Developing a Weather Station for Everyday Use

Problem Statement:
In our neighbourhoods, having accurate weather information is crucial. It helps us plan our day, prepare for outdoor activities, and make decisions about our health. However, finding a reliable and comprehensive weather source can sometimes be a challenge. That's why we're embarking on a mission to create an advanced weather station that goes beyond the basics. This station will not only provide real-time air quality data but also deliver a comprehensive overview of temperature, humidity, wind speed, wind direction, and other critical weather parameters.

Problem Description:
Weather stations play a vital role in keeping us informed about our environment. They serve as our weather assistants! The challenge before us is to engineer a weather station that offers precise and extensive weather insights, enabling us to make well-informed decisions about our daily activities.

Objective:
Your task is to design and construct a cutting-edge weather station capable of delivering accurate information on air quality, temperature, humidity, perceived temperature, wind speed, wind direction, and additional crucial weather metrics. Furthermore, you'll develop an intuitive app to seamlessly retrieve and display this wealth of information from the weather station.

Key Considerations:
  • Reliable Weather Data: The weather station must be exceptionally accurate, ensuring that the information it provides is trustworthy for all your weather-related plans.
  • User-Friendly App: The accompanying app should be user-friendly and accessible, allowing everyone to easily access the vital weather details they need.
  • Promoting Health and Well-being: By providing real-time air quality data, the weather station will contribute to ensuring that we breathe clean and healthy air, safeguarding our well-being.

Deliverables:
  1. A weather station that offers a comprehensive range of weather information.
  2. An intuitive app designed for smartphones or tablets, providing easy access to all the essential weather data with required suggestion related to any precaution that needs to be taken.