AGRICULTURE AGRO APP DEVELOPMENT

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Abstract— *The Farmer's condition today is very poor in India. There are many reasons for this condition. One being the various diseases in the crops and other being the untimely changes in the weather. Changes in the weather are natural and cannot be prevented but its impact can be definitely reduced down. The application focuses on helping the farmers. The main purpose is to give profits to farmers. It includes weather forecasts, search for nearby farming related services, services for hiring laborers and farming tool and much more. The system aims to reduce farmer's work load, ease his daily work and thus ultimately increase the crop produce. Provides location based services to the farmers. The Android system implements the principle of least privilege. Further, app can share data with other apps to access system services and provides government services on an online platform.*

Keywords: Farmer, Weather, Location, Government Services, Android

1. INTRODUCTION

Agriculutre Agro App Development is an online farming marketplace bringing Kisan, farming input/output, government service on an online platform. It also provides chat option for farmers. AgriApp is an Android based mobile application [4]. It provides complete information on crop production, crop protection, smart farming with agriculture and allied services.

Due to evolution in technology, the rapid growth and development of the world are faster and also technology has provided comfort to human being this has made life simpler.

Work on the presision and predictive agriculture while building a strong Agri-Ecosystem for the benefit of farmers and make healthy soil and happy farmer with better returns on the investment for farmers. Thus, enabling farmers to reach high efficiency technology-enabled agriculture production and marketing, ensuring a win-win situation to farmers and Agriculture Economy.

So in order to fulfil this gap and provide facilities to farmer even if they are located at remote locations but they can connect to the market-place and contractors through a portal.

2. PROJECT PURPOSE

The main aim of the paper is to develop an Android application which will be useful in the field of Agriculture. The app will be used by the farmers on day to day basis.

System requirements include:

1) Android Application with latest version.
2) Home page with a login or registration option.
3) Farmer's profile with all his information.
4) Consumer's Profile with all his information.
5) Daily Weather updates.
6) Information about Government schemes for farmers.

The existing system every time farmers have to sell their crops at market to authorized distributors for fixed prices set by the market management which is loss for them. There are some systems through which farmers can sell their crops online but farmers are not getting proper profits. The farmers have to sell their crops at fixed prices and have to travel and sell their crops on regular basis by spending their money [manually]. The farmers have to sell their crops only to authorized distributors. Since, lack of resources and knowledge, lots of efforts are invested with very less produce which is unprofitable. [2]

The proposed system Agriculture Agro App Development seeks to tackle such problems by developing an android application which enables farmer to get availability of resources and suitable crops that are suitable for that particular area. This paper intends to propose a system which reduces the efforts of the farmer and increases the yield thereby saving time and money, also efficient utilization of resources and money. Along with this information, the system assists the farmer in finding the nearby market places, pesticides shop, labors through contractors. [3]

3. SCOPE OF RESEARCH

For any project to be successful, it is necessary that it will, satisfy all the requirements of the user.

If it achieves all the requirements, then system will be considered as successful. Scope for any project can be local or global.

3.1 Local Scope

The proposed system Agriculture Agro App Development is based on agriculture which has been around since the existence of the Human beings but has continued to go along with new technology. Officially, it provides delivery of location based services and information regarding crops, labor and techniques using modern technology. It will be developed for farmers who previously had been harvesting the same crop throughout the time irrespective of being aware about the soil conditions and weather conditions were suitable for the crop or not, thereby saving a lot of their precious time, money and hard work. It will be delivered for their benefits in an interface format and farmers will be able to get suggestion regarding the suitable crop. It will display the options to view the various crops, which are suitable for the area based on the weather and soil conditions and improvise the yield and increase profit for the farmers.

3.2 Global Scope

The global scope of system will deal with newer modules and tasks to be integrated and implemented in nearby future of project development and maintenance cycles.

AAs there are limited facility available in the rural areas, Agriculture Agro App Development provides perfect solution to such problem also and expand existing business of various contractors by providing labor, cattle, logistics, thereby creating a new field for employment. Android Application is the trending technology in the market and as our technology advances, it can only expect to see more come out of this system to benefit farmers.

3.3 Literature Survey

An average farmer family owns 5 acres of land, but due to fail in the rainfall or less rainfall in a year, crops fail driving debt ridden farmers to suicide. So, to tackle with the above situation, expert system has been used. Rice is the basic grain consumed as a food in India which is found in almost every kitchen. It is the most common grain and the most common food in India, however, India is not only a bigger consumer of rice but also it is the largest producer after China. In 2009 total arable and for paddy in the world is 158300068 hectare with the total production of 685240469 tonnes of paddy, out of which 41850000 hectare of the area in held in India only [1].

Greg linden, Brent smith et al. [5] introduced in order to draw users attention and to increase their satisfaction for a Online Information search results, search engine developers and vendors try to predict user preference based on the user behavior. Recommendations are provided by the search Engines or online vendors to the users. Recommendations systems are implemented in commercial and non-profit websites to predict the user preferences.

3.4 Objective

The objective of the system mainly focuses on two things: Ease in finding the ideal crop and help farmer simplify the process of farming. The system would help farmer find suitable crop. Also, weather alerts will be helpful as farmer gets sufficient time to take preventive measures. Also, farmer need not search a lot for contractors, shops, pesticides as the details will be provided in the description.

In short, system will be providing following features:

1) To get the details of laborers easily using firebase database.
2) User-friendly app by providing simple user interface.
3) Scheme Awareness with the help of web scrapping.
4) Less efforts, more produce by providing weather updates and nearby marketplaces.
5) Regional language provision.

3.5 System Overview

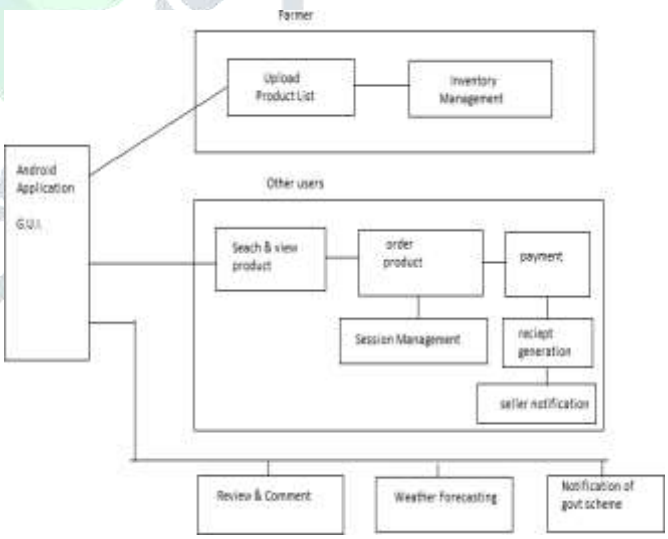


Figure 1: System Architecture

Figure 2: Tree chart

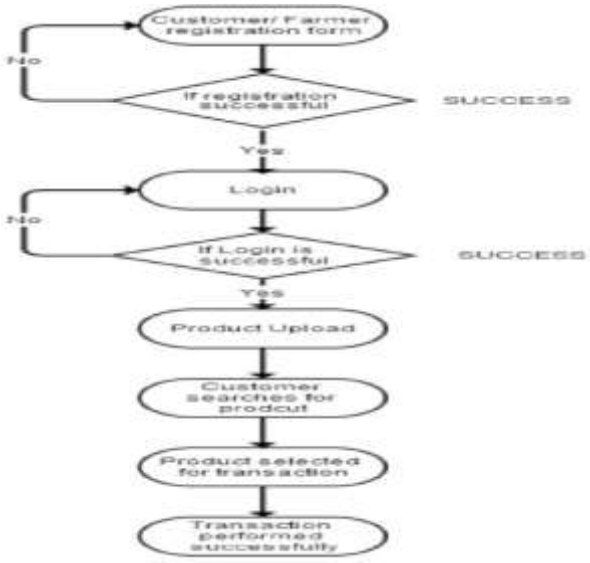


Figure 3: Basic flowchart of application

The application has 2 parts:

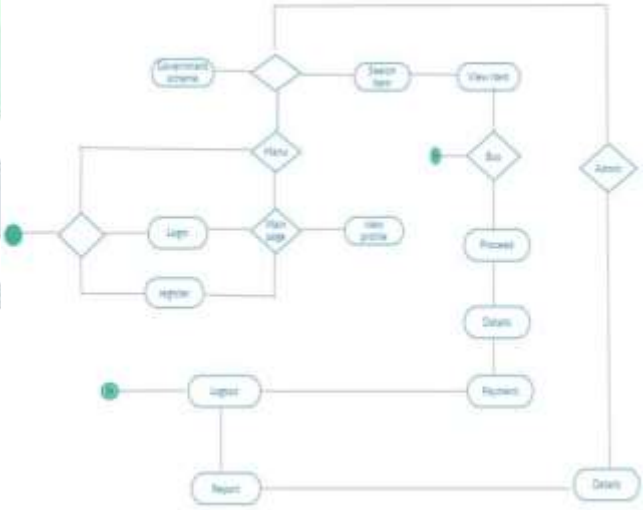
1) Farmer

i. Elegant and rich user interface using the latest material design designing method.
ii. Use of best possible algorithms in searching and database queries which helps user get an easy and smooth experience.
iii. The biggest advantage is that the application will run in regional language so there is no need for the farmer to know English language.
iv. System suggests the probable disease associated with the crop giving enough hints to farmer to take preventive measure.
v. In case of any problem, system also provides to contact the helpline number through call or SMS.
vi. System also gives videos/audios regarding the technologies that can be used to enhance the yield of the crop.
vii. System also provides information regarding various government schemes.
viii. Farmer can select number of crops, market place, contractors to display. System will show the nearest possible 'n' results
ix. Farmer can check the contact details of the contractor or dealers for crop seeds, marketplace.
x. Farmer will get the weather alerts also, so that sufficient time is provided for taking preventive measures before any storm or natural calamity is occurs.

2) Consumer/Customer

i. Consumer can find certain products that satisfy a set of criteria.
ii. Consumer can order the products needed.
iii. Consumer can give his/her review on the products purchased.

Figure 4: Flowchart of the application



4. METHODOLOGY

1) Searching of nearest market-place and pesticide shops.
2) Weather update.
3) Displaying of government schemes.
4) Regional language support.
5) Hiring of labors in real-time.

5. CONCLUSION

Although location-based services have been around since 2000, they have mostly been used in commerce with a subscription-based business model. The release of Apple's 3G iPhone and Google's LBS-enabled Android operating system, however, has allowed developers to introduce millions of consumers to LBS. According to the 2008 fourth-quarter report from Nielsen Mobile, a division of The Nielsen Company, location-based services account for 58 percent of the total downloaded application revenue for mobile phones in North America.

In this manner, the system will be developing location based system which will help the farmers to produce crops in an efficient way by getting the updates about weather condition. Laborers will also get benefit of full-time employment by providing their details to the farmers. Farmer just need to provide the details of their address and our database will fetch the location detail so that it could provide nearby marketplace in their area, crop suggestions and weather updates. Farmer can further use the system in their native language.

6. REFERENCES

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