International Journal of Scientific Research in Computer Science, Engineering and Information Technology
© 2018 IJSRCSEIT | Volume 3 | Issue 3 | ISSN : 2456-3307

Modern Agriculture Development System Using Android Application

V. Praveen[1], A. Jenifer[2], T. Kiruthika[3], R. Akalya[4], Dr. P. Gomathi[5]
Computer Science and Engineering, N.S.N College of Engineering and Technology, Karur, Tamil Nadu, India

ABSTRACT

The main objective of this paper is focused on improving the agriculture performance. It is mainly used for providing the agriculture related information and solving the problem related to agriculture. User can able to grow the number of plants in their home by using this information. The user should need proper guidance information to cultivate their agriculture land. Modern agricultural systems contain the details of fertilizer, soil, climate, crop rotation, and genetic manipulation of crop plants and etc. In addition, a digital signature algorithm may be used to detect whether or not the information was modified after it was signed. REST API architecture will be useful to build client/server network applications. REST API will be good architectural option to do the communication between the app and the server. The work of fertilizer in agricultural production has been key to the development of these practices. It contains all the information to grow plants. The information is divided into category wise such as cattle, crop protection, vegetables, grains and etc. English category information is also included in this application. The query communication between the user and admin can be performed in this system. User can gather the information to increase the production. User can clarify their quires about the agriculture by using this system. By using this system, the growth of plants will be increased in residential areas. The system can be shared via social network services. Reviews and comments are added to know how long it was reached the user. User can login to the application with social media Facebook, twitter, Google+. It is a web based and mobile application. Modern agricultural development systems used for providing the suggestion to the user about agriculture. This system raises the agriculture as modern technology in the future.

Keywords: Digital Signature Algorithm, REST API

I. INTRODUCTION

The main objective of the proposed system is to focus on improving the agriculture performance. It is mainly used for providing the agriculture related information and solving the problems related to agriculture area. There are five types of modules used to develop the proposed system such as Information Gathering, Information Sharing, Online Amount Transaction, Page Designing, and Social Media Integration. Information Gathering is used to gather the information, reading and sharing of information from one to another. Information Sharing is used to share information one to another. Online amount transaction is used to transfer the amount in online, in case of purchasing the product. This agricultural system contains the details of fertilizer, soil, crop rotation, genetic manipulation of crop plants, the query communication between the user and admin can be performed in this system. The information is divided into category wise such as cattle, crop protection, vegetables, grains and etc. English category information is also included. The agriculture information is exchanged between the

browser and the server. The data should be in the form of text. User can able to grow more number of plants in their home by using this information. User should need proper guidance information to cultivate their agriculture land. Modern agricultural system contains the details of fertilizer, soil, climate, crop rotation and genetic manipulation of crop plants. If the user wants to share information to someone using this application, the information will be sent to the user via social network services. Android News Application is a mobile news system which runs under Android platform. With powerful and responsive admin panel can manage news category, news item, application profile information, change admin username and password. This Android application is created for client side and also for admin side. The Android platform is one of the most popular operating system in the world. Using this application user can save money and time in creating application for own news application. It requires a web hosting to store admin panel files and SQL database. Because this documentation using cpanel, a web hosting with cpanel is recommended. In android news application, the admin can add new details to the application. The information can also be searched from the application. If any contents wants to be edited in this application that can also be performed.

II. LITERATURE REVIEW

[1] Nowadays agricultural stakeholders have to manage heterogeneous and complex information ranging from cultivation techniques to product prices, the study investigates the potential of mobile application to support them by providing access to information, markets and services. It uncovers the current status of mobile agricultural apps in the global mobile ecosystem. It also studies agricultural stakeholder's interest and willingness to use mobile apps in their daily agricultural activities in Greece. The empirical research shows that a very small number of apps are available in relation to the significance of agriculture worldwide. Finally, the study proposes that the development of mobile apps should support agricultural activities by providing accurate, certified and validated content and services that would into account the peculiarities of geographical areas. The successful spread of mobile apps requires the active involvement of public agencies and ministries.

[2] The quality of knowledge for agriculture, sources of agricultural info, and kinds of info wants for agricultural development; issues of dissemination of agricultural information are mentioned. The study is principally to spot agricultural system elements, their handiness, the understanding of however with success they work, issues related to them and the way to enhance their performances. The review of research ways and method of agricultural information systems also are explained. It will even be accustomed develop suggestions to unravel the common issues in agriculture info systems, to enhance the policy programs, the extension1 and analysis activities, and to manage information on agriculture. Finally, general conclusions regarding agricultural information systems are stressed and implications for any development of agriculture information systems are conferred.

[3] India is known as an agriculture country, where the recommendations are given by traditional methods. At present, recommendations for farmers are based on communication between farmers and experts and different experts have variety of recommendations. Recommendation will be provided to farmer victimization the past agricultural activity knowledge. The applying provides recommendations to farmers for characteristic the suitable chemical and therefore the crop. The system can be used by farmer with android based mobile devices. The application is used for increasing the crop yield and the recommended fertilizers can be purchased from the site. Suggestions regarding

frequently purchased fertilizers will be given to the user.

[4] Rapid growth of mobile telephone additionally the introduction of mobile-enabled info services give ways that to enhance info dissemination to the data intensive agriculture sector and also facilitate to beat info imbalance existing among the cluster of farmers. It conjointly helps a minimum of partly, to bridge the gap between the provision and also the delivery of agricultural inputs and also the agriculture infrastructure. As mobile penetration continues to extend among farming communities and data services and to adapt and proliferate, the scope exists for a lot of bigger rural productivity impact within the future. To leverage the complete potential of knowledge dissemination enabled by mobile telephone together with supporting infrastructure and capability building amongst farmers it's essential to make sure the standard of knowledge, its timeliness and trait.

[5] As a source of livelihood, agriculture remains the largest sector of Indian Economy. While its output share fell from 28.3% in 1993-94 to 14.4% in 2011-12, employment share declined from 64.8% to 48.9% over the same period. Therefore, nearly 1/2 the personnel in Republic of India still remains obsessed with agriculture. Given the low share of the personnel within the value, on average, it earns a lot of lower financial gain poorer than its counterpart in trade and services. First, output per square measure, that could be a common live of agricultural productivity, remains low for several crops compared to several alternative countries. Second, on average, farmers don't notice remunerative costs as a result of restricted reach of the Minimum Support costs (MSP) Associate in nursing an agricultural selling system that delivers solely a tiny low fraction of the ultimate value to the particular farmer. Third, the farm size of the bulk of the unit has declined to unviable levels causing farmers to go away land and appearance for higher job opportunities elsewhere.

[6] Farming may be a knowledge-intensive trade. Farmers have to be compelled to acquire and method financial, climatic, technical and restrictive data to manage their farms. Each public and personal establishment has emerged to produce farmers with data and analysis. However, inadequacies during this agricultural data system like the lack to systematically offer correct and simply accessible data, gift many challenges to farmers. One of the roles of government is the provision of information to increase the efficiency and improve the performance of the economy, but government activities are constrained by budget. Information is also provided by members of the private sector, and effective policy design to identify where investment in public information is most effective. Therefore, research aims in understanding the networks of information and, in particular, who is the provider and who the user of certain types of information is.

[7] The basic Rice Cultivation Manual may be a guide supposed to coach farmers to equip them with data and skills of rice cultivation. The Manual is additionally supposed to boost the farmer's appreciation, understanding and awareness of the rice production system that entails pre-harvest operations from land preparation to harvest and post-harvest processes, from the turn out for consumption and for seed production and storage for future cropping. a number of the options within the manual offer comparative analysis between the rice cultivation and PNG ancient crop cultivation. It highlights the variation within the production and management practices and inputs of 2 main production systems (up land or low land) that gives info on utilization of straightforward low input post – harvest process technologies and also the production of excellent quality seeds.

III. SYSTEM ANALYSIS

A. Existing System

The system is introducing associate degree agricultural system on the web so it'll eventually permit potential users to question and procure the specified info. The four main analysis institutes of Ceylon, namely: Rubber analysis Institute, Agalawatta, Tea analysis Institute, Thalawakale, Coconut analysis Institute, Lunuwila, Rice analysis Institute and Gannoruwa maintains varied sorts of agricultural info and create them accessible to potential users within the sorts of periodical reports and books. This info contains commonplace summarized knowledge of the recent past however fails to cater interest group teams and different analysis institutes seeking for current knowledge. Associate degree system of this kind can facilitate to resolve these issues and create no matter info maintained additional valuable. In Ceylon there ar many firms that manufacture many merchandise from Tea, rubber, coconut and rice. Many websites within the net provides info concerning these firms. However, agricultural info on crops and inter-crops, their production and export details, crop and inter-crop diseases, land accessibility, soil suitableness, fertilizer, analysis institutes and researches aren't however obtainable on the web. Ceylon is associate degree agricultural country and its main exports embrace tea, rubber and coconut [CEN96]. Rice is additionally a crucial crop in Ceylon as a result of it's the most food consumed by Sri Lankans [AGR96].

However, Sri Lanka does not have an accessible agricultural information system on its main crops for the potential users. As a result, the scope of promoting agricultural activities is limited. Nowadays, the information technology on the Internet performs commanding roles [BAR95] and hence, people do not have to rely on books and reports, which are usually hard to find and access. Also published information in books and reports often fails to reflect the current status, which is essential in a competitive world. This situation can be addressed by maintaining an agricultural information system and making that information available on the Internet [KRO95]. Such systems are already used in some countries [CGIAR, raw, RWb]. The system describes the design and development of an agricultural information system for the four main crops in Sri Lanka, namely: tea, rubber, coconut and rice. Access to this system is provided through the Internet. The users will be able to view the required information as tables or graphs.

Disadvantages

1. This system provides only a limited amount of information such as Rubber, Coconut and Rice.
2. There is no third party integration
3. Information sharing is not available in this application

B. Proposed System

The proposed system provides information about agriculture, such as to increase the growth rate of plant production. User can able to grow the number of plants in their home by using this information. The user should need proper guidance information to cultivate them agriculture land.

Modern agricultural systems contain the details of fertilizer, soil, climate, crop rotation, and genetic manipulation of crop plants, etc. The work of fertilizer in agricultural production has been key to the development of these practices. It contains all the information to grow plants. The information is divided into category wise such as cattle, crop protection, vegetables, grains, etc. English category information is also included in this application. User can gather the information to increase the production. User can clarify their suggestion about the agriculture by using this system. By using this system, the growth of plants will be increased in residential areas. The system can be shared via social network services. Reviews and comments are added to know how long it was reached the user. User can

login to the application with social media Facebook, twitter and Google+. User can grow more number of plants with proper guidance form this application.

Advantages

1. User can login to the application with social media Facebook, Twitter, LinkedIn, Google+, etc.
2. It is a web based application.
3. Information Sharing is available.
4. Reviews and comments were added.

IV. SYSTEM IMPLEMENTATION

A. Modules Description

1. Implementation

The proposed system provides all kind of information related to agriculture in this application. This information provides proper guidance to growth number of plants and to increase the production of plants. Then it consists of five modules to complete the project successfully. [8] The news is added and retrieved correctly in the application by using REpresentational State Transfer (REST) API methods such as POST and GET method. The news about agriculture can also be updated by using PUT method. The following modules are explained in detail about agriculture news added, sharing news, and designing of pages, social media integration and online amount transaction.

2. Information Collection

The information is collected in the form of plants, cattle information, grain varieties and crop rotation. The information is collected by knowledgeable person about the agriculture. The agriculture information is splitted into category wise such as vegetables, grains, cattle information. The information is provided in tamil for easy to understand in normal people. The information is provided as well as in English. The English category information is provided for easy search in application. The information is also searched like Google engine. The relevant information is also showed while searching the appropriate information.

The information can be added in admin panel. In admin panel, admin can add news that should be updated in mobile application. If the information does not provide guidance to grow a plant, then that information has to be deleted in admin panel.

In admin panel, the number of editing options are available such as paste, copy, insert picture, link also be added etc. The date of the information is also included to know when that information was published. Each and every news is under some category such as balcony house garden, crop protection, grain varieties, cattle food etc. The information and guidance picture is added into the text box area.

3. Information Transfer

The agriculture information can be shared via SHAREit, Whatsapp, Facebook, Google +, email, Twitter etc. Users can able to send the information to others through the installed mobile applications. These shares can be used to trigger your chat extensions via the attribution link. They will also put your chat extension in the more drawers for the person. The Facebook Software Development Toolkit provides four attributed share types and one unattributed share types: Developers can specify a Page ID in the share flow, and when people share content from an application to messenger by the way of Sharing SDK, the content is attributed to the Page. [9] Page administrators, in turn, can prevent false attributions by controlling which application can use a share attribution for their Pages. To grant an application share attribution, the administrator links the application`s ID with the Page ID. If this application was not in the Subscribed Application`s table already, it will show up in the table with the “share attribution” role associated with it. If the application was already in the table, the new “share attribution” role will be added for that application. Page administrators can also remove an application`s permission to use share attribution. To

remove the "share attribution" role for a given application.

In the subscribed application table, click on the dropdown in the "role" column for the application. Click on the "share attribution" to deselect the role. If the user needs to share this agriculture information to someone while using this application, then that can be shared via installed sharing application.

4. Page Design

The page design of this application is divided into two categories such as recent news and category. In recent news, there are number of news are provided for proper guidance to increase the production. In category, there are number of categories included to know the category of news. The page is designed with searching box and news box. In home page, the rate of the app is displayed and reviews and comments were added.

5. Social Media Integration

Social media is the key to marketing, as it provides a way to stay connected with an audience on a daily basis. It is an effective means of communication that simultaneously allows businesses to brand themselves, develop personality and reach out to existing customers and potential new ones (to drive interaction and subsequent transactions). That run the gamut from extremely personal to daily business and marketing functions, most of us spend at least a few minutes per day scouring and taking part in the online communities that have been built upon the social networking platforms.

6. Online Transaction

The agriculture product has been purchased by the user. The amount transaction is processed through the PayPal subscription payment system. To process the amount transaction in online, the two tables must be created such as user and subscription details. At least two tables are needed in the MySQL database to store the users and subscriptions details. The users table holds the member's information. The following SQL creates a users table with some basic required fields. The user table field contains id, subscription id, first name, last name, email, password, gender, phone, created, modified and status. The user subscription table contains the fields such as id, user id, payment method, valid_from, valid_to, item number, tnx_id, payment gross, currency code, subscr_ id, payer email, and payment_status. The dbConfig.php file is used to connect with the MySQL database. Specify database host ($dbHost), username ($dbUsername), password ($dbPassword), and name ($dbName) as per the MySQL credentials. At first, the logged in user ID is fetched from PHP SESSION and some useful PayPal variables are defined to use in Paypal form.

1) $paypalURL – Specify PayPal URL to redirect user for payment.
2) $paypalID – Specify the PayPal business email.
3) $successURL – Specify the URL where the user will be redirected after payment.
4) $cancelURL – Specify the URL where the user will be redirected if wish to cancel the payment.
5) $notifyURL – Specify the IPN URL which will be used to validate the transaction and insert the subscription data into the database.

In HTML section a dropdown will be displayed to select the validity and the respective price will be shown under the validity dropdown. The user needs to click on the Subscription button to buy their selected subscription. Follow the comment tags (*<!* – –>) to know more about the PayPal HTML form field variable. After payment on PayPal site, the buyer will be redirected to this page. The transaction details are fetched from the database based on the txn_id received by the $_GET method using PHP & MySQL and the payment status and information shows to the user. PayPal Instant Payment Notification (IPN) is used to validate the transaction. PayPal posts the payment information to the IPN URL after payment. In this IPN file (paypal_ipn.php), we will validate the transaction and insert the

payment details in the database. After inserting the transaction data in user subscriptions, the subscription ID is updated in the users table. By this way, the online transaction was processed.

V. CONCLUSION AND FUTURE WORK

Modern agricultural development system is used to provide suggestions to the user about agriculture. User can gather the information to increase the production. By using the system, the growth of plants will be increased at residential areas. User can obtain the information as step by step procedure. The information consists of the details about the plant along with pictorial representation. So, user can easily grow a plant with proper guidance. The system raises the agriculture level to some extent as a modern technology in future.

In future work, user interaction should be provided. Because, if the user want to gain some suggestion about the agriculture cultivation, then user can verify their suggestion as query format through email. Later the admin will reply for user`s queries. The implementation of suggestions and answers for user`s query will be processed in future.

VI. REFERENCES

[1]. Constantina Costopoulou, Maria Ntaliani, Sotiris Karetsos "Studying Mobile Application for Agriculture" IOSR Journal of Mobile Computing & Application (IOSR-JMCA) e-ISSN: 2394-0050, P-ISSN: 2394-0042.Volume 3, Issue 6, PP 44-99 December 2017.

[2]. Nisansala P. Vidanapathirana" Agricultural Information Systems and their Applications for Development of Agriculture and Rural Community, a review study" Journal of Agricultural Systems, March 2016.

[3]. Mansi Shinde, Kimaya Ekbote, SonaliGhorpade, SanketPawar, ShubhadaMone "Crop Recommendation and Fertilizer Purchase System" International Journal of Advance Research in Engineering, Science & Technology (IJAREST) Volume 4, Issue 10, e-ISSN: 2393-9877, print-ISSN: 2394-2444 ,January 2016.

[4]. Surabhi Mittal and Mamta Mehar "How Mobile Phones Contribute to Growth of Small Farmers?" Quarterly Journal of International Agriculture 51 (2012), No. 3: 227-244, March 2016.

[5]. NITI Aayog "Raising Agriculture Productivity and Making Farming Remunerative for Farmers" National Institution for Transforming India (NITI), Government of India, 16 December 2015.

[6]. David Just and David Zilberman "Information System in Agriculture" Giannini Foundation of Agricultural Economics, January 2015.

[7]. Mathew Akon "Rice Cultivation and Management" e-ISSN: 2394-0050, P-1304, January 2015.

[8]. Meghan Sindelar "Soil Support Agriculture" www.soils.org/IYS December 2015.

[9]. Santosh G.Karkhile, Sudarshan G.Ghuge "A Modern Farming Techniques using Android Application" ISSN (Online): 2319-8753, ISSN (Print): 2347-6710, Vol. 4, Issue 10, October 2015.