

Android Application to Detect Plant Disease and Pest

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➤ Introduction

The Plant Disease Detection Mobile Application is a user-friendly tool designed to help farmers, gardeners, and plant enthusiasts identify and diagnose plant diseases quickly and accurately. Leveraging the power of machine learning and image processing, the application analyzes images of plant leaves captured through the device's camera or uploaded from the gallery.

➤ Features

1. **Image Capture:** Users can capture images of plant leaves using the device's camera.
2. **Image Upload:** Alternatively, users can upload images of plant leaves from the device's gallery.
3. **Real-Time Diagnosis:** The application provides real-time diagnosis and feedback on the health status of the plant based on the analyzed image.
4. **Disease Identification:** The application identifies common plant diseases by analyzing leaf images and provides information about the detected disease.
5. **Educational Resources:** Users can access information about common plant diseases, their symptoms, and recommended treatments.
6. **User-Friendly Interface:** The application features an intuitive and easy-to-use interface, making it accessible to users of all skill levels.

➤ Project Structure

The project structure includes:

1. **App Module:** Contains the main application code, including activities, layouts, resources, and logic.
2. **Gradle Files:** Configures dependencies, build settings, and features for the app module.
3. **Manifest Files:** Define application components, permissions, and configurations.
4. **Resource Files:** Store drawable resources, layout files, strings, and other resources used by the application.
5. **Java Classes:** Implement various functionalities of the application, including image classification, user interface interactions, and database operations.

➤ System Requirements

1. Android OS version 6.0 (Marshmallow) and above.
2. Camera access permission for capturing images.
3. Internet connectivity for accessing additional resources and updates.

➤ User Guide

1. Open the application on your device.
2. Choose to capture a new image using the device's camera or upload an image from the gallery.
3. Once the image is selected, the application will analyze it and provide a diagnosis of any detected plant diseases.
4. Users can explore additional information about the identified disease, including symptoms and treatment options.

➤ Technologies Used

1. **Java:** Programming language used for application logic and functionality.
2. **XML:** Markup language used for designing the application layout and UI components.
3. **TensorFlow Lite:** Machine learning framework for implementing the plant disease detection model.
4. **Android Studio:** Development environment for building the Android application.

➤ Conclusion

The Plant Disease Detection Mobile Application serves as a valuable tool for plant enthusiasts and professionals alike, offering quick and accurate diagnosis of plant diseases. With its user-friendly interface and advanced features, the application aims to empower users to effectively manage plant health and contribute to improved crop yield and agricultural practices.

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