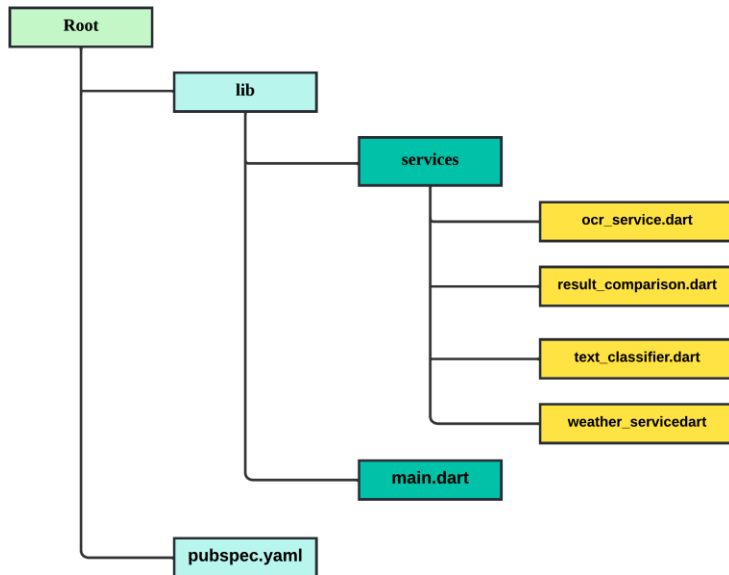# OCR APP DOCUMENT

Author : Tauhid Hasan

Project Structure

Responsibilities of Each File

1. **pubspec.yaml**
   Contains all the dependencies required for the project.

2. **ocr_service.dart**
   Extracts text data from images and returns the extracted text.

3. **text_classifier.dart**

   o   Classifies text to determine if it is related to weather data.

   o   Maintains a list of words related to weather.

   o   Calculates the probability of the text being weather-related.

   o   If the probability is zero, it returns nothing. Otherwise, it extracts temperature and humidity using regular expressions.

4. **weather_service.dart**

   o   Sends coordinates to a weather API and retrieves temperature data for the given location or city.

5. **result_comparison.dart**
   Compares the results obtained from the API with the text extracted from the image.

6. **main.dart**
   Handles the UI design and coordinates the function calls for better comparison of results.

Key Achievements

1. Developed a system to classify direct text input against API responses to verify whether the text is weather-related. Applied Regular Expressions in Text_classifier.dart to extract temperature and humidity values accurately.

2. Implemented a comparison system to analyze the differences between the high and low values extracted from image text versus API data.

Instructions for Local Gradle Testing

1. First, clone the project folder to your local disk using the command:

   git clone https://github.com/tauhidhasan811/ocrapp.git

2. Then go to <project-root>\android\gradle\wrapper and set the gradle-8.12-all file path. There are two options:

   Option 1: Manual Download

   1. Download gradle-8.12-all.zip from the official Gradle releases: https://gradle.org/releases/

   2. Save it in a local folder, for example:

   C:\<user-name. \.gradle\wrapper\dists\gradle-8.12-all.zip

   3. Open gradle-wrapper.properties located at:

   <project-root>\gradle\wrapper\gradle-wrapper.properties

   4. Set the distribution URL to use the local file:

   distributionUrl=file\:///C:/<user-name>/.gradle/wrapper/dists/gradle-8.12-all.zip

   5. Run the build using:

   gradlew.bat build

   Option 2: Automatic Download

   1. Open gradle-wrapper.properties and keep the distribution URL as:

   distributionUrl=https\://services.gradle.org/distributions/gradle-8.12-all.zip

   2. When running gradlew.bat build, Gradle will automatically download the required distribution.