

# **A PORTABLE INSTRUMENT FOR RECOGNITION OF FARM WEEDS AND MANAGEMENT OF CHEMICAL SPRAY**

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## **ABSTRACT**

With the information technology being popularization and application and farmers' knowledge level being increase in China, smartphone has been accepted by peasants used as terminal of information collection and query. Recently, because of the serious diseases and insect pests, it is impossible to prevent and control these disasters when we only rely on grassroots staffs' investigation or professors' instruction. If each of these farmers distributed in all of the country can be regarded as a node, with the help of network, who can acquire some knowledge of farm weeds' recognition or chemical spray suggestions, collect and upload these information, it will be effective to prevent some sudden disasters. Therefore, it is necessary to develop the mobile with the function of recognizing farm weeds and managing chemical spray. According to the classification of crops, the article summarizes some knowledge and pictures of common weeds such as wheat land, cornfield, soybean field, and cotton field, etc. Combining with spraying knowledge, this article builds a database to recognize farm weeds and manage chemical spray, and designs a relevant operating platform based on Androids, which can be used by peasants to inquire the name, picture and spraying suggestion of specific weed, collect weeds picture and unload spraying experience in order to update the database. Furthermore, smartphone has been used to test this system. By using 3G network, it can acquire all kinds of weeds information, download high-quality picture and inquire associative spraying suggestions. At the same time, with the holding of mobile phone camera, the system can gather weeds picture and upload spraying experience. In sum, the system can assist peasants obtain the information of farm weeds recognizing and spraying immediately and conveniently, collect weeds information and share spraying experience based on the mobile, which can provide a convenient way for agricultural product and a effective method for weeds information collection.

**Keywords:** weeds; spray; information; 3G network; smartphone

## **INTRODUCTION**

We use the JAVA Edition language to develop a management platform integrate into android system' smartphone, to achieve the collection of weed information and query of spray advices in agricultural production. The management platform collects key information of weed such as longitude, latitude, elevation, photo in

the farmland. The interfaces of Login and Function are Fig.1 (a) and Fig.1 (b), respectively.



Fig.1 The interfaces of Login (a) and Function (b) for collection of weed information

The query of spray advices have specific formulation and detailed instruction, including six kinds of crop such as rice, wheat, corn, soybean and rape in different growth stage and soil type.



Fig.1 The interfaces of Login (a) and Function (b) for query of spray advices

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