**Hello everyone,**

Today, I will be presenting my project titled "Weather Dashboard". This is a web-based application provides real-time weather updates and a 5-day forecast for any city entered by the user.

**🎯 Objective**

The main objective of this project is to create an intuitive and visually appealing interface that allows users to:

Search for weather conditions in any city worldwide.

View the current weather along with a 5-day forecast.

Store search history for easy access.

Toggle between light and dark themes for better usability.

**🛠️ Tech Stack Used**

**HTML** for page structure

**CSS** for styling and responsive layout

**JavaScript for functionality and API integration**

**Ekkada web site ni run cesthuu chappu**

**How It Works**

When the user enters a city, JavaScript sends a request to the OpenWeatherMap API.

The response is processed, and relevant weather data is extracted.

The DOM is updated with the latest values and weather icons.

The search history is stored in the browser’s localStorage.

**Modules** of Weather Dashboard Project

**1. User Interface Module (UI)**

**Purpose:** Displays search bar, weather cards, and city history.

**Built With:** HTML, CSS

**Components:**

Search input & button

Weather display container (current + 5-day forecast)

Theme toggle switch

Search history sidebar or section

**2. API Integration Module**

**Purpose**: Fetches data from the OpenWeatherMap API.

**Built With:** JavaScript (Fetch API)

**Functions:**

Send API requests based on user input

Handle API response (success/failure)

Parse weather data (temperature, humidity, wind speed, etc.)

Format dates and times for forecast

**3. Weather Data Processing Module**

**Purpose**: Processes and formats raw weather data.

**Tasks:**

Convert temperature units (Kelvin to Celsius/Fahrenheit)

Extract and map data to correct UI elements

Select appropriate weather icons

Format time and date strings

**4. Search History Module**

**Purpose:** Stores and displays previously searched cities.

**Built With:** JavaScript (localStorage)

**Functions:**

Save cities into localStorage

Load history on page load

Enable click-to-search from history list

Prevent duplicate entries

5. Theme Switcher Module

Purpose: Toggles between light and dark themes.

Built With: JavaScript + CSS Classes

Functions:

Toggle theme on user click

Persist selected theme using localStorage

Update all theme-relevant CSS variables or classes

6. Responsive Design Module

Purpose: Ensures UI looks great on all screen sizes.

Built With: CSS Media Queries, Flex/Grid Layout

Tasks:

Adjust layout for mobile, tablet, and desktop

Resize fonts, icons, and boxes for small screens

Collapse or stack weather cards responsively

(Optional/Planned)

**And an other module** Error Handling Module

**Purpose:** Handles user input and API errors gracefully.

**Data Flow Between Modules**

UI → captures user input

API Integration Module → sends request and gets response

Weather Data Module → processes data

UI → displays processed data

Search History Module → stores and renders past searches

Theme Switcher → modifies UI style dynamically

Let me know if you’d like a diagram showing how these modules interact!

**Conclusion**

the Weather Dashboard is a user-friendly, real-time web application that effectively showcases weather data using live APIs, JavaScript logic, and responsive design. It is simple yet expandable, with features that enhance both functionality and user experience.