Agricultural Application

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Abstract **- Mobile applications and services make things simpler as they are easy to use and are far more trendy these days. As smart phones are likely much less costly than other electronic devices like computer system, pagers, laptop, and these are the things that not possible everyone have mobile app are well known device that probably everyone has they are easy to use and bring modification at ease. so, looking towards upon the farming popularity in India we come up with an idea of farming based android application with implementation of deep learning and machine learning. India is an agriculture-based country as nearly 38% of the population in India is related to farming. But as a large number of people is involved in farming there are a lot of mistakes and wrong techniques are used all around the India that lack of knowledge leads those farmers loss their crops. Ultimately money loss and Indian economy heard down wards. So, the idea behind the app is to analyse the pre-existing data with AI and ML to predict a best take-able move towards the situation. mobile app are the best means for this model as it is free of cost on any android store.**

Index Terms **- Agriculture, farming, machine learning, android phone, mobile app, OS.**

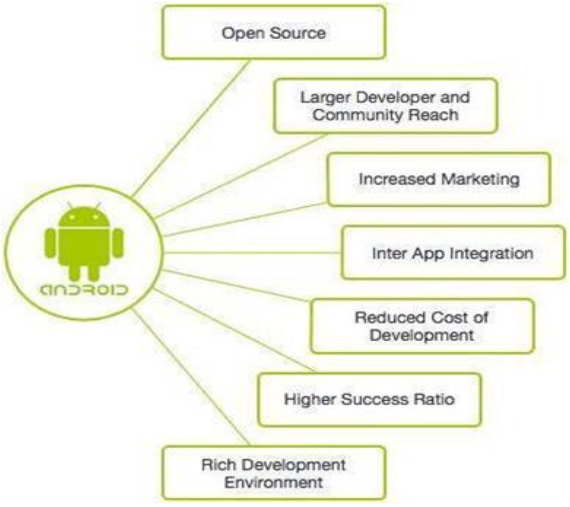
INTRODUCTION

Farming is a practice of raising valuable pants and trees for the future use and growing economy individual or at professional stats. Modern agronomy, plant breeding but this is not at all simple as to spell it there are much different levels in farming like crop selection, watering, fertilizing, cultivation, and a lot more. Before agriculture became professional, people spent most of their lives searching for food-hunting animals and gathering wild plants. nearly 11,000 years ago, people gradually learned how to grow eatables and root crops, and settled down to a life based on farming, however there are gaps in farmers knowledge and old technology they are grasping around. For the sake of awareness and boost the wealth conduction it is compulsory to improve the mental state of agro-persons. This paper does the latest survey of machine learning apps in agriculture to solve the problems in the three areas of pre cultivation, harvesting and post-cultivation. Application of machine learning in farming opened more efficient ways and correct farming with less manpower with high quality crop production.

A. Android

Android is an open source and Linux-based Operating System for mobile devices such as smart phones and tablet computers. Android gives a clear approach to application development for mobile devices which means developers need only develop for Android, and these apps must be able to run on different devices based on Android. In android systems they are easy to develop and less costly to maintain it is said that when a device goes from just working easy by making life easier, Android is what is behind. Android is the behind your GPS indicate traffic, smart watches can send text messages and Google Assistant gave answer questions. It is the OS inside 2.5 billion devices. Most of the devices now a days are android based.

Why android?



Android apps are mainly developed in Java language using the Android Software Development Kit. Once you develop, Android apps can be bound to gather easily and distribute either through an android store such as Google Play, SlideME, Opera Mobile Store, Mobango, F-droid and over the time almost everyone have a smart phone. This application once installs in farmers mobile, they can access information from any place and at any time. If farmer have any query, they can directly communicate with experts and take the advantage of real time information.

OBJECTIVES

A. Primary Objective

The objective is to design an easy usable android application by which farmers can minimize their odds of farming. Predicting the quality of crop, quantity of crop etc. by analyzing the previous data

B. Secondary Objective

1. To develop a mobile app to provide information anywhere and anytime to those people also who have less knowledge thus to increase there efficiency.
2. Spread awareness for some common mistakes which are done in regular bases and to protect farmers from Existing kiosk.
3. The cost of government awareness programs will reduce, and more and more people will involve in farming. It will boost the Indian economy.
4. Every farmer can access the information at a same time, thus eliminating the waste of time for standing in a queue for accessing information through kiosk.
5. The system will be with very friendly environment that even those who are less educated or old can also use the application.

PROBLEM STATEMENT

After reviewing the various research papers of existing Agriculture problems are identified are:

1. Most of the farmers are traditional. They learn the art of farming by their old fathers, they are only flowing the old methods without knowing the right technique as shown in fig 1.

fig-1: old methods

2. Different types of cost are required to setup a single kiosk in a village. For ex: - setup cost of kiosk, security cost for protecting kiosk, electricity cost, maintenance cost and others cost etc.

3. Government provides framing classes workshops over the topics for ex: irrigation, crop fertility, land reversal interval etc but most of the farmers either not attended them or are not able to understand.

Fig. 2: workshops in villages

4. Farmers are not aware about the new technology. Most of them are not ready to change their old school types.

Fig.3: casteism

5. Today also in many village people believed in casteism. So, farmer is interested in Agricultural crops information then he has to press buttons for expert advise

fig.4: expert advise

6. Farmers did not prefer use of chemicals. They consider fertilizers and pesticides as harmful. Which leads to damage of crops by different type of pest.

Fig.5 : different type of pest.

7. In India 65% of farmers are under poverty line which lead them not to afford new farming devices, electronics, farming tools for example: electric cutter, tractors, watering wells, canal system etc.

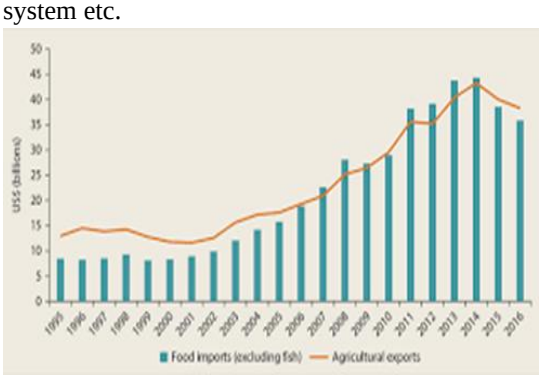


Fig.6: poverty data by (INS)

METHODOLOGY

To solve these problems listed in the above problem statements section. Here we design the machine learning android application which will provide the information that the farmers need. First of all, the

application will be language supportive (Hindi). It will consist of main columns for most important aspect for example: soil fertility and type, watering scheme, fertilizer type etc. In each column there are sub columns that will comprise of subtopics of the domain in which details of previous cropping, quality of previous crop, quantity of crop is listed and by the using machine learning algorithm possible best move will be decisive. On the other hand, if someone is confused about farming levels, he/she can contact to expert help line by simply sending an automated message through this application with a press of a button. This is freely available for the farmers on the play store visibly.

A. Design Architecture of Proposed System

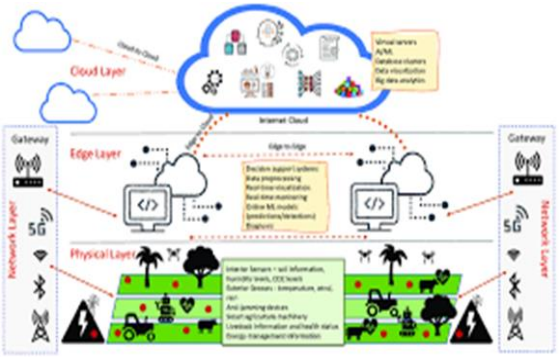


Fig1.connection through internet

The sole of the above proposed model is that machine learning algorithm behind the interface which is analyzing the previous data like climate change, which crop gives unexpected quantity in which month, the amount of water needed for which crop, watering scheduling ,soil fertility scale etc. and by combining all Preexisting data, prepare a

fig:-report generation

Report and suggest the best possible strategy farmer have to bear only android phone cost. As this System is freely available in an Android Market, farmer is free from transaction cost that is charge by some Agricultural institutional. Also, all the data that is prepared will stored on the cloud so that anyone want to recall they can access the data. The application consists of number of help lines for the support of farmers.

farmers are not required to type any message there will be a button that which clicked on automate a help message straight to the organization, soon a call from expert will provoked for the queries.

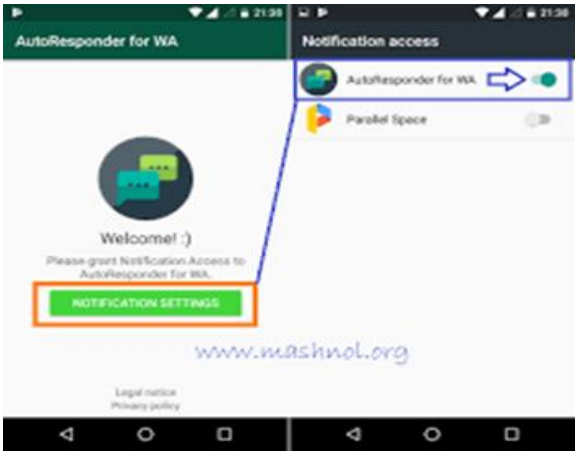


Fig: -help button

Fig: -automated message

CONCLUSION

In this paper, it is concluded that this proposed machine learning model will improve the agricultural sector is of vital importance for the region. The illiterate farmer of India as System provides information in local language and in voice form this will provide a simple interface for the use of farmers, who have pretty good knowledge as well as those who are new to agriculture. System is very cost effective as

it is freely available, so the setup cost of kiosks in each village is totally eliminated.

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