Innovation development information system for sales of traditional food processed product web based in the Cibinuang Village

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Abstract. This research aims to produce a web-based information system for the sale of traditional food products in Cibinuang Village. The research target to be achieved is the existence of a web-based sales information system that can be used to carry out promotional activities, sales and transactions. This information system for the sale of traditional food products was created to be implemented in Cibinuang Village to help people increase sales and increase their economic benefits. This research discusses how the process of designing, creating and developing an information system for the sale of traditional food products. The absence of an information system for the sale of traditional food products in Cibinuang Village is a serious problem that must be addressed. The people of Cibinuang Village find it difficult to increase sales of processed traditional food products during the Covid 19 pandemic. The methodology used in this research is the Rational Unified Process (RUP). The testing process is carried out using the Black Box Testing and the User Acceptance Test. Therefore, to solve this problem, we need an innovation in the sale of web-based traditional food products. It is hoped that the web-based information system for selling traditional food products in Cibinuang Village can help increase sales and the community's economic benefits.

1. Introduction
Cibinuang Village is one of the villages in Kuningan District, Kuningan Regency which has a variety of cultures. This area is headed by a village headman or kuwu. Cibinuang Village area consists of rice fields, gardens and hills. People in Cibinuang Village generally work as farmers, laborers, and traders. There are many production houses in Cibinuang Village that sell processed traditional foods. Some of the home products produced and managed by the Cibinuang Village Community include Gadung, Rangginang, Emping, Beca, Banana Chips, Gemblong, Ketempling, and Cassava Chips. The people of Cibinuang Village in the process of promoting and marketing traditional processed food products still use conventional methods, namely by selling products directly to consumers and collaborating with traditional food souvenir shops.

The conventional sales process has several shortcomings or weaknesses including the promotion and marketing process of products which are still limited to Kuningan Regency, the profits of the people of Cibinuang Village have decreased due to distribution costs, the transaction process has not been computerized so it is difficult to get good information about losses and profits.

Based on the introduction above, the researcher can formulate the following problems: how to design and create a Web-based Information System for the Sales of Processed Food Products in
Cibinuang Village, how are the steps in the process of making a Traditional Food Processed Product Sales Information System? and how to use the System Information on the sale of traditional processed food products properly and easily?

2. Methodology
There are two methods used in this research, namely: data collection methods and systems development methods. In the data collection method, there are three steps in data collection, namely: the observation method, the interview method, and the literature study method. The observation method is a method that is carried out by making direct observations of the object to be studied [1]. Researchers made direct observations to the community in Cibinuang Village. The interview method was carried out to find initial data about the place of research, the condition of the Cibinuang Village community, and the problems that exist in the Cibinuang Village Community. Researchers conducted direct interviews with the head of Cibinuang Village, Mr. Karno. The literature study method is used to obtain literature sources to strengthen this research.

The system development method used in this research is the Rational Unified Process (RUP) system development method. According to Anwar (2014) RUP is an iterative process to develop software [2]. The RUP system development model is very good for use for software development based on Unified Modeling Language (UML), this is because the RUP method uses Object Oriented Programming (OOP) methods in dividing it step by step [3].

The RUP system development method has four phases, namely: the inception phase, the elaboration phase, the construction phase, and the transition phase. The phases in the RUP system development method can be seen in Figure 1. The Inception phase is more about modeling the required business processes and defining the system requirements to be created. The Elaboration phase includes activities that include subsystem architecture design, system component design, data format design, interface design, diagram modeling and documentation. The construction phase focuses on developing system components and features, implementing program code, and testing software. The Transition phase contains testing activities, system submission, and training on the use of applications to users and maintenance of their use [4].

![Figure 1. Stages of the Rational Unified Process Research Method](image)

3. Result and Discussion
The system design stage in this study uses UML modeling. The UML tool is a modeling language used to define or describe a software system based on the objects in the system [5]. UML is a standard language used to describe a design process analysis and object-oriented design. In the system created, actors have several general treatments that can be done. Use Case Diagrams describe users with a system or application. In Figure 2 it can be seen that the design of a use case diagram from this study.
Figure 2. Design figure use case diagram of traditional food processed marketing information system

Figure 2 shows that there are two actors who interact with the system, namely community actors and admin actors. Community actors interact with use cases to manage registration, use cases to view information, use cases to manage logins, use cases to manage transactions. Meanwhile the admin actor interacts with the use case managing registration, managing use case looking at information, managing login use case, managing use case managing product data, using case managing transactions and managing use case advertising.

After designing the use case diagram, the next step is to design an activity diagram. Activity diagrams describe various activity flows in the system being designed, how each flow begins, decisions that may occur and how it ends [6]. Activity diagrams serve to provide an overview of the activity flow of the application or system being built [7]. Figure 3 illustrates one of the activity diagrams of the information system built, namely the login activity diagram.

The next process after making an activity diagram is to create a sequence diagram. Sequence diagrams are used to describe a scenario or sequence of steps carried out in response to an event to produce an output. The sequence diagram designed in this study is depicted in Figure 4.

Figure 3. Login Activity Diagram

Figure 3 illustrates user interaction with the system for the login activity diagram. First, the user enters the correct username and password, the system will verify if the username and
password is wrong then it will return to the login page but if the username and password are correct then it will enter the main page menu.

![Login sequence diagram](image)

**Figure 4.** Login sequence diagram

After the Inception and Elaboration stages are carried out, the Construction and Transition stages will then be carried out. At the Construction stage, you will focus more on the results of the proposed display design and menus. Meanwhile, at the Transition stage, it focuses more on the testing process of the designed application.

### 3.1 Implementation

After experiencing a series of iteration processes, the Construction stage can produce an application. The initial display page is the initial page that first appears when the application is run. Figure 5 is the result of the start page.

![Main page](image)

**Figure 5.** Main page

The main view is the first appearance that appears after we enter the address that has been provided by the Cibinuang village website admin. Figure 6 is a login page display for entering a username and password.

![Login page](image)

**Figure 6.** Login page
Figure 7 is a picture of transactions that occur and are recorded on the system. In a recorded transaction, the seller can obtain information on seller data, information on buyer data, products purchased by the buyer, and the total payment to be paid by the buyer.

Figure 7. Sales transactions

The transition stage is the final stage of the RUP process. In this stage, it is more focused on testing problems. The testing process itself has many types. The testing process is the process of executing an application to determine whether the software application matches the system specifications and runs according to the desired environment. The testing phase is a critical element of the quality of the software application that has been built and presents the main study of the specification, design and coding process.

Black Box testing is the process of testing the fundamental aspects of an application without paying attention to the internal logic structure of the software. This testing process is carried out to determine whether the software application can run and function properly. The black box testing process is carried out on the Menu. The results of black box testing that have been carried out can be seen in Table 1.

Table 1. Formatting sections, subsections and sub subsections.

| No | Function tested | How to test | Expected results | The results came out |
|----|-----------------|-------------|-----------------|---------------------|
| 1  | Login           | The user logs into the system | Show Main Menu   | As expected. Valid  |
| 2  | Transaction     | Users can buy traditional food processed products | Show Menu Transaction | As expected. Valid |

4. Conclusion
Based on the results of the implementation and discussion that has been carried out, the following conclusions can be drawn.

a. Can produce an information system for the sale of processed traditional food products in Cibinuang Village using the PHP programming language and MySQL database which is easy to use and attractive.

b. With the information system for sales, it can help people to promote and increase profits.
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