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Aatmnirbhar Krishi

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***Abstract*-- In this technology driven era, where technology is involving with every field, farming is also evolving with various Innovative ideas. Our idea is also come up such innovative thinking. The idea is about to build an assistant for the farmers to solve their everyday problems and answer every question to the farming with the informative amount of data through chat box. It will also provide different features to determine the conditions of surrounding and to give most appropriate advice for the types of crops to cultivate, fertilizer to be use and different soil information which beneficial to the farming, also gives nutrients information about the crops and soil testing for the efficient farming, time period in which crops can be cut, places to buy all these things and also alert for the climatic conditions. This will help farmers to tackle the problems which is faced during farming and make easier to manage crops, more efficient to cultivate and more convenient for farming.**

***Keywords*-- Chat System, Answer the query, Soil Information, Soil Analysis, Crop Suggestion, Weather Information, Location Information.**

I. INTRODUCTION

Aatmnirbhar Krishi is an android application which aims to help farmers by making farming easier and more effective. The application users can ask any query related to the farming. The farmer assistant will answer the query. The application ask user to allow their location. By allowing location the farmer assistant try to answer the query asked by user, like crop suggestion, weather recognition, soil information, etc.

Aatmnirbhar Krishi makes farming easier and more effective. Aatmnirbhar Krishi uses third party services like Google's location API, Google's weather API. Google's location API used to get user's location. Google's weather API used to know daily weather condition. The application user can ask any query related to farming and can get the answer by farmer assistant. Farmer will be updated with daily-to-daily weather condition. Farmer can solve their confusion related to farming.

The main purpose of this project is to provide farmers a more efficient, make farmers more independent, solve everyday problem with understanding of farmers and make farming more convenient. In the system, farmer can solve any confusion related to farming by asking query to assistant through chat box.

The scope of this project is to change the way of farming, make farming more understandable and easier, give more ease to the farmers. The GUI will be Simple and user friendly which will make it easy for the users.

II. LITERATURE SURVEY

A. Agricultural Knowledge Management Using Smart Voice Messaging Systems:

In this research paper, It uses both physical and human sensors, voice messages from farmers are used for each other but the drawbacks are: Duplication of data may be possible by same information by physical and human sensors.

B. Virtual assistant Akeira:

In this Android application AI helps farmers to enhance their yield and reduce risk of crop failure. It provides 24 languages and over 100 dialects. Some drawbacks are: It only reply in yes and no. Not provide any information about soil, weather market prices etc.

C. Artificial Intelligence in Agriculture

In this paper, It uses concept of Precision farming. Identifying crops and market strategies. This disadvantage are Harvesting may not be an optimal because its an external parameter.

D. Smart Sustainable Agriculture:

This research helps to farm management system can assist farmers with a variety of collected information. But that needs large database. Also lack of existing research.

E. Artificial Intelligence in Agriculture:

This technology uses remote sensing and 3D laser scanning for the maintaining crop health. Use satellite and drone, image processing for efficient field management but the disadvantage is it uses drone that can't afford by farmers. Database of specific crop take time to be accurate because of crop obtained once in a year.

Outcome of Literature Survey

From the above study we observed the following observations:

- Duplication of data may be possible by same information.
- Akeira not provide information about soil, weather and market prices etc.
- Harvesting may not be an optimal because its an external parameter.
- It needs large database and also lack of existing research.
- It use costly drone that can't afford by all farmers.

III. METHODOLOGY

Below is the representation of workflow which might occur at various stages.

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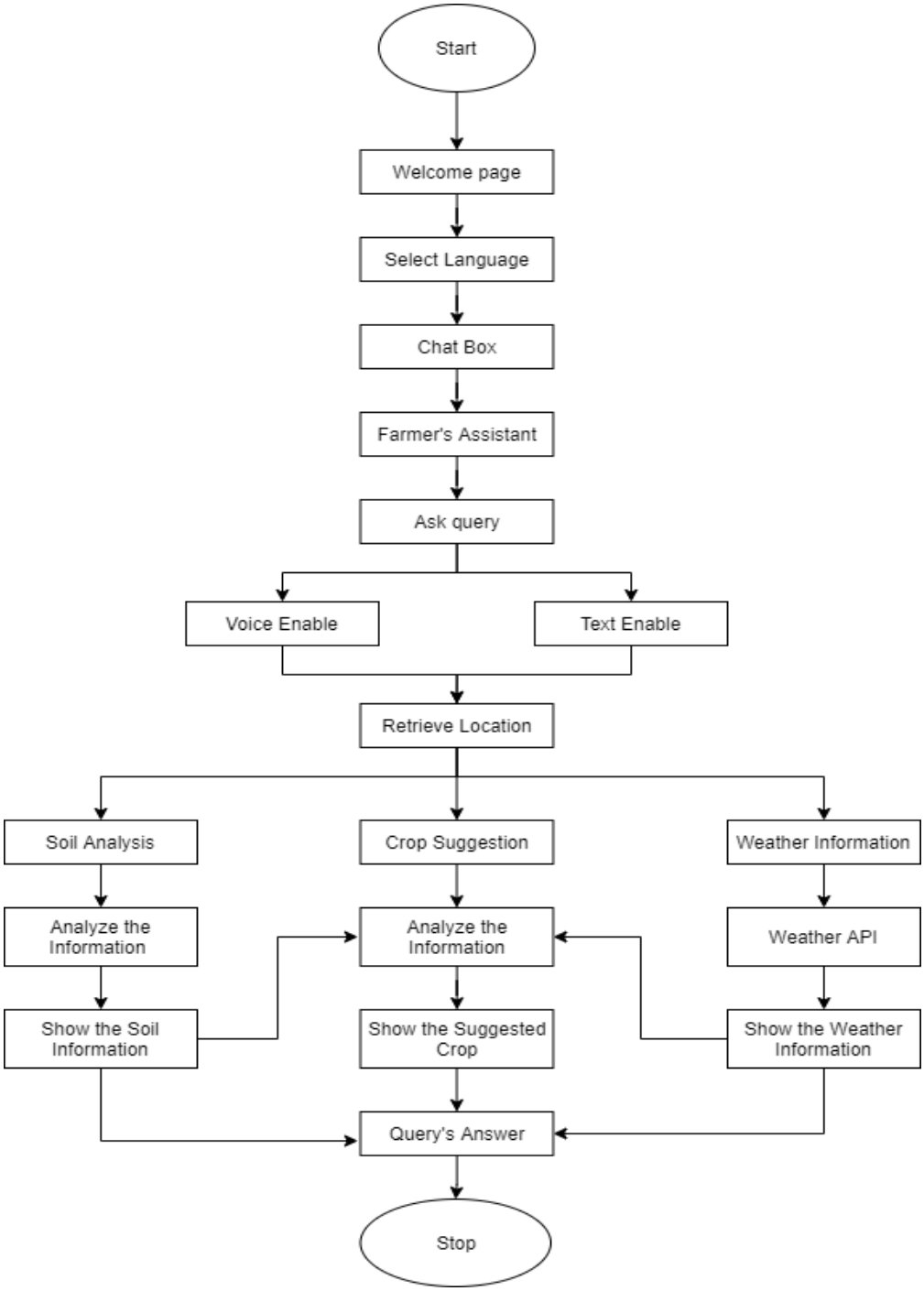

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IV. IMPLEMENATION

Figure 1 Home Screen

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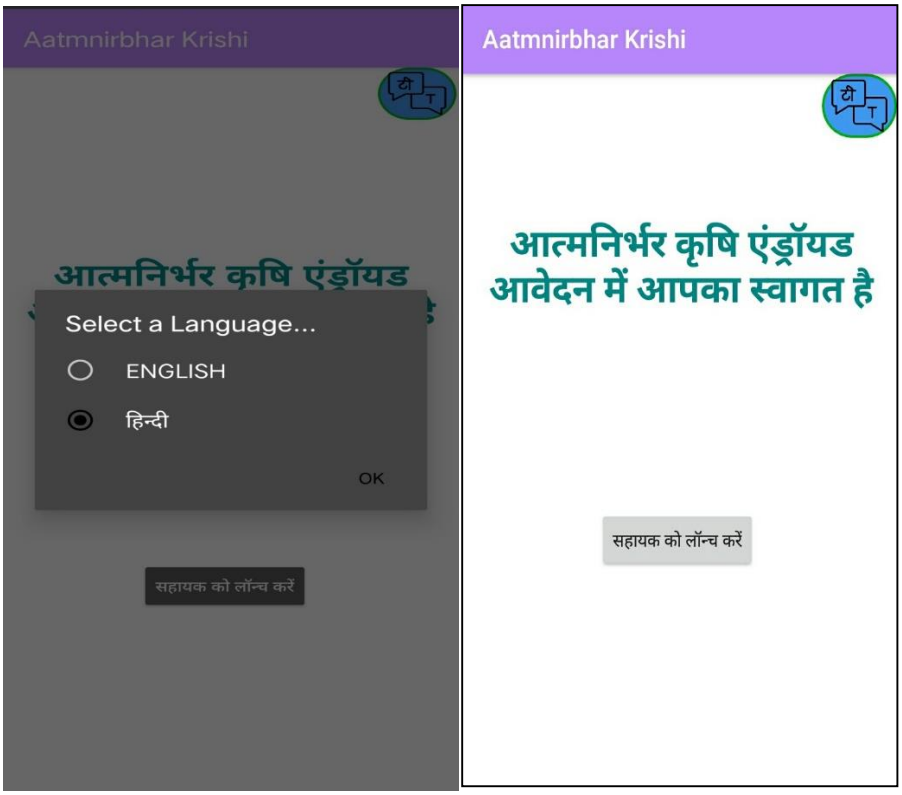

Figure 2 Show the selected language

Figure 3 Chatting with Assistant

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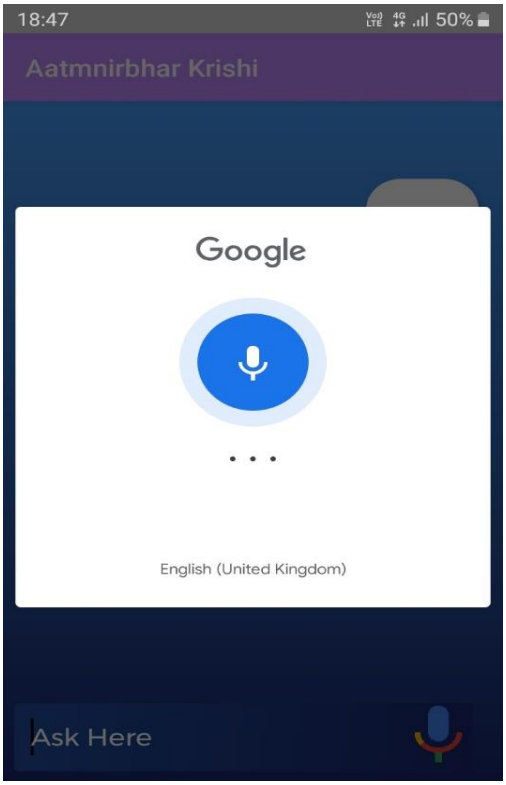

Figure 4 Voice based system

V. Conclusion And Future Work

The system's main purpose is to help farmers and to make farming easier and more convenient. The Aatmnirbhar Krishi helps farmers through query and answer for this few default questions are set in the application and will communicate through chat box. Aatmnirbhar Krishi provide a language selection option so farmer can easily communicate in whichever language they are familiar with. Aatmnirbhar also provide a feature like text to speech and speech to text.

In future work, we will provide crop suggestion, soil information, also the assistant will ask user to allow their location so assistant could report daily weather condition using location API.

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