Plant Monitor App
Description

The Plant Monitor app is a mobile application designed to help plant owners take care of their plants effectively.

Key Features of the plant Monitor app include:

1. Plant Database: The app provides a comprehensive database of various plant species, including information about their specific care requirements, optimal lighting conditions, and ideal temperature ranges. Users can easily search for their plants and access helpful care guidelines.
2. Monitoring Sensors: The Plant Monitor app integrates with external sensors or smart devices to gather real-time data about the environment surrounding the plants. This includes temperature, humidity, and light levels. Users can view this data within the app and make informed decisions about adjusting the plant's environment as needed.
3. Current Weather: The app provides access to real-time weather information, allowing users to easily view the current weather conditions directly within the app.

4. Comparison: The app offers a useful feature called "Comparison." It enables users to compare the specific care requirements of their plants, as stored in the plant database, with the readings from the integrated sensors and the current weather conditions. This feature provides valuable plant analysis, helping users assess whether their plants are receiving the optimal care based on these comparisons.

5. AtKeys(Data Encryption):When sensitive data such as sensor readings, plant analysis, or user information needs to be transmitted or stored, the data is encrypted using the generated AtKeys. The encryption process converts the plaintext data into an unreadable format using a strong encryption algorithm.

Overall,the Plant monitor app allows users to become better plant caregivers by providing them with the tools and knowledge they need to create an optimal environment for their plants to thrive.

Installation steps

To establish a connection between the esp32 and sensors and your laptop you will need a USB-A to Micro USB cable.
Follow the steps to setup the ESP32:
1. Install PlatformIO in your project.
2. Connect the ESP32 to your laptop using the USB cable.
3. Set the ESp32 to build mode,then switch it to upload and monitor mode.
4. Press the power button and reset button simultaneously until you see output on your console.

To set up the flutter app, ensure to have Dart and Flutter packages installed.
1. Install Dart and Flutter packages on your system.
2. Use the "flutter run" command to launch the app on your local device.

Prerequisites:Please note that you will need Visual Studio code and Wifi connection for the installation and setup process.To enable encryption,you need to download two Atkeys from Atsigns for encryption on both The Flutter app and ESP32 side.

Example

Here's the short video which shows the running of the app:

PlantMonitor.mov