

An Android App for Farm; A Survey

Rahul Krishna V C, Vijayakumar Adaickalam

Department of MCA, School of CS & IT,
Jain University. Bangalore, Karnataka, India

Abstract- Mobile devices are now widely utilized by everyone, including farmers and individuals in rural areas. Because agriculture is the backbone of the Indian economy, mobile-enabled information services and the rapid rise of mobile telephony have improved information sharing in the knowledge-intensive agriculture field. Farmers can use the mobile application to access a variety of information services that aid in farm management, control, and monitoring. Farmers can use a mobile app to expand their farming operations and increase their profits. Now that organic veggies and fruits have evolved, everyone has started farming in their backyards, terraces, and their own homes. As mobile applications are an emerging trend, developing an application that can be used for farming will be the best way to achieve or gain something in the business. An E-Commerce platform can be the best way for business nowadays. Firebase is the software that can be used to integrate the android application and also can be used as a database. Chat systems are also an emerging technology nowadays that can be used as a medium of communication. Technological development brings conveniences to people, especially in business life, making it more convenient for people to shop online without leaving home. They can do everything quickly and efficiently with just a mobile phone and the internet. E-commerce provides consumers with the convenience of when making online purchases.

Keywords- Android, Firebase, Chat System, Agriculture, mobile app, E-Commerce

I. INTRODUCTION

Agriculture is one of the consistent needs of human beings. Human beings have been practicing agriculture for a long ago and are also a consistent thing which we are following these days too. Before the widespread of agriculture, most of the time of the life of a human being was spent in hunting wild animals and collecting wild plants for their daily food. Later on, people practiced growing plants and crops for essential needs. Agriculture can be of both animal agriculture and plants agriculture but, this project will be dealing with plants agriculture. The major agriculture products can be classified into foods and fibers. Over one-third of the workers in this world are working in the agriculture field. One of

agriculture-based developing country, with more than 70% of its population dependent on agriculture and livestock. Growth in agricultural production directly boosts India's economy and vice versa. With the increase of non-agricultural opportunities, the Indian farmers and agricultural lifestyles are changing rapidly. Innovations in agriculture do not reach farmers, because most of them are illiterate or ignorant. Therefore, most farmers have not achieved the possible production rates. When, coming into the communication part, communication plays a very important role in the real world. People communicated with each other through different applications or media. Initially, people communicated via letters and other sources of information. These

media can take a long time to convey content. The mobile phone is another communication medium, but the drawbacks of these are the limited messages and small messages that need to be forwarded to another user, and the phone is not the ideal method. Next, the developers attempted to implement text-based communication, which enables instant communication services.

II. LITERATURE SURVEY

Santosh G Karkhile, Sudarshan G Ghuge (1) proposed a system which says as the farmers, who were dependent on clouds for rain, now are looking into Cloud Computing (CC) for their solutions towards the cultivation of superior crops in today's modern agricultural society. The traditional methods used by the farmers, particularly in India, are very slow and undependable. A large amount of crops is getting damaged in the field due to bacterial attacks and lack of information resources. Annually, such losses amount to more than 40% of overall revenue. So, this paper suggests various farmers can use mobile computing in their mobile phones using this application. The main focus of this effort is on Indian farmers since it solves the key issues of acquiring market updates for various goods, weather updates, and rain information, as well as providing multilingual help. This will effectively assist farmers sell their products in the global market and earn remarkable profits. As a result, this framework employs MC, which effectively places power in the hands of the farmer. Android SDK and other tools are used in the experimental setup. Android-based mobile devices are used for testing in this study.

Supriya.Wadhone, Ekta.Pawar, Kavita.Rawte, Tamanna.Darwai, Reena.Pawar, Yukta.Omkar and Pankaj.Singh.Sisodiya (2) proposed that the project mainly aims at providing the best ideas for farming. The application which is developed provides the facilities like ideas regarding agriculture, weather forecasting, smart farming ideas, recent market prices, agricultural ideas, and knowledge regarding the crops. Apart from that, there is an issue faced by the farmers that sell the product or goods, such as

middle persons making the profit, so a seller platform is introduced. Apart from these features, there is an added feature where different news related to agriculture in different places is also added.

Abdul Gaffar Khan (3) proposed that information technology has played a critical part in the future development of financial sectors and the way businesses are conducted in a developing country like Bangladesh. Information and communication technology has wrought significant changes in all aspects of human life. E-commerce offers a lot of benefits to customers, including convenience in any location and the ability to gain a competitive advantage over competitors. In an emerging economy, this study foresees considerable difficulties.

Shital Chaudhari, Vaishnavi Mhatre, Pooja Patil, Sandeep Chavan (4) proposed that, the price of smartphones is decreasing and their popularity is becoming increasing day by day. Moreover, android is the mobile operating system used in a smartphone, most of its applications are freely available. The use of the smartphone is increasing in every sector of business, education, etc. India, an agriculture-based developing country, has more than 70% of its population depending on agriculture and farming. The growth in agriculture production directly increases the Indian Economy and vice-versa is also true. The lifestyle of Indian farmers and farming is varying rapidly due to the increase in non-agricultural opportunities.

Sotiris Karetos, Constantina Costopoulou, Alexander Sideridis (5) proposed that, the high penetration of smartphones and the advanced capabilities of the software that they can host forces public agencies to rapidly transform their services in the mobile government environment for maximizing the utility of services and minimizing the price. In this context, the aim of the system is primarily to review smartphone use and capabilities in agriculture.

Jhalak Mittal, Arushi Garg, Shivani Sharma (6) proposed that, Communication through the web is turning out to be absolutely necessary nowadays. Clients can communicate with others quickly and

easily via online communication. Thinking about this, the online communication application must be capable of writings or pictures, or some other documents in a quicker manner with the least deferral or with no delay or reschedule. Firebase is one of the platforms that provides a consistent database and cloud administrations, allowing designers to easily create these applications. Text messages can be seen as a phase for maintaining communication. Android gives a better stage to create different applications for texting contrasted with different stages.

Basheer TK (7) proposed that, E-Commerce, often known as E-Commercial, is the most common use of computers and information technology in the management of the business and financial records. It helps in the transaction of any amount of money from any part of the world to other. With the help of debit and credit cards, we may buy anything online. The application of e-commerce is billing to customers, tracking payments received and payments to be made, and tracking supplies needed and items produced, stored, shipped, sold, etc.

Sujatha Kumari B A, Chiranth N L and Pooja P (8) proposed that, online chatting is a sort of verbal exchange this is carried out over the Internet, which makes use of an internet chat software to it. Online chatting gives the customers to enjoy real-time communicate with the folks who are positioned geographically in a special region this is it gives a real-time transmission of messages from one person to other. Chat messages are normally quick in order that the alternative player responds to them quickly.

Thereby, it makes the customers of the net chatting app, sense the chat like a real-time communicate. There is a developing want for offering protection for the cellular chat applications, with a massive consumer wide variety it's miles very critical for a cheap software to offer all protection for the statistics they keep and transmit for higher resistance to cyber-attacks. So, to offer protection all of the messages which can be transmitted and the statistics saved withinside the database ought to be

encrypted. For the garage of the consumer's info and their statistics, the AWS (Amazon Web service) is used. AWS is a cloud platform that gives numerous IT infrastructures like database, SQL, virtualization, and plenty of more. It lets in storing statistics from the net software and continues all of the consumer's element which enables withinside the registration and login of the consumer to the net chat software.

Mohammed Ali Hussain and R. Satya Prasad (9) proposed a paper which represents the results of a literature review on e-commerce growth and success. It aids in the analysis of e-commerce growth and the success aspects to consider in the future business expansion.

Sai Spandhana Reddy Emmadiand Sirisha Potluri (10) proposed that Communication via the internet is becoming increasingly important these days. Users of internet communication can communicate with others in a quick and convenient manner. As a result, the online communication tool must be designed with this in mind that it must be able to communicate documents, photos, and other information more quickly with a minimum of delay or no delay One of the most popular platforms is Firebase. It is a system that offers a real-time database as well as cloud services. This makes it simple for the developer to create these applications. Instant messaging can be thought of as a platform for keeping in touch with communication.

E S Soegoto, A Christiani and D Oktafiani (11) proposed a system to identify the evolution of e-commerce. Benefits of applying e-commerce to technology and online spaces in the business world society. The method used in this study was a descriptive method for presenting the complete one. A summary of the situations related to some of the variable situations investigated. Results of this study they were able to see how far the development of e-commerce technology is progressing in the online world Benefits provided by e-commerce applications in the enterprise and online world society. Surveys include payment transaction

systems, sales, and reservation by us using e-commerce technology

III. TECHNICAL PRELIMINARIES

1. Smart Farm Application

One of the proposed system helps farmers sell their products on the global market and make amazing profits. Therefore, the framework uses MC. MC actually empowers the hands of farmers. The experimental setup uses tools such as the Android SDK and Xampp Server. Farmers often fight for basic information such as weather updates, crop prices, crop information, and expert advice, and as a result, they can hear their opinions also. Agriculture is the main reason for the production of food and raw materials, and ultimately for the survival of the population. In India, most of the population depends on agriculture. However, you also need to review and reactivate the technology update mechanism.

2. An Online Chatting Application

The proposed system is to be a client-server visit application. When a client at Customer Site sets up the application, the client chooses to register or log in. On the server side, visiting servers include client servers and message servers. The customer's server that handles customer authentication. The message server uses Firebase Cloud Messaging (FCM) to process messages between clients. When the beneficiary disconnects, messages are randomly placed on the FCM line for a period of time, and when the beneficiary comes online, these messages are sent to him, at which point he is removed from the line.

3. Modern Farming using Android Application

The purpose of the proposed agricultural system using the Android app was to improve the transparency of the produce market by providing market price information and promoting bulk purchase of inputs and bulk sale of produce. Farmers rely on weather forecasts to decide what to do today and tomorrow. That application, which provides weather forecasting capabilities, allows farmers to query the temperature and humidity required for a particular crop.

3.4 Android Messaging Application using Firebase

This system is an internet-based instant messaging application that allows user to communicate quickly and conveniently with others. Both devices require an active internet connection to communicate. There are many chat applications such as WhatsApp, Telegram, Hike, Messenger, Snap Chat, etc., but these systems include PDF creation and PDF reading capabilities. As part of everyday life, users of academic or professional life need to send and receive files. By using this system, users do not need to have another PDF Reader / Writer application on their device. This application allows User to communicate with any user in the world. This application uses Google Firebase as a backend for storing application data such as messages, images, and files. Users must register or log in via their respective email IDs to use the service. When user logs in to the application, the user can search for another user to communicate with. The user can delete the chat after communication. Users can create their own profile, which allows other users to identify themselves. This application was developed for Android mobile phone users. Users can reply to the received message simply by entering the reply message and pressing the send button. The application also gives the user the option to delete the account. Users can also log out of the current device and log in from another device.

5. Firebase

Firebase is a real-time database that saves the data and synchronize it with the NoSQL cloud database. Data is synced in real-time across all clients and is available even when the app is offline. Firebase is a cloud-hosted database. The data is stored as JSON and synced in real-time with each connected client. When you build a cross-platform app using the Apple platform, Android, and JavaScript SDK, all clients share a Realtime Database instance and automatically receive updates for the latest data.

IV. CONCLUSION

Based on the survey done with various papers, it is found that with the analysis of the farmer's current knowledge of modern agricultural technology and the actual development of modern technology, these applications will be even more useful for retrieving all kinds of information with one touch anytime,

anywhere. When coming into the e-commerce part, technological development brings conveniences to people, especially in business life, making it more convenient for people to shop online without leaving home. They can do everything quickly and efficiently with just a mobile phone and the internet. E-commerce provides consumers with the convenience of

REFERENCES

- [1] Santosh G.Karkhile , Sudarshan G.Ghuge, "A Modern Farming Techniques using Android Application"; International Journal of Innovative Research in Science, Engineering and Technology; ISSN(Online): 2319-8753, Vol. 4, Issue 10, October 2015.
- [2] SupriyaWadhone, Ekta Pawar, Kavita Rawte, Tamanna Darwai, Reena Pawar, Yukta Omkar, Pankaj Singh Sisodiya, "Agriculture Based Application For Farmers"; International Research Journal of Engineering and Technology; Volume: 08 Issue: 03, March 2021.
- [3] Abdul Gaffar Khan, "Electronic Commerce: A Study on Benefits and Challenges in an Emerging Economy"; Global Journal of Management and Business Research; Online ISSN: 2249-4588, Volume 16 Issue 1 Version 1.0, Year 2016.
- [4]ShitalChaudhari, VaishnaviMhatre, PoojaPatil, SandeepChavan, "Smart Farm Application: A Modern Farming Technique Using Android Application"; International Research Journal of Engineering and Technology; Volume: 05 Issue: 02, February 2018.
- [5] Sotiris Karetos, ConstantinaCostopoulou, Alexander Sideridis, "Developing a smartphone app for m-government in agriculture"; JournalofAgriculturalInformatics ;Vol.5,No. 1:1- 8, Year 2014.
- [6] Jhalak Mittal, ArushiGarg, Shivani Sharma; "Online Chatting Application";International Journal of Research in Engineering, IT and Social Sciences; ISSN 2250-0588, Volume 10 Issue 04, Page 10-16, April 2020.
- [7] Basheer K.T, "An analytical study of e-commerce in India"; International Journal of Creative Research Thoughts (IJCRT) ; ISSN: 2320-2882, Volume 8, Issue 7, July 2020.
- [8] Sujatha Kumari B A, Chiranth N L, Pooja P, "Android Chat Application Development using AWS"; International Journal of Recent Technology and Engineering (IJRTE); ISSN: 2277-3878, Volume-8 Issue-2S6, July 2019.
- [9] Mohammed Ali Hussain, R. Satya Prasad, "A Survey on Growth and Success of E-Commerce in Recent Trends" ; International Journal of Soft Computing and Engineering (IJSCE) ; ISSN: 2231-2307; Volume-1 Issue-5, November 2011.
- [10] Sai Spandhana Reddy Emmadi, Sirisha Potluri; "Android Based Instant Messaging Application Using Firebase" ; International Journal of Recent Technology and Engineering (IJRTE); ISSN: 2277-3878, Volume-7 Issue-5S2, January 2019.
- [11] E S Soegoto, A Christiani and D Oktafiani; "Development of E-Commerce Technology in World of Online Business"; IOP Conference Series: Materials Science and Engineering; 407 (2018) 012031 doi:10.1088/1757-899X/407/1/012031.

Author's details

1. PG Student, Master of Computer Application, School of Computer Science & Information Technology, Jain Deemed to be University, Karnataka, India, rahulkrishnavc23@gmail.com
2. Professor,School of Computer Science & Information Technology, Jain Deemed to be University,Karnataka, India, vijay.pattukkottai@gmail.com