

Agriculture Supply Chain Management Based Android Application

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Abstract: Android platform is launched by Google which is a new generation of smart mobile phone platform. Android provides the support for mobile map and provides facility to link multiple website links, which is probably a concern of vast numbers of developers. Android is free and open source, providing an easy-to-use development kit containing real time information update and facility to link websites. Agro Supply Chain will be an advisory and information system for the farmers. Agro Supply Chain will be available on mobile phones, which will be designed for farmers to help them stay on track, avoid troubles, manage their expenses in cultivation, receive all the latest and updated information, government schemes and strategies related to the field of agriculture along with suppliers details for sugarcane. The advisory system will enable its users to receive real-time and interactive advices and alerts on crop. Different alerts will be provided for plantation, insects, diseases and nutrition. Farmers will also receive regular pest, disease alerts and market price information to support on-farm decision making.

Keywords: Budget Calculator, Schedule Calculator.

I. INTRODUCTION

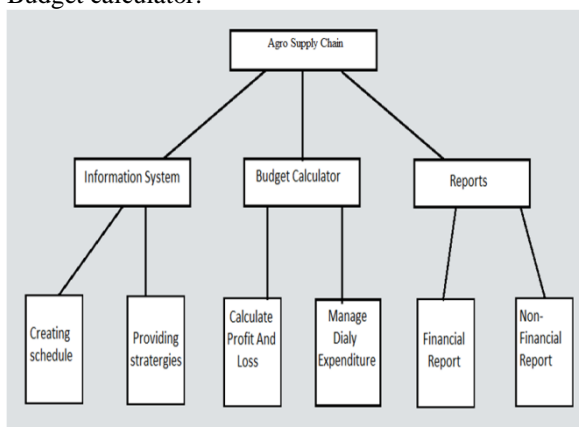
This document is a template. An electronic copy can be downloaded from the conference website. For questions on paper guidelines, please contact the conference publications committee as indicated on the conference website. Information about final paper submission is available from the conference website. This application will be complete package for the farmers to manage their expenses, get proper schedule regarding cultivation of sugarcane, facilities provided by sugar factories, get more and more information about new technologies in farming and help them in getting more and more production. Actually this application will work as an advisory and information system for farmers.

This application contains three main modules:

1. Information system:

This module includes creating different schedules and providing different strategies for cultivation of sugarcane.

2. Budget calculator:



This module creates budget for cultivation of Sugarcane according to input provided by farmers. It also provides profit and loss calculation.

3. Reports:

This module provides financial and non-financial reports for farmers.

II. LITERATURE SURVEY

In the 2.1 section how the Android application software is developed for Android operating system is discussed and the information about Eclipse and Net Beans is gathered. The 2.2 section contains the version history of Android mobile Operating System. In 2.3 section the details about existing application is discussed, and features of that application are studied for overcoming the drawbacks of that applications and adding that features into our application. In 2.4 section details about visit to Vasantdada Sugar Institute is mentioned.

A. STUDY OF ANDROID SDK AND ANDROID SDK MANAGER

Android software development is the process by which new applications are created for the Android operating system. Applications are usually developed in the Java programming language using the Android Software Development Kit, but other development tools are available.

The Android software development kit (SDK) includes a comprehensive set of development tools. These include a debugger, libraries, a handset emulator based on QEMU, documentation, sample code, and tutorials. Currently supported development platforms include computers

running Linux (any modern desktop Linux distribution), Mac OS X 10.5.8 or later, and Windows XP or later. For the moment one can also develop Android software on Android itself by using the AIDE - Android IDE - Java, C++ app and the Java editor app. The officially supported integrated development environment (IDE) is Eclipse using the Android Development Tools (ADT) Plugin, though IntelliJ IDEA IDE (all editions) fully supports Android development out of the box, and NetBeans IDE also supports Android development via a plugin. Additionally, developers may use any text editor to edit Java and XML files, then use command line tools (Java Development Kit and Apache Ant are required) to create, build and debug Android applications as well as control attached Android devices (e.g., triggering a reboot, installing software package(s) remotely).

To start the development, we should have development environment set up. We need to:

Download the Android SDK.

Install the ADT plugin for Eclipse (if you'll use the Eclipse IDE).

Download the latest SDK tools and platforms using the SDK Manager.

B. STUDY OF ALL ANDROID VERSIONS

The version history of the Android mobile operating system began with the release of the Android beta in November 2007. The first commercial version, Android 1.0, was released in September 2008. Android is under ongoing development by Google and the Open Handset Alliance (OHA), and has seen a number of updates to its base operating system since its initial release.

Since April 2009, Android versions have been developed under a confectionery-themed code name and released in alphabetical order; the exceptions are versions 1.0 and 1.1 as they were not released under specific code names:

- Alpha (1.0)
- Beta (1.1)
- Cupcake (1.5)
- Donut (1.6)
- Eclair (2.0–2.1)
- Froyo (2.2–2.2.3)
- Gingerbread (2.3–2.3.7)
- Honeycomb (3.0–3.2.6)
- Ice Cream Sandwich (4.0–4.0.4)
- Jelly Bean (4.1–4.3.1)
- KitKat (4.4–4.4.4)
- Lollipop (5.0)

C. STUDY OF EXISTING APPS

1. Overview of existing applications from different technologies such as Android, IOS etc. for selection of the topic.
2. Study of existing app like AgriApp

AgriApp is a revolutionizing Android mobile application. It enables farmers to access large pool of relevant information related to agriculture and some of its related topics, at just a click of button

There are numerous features of this application with a simple to use interface, which makes it much adoptable. Farmers in turn are able to utilize most of the features effectively to earn maximum benefit like:-

- Package Of Practice
- Call
- Chat
- Videos
- News

Farm Manager is an application that lets you manage your farms from mobile devices (Smartphones) with Android operating system. It is the modern tool for the farmer for directly, correctly and timely management of fields, operations and functions directly from the tractor up. It takes advantage of modern technology and with a simple, direct and practical way offers a mobile office which monitors and informs the farmer for each stage of work.

All information (data, operations, crops) can be managed easily from your mobile phone. Supports electronic cartographic managing farms with the help of Google Maps.

The user can:

- Create a new farm field and access the already registered farm fields
- Insert and edit work on each field
- Insert and edit crop of each field
- Transfer farm fields in new growing year
- Manage your equipment and its work on it
- Manage your staff and their working hours and task
- Create and restore backups for each crop year
- Print farm list ready for the declaration of E.U Opekepe

D. VISIT TO VASANTDADA SUGAR INSTITUTE (V.S.I.), MANJRI, PUNE

Visit to V.S.I. was conducted to discuss on various technical and detail information regarding sugarcane plantation. Vasantdada Sugar Institute is a very well-known organisation which works on sugarcane research and development in sugarcane plantation. All the details were discussed regarding sugarcane plantation and latest technologies during these visit.

III. PROPOSED WORK

A. ADVANTAGES OF SYSTEM:

1. Help farmer for managing his expenses and schedule :
Using this application farmer can get approximate budget for planting sugarcane. Farmer insert details like area of land, type of soil, month of plantation. Depending on input harvesting period, amount of fertilizers, amount of water are display. Depending on input all expenses requires for

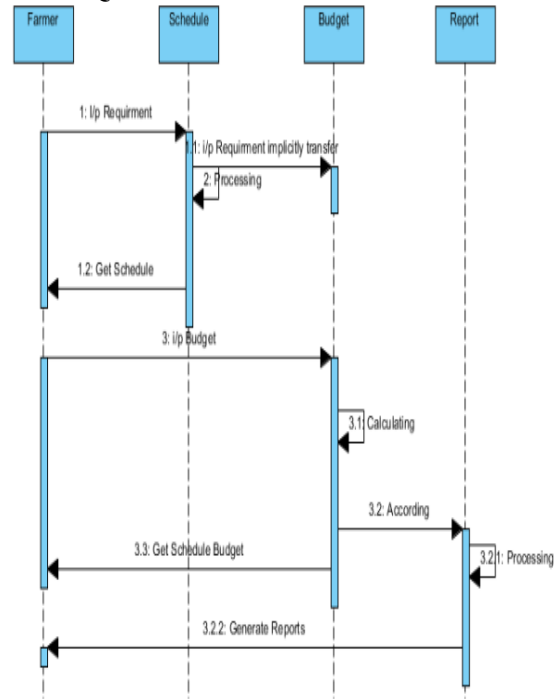
plantation are display to farmer like price for land, price for fertilizers ,price required for water , price required for plantation , price required for preplantation etc.

By using these application farmers will also get the exact schedule depending upon the plantation he has chosen for e.g. “Suru Plantation”, “Adsali Plantation”, “Preseasonal Plantation”. He will also get the schedule for irrigation and fertilization.

2. Latest Government Policies are easily available. Farmers will get latest government policies related to agriculture . Government policies available on Ministry of Agriculture web site but for farmer always it is not possible to check government policies on site.

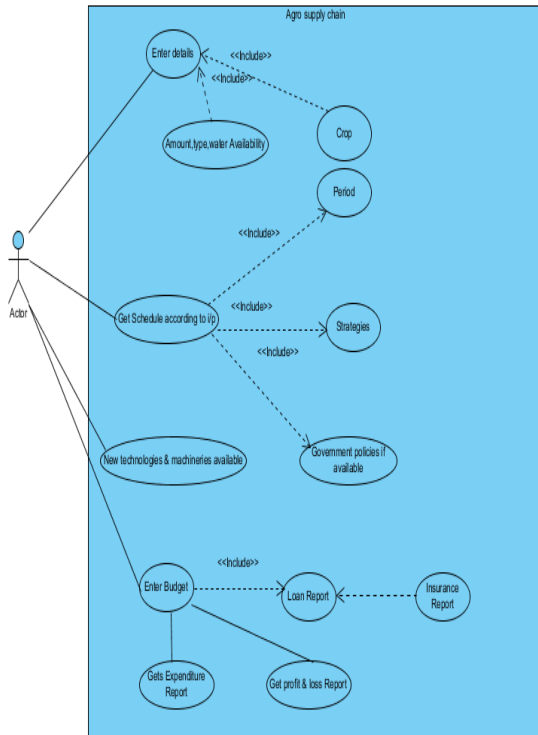
3. Provide new Strategies and Technologies for Farming. This application will provide new strategies in plantation and upcoming technologies for better production of crop. For example, plantation technique, amount of irrigation to be done, type and amount of fertilizers to be used in plantation. Reuse of seed for next plantation called as “Khodwa Plantation”.

C. SEQUENCE DIAGRAM:

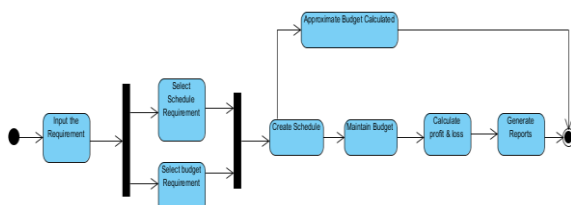


IV. SYSTEM FLOW DIAGRAM

A. USE CASE DIAGRAM:



B. STATE MACHINE DIAGRAM:

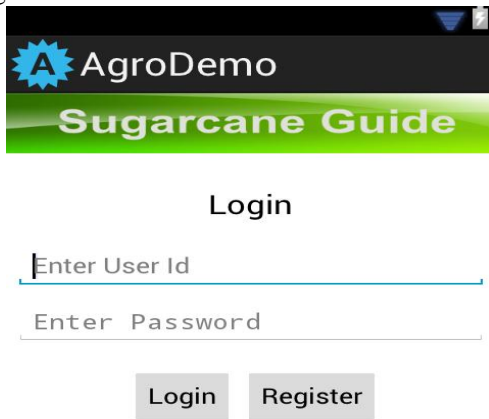


V. SCREENSHOTS OF SYSTEM:

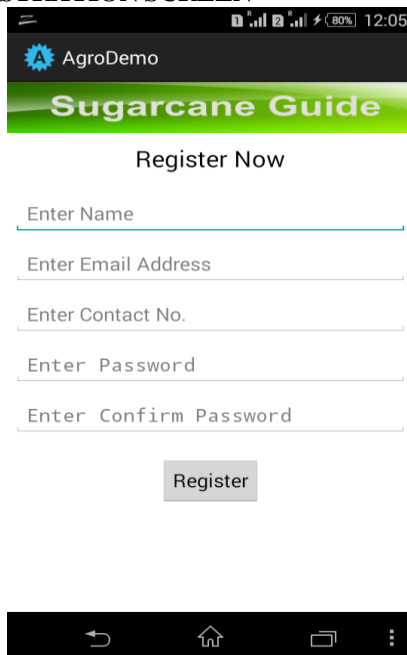
A. FLASH SCREEN



B. Login Screen



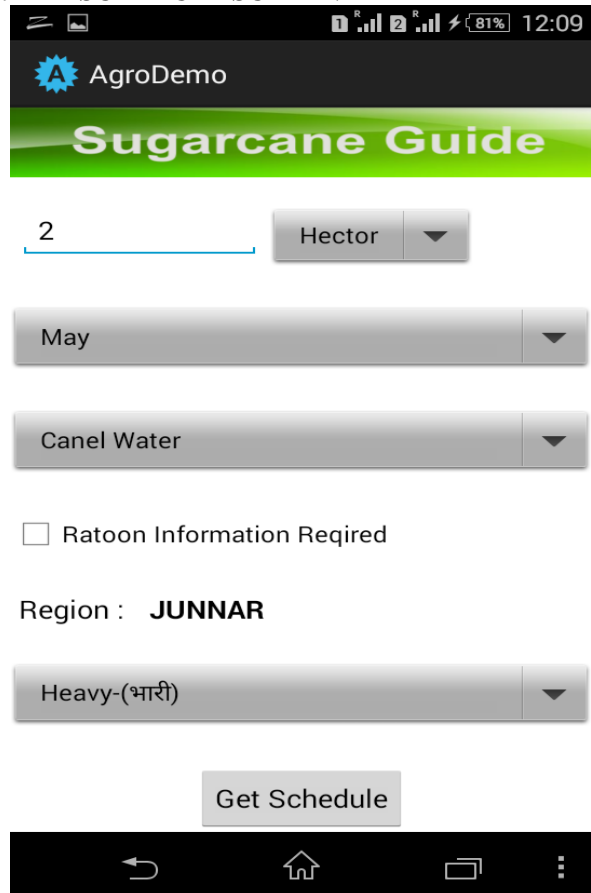
C. REGISTRATION SCREEN



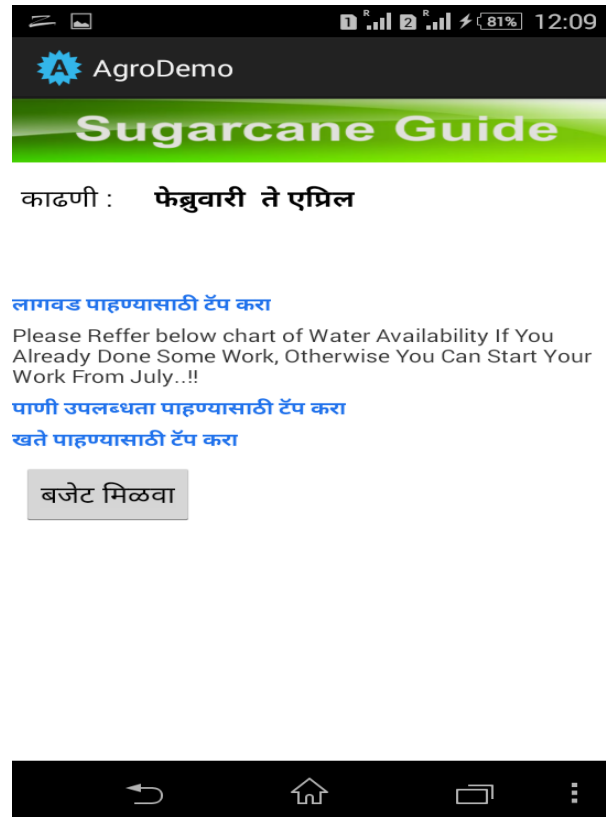
D. HOME SCREEN



E. SCHEDULE SCREEN



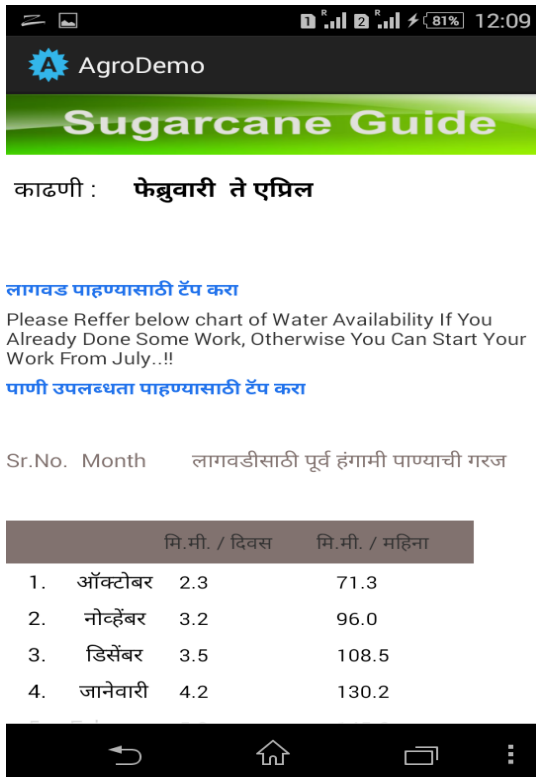
F. OUTPUT OF SCHEDULE SCREEN :



5.6.2 Output of Schedule Screen



G. OUTPUT OF SCHEDULE SCREEN :



VI. CONCLUSION

This android application is the complete package for farmers who want to do farming on sugarcane and obtain good production with proper management.

REFERENCES

- [1]. <http://developer.android.com>
- [2]. <http://www.mysql.com>