

## Farmers Portal to Sell their produce

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**Abstract** - As our former Prime Minister rightly said “Jai Jawan, Jai Kisan”, kisan is the backbone of our country. To give farmers their due worth and respect by making a system which will enable fair pricing. This will bridge the gap between the farmers and customers to provide a hassle free digital platform. The project will ensure timely revenue for production without any delays and stabilize the fluctuating rates that will prevent economic loss. Thus, to make an easy, user friendly app that will be farmers’ best friend is the main goal of this project. This will also take us one step closer to the vision of “Digital India”.

**Key Words:** Flutter, NodeJS, ExpressJS, Application Development, E-Commerce.

### 1. INTRODUCTION

There is a lack of fair pricing for produce from farmers. There should be a system that gives farmers the benefit of their produce. Farmers should get timely revenue. The fluctuating rates of produce need to be stabilized. The application is an Android Application Designed for bridging the gap between customers and farmers, creating a hassle-free digital platform for both farmers and buyers all over the country. The application will give farmers the best worth for the products with maximizing the profit.

### 2. LITERATURE SURVEY

The detailed study done by existing authors are listed below.

[1] Anand Upadhyay, Ambrish Pathak, Nirbhay Singh, customers' behavior while purchasing products using online shopping. It also talks about how branding, popularity, fair policies, and good relations with customers can help for increasing the business. Any E-trailer company in India is dependent upon its popularity, its branding, its policies, and relations with its consumers, etc. The survey shows that people are now more frequently buying through the internet and that now people are keener on online shopping than before. At the start, people were scared of online shopping because the payment procedures were unreliable. Trust and price are the most important factors of online shopping. Safe delivery of the product and the discount that people get on it have attracted more customers towards online shopping. Now people don't hesitate in buying online. This paper states that people are ready with the transition

happening from traditional shopping to online shopping and this kind of transition is good for society as well. The paper also states that the transition happening from cash to payments to cashless payments is good and it avoids third party involvement which increases the cost unnecessarily this also leads to reducing black money corruption.

[2] Pawel Weichbroth, The usability of the applications has been the concern of multiple software vendors and also the hardware manufacturers. Hence this paper contains the systematically done literature review to fill the voids. The study consists of 790 documents as the input documents from 2001 to 2018. Analysis of this data shows that ISO 9241-11 usability definition has been adopted with standards by the HCI community. There were a total of 75 attributes that were identified and analyzed. The most frequent attributes were efficiency (70 percent), satisfaction (66 percent), and effectiveness (58 percent). Less frequent were learnability (45 percent), memorability (23 percent), cognitive load (19 percent) and errors (17 percent). The last two concerns were simplicity (13 percent) and ease of use (9 percent).

[3] Bradley Schmerl, Jeff Gennari, Alireza Sadeghi, Hamid Bagheri, Sam Malek, Javier Camara, and David Garlan, This paper emphasizes the importance of Software architecture modeling and security analysis in android systems. The paper mainly focuses on two styles of security analyses i.e predicate-based approach, and inter-app permission linkage which is determined by model checking. This paper also provides detailed insights on basic elements of android studio and their functionality. These app components are essential building blocks of an android app. Each component is an entry through which the system or a user can enter your app. Some components depend on others. The basic android components explained in the paper are Activities, Services, Intent and broadcast receivers, Content providers. Today nearly all software systems face one variation of threat or another, and the number of threats increases as technology changes. These threats can emerge from within or outside the organization setting, and often with devastating impacts. STRIDE methodology is presently the most developed threat modeling method, which has evolved over the years to include new threat-based tables and the variants STRIDE-per-Interaction and STRIDE-per-Element. Also, interaction with the external environment, COVERT for security analysis is explained with research. COVERT is a tool for compositional verification of Android inter-application vulnerabilities. It automatically identifies vulnerabilities that occur due to the interaction of apps comprising a system. Subsequently, it determines whether

it is safe for a bundle of apps, requiring certain permissions and potentially interacting with each other, to be installed together.

[4] Yadong Huang, Yueting Chai, Yi Liu, Jianping Shen, This paper tells us a proof of concept of next-generation e-commerce platform with a design framework and ideal models. E-commerce based on computer and internet technology, has grown significantly in the past two decades and has changed the rules of business. Many research institutions and enterprises have made e-commerce more smart and convenient. Each subject has his/her personalized portal. The consumers and suppliers can complete matching transactions without midway traders using personalized portals. Moreover, the personalized portals which are interdependent solve the hidden heap of information, and the correlative support parallel processing. In smart cyberspace the information and relations are updated in real time.

[5] Sukriti Bharti, This paper draws the comparison between the security features of MongoDB with traditional relational databases. The paper gives a detailed overview of core MongoDB features such as Data Model, High Performance, Rich Query Language, High Availability, and Horizontal Scalability. The different security features of MongoDB provide security of data and also prevent attacks on database. MongoDB supports various authentication mechanisms and based on an organization's existing mechanism, an appropriate mechanism can be chosen for integration. After Authentication the next step is Authorization. Also Encryption is extremely important to prevent data from attacks. MongoDB encrypts its communication using TLS/SSL protocol for all types of connections with key pair methods. The security flaws of MongoDB explained in the paper are Unencrypted Data files, Weak Authentication, and insecure authorization in case of read-only mode.

[6] Bin Guo, Yi Ouyang, Tong Guo, Longbing Cao, Zhiwen Yu, This paper talks about a research that supports heterogeneous crowdsourced data for an app user understanding and marketing. In recent years there has been a rise in the mobile app market. It has some key differentiating features which make it different from traditional markets. The key research challenges shall be studied in order to enhance mobile app development. First there is classification of the opportunities provided by the Crow-dApp, and then presentation of the key research challenges and updated techniques to deal with these challenges.

This paper also states the pending issues and future expectations of the Crow-dApp. This paper has stated the current trend and future directions of mobile app user understanding and marketing, from a crowdsourced data outlook. This paper also states the open issues and future directions, such as competitive intelligence and app evolution, personalized and context-aware app evolution, fine-grained app popularity prediction, and heterogeneous crowdsourced data mining.

### 3. PROPOSED SYSTEM

The proposed system will be an Android application developed using flutter library which can run on any Android smartphone. Users (Farmers and Buyers) have to create an Account using the SignUp system. Users (Farmers and Buyers) will be authenticated by userid and password system as well as google O-AUTH (Login with google API). This Authentication will be done using NodeJS and this authentication will be using JWT Authentication method to authenticate the users. All user details will be stored in the MongoDB database. Passwords will be stored in the encrypted format.

This application system contains the following features.

- For Farmers
  - Add Products : Farmers can add products that he wants to sell on the portal.
  - Store Product in Inventory : Added products will be stored in a virtual inventory system.
  - Check Buy Request : If buyers want to purchase they farmer will get the buy request.
  - Accept/Reject Buy Request : If a farmer found the price valid he can accept the buy request.
  - Check Betting Requests : Farmers can check all the buy requests from the buyers.
  - Accept Betting Requests: if farmers found the rate feasible he can accept the betting request to sell the product at a decided rate.
  - Negotiate on Price.
- For Buyers
  - Search Products : Buyers can search online for the products to purchase. All available products will be visible here.
  - Negotiate on Product price : Buyers can bet on searched products. Betting will be
  - Add to Cart / Remove from cart : Buyers can add products to the cart which they want to buy when the farmer agrees on the prize.
  - Buy now.
  - Add to Cart / Remove from cart : Buyers can add products to the cart which they want to buy when the farmer agrees on the prize.

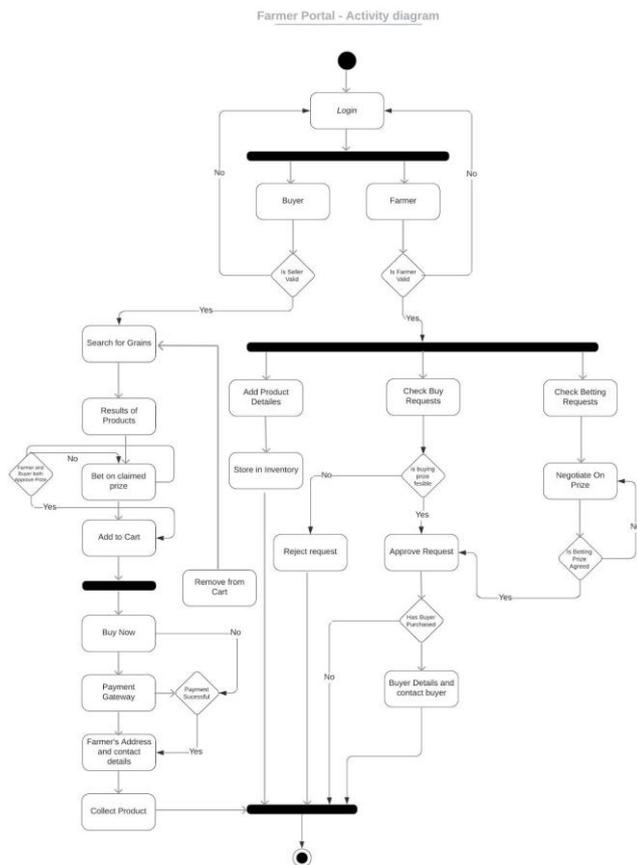


Figure -1: Activity Diagram

The Above mentioned Figure 1 shows the basic overview of the system.

#### 4. CONCLUSION

A system has been proposed for Farmers and Buyers to sell/purchase products using Android applications having an easy user interface to interact with. We have studied technologies such as MongoDB for storing and retrieving the data efficiently and rapidly, NodeJS and ExpressJS to create a restful API which will be responsible to handle all the business logic for the system.

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