

Current State and Assignment of a smart device-based farm management application, Republic of Korea

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ABSTRACT

Recently, the scaled farm management has been made by the crop cooperative cultivated group and the agricultural product shipping group of local as well as cultivated acreage expansion. It has increased the need for farm management software so due large scale farming. We has been disseminated the PC-based farm management software from 10 years ago, but it has not been activated because farmer don't like to record and do not feel the need about farm management. Recently the dissemination of smart phones and smart devices tab is increasing rapidly. we propose ways of using activated farm management software using a variety functions of smart devices. This application was developed to run on iOS and Android smart devices. It consists the four menu that is farm daily record, household ledger, the latest news and Configuration management. farm daily record has the function of input, modify, and retrieve the contents of farm work by crops. The household ledger has the management functions of household income and expenditure, and settlement of accounts.

Keywords : Smart device, Farm management, farming daily record, household ledger

1. INTRODUCTION

Recently, the dissemination of smart phones and smart devices tab is increasing rapidly. The internet access tool by using smart devices is expected to exceed Personal Computer in 2013 Republic Korea. It has developed rapidly the business models and a variety of applications launched by surge in the smart environment. As such changes in a smart environment, the demand for agricultural information using smart devices is expected to increase. The need of farm management software to manage systematically of income and expenditure of the farm and agricultural work according to the farm management increasingly large scale is increasing gradually. In this paper was presented the current state and assignment of smart farm management application of Republic of Korea in order to increase the convenience of farm management records using the characteristics of smart environments.

2. Operating Environment and Configuration

The smart device-based farm management application was developed to run on iOS and Android smart devices. This was used information technology of smart devices such as QR code, push function, SMS, SNS, built-in camera, clock and GPS to increase the convenience of information management and alarm, and customer communication. It consists the four menu that is farm daily record, household ledger, the latest news and Configuration management. farm daily record has the function of input, modify, and retrieve the contents of farm work by crops. The household ledger has the management functions of household income and expenditure, and settlement of accounts. 3 months ago, we were registered its application in the AppStore and the PlayStore. Therefore users can be downloaded its application at the AppStore or PlayStore of smart phone. The main features of its application has a simple operation function, convenient of use, and linkage between functions and informations.

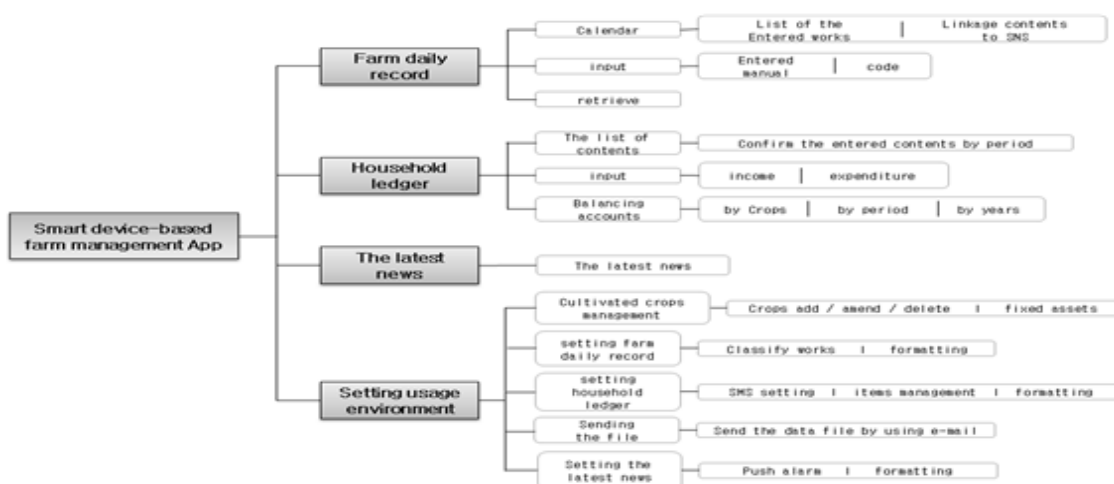


Fig 1. Consist diagram of its application

3. Main Service Functions

There are the usage environment setting management, the farm diary record, the household ledger, and the latest news in its application function.

3.1 The setting usage environment of its application.

When users use first its application, users must install the cultivated crops, unit wage, work items, SNS account, income and expenses items, file download, E-mail sending function, and setting an alarm. 180 crops are registered in the system to choose easy the crops. It was set work items from the prepared seeds to post-harvest management by crops. According to the set up use-based operation environmental of farm management, users can easily add and delete work items.



Fig 2. Menu of the setting usage environment

3.2 The farm diary record functions

Farmers don't like to record farm management current on the daily record book or farm management system because of a pressing agricultural work. But according to increasing farm management scale, they want to use the farm management system, requested the easy record management software. As a result of needs, we developed farm diary record function by using the smart phone. They can be managed easy labor, Agricultural materials, and agricultural work contents by using smart farm daily record application. The input agricultural labor and material automatically converted to the cost, also it is linked with the household account book. It can be retrieved the

agricultural work in the past, input new agricultural work contents. QR code by farm works was made and distributed to set up easy agricultural works in the smart phone.

– Farm daily record process : Choose the date on the calendar → choose the input and retrieve menu → choose the input method(Manual and QR Codes) → select crop → select the agricultural work steps → input the farming materials → input units of labor → enter the photo and movie recording file.



Fig 3. Menu of the selecting input methods



Fig 4. Menu of the input farming daily record

Users can be viewed recorded contents by period. The registered image file can be operated in conjunction with SNS.

3.3 household ledger

The household ledger consists of the income and expenditure management function, expenditures retrieve function, and settlement of accounts. It can be entered directly into a SMS of expenditures contents received by the smart phone. User can be retrieve the income and expenditure current, made an analysis of management situation.



Fig 5. Menu of the input household ledger

4. Future/Conclusions

There are many kinds of smart device-based agricultural applications, but farmer do not know how many kinds application or how a lot of useful on the farm management. Future we will be develop the agricultural management secretarial application. It means the support function that has set up application and provide the agriculture information needed for farming just like a secretary.

This application can be increase the convenience of farm management records using the characteristics of smart environments. It is easy to manage your income and expenses by using a smart phone. This paper will be presented for ways to take advantage of the smart phone agricultural sector.

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