Design Of Mobile-Based Bali Regional Food Crops Recommendation Information System

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Abstract

Plant food is a necessary staple of each human being, in the process of cultivation is often the case things are not in want as failed harvests. These problems are caused by various factors such as weather that is not suitable for the needs of the plant or environmental conditions that are not suitable for its growth. Based on the problem that it takes a system of information that can provide information about the needs of that required by a plant food from the weather and environment of his life. The article will discuss the design of the application system of information on food crops to the area of Bali -based applications mobile. From the design that has been made, it can be seen that the user can search for information related to plants that are suitable for planting in their area. With this system, it is hoped that it can help users to reduce the impact of losses due to the wrong choice of plants to be planted.

Keywords: Mobile, Information Systems, Food Crops, Weather, Environmental Conditions

1. Introduction

Plant food is a necessary staple to meet the adequacy of nutrients the body of men such as carbohydrates, proteins, minerals, and vitamins that are useful for the continuity of life and health of humans. With such results harvest of plant, food affects the largest living community. [3]

Agriculture in Bali is one of the important economic sectors besides tourism, there are several fertile areas in Bali such as Bedugul, Kintamani, and Tabanan which have long been known as producers of food crops for Balinese people. Bali It is one of the islands that have weather that is quite different between a region with a territory other so that the type of plant that is good for a territory was different. Besides the weather also gives the effect that large on the results of the harvest later, not a little farmer who finally actually loses money because of the results of the harvest that is not appropriate expectations due to factors weather. To avoid the case that the required system information related to the type of crop, the weather, and the condition of the environment that is suitable to support the growth of plant food.

The system is a network working on procedures which mutually related, gathered together to perform an activity, or to resolve a target-specific. Information is data that has been formed into a form and shape that is useful and can be used for humans. An information system is a system that contains a variety of information related to a particular problem which functions as a support for decisions related to a particular problem. [1]

Applications mobile or often also referred to by the term Mobile Apps is an application of a device software that the operation can run on the device mobile (Smartphone, Tablet, iPod, etc.), and has a system of operation that supports the device software is standalone. In general, mobile applications allow users to connect to internet services, which are usually only accessed via a PC or Notebook. Thus, the application of mobile can help users to more easily access the services the Internet using devices mobile they are. [4]

Development of a system of information about plant food is very necessary, the matter is caused by not a little of the community who are less understand standard weather or environment of life

that is needed by a plant food. This is due to the lack of information or the method of delivering information that is classified as less effective.

2.   Reseach Methods
2.1   Prototype Method

In the development of the system is the method that is used is a method Prototype. Methods prototype according to explain the needs of users in more detail because users often encounter difficulties in the delivery of their needs in detail without seeing a clear picture. To anticipate that the project can be run following the plan, the target time, and the cost at the beginning, then we recommend the specification needs of the system must already agree first advance by the developer to the user in terms of these clients. [1] The stages of the prototype method are as follows :
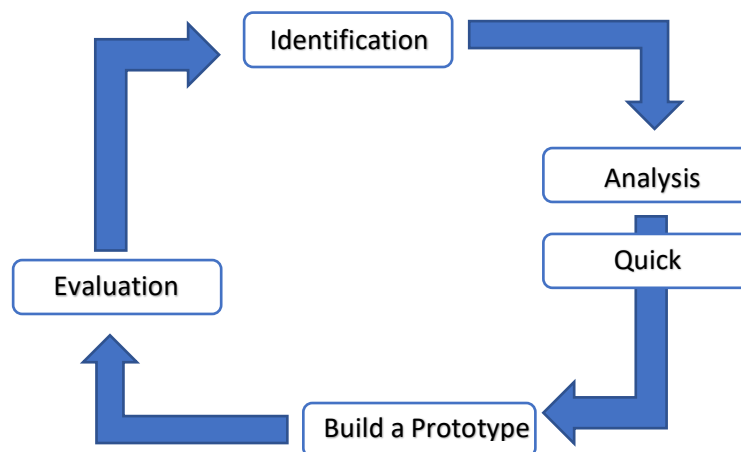

Figure 1. Prototype Method

a. Identification

At the stage of the initial need to do the identification of the needs and keying in Users of the system that will be created. The identification process is carried out by conducting interviews with the user concerned.

b. Fast Design

Phase to-Two is analyzing the results of the identification of the needs of users will be the system that will be created. After the identification results are obtained, then a simple design will be made according to the identification results.

c. Build a prototype

The next stage is to build a Prototype design by a simple design that has been previously made.

d. Evaluation

After the prototype design is complete, it will then be evaluated, whether it is by the needs and desires of the User for the system to be created. If you already suit the prototype will be developed to the stage of encoding, but if it is not appropriate that the prototype will be fixed up by the needs and desires User.

After the prototype is developed at the coding stage, the system will be thoroughly tested and maintenance and repair are carried out periodically so that the system can continue to develop and avoid damage that can cause various parties. [2]

2.2   Modeling Method

The unified Modeling language is a language model to perform the specification, visualization, construction, and documentation of objects in the development of device software. UML only serves to do modeling. The use of UML is not limited to any particular

methodology, although in reality UML is most widely used in object-oriented methodologies. Language Modeling UML is often used for the manufacture of the device software in the language of programming oriented object but thus still be able to use the language of programming procedural. The UML modeling used is *Use Case diagrams* and *Activity diagrams.*

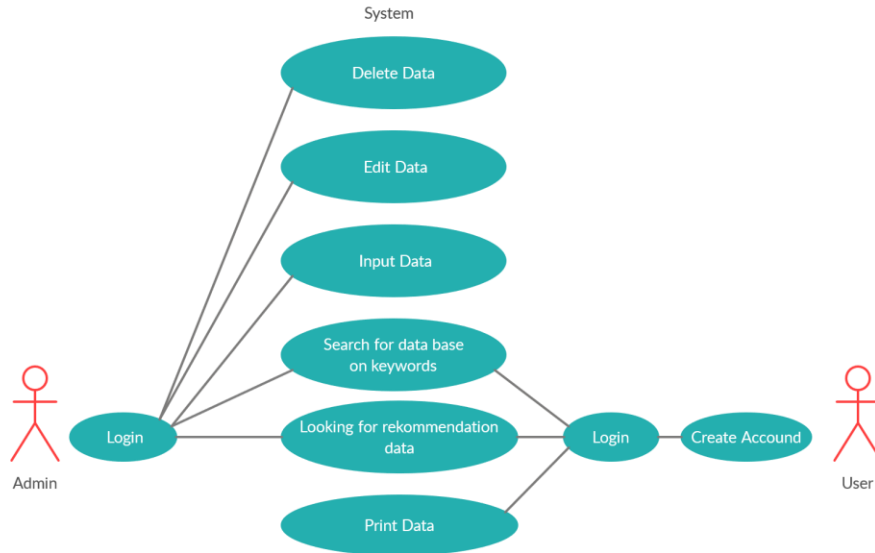## 3.   Result and Discussion
3.1.   UML
a. Use Case Diagram

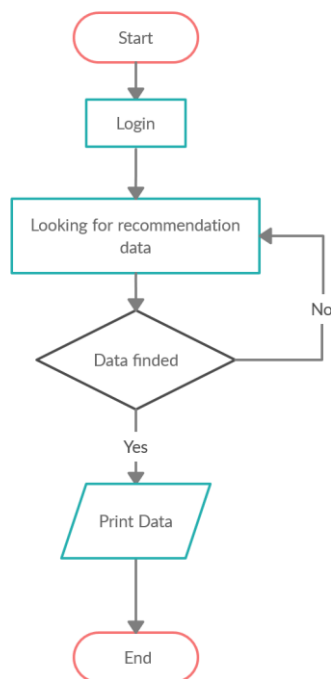**Figure 2.** Use Case Diagram

b. System Flow Chart

Figure 3. System Flow Chart
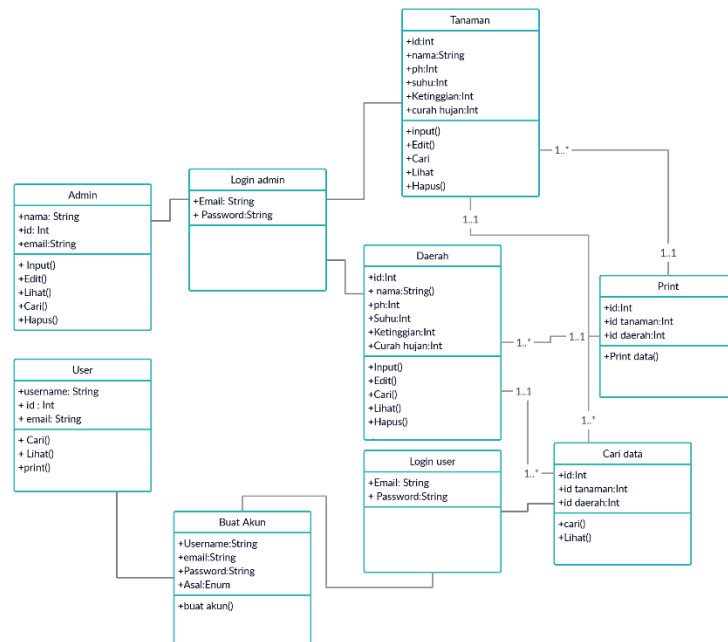
c. Class Diagram

Figure 4. Class Diagram

Based on the diagram above it can be known that that, the admin will do login first then be able to access the data system and perform the processing of the data either the add, edit even delete data. From the side of the user, after doing logged in they will be able to see the data, perform a search quickly, and download the data desiredImplementation.
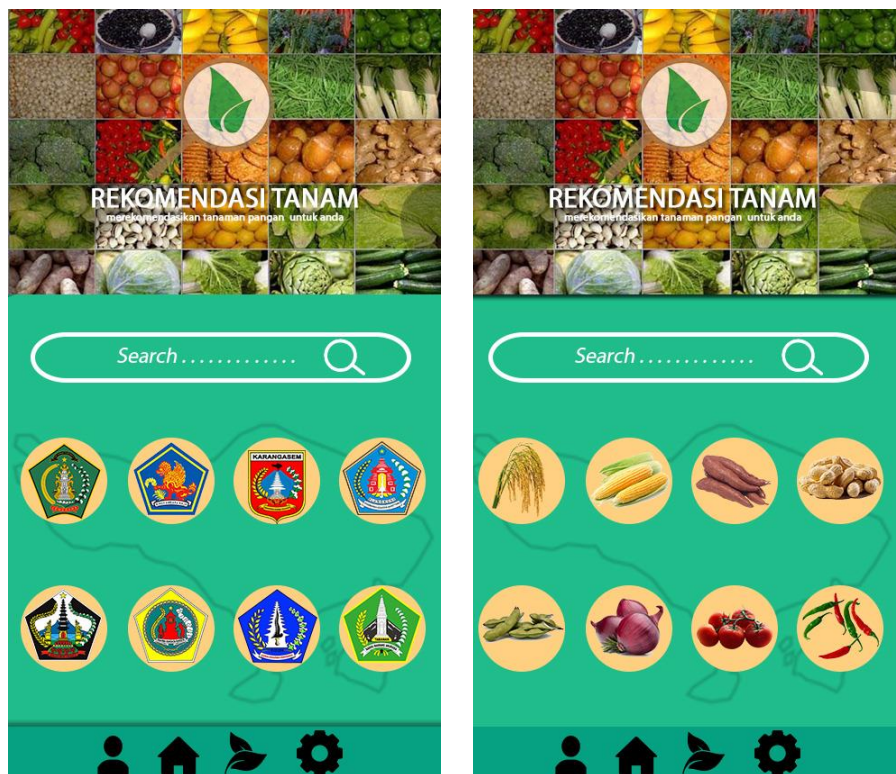
3.2. Implementation
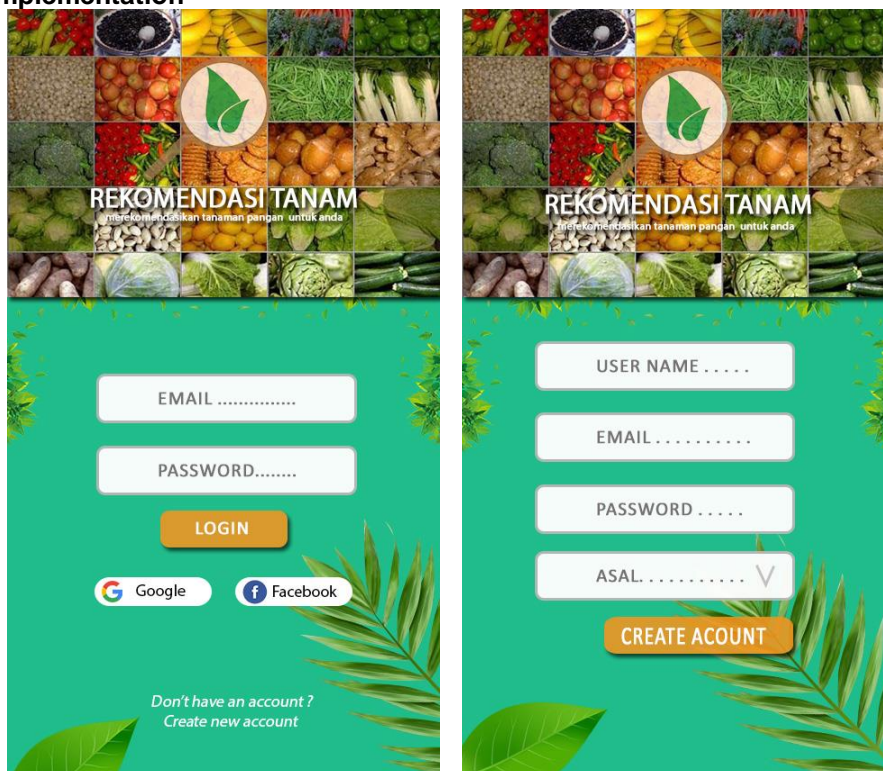
Figure 5. Implementation

4. Conclusion

Based on the description and explanation above, it can conclude n that the user can perform a search of information related to plants that fit planted areas. With this system, it is hoped that it can help users to reduce the impact of losses due to the wrong choice of plants to be planted.

References

[1] Jl. RS. Fatmawati, "Sistem Informasi Perpustakaan Berbasis Web Dengan Metode Prototype: Studi Kasus Sekolah Islam Gema Nurani Bekasi" *Seminar Nasional Inovasi dan Tren (SNIT)*, p.A-214, 2015.

[2] D. Purnomo, "Metode Prototyping pada Pengembangan Sistem Informasi" *Jurnal Informatika Merdeka Pasuruan*, vol.2, no.2, p.54 – 61, 2017.

[3] J.Y. Pote, "Rancang Bangun Sistem Informasi Tanaman Obat Tradisional Menggunakan Framework Code Ignuter" *Jurnal Teknologi Informasil*, vol.13, no.1, p.17 – 28, 2018.

[4] Ahmad, "Perancangan Aplikasi Komoditas Pertanian Berbasis Android", *190 CSRID Journal,* vol.17, no.3, p.190 – 200, 2015

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