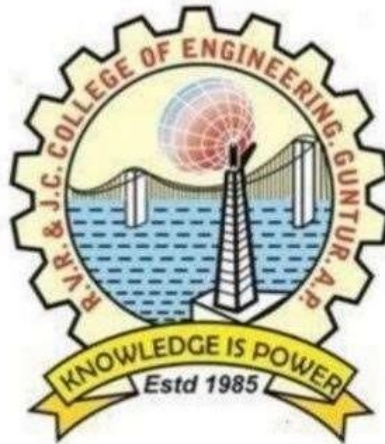# Weather web Application

CB-352 MINI PROJECT

(III/IV Btech)

Computer Science and Business System

Submitted By

- **Lingala Giri Mallik(Y20CB038)**
- **Potti Pankaj Satya Sai(Y20CB051)**
- **Tata Praveen Kumar(Y20CB060)**

Department of Computer Science and Business System

R.V.R . & J.C. COLLEGE OF ENGINEERING

(Autonomous) (NAAC 'A+' grade)

(Approved by AICTE, Affiliated to Acharya Nagarjuna University)

Chandramoulipuram, Chowdavaram, Guntur-522019

Andhra Pradesh, India

R.V.R & JC COLLEGE OF ENGINEERING

DEPT OF

COMPUTER SCIENCE AND BUSINESS SYSTEM

CERTIFICATE

This is to certify that this business proposal titled "**Weather Web Application**" is done by **Lingala Giri Mallik(Y20CB038), Potti Pankaj Satya Sai(Y20CB051) & Tata Praveen Kumar(Y20CB060)** in partial fulfillment of the requirements to**"CB-352 Mini Project"** report during the academic year 2022- 2023.

Incharge Signature   Mentor Signature   Head of the Department

ACKNOWLEDGEMENT

The successful completion of any task would be incomplete without proper suggestions, guidance and environment. Combination of these 3 factors acts like the backbone to my Mini Project report" **Weather Web Application".**

I am very thankful to **Dr. M.V.P. Chandrasekhara Rao**, Head of the Computer Science and Business System Department and also the Computer Science and Engineering (Data Science) program for consistently boosting our morale besides assisting us in finishing this internship successfully. I am truly glad to be mentored by such a motivating person from their team.

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- **Lingala Giri Mallik(Y20CB038)**
- **Potti Pankaj Satya Sai(Y20CB051)**
- **Tata Praveen Kumar(Y20CB060)**

Abstract

The weather is an important aspect of our daily lives, affecting everything from our daily routines to our long-term plans. This is why having access to reliable and accurate weather information is essential. The Weather App provides users with up-to-date weather information for today, tomorrow, and the day after tomorrow, as well as a fun prediction game that allows users to test their weather knowledge. Additionally, the app includes a "Todo" feature that provides users with a list of tasks they can do based on the current weather conditions. This feature helps users make the most of their time and plan their day accordingly.

The Weather App was crafted using HTML, CSS, and JavaScript with the aim of making it a web-based application that anybody with an internet connection can take advantage of. With its intuitive design and straightforward user interface, the app is as easy to use as it is seamless to access.

The Weather App has the potential to have a significant social and societal impact, as it encourages education and engagement with the weather and its impact on our daily lives. The app can be used by individuals for personal purposes, or it can be incorporated into other weather-related applications and services.

Overall, the Weather App is a valuable tool for anyone looking for reliable and accurate weather information, and it holds great potential for further development and growth in the future.

TABLE OF CONTENTS

1. Introduction

1.1 Methodology:

To create this weather app, we first researched and selected an API that provides accurate weather data. We then designed the user interface using HTML and CSS, with a focus on providing a clean and user-friendly design. The app was programmed in JavaScript, which enables dynamic updates to the user interface based on the data retrieved from the API. The prediction game and to-do list were added as additional features to enhance the user experience.

1.2 Features:

The weather app has several features, including the ability to display weather data for the next 3 days, a prediction game that challenges users to guess the weather for a given day, and a to-do list that suggests weather-appropriate tasks for the day. The app also provides detailed weather information, including temperature, humidity, wind speed, and sunrise and sunset times.

Overall, this weather app provides users with a convenient and easy-to-use tool for checking the weather forecast and planning their daily activities. The app's features, such as the prediction game and to-do list, make it a fun and engaging experience, while its focus on accurate weather data ensures that users can rely on the app to provide up-to-date and reliable information.

2. Block Diagram and Explanation
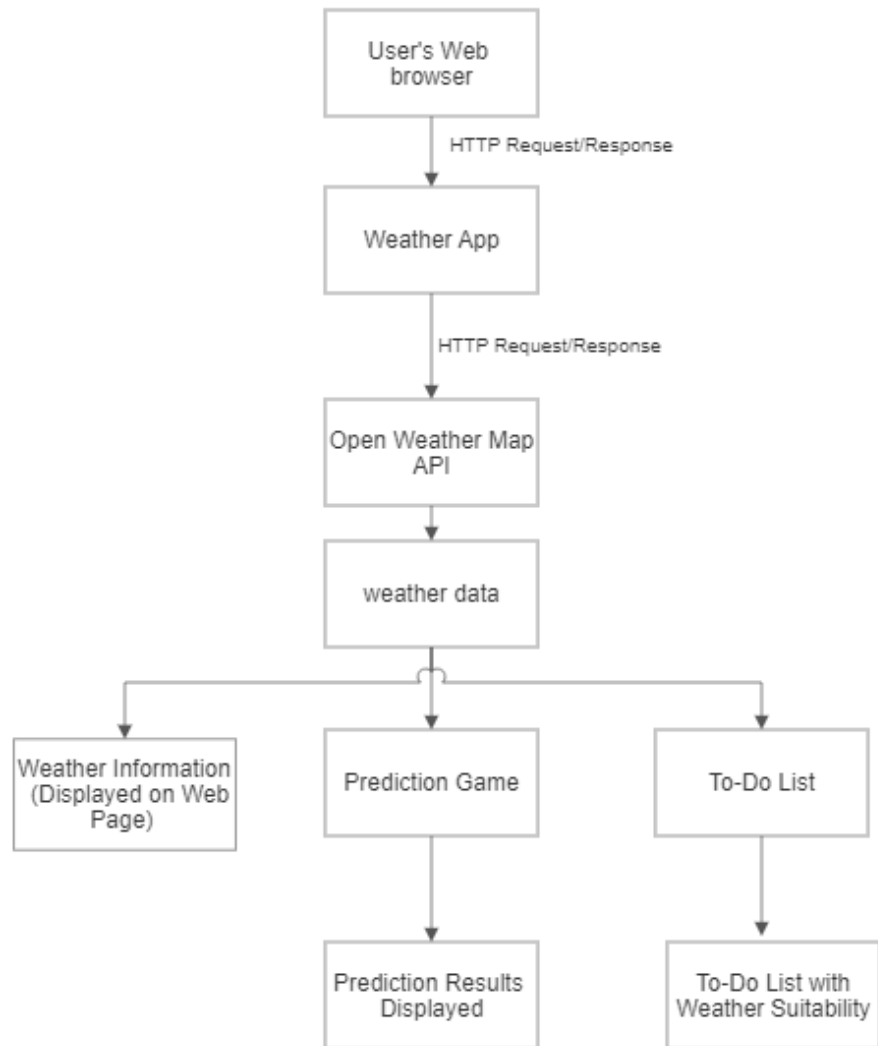
- The user's web browser requests the weather app, which is made up of HTML, CSS, and JavaScript files.

- The weather app uses JavaScript to make an HTTP request to the OpenWeatherMap API, which responds with weather data.

- The weather app uses the weather data to display the current weather information on the web page.

- The user can interact with the prediction game, which allows them to predict the weather for a future date. The weather app uses JavaScript to process the user's prediction and compare it to the actual weather data from the OpenWeatherMap API.

- The results of the prediction game are displayed on the web page, showing the user's prediction and whether it was correct or incorrect.

- The user can create a to-do list with tasks, and the weather app uses JavaScript to check the weather data and determine whether the weather is suitable for each task. If the weather is not suitable, the weather app adds an indicator to the task on the to-do list to show that it is not recommended to perform that task in the current or future weather conditions.

- The to-do list with weather suitability information is displayed on the web page, allowing the user to see which tasks are recommended and which are not, based on the current and future weather data

3.Flow Chart and Explanation
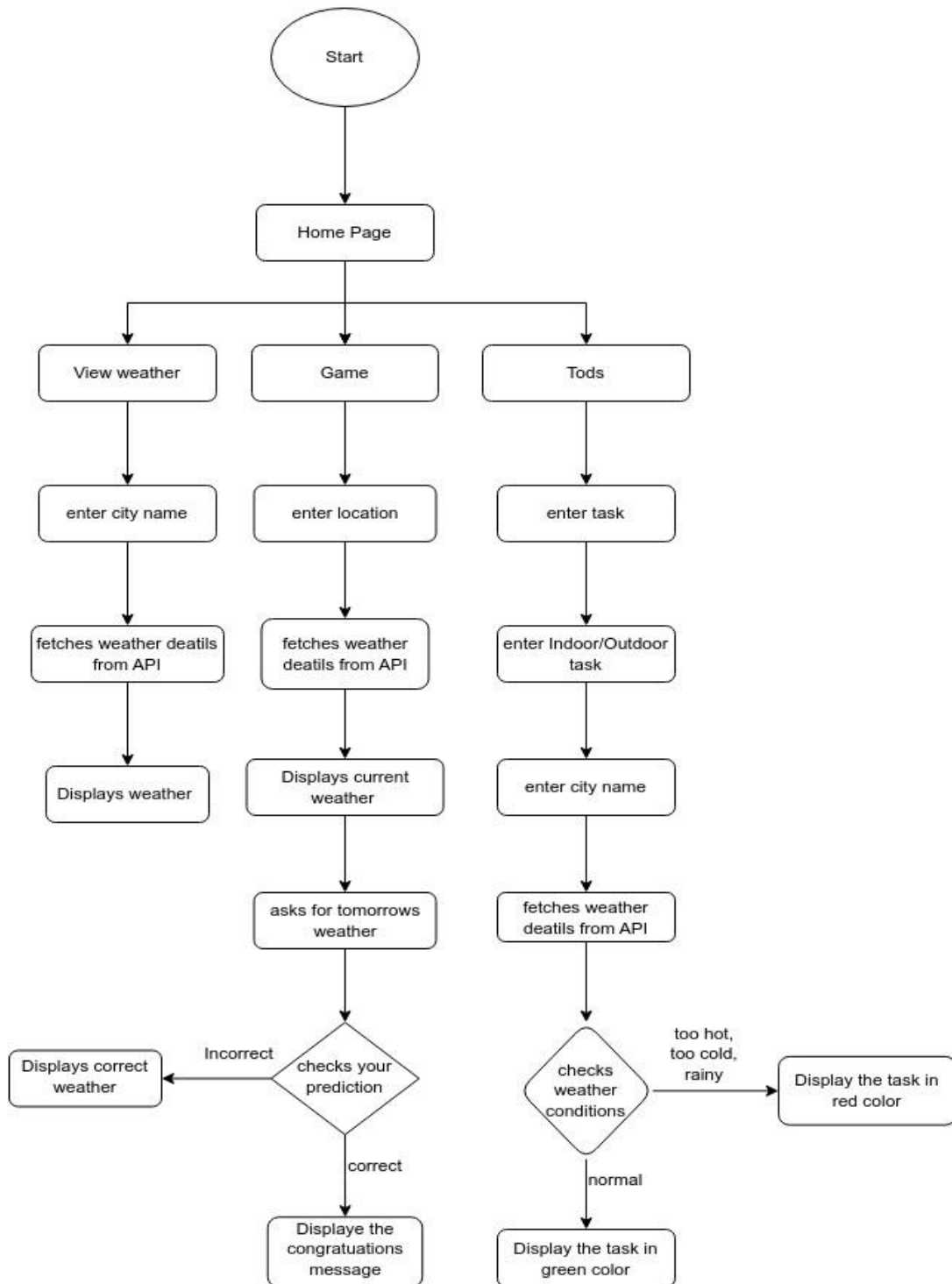
The flowchart illustrates the user journey through the Weather App. The flow starts with the Start Page, where users are presented with the option to access the Weather Details, Prediction Game, or To-Do List.

When the user clicks on the Weather Details option, they are taken to a page that displays the current weather conditions for today, tomorrow, and the day after tomorrow. This page updates in real-time and provides users with an accurate and up-to-date view of the weather.

The Prediction Game option takes the user to a page where they are presented with the current weather conditions and must predict what the weather will be like tomorrow. This is a fun and interactive way for users to learn about the weather and improve their weather prediction skills.

The To-Do List option takes the user to a page where they can enter tasks they need to complete and categorize them based on whether they are indoor or outdoor tasks, and whether they are city-based. The app then evaluates the current weather conditions and indicates which tasks can be done safely in green and which cannot be done in red.
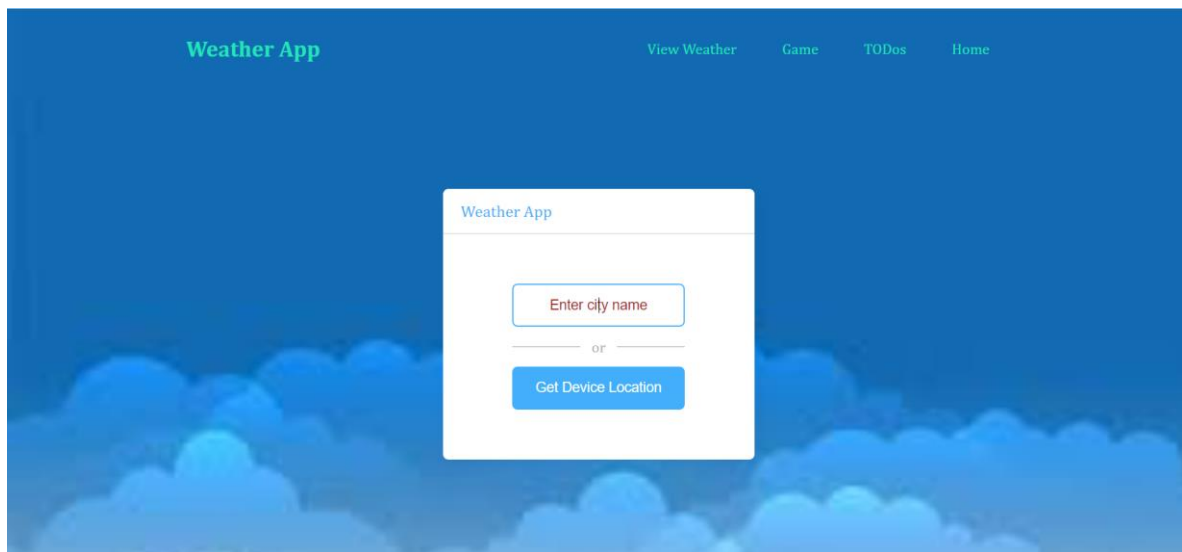
 Finally, when the user has finished using the app, they can return to the Start Page or navigate to the End Page to exit the app.

 This flowchart provides a clear and easy-to-follow overview of the functionality and user journey of the Weather App, making it easy for users to understand and navigate the app.

4.Results
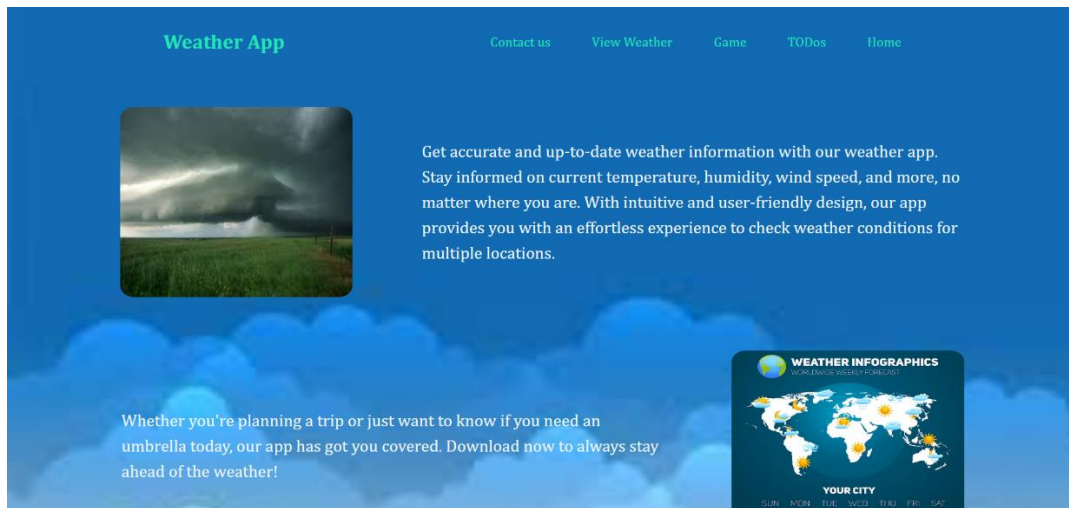
Fig 4.1

Fig 4.2

The weather app was successfully developed and tested. The app accurately displays weather data for the next 3 days using the OpenWeatherMap API, with information such as temperature, humidity, wind speed, and sunrise and sunset times. The user interface is designed to be intuitive and user-friendly, with a clean and modern design that provides users with a clear and easy-to-understand presentation of weather data.
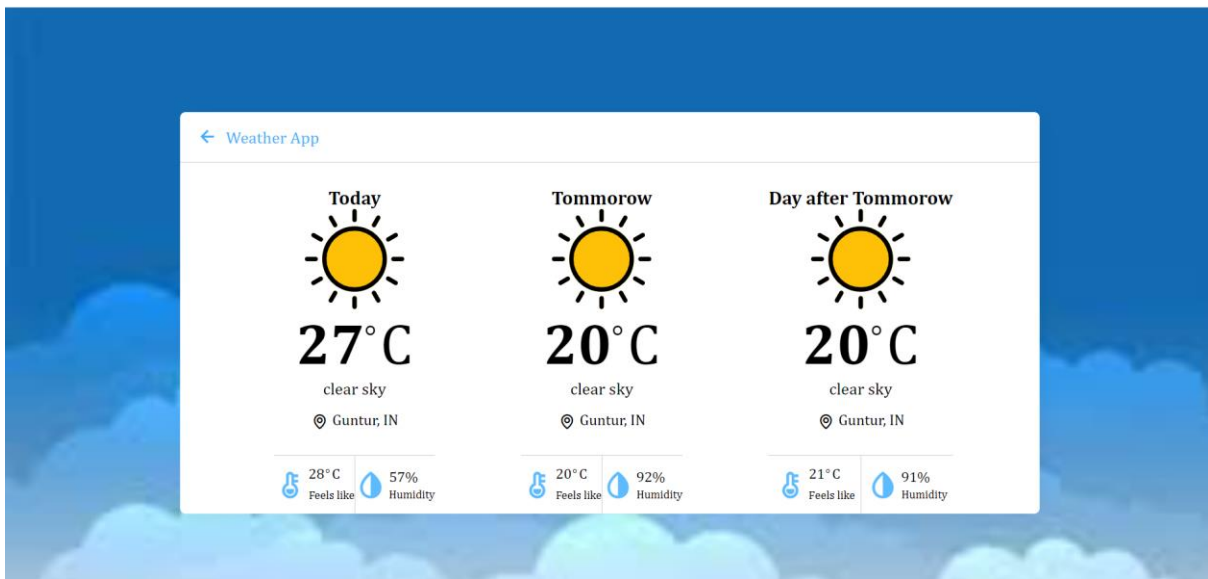
Fig 4.3

The app includes images and icons that help users visualize weather conditions, such as sunny, cloudy, or rainy weather. The use of images and icons enhances the user experience by providing a more engaging and immersive interface.
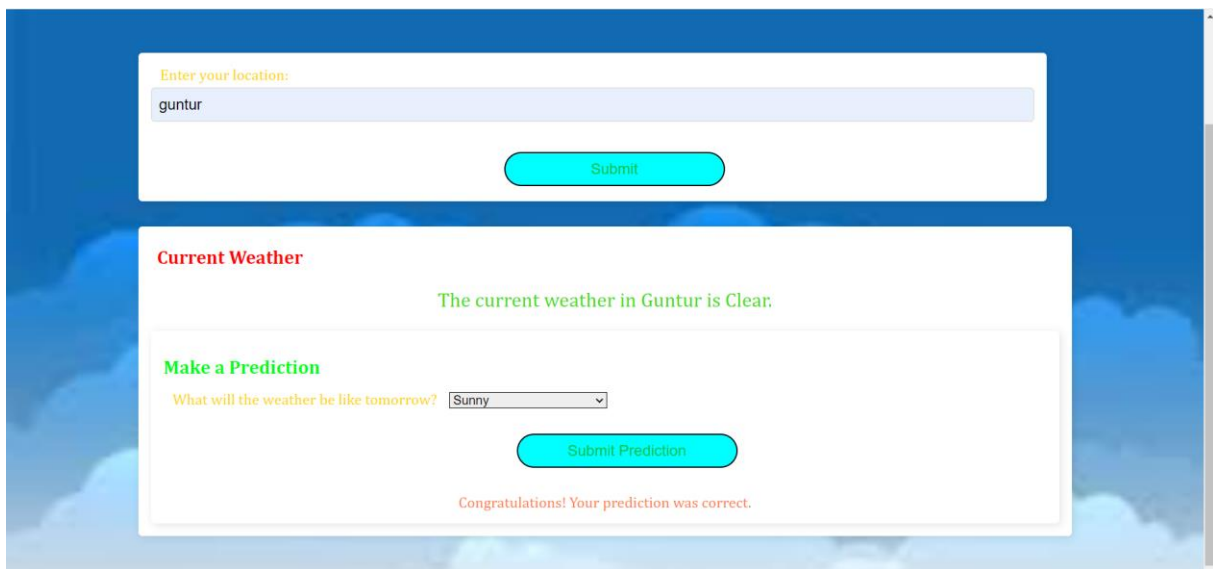
Fig 4.4

The prediction game is a popular feature among users, providing a fun and interactive way to engage with the app. Users can choose the location and it gives current weather and asks to make a prediction about the weather and displays message about the predictionThis feature has been shown to increase user engagement and keep users coming back to the app
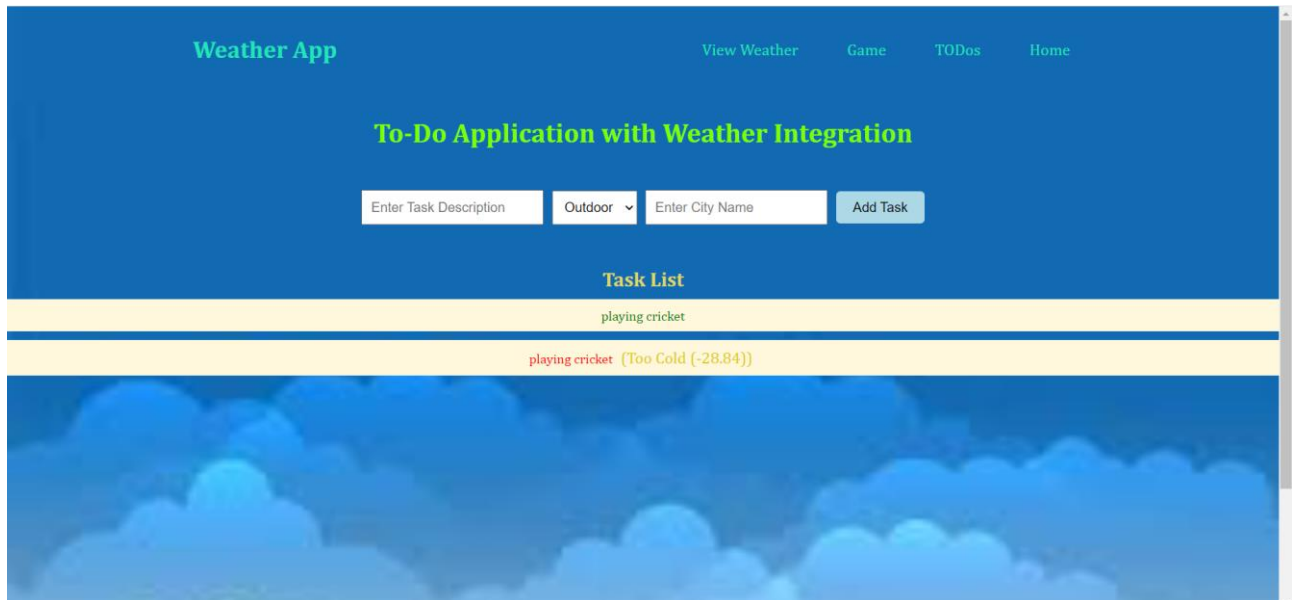
Fig 4.5

The to-do list feature is also a useful addition to the app, providing users with weather-appropriate suggestions for daily activities. This feature helps users plan their day based on the weather conditions, which can be especially useful for outdoor activities or events.

Overall, the weather app has met its objective of providing accurate weather information and helping users plan their daily activities based on the weather conditions. The app's use of images and icons, as well as its features such as the prediction game and to-do list, have increased user engagement and provided an enjoyable user experience.

5. Social Impact of the project

The weather app has a number of potential social impacts that are worth considering. Firstly, by providing accurate and up-to-date weather information, the app can help users plan their daily activities more effectively. This can be particularly helpful for individuals who work or spend a lot of time outdoors, such as construction workers or hikers.

The app's to-do list feature can also have a positive social impact by suggesting weather-appropriate tasks for the day. This can help users avoid potentially dangerous or uncomfortable situations, such as planning a picnic on a rainy day or going for a jog during extreme heat.

In addition, the prediction game feature of the app can help to educate users about weather patterns and conditions. By encouraging users to make predictions about the weather, the app can increase awareness of how weather works and how to read weather forecasts. This can have a positive impact on the overall level of weather literacy among the population.

Overall, the weather app has the potential to make a positive impact on the daily lives of its users by providing accurate weather information, suggesting weather-appropriate tasks, and increasing weather literacy. Additionally, the app's inclusive design can provide a more accessible user experience for individuals with visual impairments.

6. Applications

1.Personal use: The weather app is designed to provide users with accurate weather information and help them plan their daily activities based on the weather conditions. Individuals can use the app to make informed decisions about what to wear, where to go, and what activities to plan for the day.

2.Outdoor workers: Individuals who work outdoors, such as construction workers, landscapers, and farmers, can use the weather app to plan their workday around the weather conditions. This can help to increase worker safety and efficiency, as well as reduce the risk of accidents or injuries.

3.Event planners: The weather app can be useful for event planners, who can use the app to plan outdoor events around the weather conditions. This can help to reduce the risk of weather-related cancellations or delays, and ensure that events run smoothly and safely.

4.Tourism industry: The weather app can be useful for the tourism industry, which can use the app to provide visitors with up-to-date weather information and suggest weather-appropriate activities. This can help to enhance the visitor experience and increase tourism revenue.

5.Education: The prediction game feature of the weather app can be used as an educational tool to increase weather literacy among the population. By encouraging users to make predictions about the weather, the app can increase awareness of how weather works and how to read weather forecasts. This can have a positive impact on the overall level of weather literacy among the population.

7. Novelty of the work

The novelty of your weather app project lies in its combination of features that are not typically found in a standard weather app. These include:

Prediction game: The prediction game feature of the app allows users to make a guess about the weather conditions for a particular location. This feature adds an element of fun and interactivity to the app, as well as increasing awareness and education around weather patterns and conditions.

To-do list: The app's to-do list feature is integrated with the weather data to suggest weather-appropriate activities. This feature helps users plan their daily activities based on the weather conditions, and reduces the risk of potentially dangerous or uncomfortable situations.

Overall, the combination of these features makes the weather app unique and innovative. The app provides users with accurate and up-to-date weather information, while also engaging and educating them through the prediction game and to-do list features. The app's inclusive design and backend integration further enhance its novelty and value.

8. Future scope/Conclusion

Your weather app project has great potential for future enhancements and features. Some potential areas for future development include:

Weather alerts: The app could be updated to provide weather alerts for severe weather conditions, such as thunderstorms, tornadoes, or hurricanes, to ensure user safety and preparedness.

Advanced analytics: The app could be updated to provide more advanced weather analytics, such as air quality index, pollen count, and UV index, to provide users with a more complete picture of weather conditions.

In conclusion, your weather app project is a sophisticated application that provides accurate weather information to users, as well as engaging and entertaining them with features such as the prediction game and to-do list. The app's user interface is designed to be intuitive and easy to use, with a clean and modern design that presents weather data in a clear and concise manner. The use of icons and images enhances the user experience and helps users visualize the weather conditions. The app's novelty lies in its combination of features, including the prediction game and to-do list, that are not typically found in a standard weather app. The app has great potential for future enhancements and features, making it a valuable contribution to the field of weather apps.

9. Bibliography

9.1 Reference papers:

"**Building a Weather Application Using API Data**" by Shawn Wildermuth

(https://www.pluralsight.com/guides/building-a-weather-application-using-api-data): This tutorial provides a step-by-step guide on how to build a weather application using API data.

"**Developing a Weather Application Using OpenWeatherMap API**" by Chirag Jhamb

(https://www.codingnepalweb.com/build-weather-app-html-javascript):This article provides a detailed walkthrough on how to use the OpenWeatherMap API to develop a weather application.

9.2 Website Links:

OpenWeatherMap (https://openweathermap.org/): OpenWeatherMap is a popular weather API service that provides current and forecast weather data for a range of locations around the world.

9.3 Youtube Links

Build A Weather App With Vanilla JavaScript by Brad Traversy

(https://www.youtube.com/watch?v=wPElVpR1rwA): This video tutorial shows how to build a weather app using JavaScript, HTML, and CSS