

Modern Agriculture Development System using Android Application

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Abstract

The main objective of this project is focused on improve 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 more number of plants in their home by using this information. 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. The work of fertilizer in agricultural production has been key to the development of these practices. It contains all the information to growth 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. 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 query communication between the user and admin can be performed in this system. User can gather the information to increase the production. By using this system, the growth of plants will be increased at 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 by social media facebook, twitter, Google+. It is a web based and mobile application. User interaction is provided here. Modern agricultural development systems used for providing the suggestion to the user about agriculture. This system raises the agriculture as modern technology in future.

Keyword: REST API

1 INTRODUCTION

The main objective of the project 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 in this project application 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 the

amount in online, in case of purchasing the product. 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 should need proper guidance information to cultivate their agriculture land. 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 App 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.

2 SYSTEM ANALYSIS

2.1 EXISTING SYSTEM

This paper is to introduce an agricultural information system on the Internet so that it will eventually allow potential users to query and obtain the desired information. The data of this system are to be stored using a central database and maintained by the main research institutes. This information usually contains standard summarized data of the

This agricultural system contains recent past but fails to cater special interest groups and other research institutes seeking for current data. For instance, researches in this field find it difficult to identify the ongoing research programmers, for crops; as such data is not documented. An information system of this type will help to resolve these problems and make whatever information maintained more valuable. However, agricultural information on crops and inter-crops, their production and export details, crop and inter-crop diseases, land availability, soil suitability, fertilizer, research institutes and researches are not yet available on the Internet. Our web based agriculture information system is an attempt to address this issue. Also published information in books and reports often fails to reflect the current status, which is essential in a competitive world. This paper 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.

2.2 PROPOSED SYSTEM

This application provides more information about agriculture. It contains more kind of information about agriculture, such as how to increase the growth rate for plants. 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. User can login to the application with social media 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. 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+. Everyone has to be growing more plants with this proper guidance of this application.

3 ALGORITHMS AND TECHNIQUE

3.1 Digital Signature Standard

A digital signature is an electronic analogue of a written signature; the digital signature can be used to provide assurance that the claimed signatory signed the information. In addition, a digital signature may be used to detect whether or not the information was modified after it was signed (i.e., to detect the integrity of the signed data). These assurances may be obtained whether the data was received in a transmission or retrieved from storage. A digital signature algorithm includes a signature generation process and a signature verification process. A signatory uses the generation process to generate a digital signature on data; a verifier uses the verification process to verify the authenticity of the signature. Each signatory has a public and private key and is the owner of that key pair.

3.2 Decision Making

Decision making is the process of making choices by identifying a decision, gathering information and assessing alternative resolutions. A decision tree T for D is either a leaf labeled by an action $d_j \in \Omega_D$ or a non leaf node labeled with some $X \in \Pi_D$. Each non-leaf has a child decision tree for every value $X_k \in \Omega_x$. An information predecessor X

$\in \Pi_D$ appears at most once in any path from the root to a leaf. Each vertex X in a decision tree has a context, γX , defined to be the conjunction of variable assignments on the path from the root of the tree to X . The action at the leaf represents the action to be taken in the context of the leaf. Given an information state $w \in \Omega_{IID}$, there is a corresponding path through a decision tree for D , starting at the root leading to a leaf, which is labeled with the prescribed action to be taken in when w is observed.

3.3 API Technique

3.3.1 Import API ()

1. Select APIs form under API MANAGEMENT.
2. SELECT API Application forms the ADD a new API list.
3. Press Browse to see the list of API Application in your subscription.

3.3.2 Configure database and webserver ()

3.3.2.1 Database creation

1. Login to your cpanel hosting and open MySQL Databases
2. Create database and give the database name like you want, as an

Example: 'my_db_news'

3. Create a user for your database

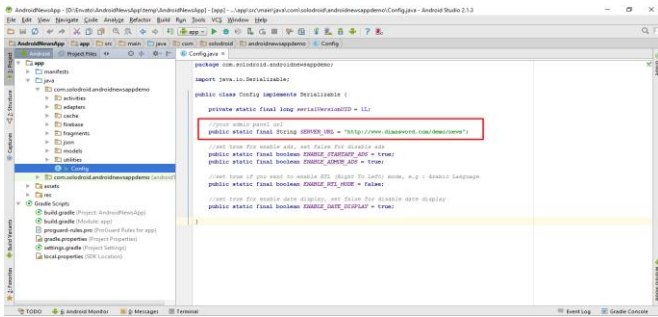
3.3.2.2 Database Configuration

1. Configure your database setting:


```
$host = "localhost";
$user = "your_mysql_username";
$password = "your_mysql_password";
$database = "your_database_name";
```

3.3.3 Server URL()

1. Open > app > java > yourpackagename > Config.java
2. Change it with your admin panel url



- ✓ Clock Speed : 3.0 GHz
- ✓ Ram Size : 512 MB
- ✓ Hard Disk Capacity : 40 GB

4.3 Tools Used

- ✓ Language : PHP,HTML,JSON
- ✓ Server : Xampp server

5 SYSTEM IMPLEMENTATION

5.1 List of Modules

There are five modules of the project are enough to complete the project. The modules are listed below:

1. Information Collection
2. Information Transfer
3. Page Design
4. Social Media Integration
5. Online Transaction

5.2.1 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 to 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 well guidance to grow a plant, then that information has to be deleted in admin panel. In admin panel, there is number of editing options are available such as paste, copy, insert picture, link

Server URL Application

3.3.4 Change splash image()

1. Open Android Studio > app > res > drawable, and replace with your image or icon, all images are placed on drawable-hdpi folder.
2. Another alternative, you also can change every image in app like you want, open Explore > go to directory your project, select AndroidNewsApp\app\src\main\res\drawable-hdpi
3. Replace every image which you need to custom the application and highly recommended you use the same resolution for each image.

3.3.5 GCM API Key

Google Cloud Messaging is a free service that enables developers to send messages between server's client application . This includes downstream messages from servers to client application, and upstream messages from client application to servers. A GCM implementation includes a Google connection server, an application server in your environment that interacts with the connection server via HTTP or XMPP protocol, and a client application.

4 SYSTEM REQUIREMENTS

4.1 Software Requirements

- ✓ Operating System :Windows OS
- ✓ Language :PHP,HTML,JSON
- ✓ Back End : MySQL
- ✓ IDE :Android Studio

4.2 Hardware Requirements

- ✓ CPU Type : Intel Pentium 4

also be added and 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 and etc. The information and guidance picture is added into the text area box.

5.2.2 Information Transfer

The agriculture information can be shared via SHAREit, Whatsapp, Facebook, Google +, Email, Twitter and etc. it will send to someone what are the applications user had in their mobile phone. 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 sharer. If the user need to share this agriculture information to someone during using this app, then that can be shared via installed sharing application.

5.2.3 Page Design

The page design of this application is divided into two categories such as recent news and category. In recent news, there is number of news are provided for proper guidance to increase the production. In category, there is number of categories are include 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.

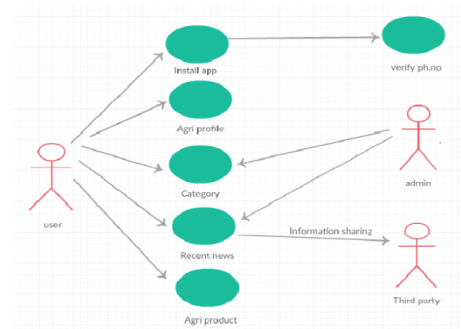
5.2.4 Social Media Integration

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 (to maintain loyalty) and potential new ones (to drive interaction and subsequent transactions). For reasons 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

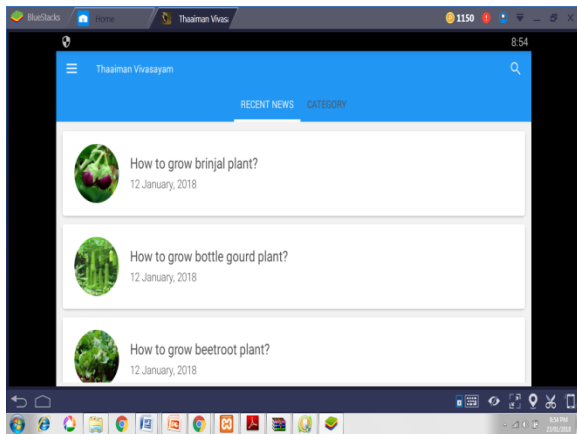
online communities that have been built upon the social networking platforms.

5.2.5 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, there is 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 of the website. The following SQL creates a users table with some basic required fields. The user table fields 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, txn_id, payment gross, currency code, subscr_id, payer_email, and payment_status. 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 also be updated in the users table. By this way, the online transaction was processed.



Use Case Diagram



News Page

6 CONCLUSION

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 this system, the growth of plants will be increased at residential areas. User can obtain the information step by step procedure. The information is provided with content of the plant and picture representation. So, user can easily grow a plant with proper guidance. This system raises the agriculture level to some extent as a modern technology in future.

7 FUTURE WORKS

In future work, user interaction should be provided. Because, if the user want to clarify some suggestion about the agriculture cultivation, then user can able to verify their suggestion. That query will be processed through email. Then the admin will reply for their user queries. That will going to be processed in future.

8 REFERENCES

- [1] Constantina Costopoulou, Maria Ntaliani, Sotiris Karetos "Studying Mobile Apps for Agriculture" Dec 2017.
- [2] Nisansala P. Vidanapathirana" Agricultural information systems and their applications

for development of agriculture and rural community, a review study" March 2016.

- [3] Mansi Shinde, Kimaya Ekbote, Sonali Ghorpade , Sanket Pawar, Shubhada Mone "Crop Recommendation and Fertilizer Purchase System" Jan 2016.
- [4] Surabhi Mittal and Mamta Mehar "How Mobile Phones Contribute to Growth of Small Farmers?" March 2016.
- [5] NITI Aayog "Raising Agriculture Productivity and Making Farming Remunerative for Farmers" Dec 2015.
- [6] David Just and David Zilberman "Information System in Agriculture" Jan 2015.
- [7] Mathew Akon "Rice Cultivation and Management" Jan 2015.
- [8] Meghan Sindelar "Soil Support Agriculture" Dec 2015.
- [9] "A Modern Farming Techniques using Android Application" 2014
- [10] O.N.N. Fernando and G.N. Wikramanayake "Web Based Agriculture Information System" May 2014.
- [11] Jenny C. ker "Dial "a" for Agriculture: using Information and Communication Technologies for Agricultural" Oct 2014.
- [12] "Agricultural Production System based on IOT" 2013

