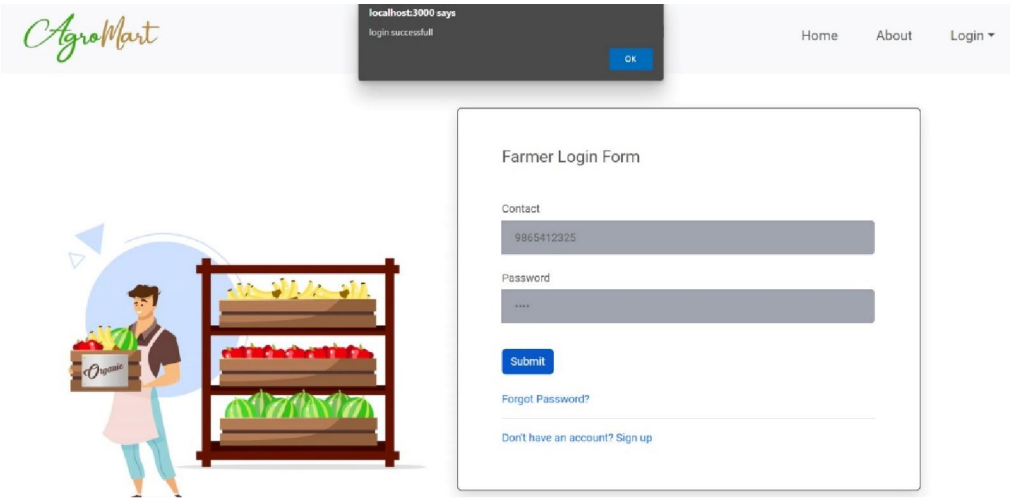

Figure 3: Farmer Login Page

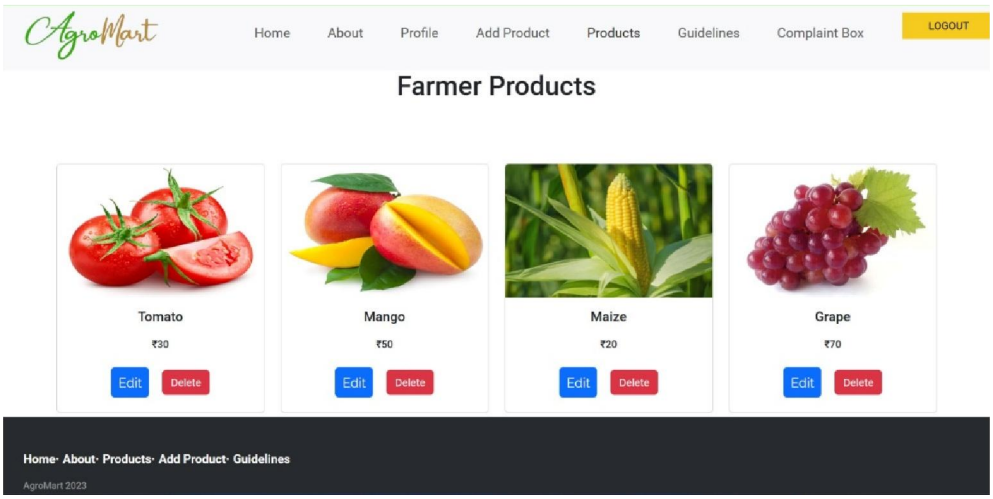

Figure 4: Farmer Products Page

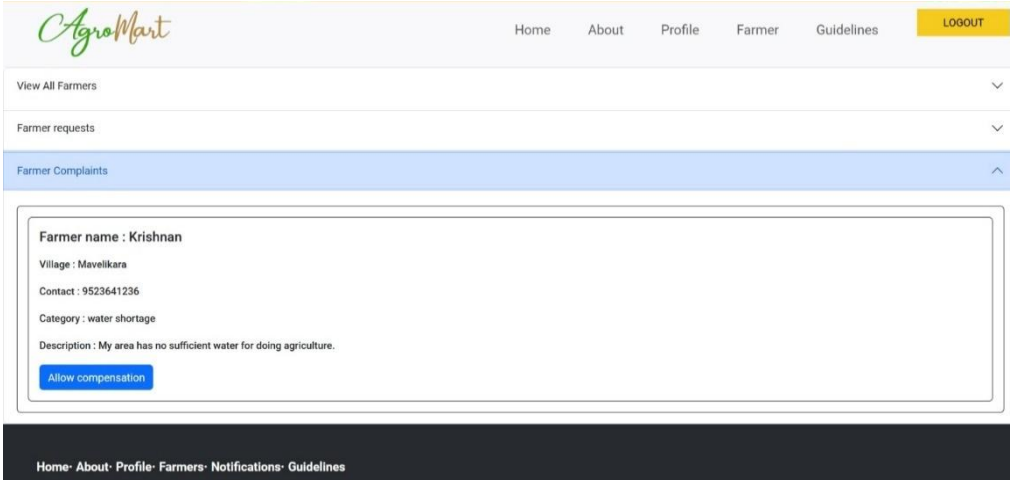

Figure 5: Farmer Complaints Page

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VI. CONCLUSION

AgroMart is a comprehensive online platform that aims to revolutionize the way farmers and customers buy and sell agricultural products. With its user-friendly interface and advanced features, AgroMart provides a one-stop-shop for farmers to showcase and sell their products to customers across the country.

By leveraging the latest technologies , AgroMart ensures transparency and traceability in the entire supply chain, from the farm to the customer's doorstep. It also provides farmers with access to critical information such as weather updates, market trends, and government schemes, helping them make informed decisions and improve their yields.

AgroMart also provides customers with a convenient and hassle-free shopping experience, allowing them to browse, search, and buy products from the comfort of their homes. With various payment options and timely delivery, AgroMart ensures customer satisfaction and encourages repeat purchases.

Overall, AgroMart is a game-changer in the agricultural sector, empowering farmers and customers alike and driving the growth of the Indian agricultural economy.

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