

## **Manual of Mobile Apps Development**

for

### **Automatic Plant Disease Detection, Classification and Management Project**

#### **Features:**

Developed Mobile Apps named as AgDMM (Agricultural Disease Monitoring and Management) has the following features:

1. The Mobile Apps has been developed for automatically agricultural disease detection and management of rice, jute, wheat, soybean and maize which are main crops of Afghanistan (AF), Cambodia (KH), Laos (LA), Philippines (PH) and Bangladesh (BD) in Asia.
2. The Mobile Apps integrated advanced image processing for agricultural disease detection, classification and management.
3. ANN based algorithm was used for plant disease warning and solution in Mobile Apps development.
4. Data of moisture, pH, humidity and temperature sensor was incorporated in Mobile Apps solutions for plant disease monitoring and management.
5. RGB values and edge detection of affection portion of plant leaves were considered to detect and classify disease of rice, jute, wheat, soybean and maize.
6. The magnitude from spectrum analysis and image processing has been integrated in Mobile Apps development.
7. IoT based sensor networking has been incorporated with Mobile Apps development for real time monitoring of agricultural field.
8. The contents of disease symptoms and remedy of disease has been uploaded in the Mobile Apps for farmers, agricultural researchers and officers.
9. The content management of Mobile Apps should be easy to create, publish and update on a regular basis by project officials.

Attractive property

#### **Advanced tools in the Mobile Apps:**

- I. Image processing
- II. Data of Humidity Sensor
- III. RGB values of plant leaves
- IV. Spectrum analysis of images
- V. Filtering of images
- VI. ANN tools
- VII. Soil salinity
- VIII. IoT services
- IX. Disease information
- X. Disease Management suggestion
- XI. Feedback
- XII. Survey
- XIII. Wiki
- XIV. Help menu

## Main features

- a. Customizable color scheme and layout.
- b. Secure authentication of Mobile Apps.
- c. Ability to add different plant disease symptoms and solutions automatically and easily.
- d. Easy manageable and user-friend applications.
- e. Ability to view and generate reports on feedback of plant disease detection and management in agricultural field.

## Additional features:

- f. A modern responsive and accessible interface to navigate on mobile devices.
- g. Display of percentage of plant disease and disease type according to the color of leaves and soil parameters.
- h. A chart of disease that keeps the information of disease symbol so that farmer easily identify agricultural disease.
- i. An easy and convenient plant disease solutions which is capable to manage agricultural disease through the information of Mobile Apps services.
- j. Soil moisture and pH and temperature values are added in Mobile Apps through cloud server.
- k. Ability to design and manage disease information to meet various requirements.
- l. The Mobile Apps includes soil characteristics and content-driven suggestions.
- m. Ability to include agricultural guidelines for farmers.
- n. Information of agricultural disease of detection rice, jute, wheat, soybean and maize.
- o. Ability to include disease suggestion and guidelines of farmers, agricultural officers.
- p. Ability to integrate different link on agricultural disease and field management.
- q. The group management facility to share experiences, differentiate activities and facilitate team work.
- r. Ability to review and provide in-line feedback directly.
- s. Content sharing to farmers and agricultural officers.

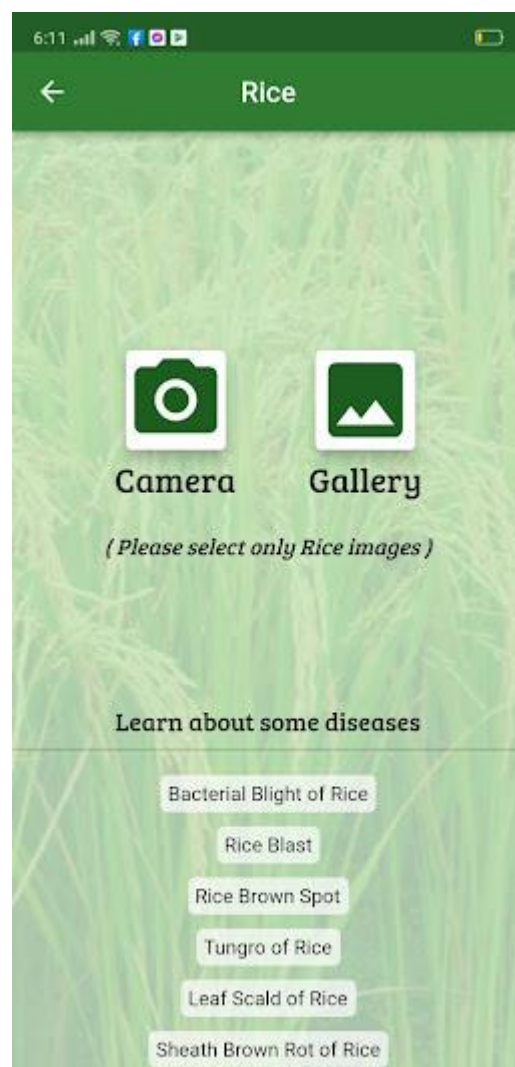
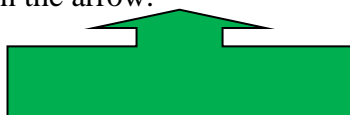
## Guidelines of AgDMM

Mobile Apps  
AgDMM



### *Disease Detection and Solution*

1. Click on the Apps AgDMM
2. Click on Rice/Jute/Wheat/Maize/Soybean to select crop.
3. Select Camera or Gallery to take the affected crop's leaves.
4. It will show the disease name and percentage of disease.
5. If anyone knows the disease detail he could get the knowledge on disease solution and symptoms by clicking on the arrow.



## *Disease Symptoms and Solutions*

1. Click on the Apps AgDMM
2. Click on Rice/Jute/Wheat/Maize/Soybean to select crop.
3. If anyone knows the disease detail he could get the knowledge on disease solution and symptoms through the selection of disease in the chart as **“Learn about Rice Disease”**



## *Soil Characterizations*

1. Click on the Apps, AgDMM
2. Click on the top Menu Bar.
3. Click on Sensor value
4. It shows the reading of IoT based sensor kept in agricultural field.

