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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Final Review -Minor Project-2

WEATHER FORECASTING USING PYTHON

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INTRODUCTION

- Weather forecasting is the application of science and technology to predict the conditions of the atmosphere for a given location and time.

- People have attempted to predict the weather informally for millennia and formally since the 19th century.

Features Weather Forecast Project In Python Django

- Time to time update weather
- Temperature Update
- Last 7 days data Predict
- change weather in every hours as according to weather changes.
- provide accurate data information about weather.
- user can search weather anytime and anywhere.
- any places data can be search and provide information as according to weather.
- help user to travel.
- help User to future plans for holidays

OBJECTIVES

- Observe, measure, and record data on the basic elements of weather over a period of time (i.e., precipitation, air temperature, wind speed and direction, and air pressure).

- Interpret recorded weather data for simple patterns.

ABSTRACT

- Weather forecasting is the application of science and technology to predict the state of the atmosphere for a given location.
- Ancient weather forecasting methods usually relied on observed patterns of events, also termed pattern recognition. For example, it might be observed that if the sunset was particularly red, the following day often brought fair weather.
- However, not all of these predictions prove reliable. Here this system will predict weather based on parameters such as temperature, humidity and wind.

- User will enter current temperature; humidity and wind, System will take this parameter and will predict weather (rainfall in inches) from previous data in database (dataset).

- The role of the admin is to add previous weather data in database, so that system will calculate weather (estimated rainfall in inches) based on these data.

- Weather forecasting system takes parameters such as temperature, humidity, and wind and will forecast weather based on previous record therefore this prediction will prove reliable.

- This system can be used in Air Traffic, Marine, Agriculture, Forestry, Military, and Navy etc.

LITERATURE REVIEW

- There are many research papers that have been published related to predicting the weather.
- A paper was published on ‘The Weather Forecast Using Data Mining Research Based on Cloud Computing’ This paper proposes a modern method to develop a service oriented architecture for the weather information systems which forecast weather using Python.
- Algorithm has presented the best results to generate classification rules for the mean weather variables

- The results showed that these data mining techniques can be enough for weather forecasting.
- Another paper was published on ‘Analysis on The Weather Forecasting and Techniques’ where they decided that artificial neural network and concept of fuzzy logic provides a best solution and prediction comparatively .
- They decided to take temperature, humidity, pressure, wind and various other attributes into consideration.
- Another research paper titled ‘Issues with weather prediction’ discussed the major problems with weather prediction.
- Even the simplest weather prediction is not perfect.

EXISTING SYSTEMAND ITS DRAWBACKS

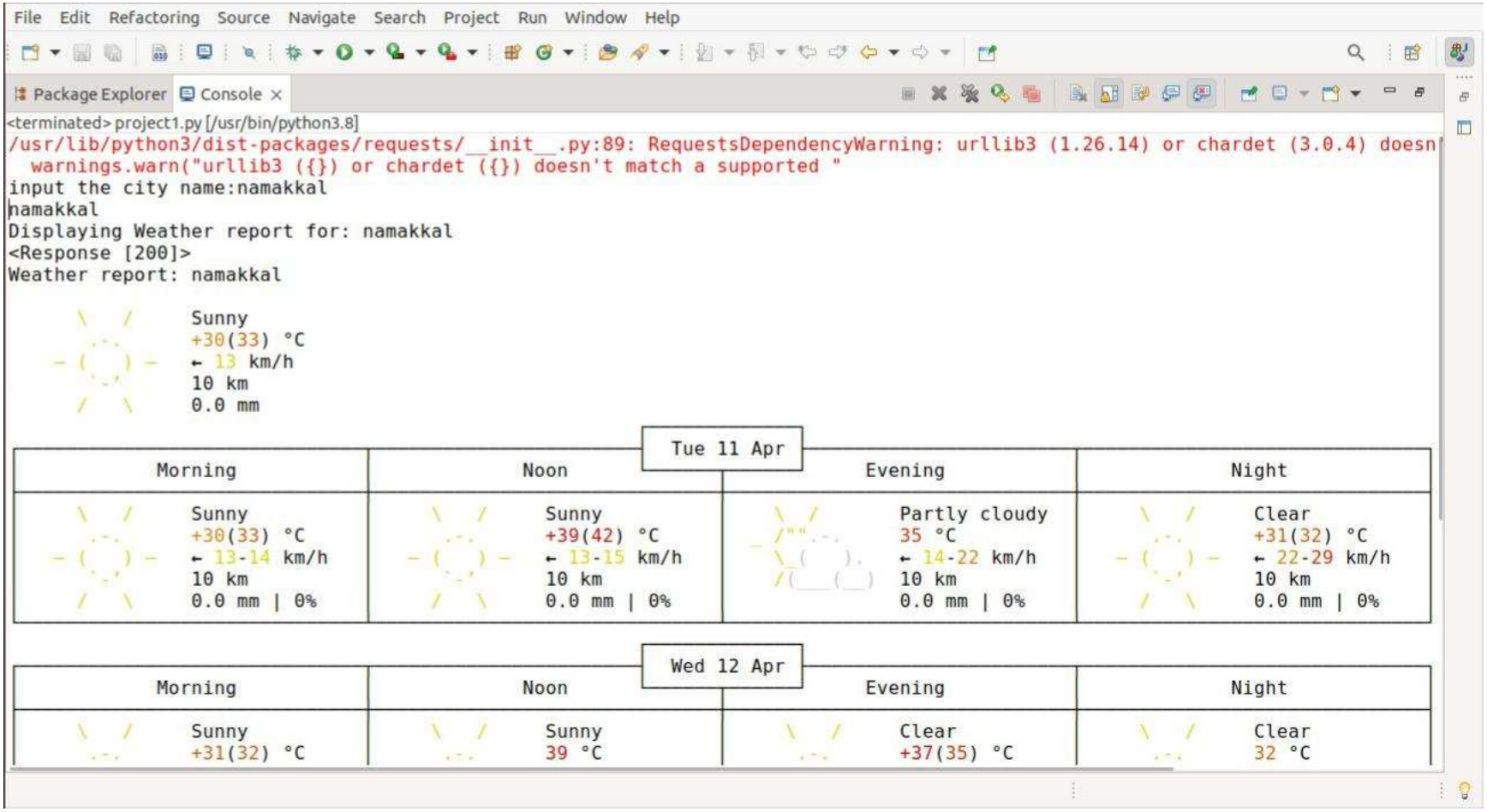
- The traditional forecast process employed by most NMHSS involves forecasters producing text-based, sensible.
- weather-element forecast products (e.g. maximum/minimum temperature, cloud cover) using numerical weather prediction (NWP) output as guidance.
- The process is typically schedule-driven, product-oriented and labour-intensive.
- Over the last decade, technological advances and scientific breakthroughs have allowed NMHSS' hydro meteorological forecasts and warnings to become much more specific and accurate.

- As computer technology and high-speed dissemination systems evolved (e.g. Internet), National Weather Service (NWS) customers/partners were demanding detailed forecasts in gridded.
- Digital and graphic formats. Traditional NWS text forecast products limit the amount of additional information that can be conveyed to the user community.
- The concept of digital database forecasting provides the capability to meet customer/partner demands for more accurate, detailed hydro meteorological forecasts.
- Digital database forecasting also offers one of the most exciting opportunities to integrate PWS forecast dissemination and service delivery, which most effectively serves the user community.

PROGRAM

```
import requests
city=input(‘input the city name:’)
print(city)
print(‘Displaying Weather report for: ‘ +city)
url = ‘https://wttr.in/{}’.format(city)
res requests.get(url)
print(res)
data=res.text
print(data)
```

PROGRAM OUTPUT



PROBLEM STATEMENT

- The traditional forecast process employed by most NMHSS involves forecasters producing text-based, sensible, weather-element forecast products (e.g. maximum/minimum temperature, cloud cover) using numerical weather prediction (NWP) output as guidance.
- The process is typically schedule-driven, product-oriented and labour-intensive.
- Over the last decade, technological advances and scientific breakthroughs have allowed NMHSs hydrometeorological forecasts and warnings to become much more specific and accurate.

PROPOSED METHOD

- User will enter current temperature; humidity and wind.
- System will take this parameter and will predict weather from previous data in database.
- The role of the admin is to add previous weather data in database, so that system will calculate weather based on these data.
- Weather forecasting system takes parameters such as temperature, humidity, and wind and will forecast weather based on previous record therefore this prediction will prove reliable.

REFERENCES

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[2] Dr.C.K.Gomathy,C K Hemalatha, Article: A Study On Employee Safety And Health Management International Research Journal Of Engineering And Technology (Irjet)- Volume: 08 Issue: 04 | Apr 2021

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CONCLUSION

- We successfully predicted the rainfall using the linear regression but here this is not very accurate only sometimes any way it depends upon the climate changes to season to season.
- Here we are taking only summer season weather data set it only useful to predict rainfall in summer season.
- We comprehend the problem domain and create a system model that represents the operations that can be performed on the system.


Thank You!