AGRICULTURAL DATA ANALYSIS

Group 2

Federal Institute of Science and Technology

Master of Computer Application

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GROUP MEMBERS

1. Aiswarya Raj (SCRUM MASTER)
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5. Juhi Jojo
6. Simi Jose

INTRODUCTION

Today, India ranks second worldwide in the farm output. Agriculture is demographically the broadest economic sector and plays a significant role in the overall socio-economic fabric of India. Agriculture is a unique business crop production which is dependent on many climate and economy factors.
Some of the factors on which agriculture is dependent are soil, climate, cultivation, irrigation, fertilizers, temperature, rainfall, harvesting, pesticide weeds and other factors. Historical crop yield information is also important for supply chain operation of companies engaged in industries.

There are 2 factors which are helpful for the farmers and the government in decision making namely:

- It helps farmers in providing the historical crop yield record with a forecast reducing the risk management.
- It helps the government in making crop insurance policies and policies for supply chain operation.
  Data mining technique plays a vital role in the analysis of data. Data mining is the computing process of discovering patterns in large data sets involving methods at the intersection of artificial intelligence, machine learning, statistics, and database system.

THE TASKS GIVEN

- Task1 : Weather Forecasting Application
- Task2 : Saving displayed weather details of each place to a server
- Task3 : Rainfall Prediction Using Decision Tree Algorithm

Task1-Objectives

- What is the main goal of this app?
  To predict the conditions of the atmosphere for a given location
- Does it track the climatic conditions of any location?
  Using this app we can get the full atmospheric details of any place in this world
- How can we get the weather details of a particular location?
  We can connect our app with an OpenWeatherMap API

Task1-Algorithm

- Input:
  Enter the location for weather search
- Output:
  Display corresponding weather details for the city from openweather map

Task1-Algorithm

1. Start
2. Set User permission to access internet
3. Create the Text field for entering the location
4. Create five Labels for display the city,temperature,pressure,wind and humidity
5. Create the Button for Search
6. Use an API for retrieving the weather details
7. Display the Weather details on clicking search button

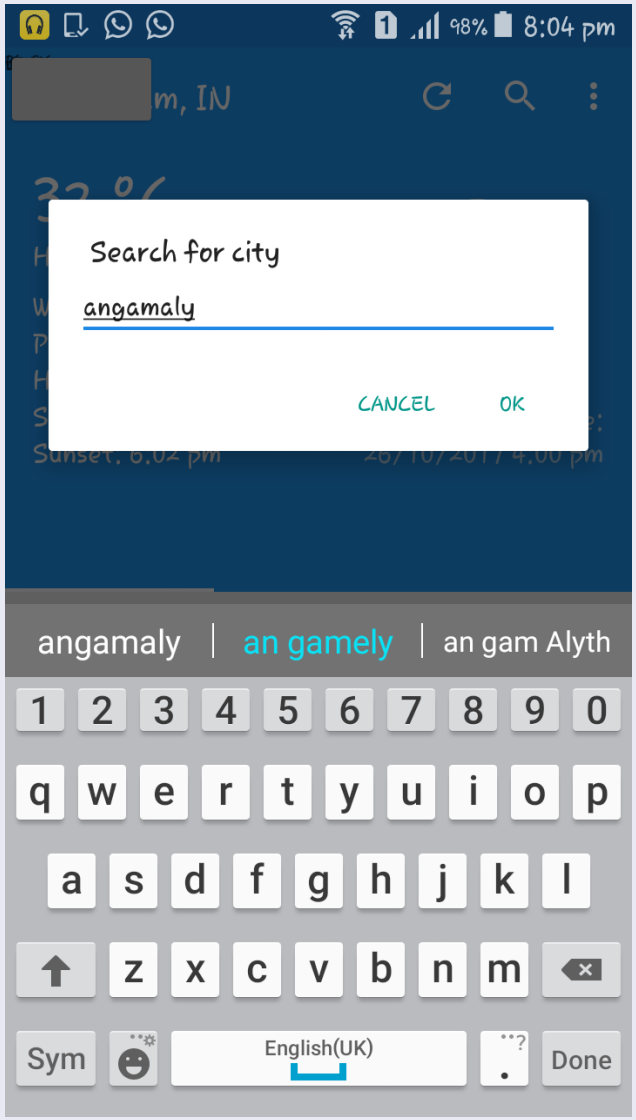
7.1. Search the city from API

7.2. Load corresponding data as JSON

8. Refersh download weather datas while click on refresh button
9. Stop.

TASK 1

Output



TASK 1

Output

Task2-Objectives

- How the displayed data can be stored into a database?
- How the stored datas can be displayed on screen?

Task2-Algorithm

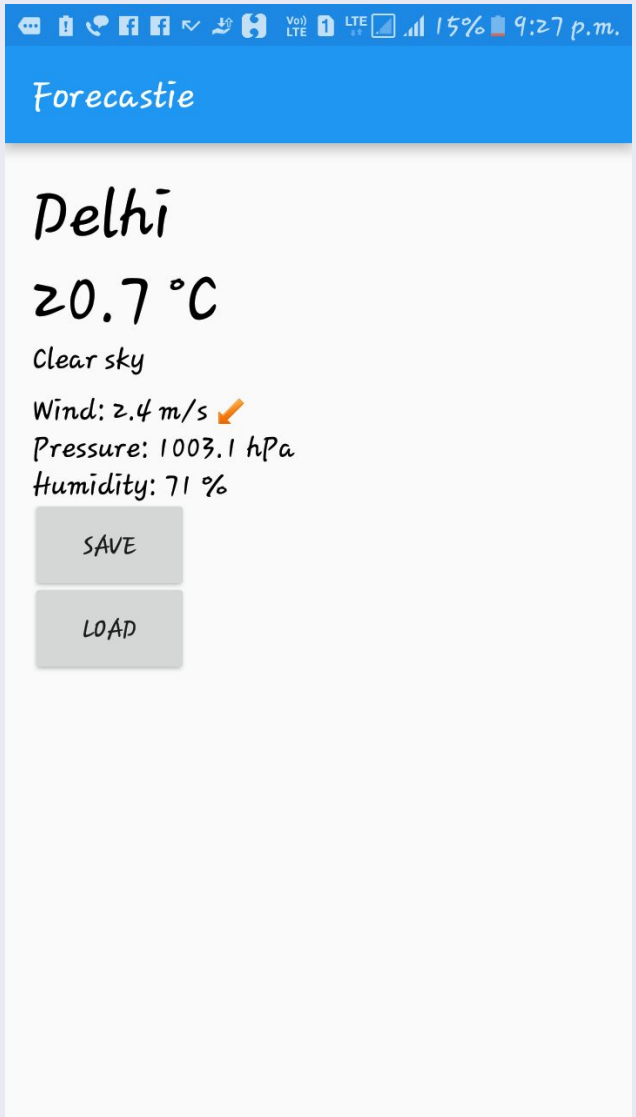
- Input: Displayed data about the given city
- Output: Save the data displayed on the screen in to sqlite database

Task2-Algorithm

1. Start
2. Load the searched weather datas in to a new activity
3. Create the Button for save and display
4. Fetch the values and save the contents into a database using queries
5. Display the Weather details in to a report
6. Stop

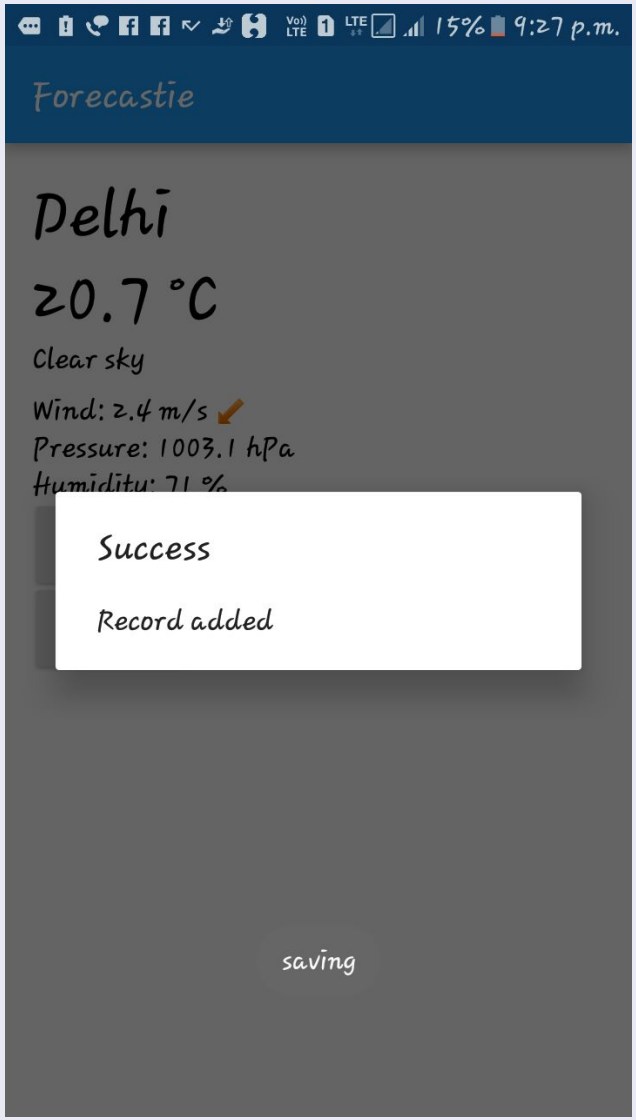
TASK 2

Output



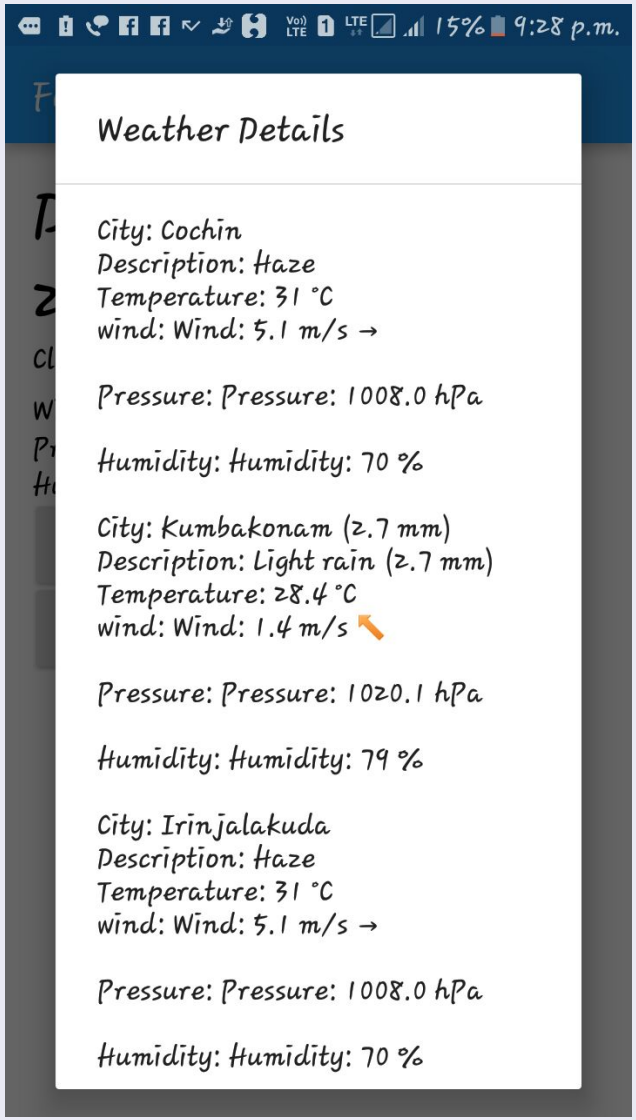
TASK 2

Output



TASK 2

Output



Task3-Objectives

- What is the main goal of this algorithm?
  To predict the conditions of the atmosphere for a given location
- Is it for classifying the given dataset?
  Using this algorithm it can classify the given dataset into multiple class
- How can we classify?
  Can classify the datasets as moderate rainfall , medium and high rainfall locations

Task3-Algorithm

- Input: Weather Data set from Data.gov website
- Output: Predicting class rain or not for given dataset using decision tree algorithm

Task3-Algorithm

1. Start
2. Read the csv data frame
3. Encode categorical values to integer value
4. Fit the decision tree with target and feature set
5. Producing pseudocode that represent the learned decision tree
6. Stop

ROLES ASSIGNED

- Aiswarya Raj is the scrum master. She used to conduct scrum meetings frequently to know and understand the status of the tasks based on weather application and discussed about the task in detail. She assigned the roles for each members of the group.
- Don C Alocious was selected as the team leader. He searched the code for weather application and completed the design and also provided the technical support for the application
- Aneena K Bijy installed the software on her laptop and configure her laptop.She searched for the new code for weather application.Code execution and error checking was also done. She also helped in making the reports.She created the git repository and add all the reports and code to it
- Heera T Mohan installed the softwares on devices and searched the code for weather application. She made a trial execution of the code and found the errors and understood the concept.

ROLES ASSIGNED-Continued...

- Juhi Jojo searched the code for the android program. And executed the code. She downloaded the dataset for weather prediction.She also searched the code for saving and displaying the weather details.
- Simi Jose also searched the code for android program and executed the code. She learned and studied the concept. She did a trial execution of the code. And also studied and executed the code based on sample dataset.

EXISTING SYSTEM

- The available weather forecasting applications are mainly used for getting weather informations about a place such as Temperature, Pressure, Humidity, Wind etc.
- It does not show the details we previously viewed.
- Not directly applicable in agricultural areas.

PROPOSED SYSTEM

- Proposed system study very well the existing system and make ideas for develop a new one,
- Proposed system is applicable in Agricultural areas.
- It helps farmers in providing the historical crop yield record with a forecast reducing the risk management.
- It helps the Government in making crop insurance policies and policies for supply chain operation.
- DataBase conectivity is established here.So the previous searching details are shown from a Server.
- It is used for predicting which crop is suitable for the given weather attributes.

PROOF OF CONCEPT

Analysis of Agriculture Data Using Data Mining Techniques : Application of Big Data
-Jharna Majumdar
-Sneha Naraseeyappa
-shilpa Ankalaki
Pubished : 5 July 2017

CONCLUSION

Data mining techniques are implemented on the input data to assess the best performance yielding method.The present work used data mining technique such as Decision tree Algorithm.We are here predicting the rainfall that helps the farmers for cutivating their crops according to the type of the crop. The proposed work can also be extended to analyse the soil and other factors for the crop and to increase the crop production under the different climatic conditions.

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THANKS TO ALL