Department of Information Technology
NBA Accredited

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UNIVERSITY OF MUMBAI

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A Project Report on

Weather Forecasting

Submitted in partial fulfilment of the degree of
Bachelor of Engineering(Sem-6)

in

INFORMATION TECHNOLOGY

By

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Under the Guidance of

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1.Weather Forecasting

1.1 Objectives

- To provide user friendly interface for obtaining weather reports.
- To automate the process of analysing the weather conditions.
- To develop a statistical and analytical report on weather report.
- To compare and contrast the different technologies used to gather weather data.
- To analyse weather symbols, station models and weather maps.
- To describe how weather forecasts are made.

1.2 Literature Review

Authors	Year	Research	Result	Limitation
1. Akhilesh *et al*	2015	Bluetooth Based Weather Station	Temperature and humidity were measured using a bluetooth based model	Light intensity, atmospheric pressure were not considered and the setup is a bit costly
2. Lanre and Umoru	2011	Design and Construction of a Low Cost Digital Weather Station	Low cost digital weather station for measuring some weather elements was constructed	The weather station did not considered light intensity beside, the microcontroller used is less versatile
3. Kirankumar	2015	Low Cost Wireless Weather Monitoring System	Low cost weather measuring system was developed that measured some weather parameter	Light intensity, atmospheric pressure were not considered also the microcontroller used is less versatile
4. Krejcar	2012	Weather Station with Remote Control	The station used temperature sensor and other measuring sensors using a remote control	The design and construction setup is comparatively complex and is not cost effective because of the kind of microcontroller used

1.3 Problem Definition

- Weather Forecasting sometimes inaccurate.
- How accurate are long term forecasts versus short term forecasts?
  1) A fine grid of data is needed to study the accuracy of weather forecasts
  2) PSOC based weather monitoring system can measure environmental data
- In urban areas of our country where we have these weather monitoring systems and stations/devices, there are still some constraints; partly due to high cost of importation.

1.4 Scope

- One can implement a few more sensors and connect it to the satellite as a global features of the system.
- In aircraft, navigation and military there is a great scope of this real-time system.
- It can also be implemented in hospitals or medical institutes for the research and study in “Effect of Weather on Health and Diseases”, hence to provide better precaution alerts.

1.5 Technology stack

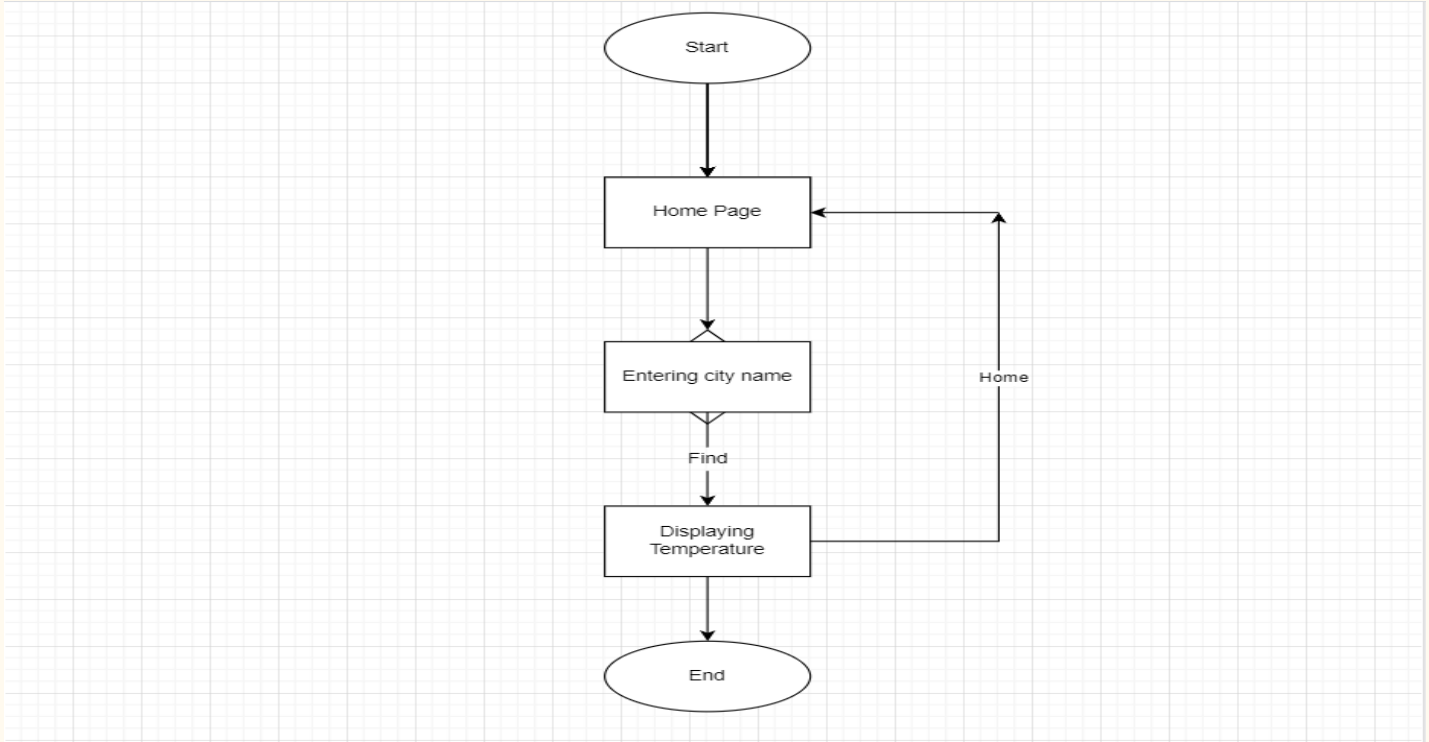
- Python
- Pycharm
- Anaconda
- Db browser Sqlitedb
- Django
- Visual studio
- Bootstrap

2. Project Design

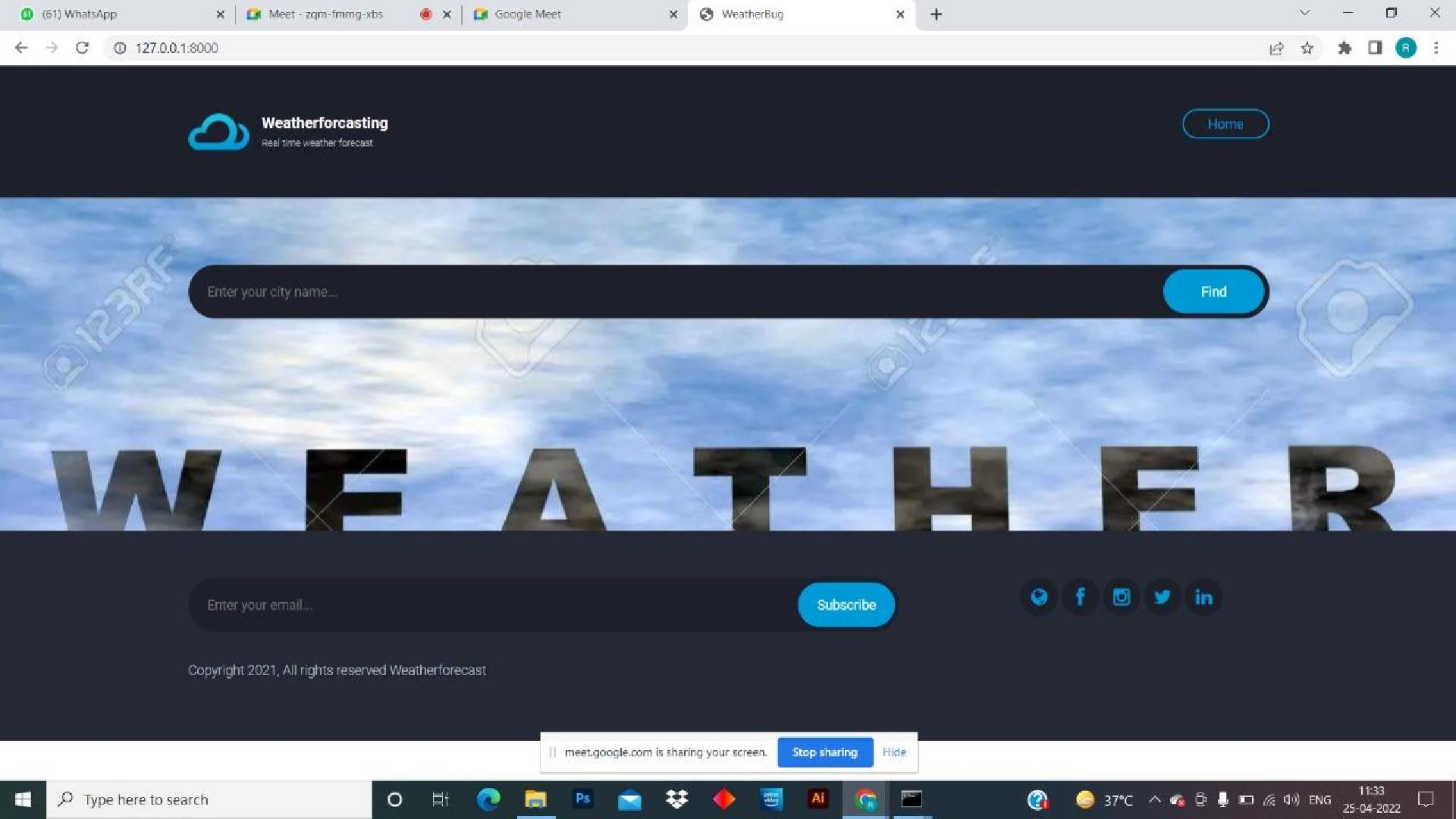
2.1 Proposed System

- User will enter the city name and System will take this input data and give the temperature in degree Celsius as output.
- The main role of our system is show the temperatures on the basis of city names.

2.2 Design(Flow Of Modules)



3. Implementation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Home
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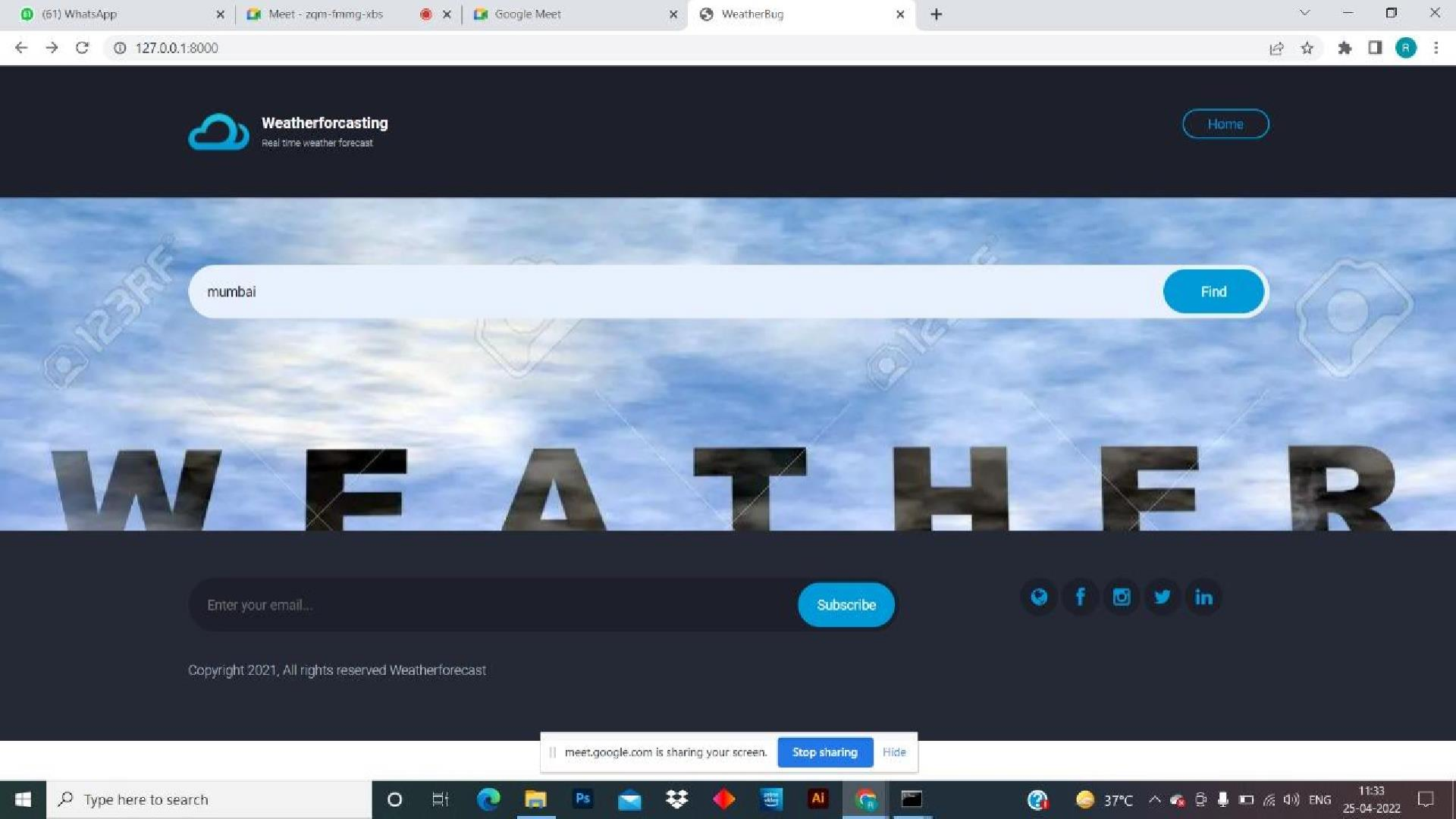
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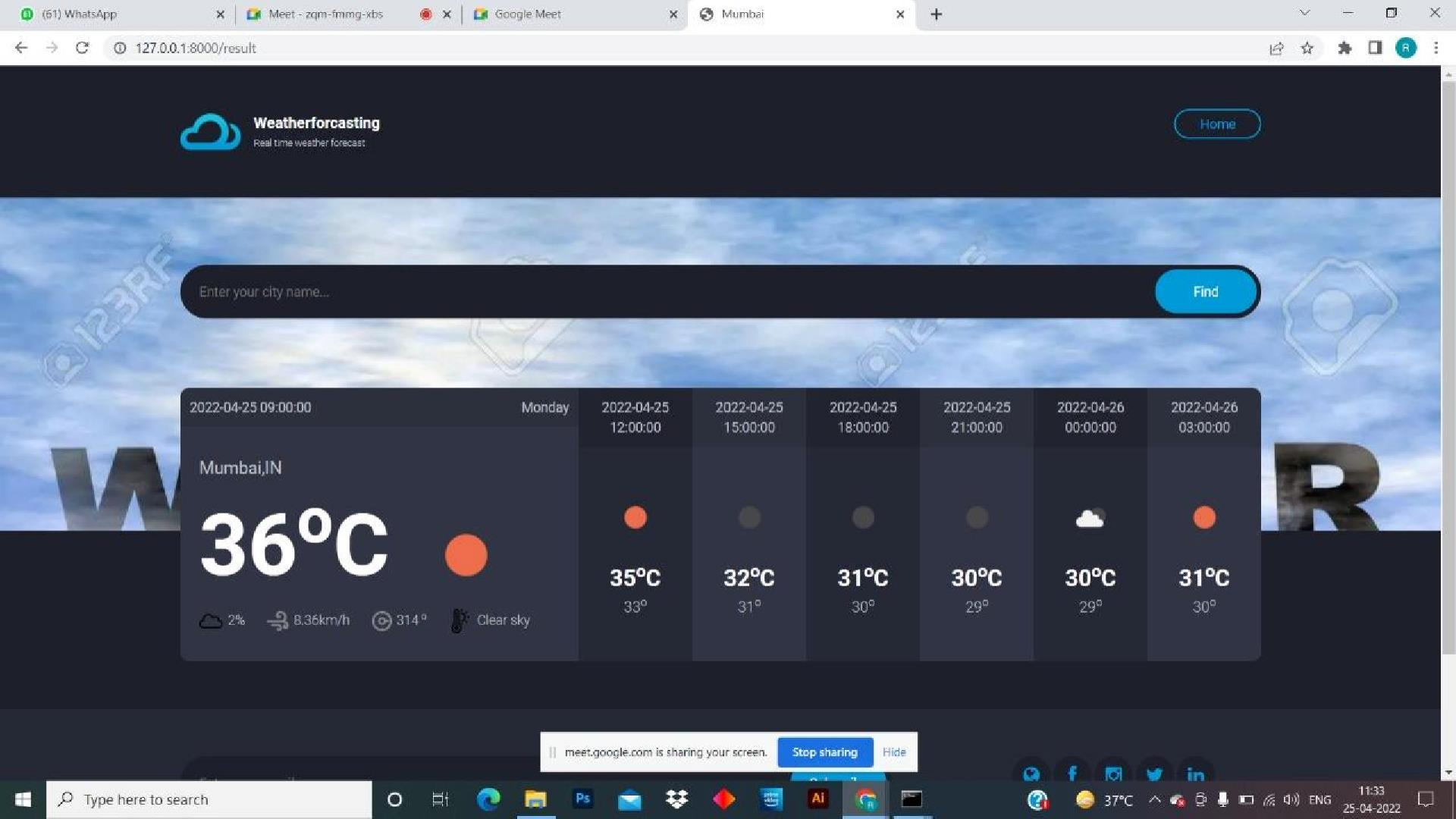
5. Result


(61) WhatsApp
Meet - zqm-fmmg-xbs
Google Meet
Mumbai
127.0.0.1:8000/result
Weatherforcasting
Real time weather forecast
Home
Enter your city name...
Find
2022-04-25 09:00:00
Monday
Mumbai,IN
36°C
2% 8.36km/h 314° Clear sky
2022-04-25 12:00:00
35°C
33°
2022-04-25 15:00:00
32°C
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6. Conclusion and Future Scope

Conclusion:

With the advancement of the technology weather forecasting has developed to it level best, but there is yet to develop, as far as a nature is so unpredictable. Natural calamity and weather disturbance causing devasting districtions surprisingly. To save our mother earth scientist and meteorologist are also advancing their knowledge about weather forecasting.

Future Scope:

The features which can be developed in the future are:

One can implement a few more sensors and connect it to the satellite as a global feature of this system.

•Long time (> 7days) weather forecasting by using Zigbee Mesh Technology and covering larger area.

In aircraft, navigation and military there is a great scope of this real-time system.

•It can also be implemented in hospitals or medical institutes for the research & study in "Effect of Weather on Health and Diseases", hence to provide better precaution alerts.

References

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Thank You