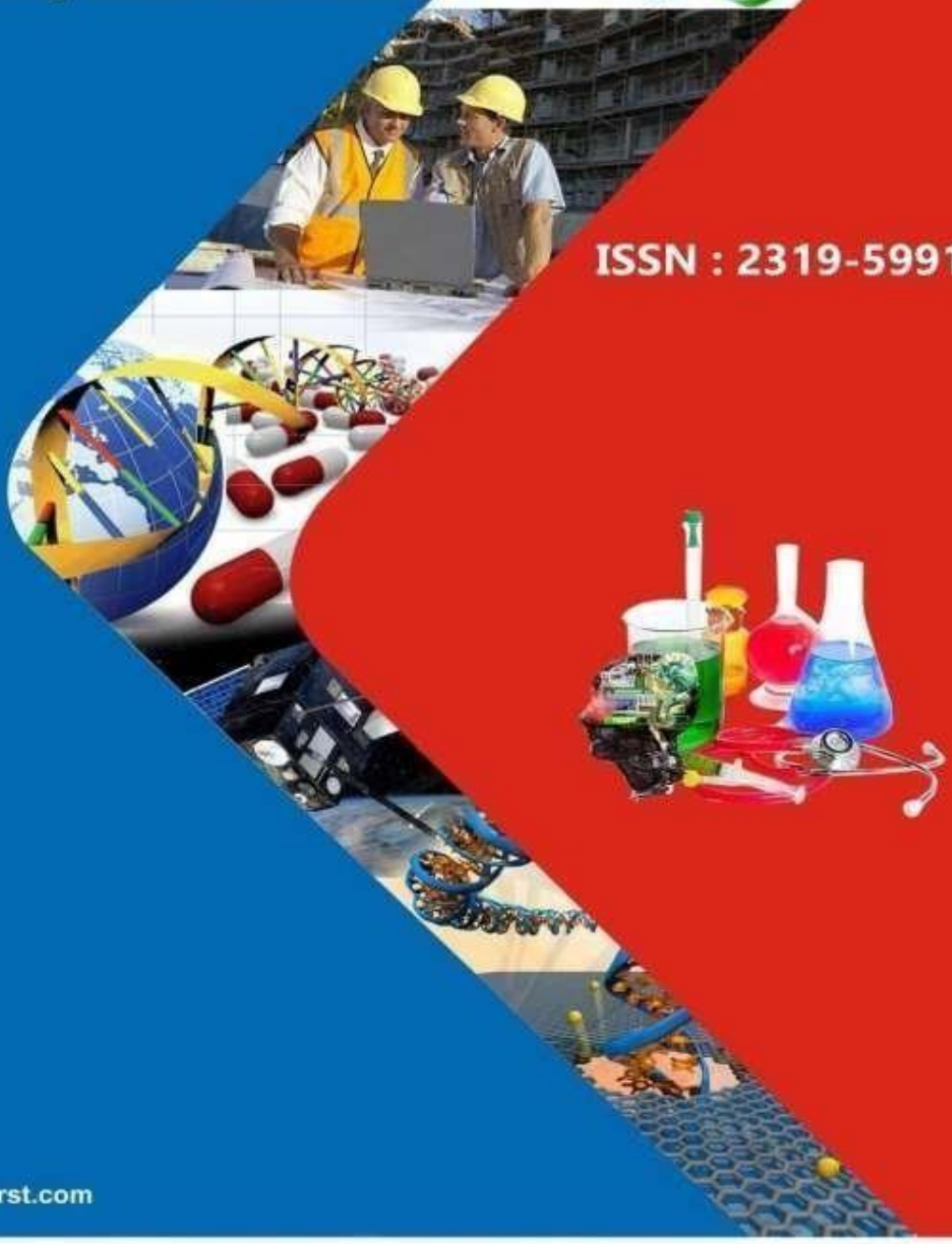
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AGRICULTURE HELPER CHATBOT AI

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ABSTRAT:

In the year 2020,agriculture contributes about 19.9% of India's GDP and employed about 60% of the country's population which makes it important part of the country's economic growth. Till 2018, it was about 15.41% only but now it has been increased with the help of the latest technologies like IOT,AI,CHATBOT etc. The proposed system is a mobile application which was developed to assist the farmers by two ways, the voice bot and the suggestion bot. To respond the farmer's queries in the multi-language, we have created an agricultural multi linguistic voice bot using Google translator,pysttsx3 and Google search engines. Also, we have the suggestion bot to give a versatile suggestion to the answer of farmer's query related to weather, crop, fertilizer, soil etc. Using this mobile application, farmers will progress towards better farming practices and increase the agricultural production.

INTRODUCTION

The agriculture sector scenario in India, providing support is a very challenging. The strength of small and marginal farmers and landless laboure is in millions - their knowledge on agro technology and farming is less, many live in remote areas. Traditionally government workers and field officers visit the fields and interact with farmers in villages and provide them training on best practices in farming and aspects of agriculture. In recent years, agriculture has seen a growth in usage of Information & Communication Technology (ICT). This system overcomes the above-mentioned drawbacks by providing a user interface, where farmers or any other users can interact effectively to get the desired

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responses with a smaller number of steps. This system "TalkBot" is a chatbot, which is a virtual assistant that enable users to get their queries clarified in a user-friendly manner. The input is obtained from the user, the textual query will undergo pre-processing steps in order to find the category of the query it belongs to, and provide the corresponding response. Farmers are Suffering from the infection caused to the plants or fields ,Due to this the farmers and getting less yield and getting huge loss in profit .By this Agriculture Chatbot the farmers will be happy and they will get more yield because they can ask the questions to agribot and they can clear their doubts and Spray the pesticides in current time and forming also done at correct time due to this there is no loss for agriculture . To help the farmers and to solve the queries of the farmers we are introducing a chatbot. Farmers can communicate with the chatbot which makes the computers closer to human-level understanding. The Chabot collects the keywords and will start the conversation by asking queries to the users and provide the suggesting plans. A Chabot is an Artificial Intelligence (AI) software that conducts a conversation with users via text-based method without any human intervention at the server side. In this project we implemented only limited features like text-based chatting which is designed only for the farmers who are doing Agriculture Farming.

EXISTING SYSTEM :

If a plant is deficient in a specific nutrient, it can exhibit some symptoms. Growing plants are the things that the grower is interested in because they serve as integrators of all growth factors. As a result, a close examination of the growing plant will aid in the identification of a particular nutrient stress[9]. Only when the nutrient supply is so poor that the plants can no longer survive properly do signs of nutrient deficiency appear. It would have been more cost- effective to apply fertilizer long before the symptoms occurred in such cases. If the symptoms are caught early enough, they can be treated during the growing season. we use fertilizer for good yield . for that we need to know the composition of the nutrients has follow in the table 4. we give the sample data sheet of corn in dry land which was used for suggestion

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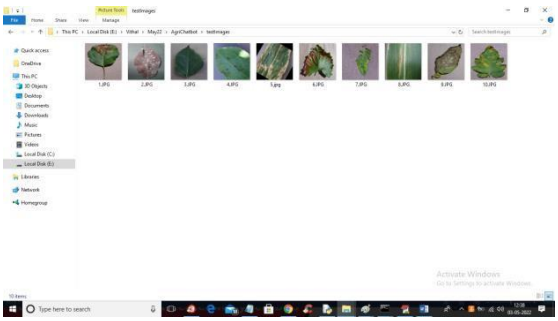
PROPOSED SYSTEM:

In the proposed system Fig 1 we develop an mobile app with two section voice bots and suggestion bot. In voice bots farmer can ask his query with the mic of his phone. this voice input is converted to text and the system will repeat the voice input again for confirmation of input and this text searched in web and web text will be converted to voice .the query of the farmer will be addressed by our voice bot. we also build the suggestion bots in order to give suggestion of crop to be cultivate and fertilizer which could be used for good yield. Farmers and agri-experts posed similar questions to the ones found by the researchers

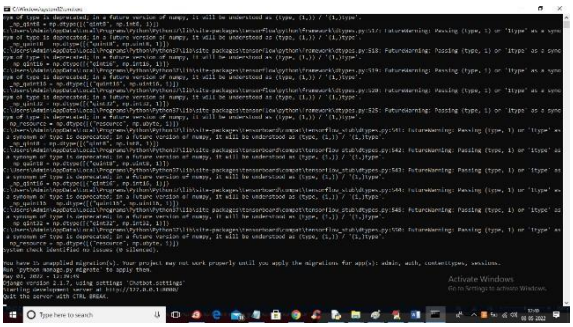
SYSTEM ARCHITECTURE:



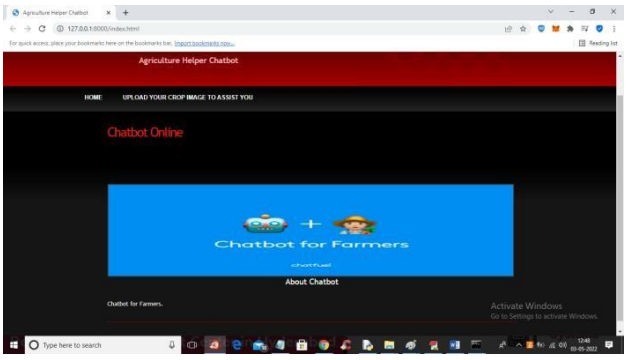
SCREENSHOTS :



To run project double click on 'runServer.bat' file to start python DJANGO web server similar to below screen



In above screen DJANGO server started and now open browser and enter URL as 'http://127.0.0.1:8000/index.html' and press enter key to get below screen



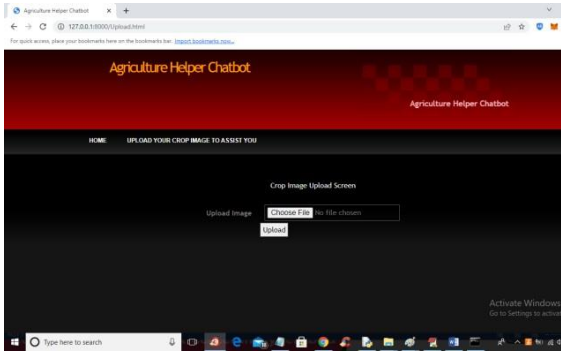
In above screen click on 'Upload Your Crop Image to Assist You' button to

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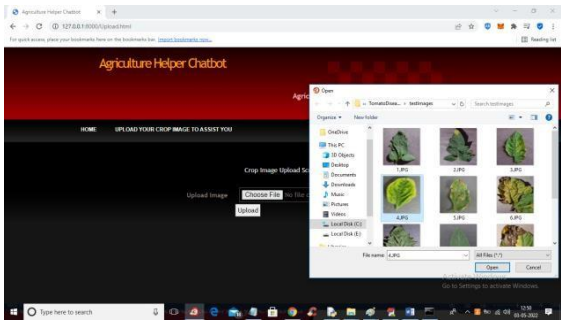
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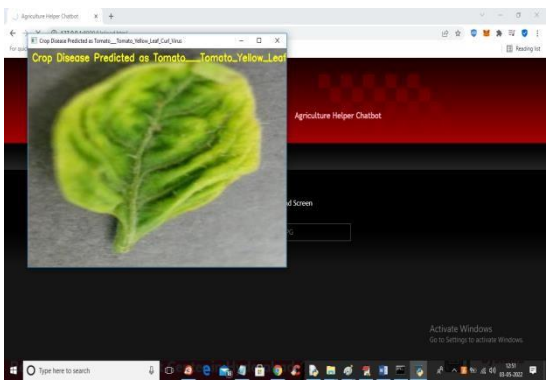
upload crop disease image like below screen



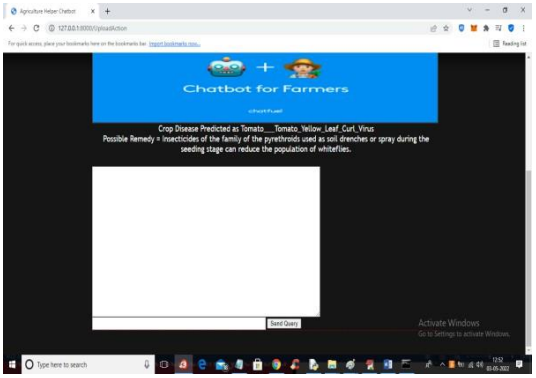
In above screen click on 'Choose File' button to upload crop image like below screen



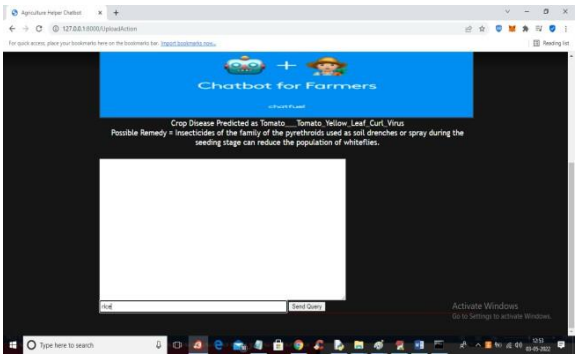
In above screen selecting and uploading '4.JPG' file and then click on 'Open' button to load image and then click on 'Upload' button to get below output



In above screen in yellow colour text we can see crop disease predicted as 'Tomato Yellow Leaf curl' disease and now close above image to get possible remedies from chat bot



In above screen in white colour text we can see crop disease name and then displaying possible REMEDIES and now user can post queries to Chatbot by entering query in text field

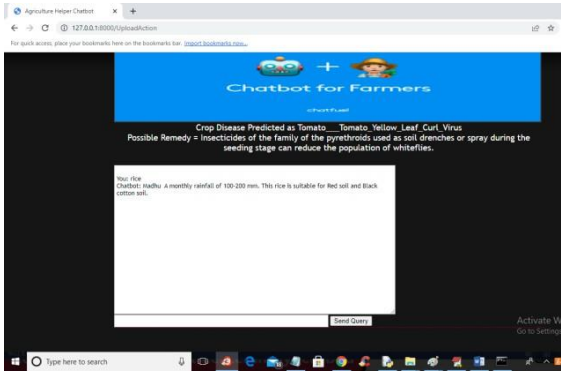


In above screen I entered query as 'rice' to know information on rice details and then click on 'Send Query' button to get below output

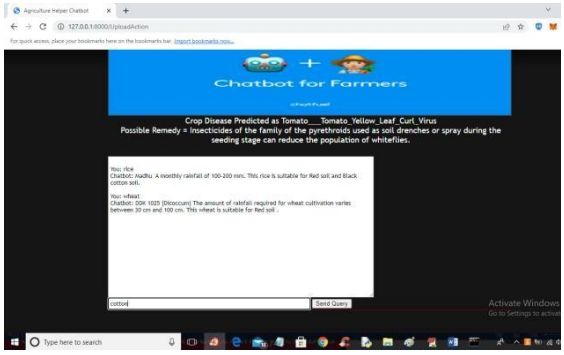
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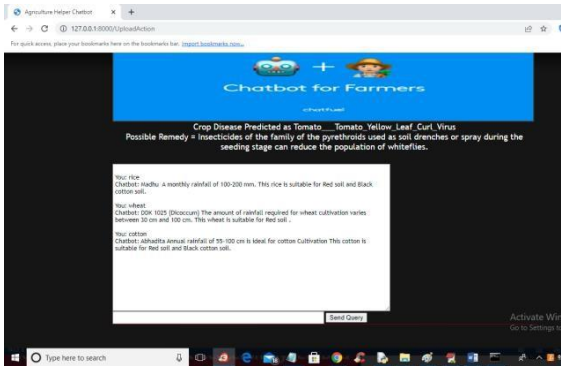
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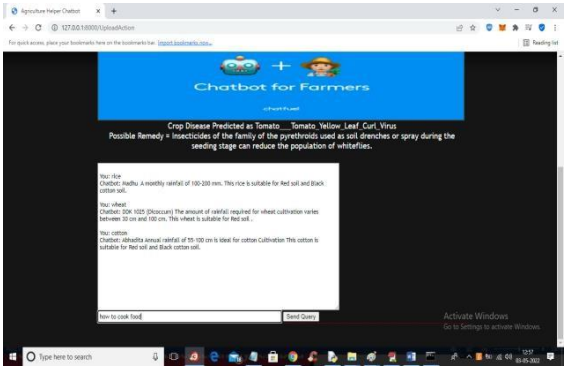
In above screen in text area we can see response from Chatbot and similarly you can enter any other query like below screen



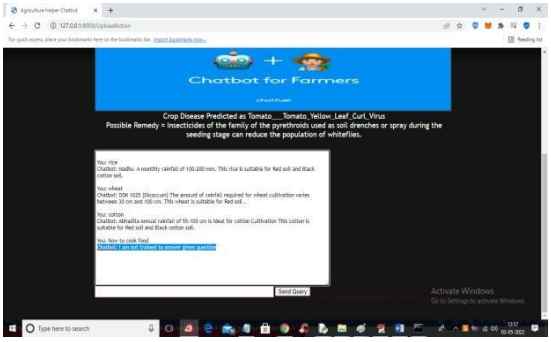
In above screen I entered query as 'cotton' press button to get below output



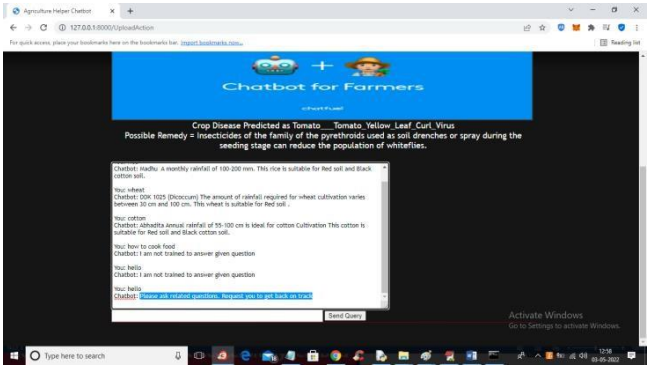
In above screen we got details for cotton crop from Chatbot and similarly you can ask any related question and if you ask unrelated question then will get below output



In above screen I am asking unrelated question as 'how to cook food' and below is the response



In above screen in blue colour text we can see Chatbot not trained to answer that question and if 3 times its exceed then will get below output

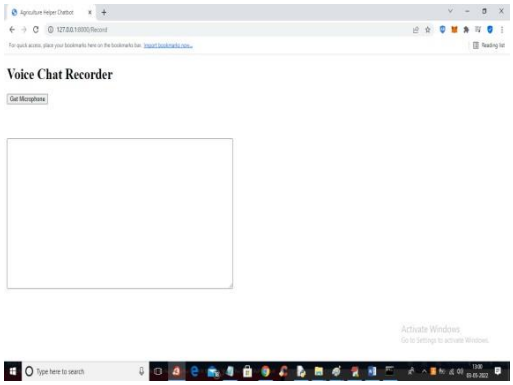


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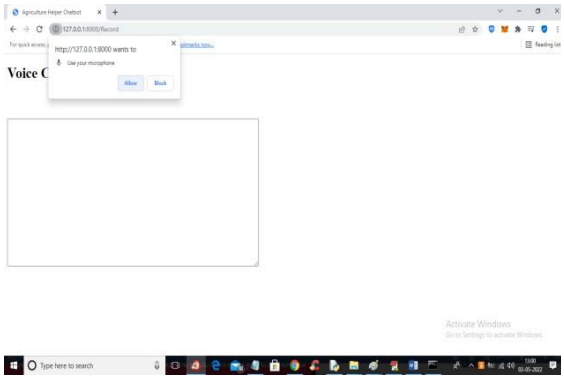
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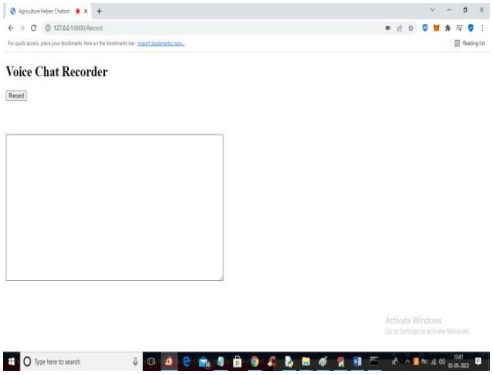
In above screen we can see 'Chatbot suggesting user to ask related questions' and now click on 'Voice Based Chat' link to allow user to Chat with Chatbot using voice questions which use speech recognition to understand user question



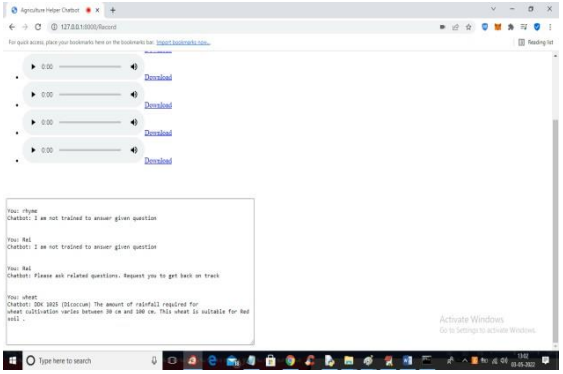
In above screen click on 'Get Microphone' button to connect to microphone and get below output



In above screen click 'allow' to get below output



In above screen now you can 'Record' voice and send to Chatbot



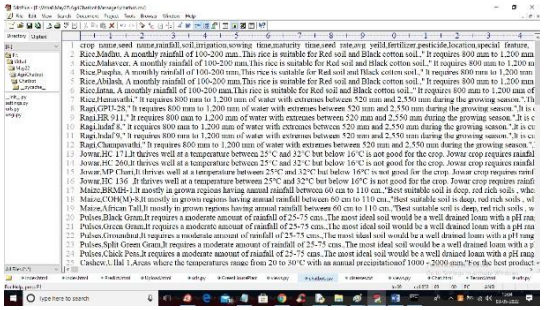
In above screen I tried for voice command as 'rice' but it was not cleared voice so Chatbot replied 'Not Trained' and then I said voice command as 'wheat' to get suitable condition for sowing wheat. Similarly you can ask any question

We are using below dataset for Chatbot to answers

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In above screen whatever crop name you entered then Chatbot will fectch details for that crop and display to user

CONCLUSION AND FUTURE WORK:

Farmer's assist voice Bot system will help farmer communities by answering queries related to agriculture. Via this app, the farmer will be able to access the agricultural information as well as localized information including weather forecasts, best crop for plantation and fertilizer. We have implemented the multilingual chat bot that includes a voice- over and an entity extraction for the query of the farmer. This system will allow farmers of different regions who speak different languages to ask questions at any time. The voice bot will respond to the queries of the farmer in their regional language and also suggest the crop,fertilizer based on weather and soil which allow the modern farming technology to reach a larger number of farmers. As the future work, we have planned to identify the diseases in crops and their remedies[3][4]. Further, we can also suggest the best plant and the harvest time based on the market price, climate and soil[2].

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