iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 9 **Issue:** VII **Month of publication:** July 2021

DOI: https://doi.org/10.22214/ijraset.2021.36832

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.429
Volume 9 Issue VII July 2021- Available at www.ijraset.com

Raita Mitra Agricultural information system

Yashpal Gupta S[1], Aishwarya Mokashi[2], Harshitha T[3]
[1, 2, 3]*Vidyavardhak college of engineering, India*

Abstract: This challenge is targeted on developing an agricultural informative utility which is a cellular software that serves its customers through providing records about the crop marketing approach, climate details, authorities schemes and gadget availability. The most important functions supplied by way of this utility encompass records retrieval facilities for users in the shape of obtaining statistical records about fertilizer, climate situations, news and gadget availability for corresponding plants. In addition, this offers person data about inter-crops associated with most important vegetation. The gadget now not handiest gives the retrieving facilities however additionally the updating centres to the legal individuals. Java is used to create the front give up for the gadget and SQL server is used at the again cease. Accessing the database is carried out by the usage of SQL queries for the retrieval and update. The communication between the the front quit and returned-cease is done thru Ms SQL Server. Admin might be given suitable username and the password.

I. INTRODUCTION

India notwithstanding having an agricultural based economic system does now not have an green records machine. Our application is used to help with special information specially for farmers. Our major goal is to introduce an agricultural information machine for the precise crops. Other than that developing countries have to provide information for his or her individuals who are interested by agriculture. Hence we need statistics device to help them in various methods. This application is associated with Mysore area particularly concerned to help farmers. Remote access to this system is to be furnished thru the net. Our information machine presents the ability to attain summarized statistics in a favored layout to the outside customers. It additionally affords facility to the authorized individual to insert and update the database even though the internet on daily basis. Our application gives smooth get right of entry to to the database for all kind of information manipulation. Security is ensured with the help of username and the password for updating purposes, so one can take delivery of to legal character. Nowadays humans do not want to examine books, which can be very tough to discover and time consuming. So this utility helps consumer to get data on line.

II. LITERATURE SURVEY

Information and Communication Technology (ICT) in term of agriculture is a promising field focusing on advancement of agriculture and developing rural areas of India. Thus ad vancement in ICT can be made for providing accurate and timely relevant information.

Paper [1] introduces– Krishi Ville- an android based application which will manage the updates of the different agricultural news, agricultural commodities, and weather forecast. This application has been designed taking Indian agriculture into consideration.

E-Agriculture [2] includes different activities such as conceptualizing, designing, development, evaluation and innovation to use information and communication technologies (ICTs) in the rural areas. The accurate and reliable agricultural information is the basis of the implementation of digital agriculture

[3]. Nowadays, the processing of agricultural information and data acquisition is more complex. It immediately needs to develop a portable agricultural information collection system with high degree integration and a wide range of versatility. It can gather the GPS coordinates of the farmland, the agricultural attribute data, image information, and sent to the monitoring system immediately using 3G network or GPRS network. India is one of the world's largest producers of vegetables and fruits but its share in the global horticulture market is insignificant. So, the aim behind developing this application is to give India's huge farming community a fair and consistent price for their produce. This android based app

"Virtual Fruits Market" [7] will help some of the farmers to overcome this problem. Using this app farmer can directly connect with the end users and supply the product directly to them. Farmer, the backbone of agriculture is in pathetic condition as he is not getting precision in agricultural information resulting in less crop yield. But now, in the era of Digital India, we can form the union of farmers through networking, and make the agricultural information reach the farmers through ICT

©IJRASET: All Rights are Reserved

[4]. Major factor for getting high crop yield is soil test. Each farmer's soil has to be tested and based on that specific preci sion information relating to each farmer's soil like type of crops to be grown, amount of fertilizer to be used, type of irrigation and latest farm equipments is sent as specific SMS to each farmer by NGO. Information and Communication Technology (ICT) is an efficient solution for the farmers that can help them in cultivating crops which can give them a better yield and are suitable as per the present weather conditions. In this paper, they propose an android based app,
e-krishakMitra [5] intended to address this issue. Further, it will act as a complete farmers' friend helping them in taking strategic decision by suggesting them about various issues related with the cultivation of crops such as soil's current nutrient status, irrigation needs, pest and disease identification, yield estimation etc.
The paper [6] stresses on the need of an externally hosted cloud computing platform to manage the database, android and the isolated server by the users across the country for irrigation.
The system uses information and communication technology, enabling the users to consider and check-out the information gathered from different sensors. Here we make use of different sensors like humidity, temperature, moisture etc. This sensor gives signal to the micro controller.
The paper [8] proposed android operating system which is equipped with Bluetooth technology where enables to communicate and process the wearable health sensors, thus reads and display the exact temperature, heart rate of the livestock. In order to gather statistical data from mobile based to PC via web services, Google Cloud Storage enable this interaction. This device is reliable and accurate in determining the livestock health status. GeoPackage forms an intermediate to bridge agricultural geographic information and mobile devices such as smartphones and tablets.
This paper [9] present a Cordova framework based GeoPackage mobile application to encourage field operations in agriculture. By implementing GeoPackage SDK on mobile application, GeoPackage files can be accessed, managed, and visualized easily in field operation. Based on Cordova framework's strong extensibility, the application can be run on various mobile platforms. CST (Crop Statistics Tool)
[10] is a standalone freeware for predicting crop yield statistics using indicators derived from crop models, weather or remote sensing data. In practice, CST guides the crop analyst through standard steps: after data screening to identify possible outliers and analysis of time trend, the crop analyst has the choice between the following two approaches to forecast yield:

1) Multiple regression analysis in which a linear relationship is calibrated between historical yield data and yield indicators, while accounting for a time trend if present;
2) Scenario analysis, whereby CST looks for the year's most similar (according to the indicators) to the current year to estimate a yield deviation from the time trend or the average yield.

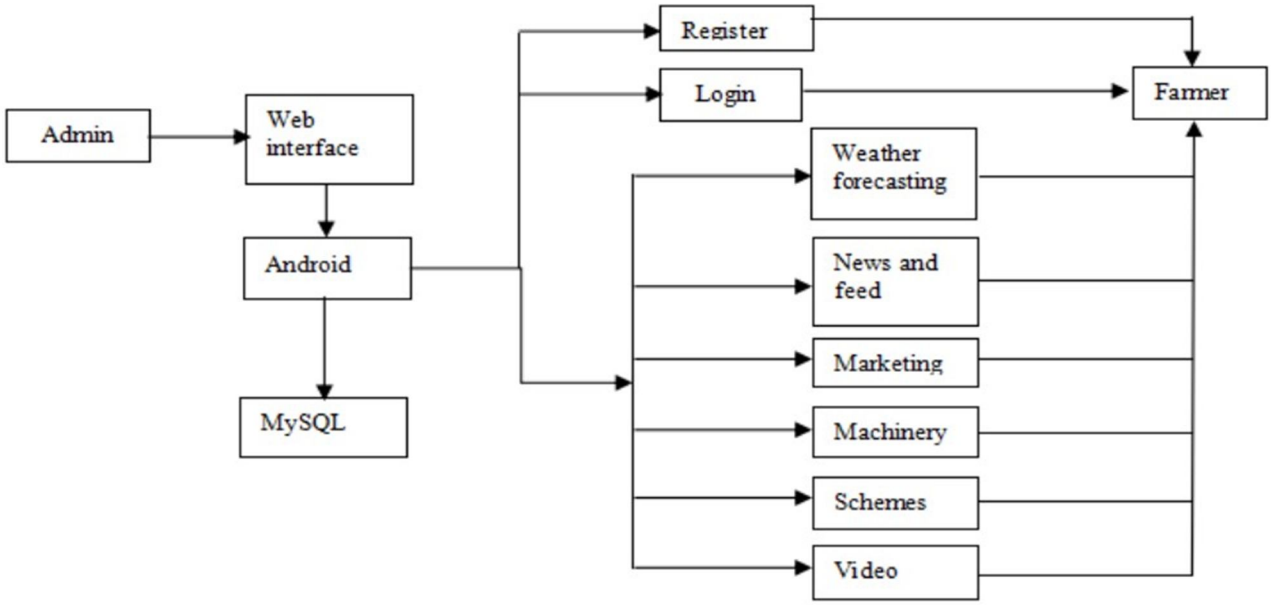
III. PROPOSED SYSTEM

The development of this project prototype can help most of the farmers in rural areas to get information just by downloading the application in their smart phones. To make farmers aware of all kind of information related to agriculture on daily basis. Developing a user-friendly agricultural information system which full fills the user requirements. Database updating can be done by authenticated users. Monitoring and baking up database and user details for future use. Any user can retrieve data from the application. Authenticated officers given permission to update and modify information. Farmers can easily get the updated information anytime, anywhere through this online application. Our system consists of following modules as shown in Figure.1. Admin will upload the details. User will login to the system and views the updated information. Crop detail: Under this module crops are categorized into Agricultural crops and Horticultural crops. Based on these types crop information is provided to farmers. Crop information includes general crop details, climate, fertilizer, diseases. Weather forecasting: Research canter admin updates weather detail on daily basis. The system predicts weather information of a week and displays for the farmers. News and feed: Agriculture related news is displayed in the system by the department admin. This information includes inventions, agricultural programs etc. Marketing: In this module agricultural market details are provided by the department to the farmers. Marketing details includes price of various crops on daily basis. Machinery: Machine availability can be checked by the farmers in various machine canters. Brief description is also provided for different machines. This information is uploaded by machine centres. Schemes: Government facilities and subsidy information are displayed for the farmers based on various conditions. Video: Video uploaded by the department regarding harvesting, sowing etc which can be utilized by users.

©IJRASET: All Rights are Reserved

ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.429
Volume 9 Issue VII July 2021- Available at www.ijraset.com

Modular Design



A. Implementation

This system is implemented using Android Studio 3.3;

1) *Setup:* During this phase one can install and set up development environment. Also creates Android Virtual Devices (AVDs) and connect hardware devices, on which one can install this applications.
2) *Development:* During this phase one has to set up and develop android project, which contains all of the source code, resource files for this application.
3) *Debugging and Testing:* During this phase one can build android project into a debug gable. Apk package that user can install and run on the emulator.
4) *Publishing:* During this phase configure and build android application for release and distribute this application to users.

Android Studio 2.3 Android Studio is the official Integrated Development Environment (IDE) for android platform development. It contains a base workspace and an extensible plug-in system for customizing the environment. Written mostly in java, Android Studio can be used to develop application in Java. The Android Studio Software Development Kit (SDK), which include the Java development. Users can extend its abilities by installing plug-ins written for Android Studio platforms such as development toolkits for other programming languages and can write and can contribute their own plug-in modules.

Software Development Kit (SDK) is a plug-in for the Android Studio IDE that is designed to give us a powerful, integrated environment in which to build Android applications. SDK extends the capabilities of Android Studio to let us quickly set up new Android projects, create an application UI, add packages based on the Android Framework. The AVD Manager provides a graphical user interface in which user can create and manage Android Virtual Devices (AVDs), which are required by the Android Emulator.

Database MySQL 5.0 is a relational database management system (RDBMS), and ships with no GUI tools to administer MySQL database or manage data contained within the databases. SQLyog MySQL GUI is a commercially available (closedsource) MySQL manager and admin tool, combining features from MySQL Administrator, phpMyAdmin and other GUI tools. 4.4 NetBeans 8.2 NetBeans IDE is an open-source integrated development environment. NetBeans IDE supports development of all Java application types (Java SE [including JavaFX], Java ME, web, EJB (Enterprise JavaBeans) and mobile applications) out of the box. PHP is a server side scripting language that is embedded in HTML. It is used to manage dynamic content, databases, session tracking, even build entire e-commerce sites. It is integrated with a number of popular databases, including MySQL, PostgreSQL, Oracle, Sybase, Informix, and Microsoft SQL Server. The hardware used should be with minimum interfaces like that of processor used should be above 2 Ghz, ram of 4GB, hard disk of 10 Gb. Input device used are standard Keyboard and Mouse. Output device used is android smart phone. The software used should be with minimum interfaces like operating system used should be Windows 7 or 8 or 10 and java is used for the programming.

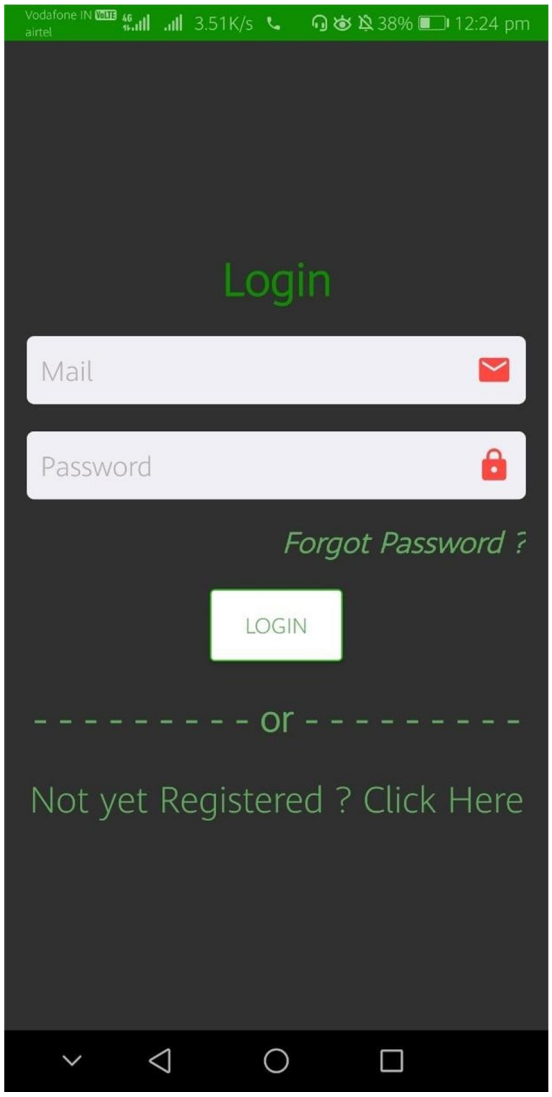
©IJRASET: All Rights are Reserved

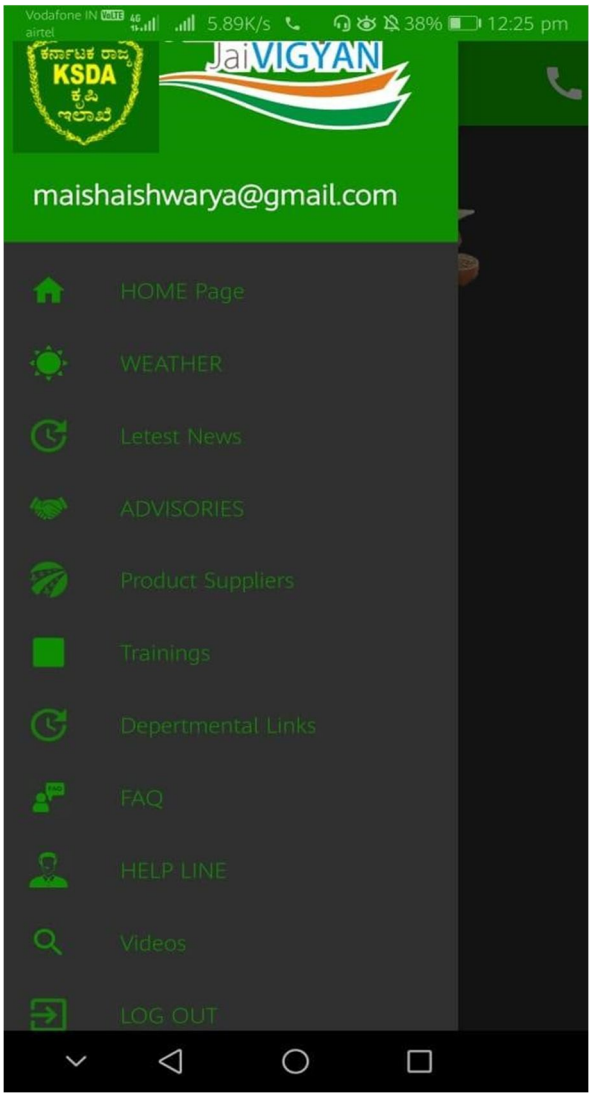
B. Function:

1) Marketting Management: a. addCropPrice() b. UpdateCropPrice() c. addStoreDetails() d. updateStoreDetails()
2) Scheme Management: a. addGvtScheme() b. updateGvtScheme() c. deleteGvtScheme()
3) Machine Management a. addMechine() b. addMachineRent() c. checkAvailability()
4) Weather Management a. Addweatherinfo() b. UpdateWeather()
5) Crop Management a. aadCropDetails() b. updateCrop() c. cropInfo()

IV. RESULTS

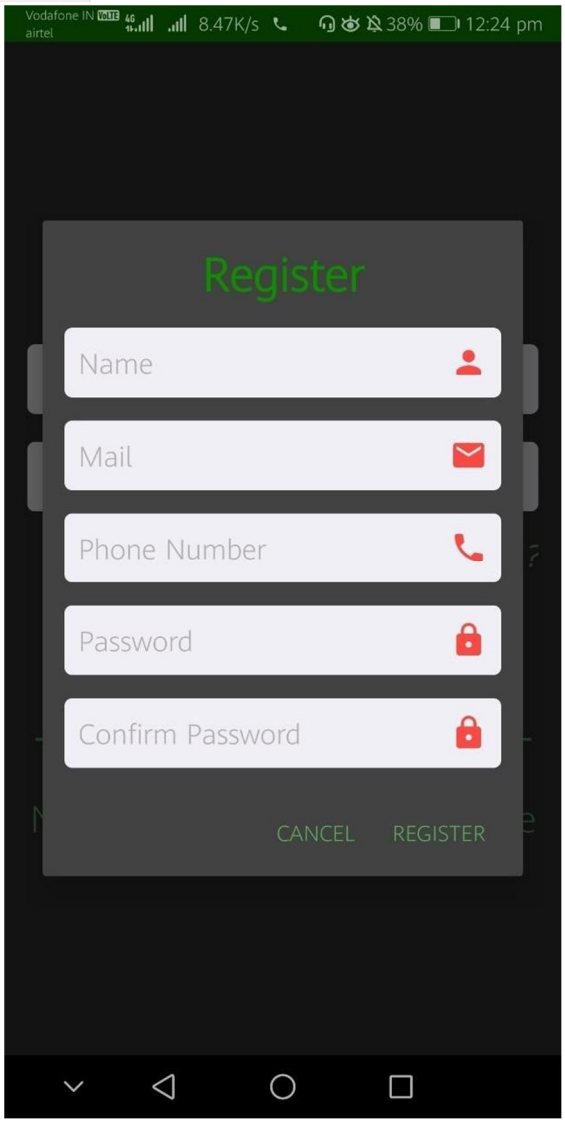
Agriculture information system is developed as a user friendly application which helps to fulfill the user requirements. Database update is done by authenticated users. This application helps by providing the reference information for the cultivators and decision making support mainly for farmers. Monitoring and back up of database and user details for future use is done here. User can retrieve data from the application. Farmer can easily get the updated information anytime, anywhere through this online application

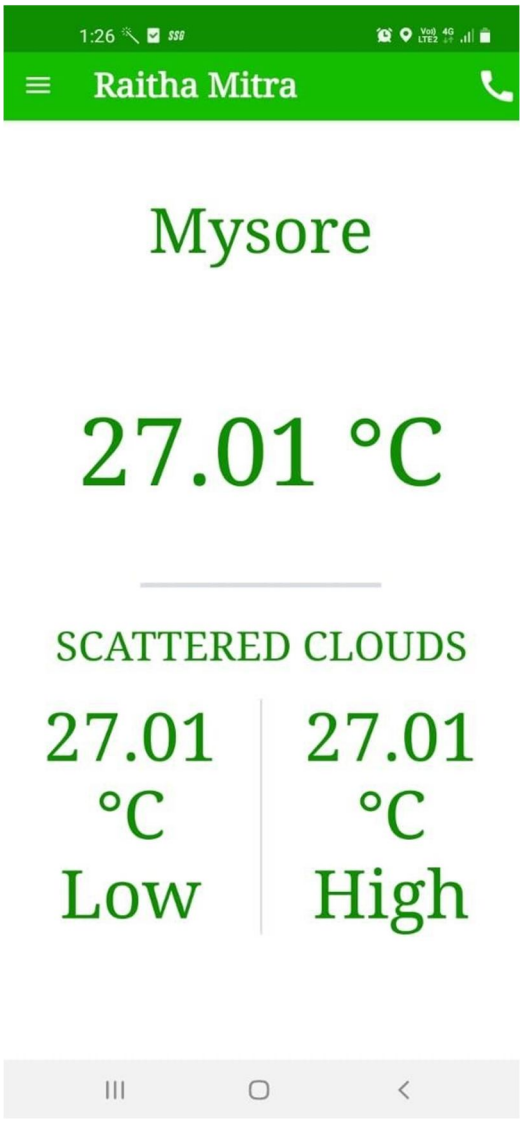




©IJRASET: All Rights are Reserved

ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.429
Volume 9 Issue VII July 2021- Available at www.ijraset.com





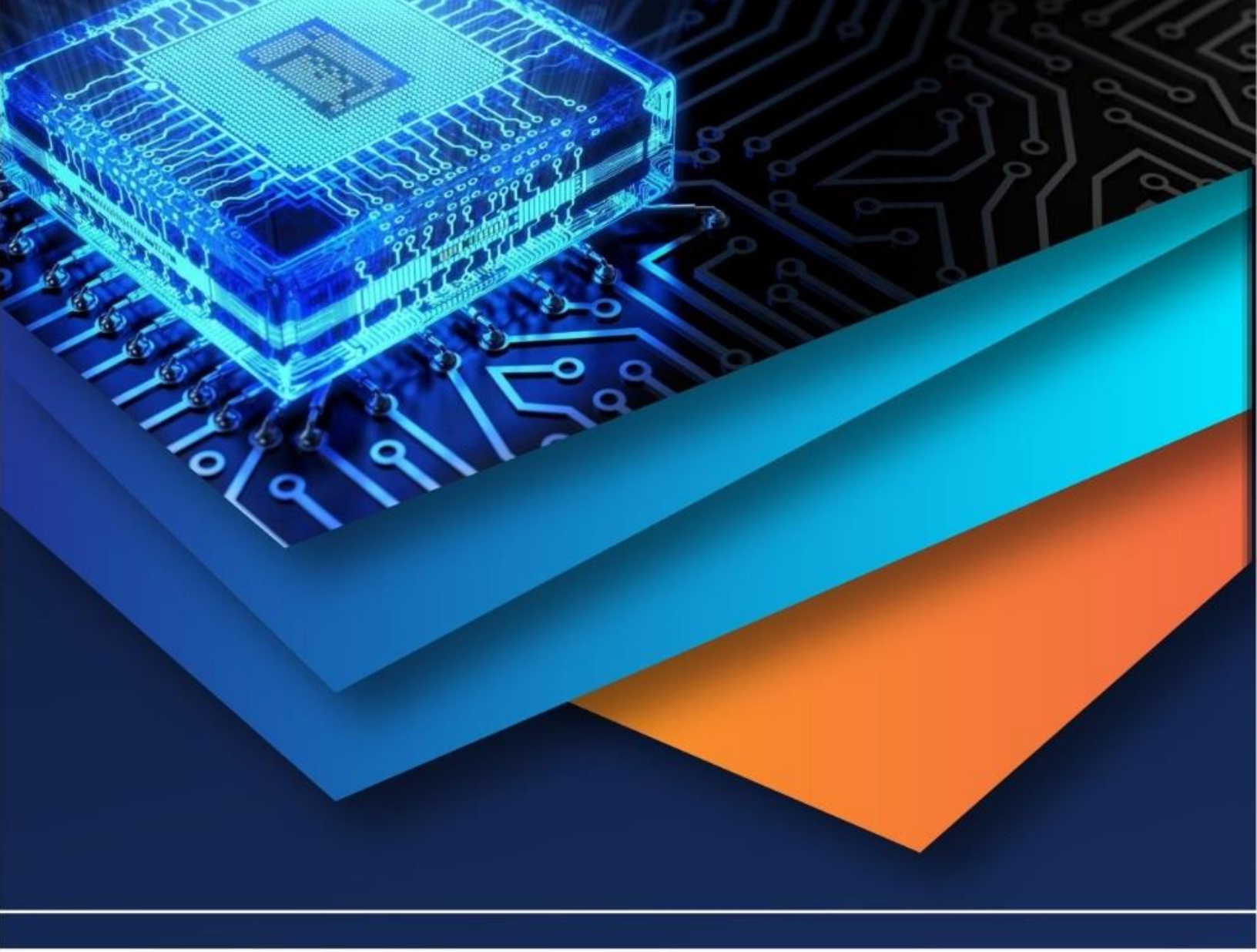
V. CONCLUSION

Although a conclusion may review the main points of the paper, do not replicate the abstract as the conclusion. A conclusion might elaborate on the importance of the work or suggest applications and extensions. Authors are strongly encouraged not to call out multiple figures or tables in the conclusion— these should be referenced in the body of the paper.

REFERENCES

[1] Manav Singhal, Kshitij Verma and Anupam Shukla- "Krishi Ville – Android based Solution for Indian Agriculture"
[2] Deka Ganesh Chandra and Dutta Borah MalayaRole of e- "Agriculture in Rural Development in Indian Context".
[3] Xu Chen , Jingyin Zhao, Junfang Bi and Linyi Li- "Research of Real-time Agriculture Information Collection System Base on Mobile GIS".
[4] Tanuja R. Patil, Shamshuddin K, Rajashekhar Patil and Sadanand P- "Krushi samriddhi: a decision support system for farmers to get high crop yield", 2016. [5] Sowmyaa Guptaa, Gaurav Trivedi- "e-krishakMitra".
[5] Kanchan Wani, Mrunal Mhatre and Hyder Ali Hingoliwala- "Smart Irrigation: A Smart Drip Irrigation System Using Cloud, Android And Data Mining", 2016.

©IJRASET: All Rights are Reserved



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089 (24*7 Support on Whatsapp)