DEVELOPMENT APPLICATIONS SMART CULINARY OF CITY CIKAMPEK (KUTACII) BASED ON ANDROID

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ABSTRACT

The word culinary originates from commodities related to cooking activities and food consumption. Culinary can be interpreted as a pattern of use based on food or culinary dishes to make food such as subjects and media. Food is also a tourist destination and a tool for increasing tourism. The first narrative faced by the culinary group admin on Facebook (Kutaci), which is difficult to control for someone who is promoting products other than food. Although the admin has provided reviews for accounts that follow this closed Facebook group. so it is difficult for prospective buyers to choose the type of food that prospective buyers want because almost every hour many sellers upload the food they sell. potential buyers and sellers who complain about the difficulty of determining the price of the courier service used. Which makes the seller must answer one by one about the same questions asked by prospective buyers. couriers who have difficulty finding and finding effective and efficient road routes. The solution is to build a smart culinary application. In addition to simplifying and helping to speed up transactions, using Clarifai technology depends on using nerves to process images and then explain what images do. Location-based services are wireless IP services that use geographic information to provide location information services to multiple users

Keywords: Smart, culinary, Android, Clarifai API, Location-based service

1. PRELIMINARY

1.1 Background

The culinary term comes from the Latin language, namely culinary. Culinarius means material related to the cooking process. The word culinary comes from commodities related to cooking and food consuming activities. Culinary can be interpreted as a pattern of use based on food or dishes. Culinary tourism makes food like subjects and media. Food is also a tourist destination and an instrument for increasing tourism.156 Culinary tourism requires the cooperation of all five senses such as the tongue, nose, sense of touch, and eyes [1].

Therefore, the need for food will always increase because of the increasing population. The problem that often arises as a result of many places to eat as well as online sites that provide various types of food. what foods are recommended can be used then. With the rapid development of the population, it is inevitable that the demand for food increases sharply [2]

Currently most of the population of Indonesia is fond of culinary business both in cities and in rural areas. Generally, sellers only peddle their wares by waiting for buyers to come directly. Part But in this increasingly modern era traders no longer need to peddle their wares and meet directly with buyers.

Therefore, the need for food will always increase because of the increasing population. The problem that often arises as a result of many places to eat as well as online sites that provide various types of food. what foods are recommended can be used and therefore there is a food recommendation system. With the rapid development of the population, it is inevitable that the demand for food increases sharply [2].

And based on interviews conducted with 7 respondents consisting of 2 sellers, 3 buyers and 2 couriers as people who use the services of this Facebook group. On Saturday and Sunday 22-23 December 2018. Then one of the sellers, Mrs.

Sumiatin, revealed that there was a need for a technology that could be used to facilitate this buying and selling transaction. In addition to the current ones like ojol Online (ojol) due to the high transaction costs for ojol, and also the problems that often arise. out of 100 people who filled out the questionnaire with an average of people who answered that both sellers and prospective buyers had some difficulties in conducting this buying and selling transaction.

Survey of what kind of food in the city of Cikampek turned out to have a lot of variations that were presented at several vendors in the city. Food data collection is not limited to food. Various kinds of food prices vary, but also the cost of delivery services ordered in CIKAMPEKEK also includes this survey process. As is known, in the city of CIKAMPEK the culinary variety is very rapidly developing. it was marked by the incessant publications that can be seen on social media Facebook (culinary group cikampek city) which is very interesting, because it sells a variety of foods as well as drinks that are highly appreciated by members of the group, besides that there is also a courier service that can help deliver food that ordered.

The development of information and communication technology is increasing day by day and continues to expand widely. The world of information and communication technology offers and provides many facilities in helping to expedite all human activities in all fields, including in the culinary field. According to observations by the culinary group Facebook in the city of Cikampek (Kutaci) 131,852 thousand followers are ranging from sellers to buyers. all of which have an average Android-based cellphone.

Android is a Linux-based open-source operating system designed for touch screen mobile devices such as smartphones and tablet computers [3]. Also, Android cellphones have GPS services as Location-Based Services (LBS). GPS satellites continuously transmit digital radio signals that contain satellite location and time data, to related receivers. By knowing the satellite's position, the receiver knows that the satellite is in a certain position [4]. To help speed up enumeration in the field by taking food pictures and will be detected using the Clarifai API. Clarifai technology relies on the use of nerves to process an image and then it will explain what is done by the image. [5] Based on this discussion, a solution is needed to speed up prospective buyers looking for the type of food they want,, as explained above, an application will be made. Android-based to help someone make a sale and purchase transaction by using Clarifai API to classify food types (images uploaded), Location-based Service (LBS).

1.2 Clarifai API

At present, the use of external or remote devices that provide some function or information. Information systems that process such as grid and cloud computing that allows access to various services and new capabilities, namely the Clarifai system. This system provides information technology to analyze images and identify related descriptive annotations. Clarifai offers an Application Programming Interface (API) that obtains the 20 most descriptive annotations from the image submitted [5].

Clarifai's technology relies on using Convolutional Neural Networks (CNN) to process images. CNN is defined as a hierarchical machine learning model that studies complex images of representations from large volumes of annotated data. The Search API allows you to send images (URL or bytes) to the service and have them indexed by general model concepts and visual representations. Once indexed, it can search for images by concept or by image. How it works can be seen in Clarifai Figure 2.6 [15].
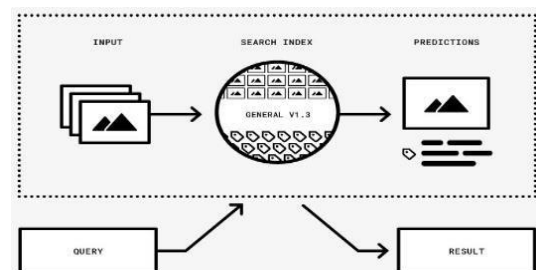

Figure.1 Illustration of How Clarifai Works

1.3 Location - Based Service

LBS is a wireless IP service that uses geographic information to provide location information services to users. Some application services that provide guidance on the position / location of mobile devices are ". LBS provides personalized services to users of mobile devices that are tailored

to their current location [12]. LBS is an information service that can be accessed through mobile devices using a mobile network, which is equipped with the ability to utilize the location of the mobile device. LBS provides the possibility of two-way communication and interaction. Therefore the user tells the service provider to get the information he needs, by reference to the user's position [6].

The proposed system will provide facilities to users when new users come to any place through the application. The proposed proximity system warning application will give the user notification of the arrival of the specified destination while traveling in the form of an alarm [13].
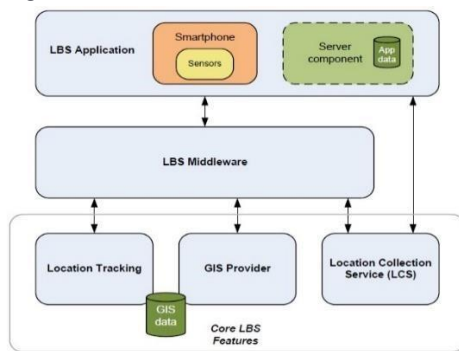

Figure .2 LBS Architecture

1.4 Purpose and objectives

The objectives to be achieved in the development of the Android-based Smart Culinary Application of Cikampek City (KUTACI) This is based on the identification of the problem above as follows :

1. Make it easy for admin of the culinary group of the city of Cikampek (KUTACI) to control accounts that promote products other than food.
2. Make it easy for sellers to upload photos of food products that are sold.
3. Make it easy for prospective buyers to choose the type of food to be ordered and make it easy for prospective buyers to know the availability of the food to be ordered.
4. Make it easy for buyers to know the total price of food ordered and courier services that must be paid.
5. Facilitate couriers in delivering orders ordered by the buyer. .

1.5 Research methodology

The cycle to start this research is to identify the problems encountered when conducting a

survey of several respondents by collecting some of the data needed, after that analyzing the system that is running. System requirements to be built will be analyzed, including functional and non-functional requirements. After all, needs are analyzed, then enter the system design stage, system implementation, system testing, and maintenance in case of errors or deficiencies encountered in the system and the final stage are making conclusions and suggestions for future system development. The research framework to be carried out can be seen in Figure 3.
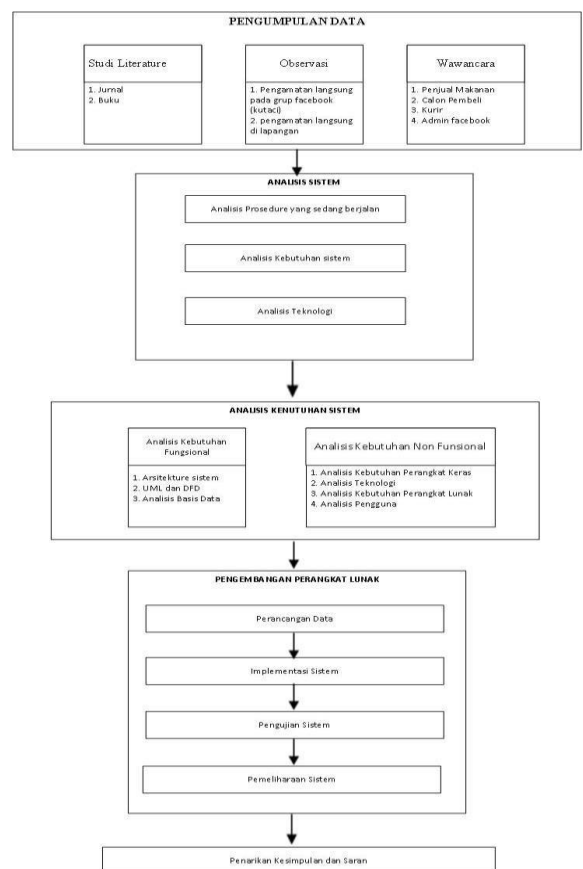

Figure 3 Research Stages

1.6 Software Development Method

The software development method used in this study is a process model or waterfall paradigm. The waterfall model is a traditional software development process that is commonly used in most software development projects. This is a sequential model so that the completion of one set of activities causes the start of the next activity. This is called a waterfall because the process flows [7]

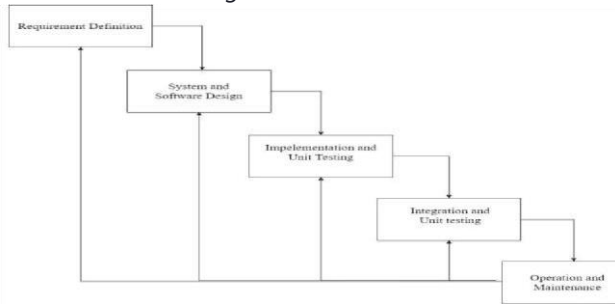Following is a picture of software development methods such as Figure 4.

Figure 4 Waterfall Methods

2. RESULTS AND DISCUSSION

2.1 Systems Architecture Analysis

The system to be built in the Cikampek City Culinary Smart Application (Kutaci) using the Clarifai API and Location-based Service.

Then the system architecture to be built can be seen in Figure 5.
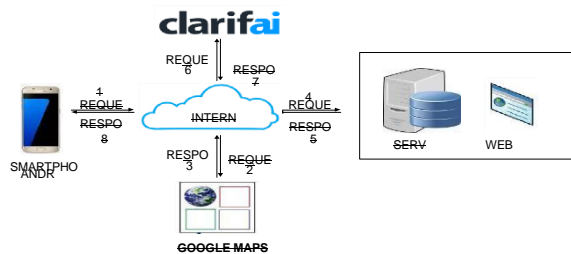
2.2 Analisis Masalah

Figure 5 . *Architecture Systems*

Because many people in cikampek are fond of culinary and people who are now pursuing food sales. So for the sake of our smoothness in carrying out activities, we need tools as a means of supporting activities in the city of Cikampek, therefore the development of applications that can support the activities of sellers, prospective buyers and couriers is needed. And thus the development of this smart culinary application in providing convenience to traders, prospective buyers and couriers in carrying out activities and activities

2.3 Analisi Prosedur yang akan dibangun

The procedure to be developed is a proper sequence of activities from the stages that explain what process will be carried out, who will work on the process, and how the process can be done. Analysis of the system to be built is can be seen in Figure 4.
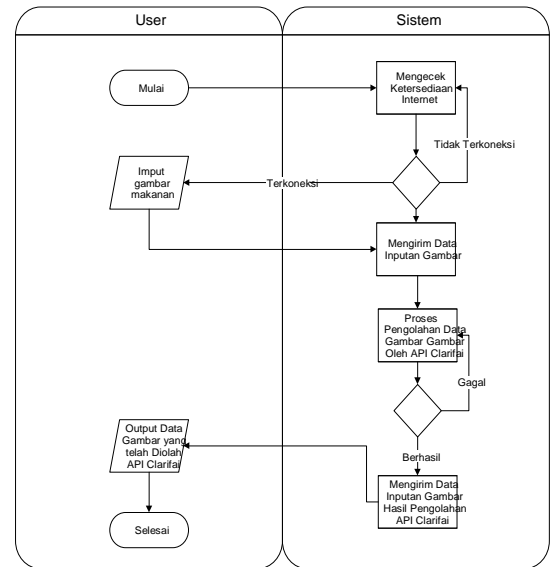

Figure 4. Analysis of the procedure that was built

2.4 Analysis of the technology used

Technology analysis aims to find out what technology will be used in a system that will be built. The technology used in this Smart culinary system, among others :

1. Clarifai Api

API Clarifai technology in this application is used to facilitate the user (buyer) to choose what food and what type the user wants. How it works on the application is as follows.:

   a. The user makes a selection of photos and shoots food photo objects, the system will provide food recommendations and stores that sell them.

2. Google maps Api.

Google maps API which is used in the design of the Cikampek city culinary smart application is used to search for locations and the following coordinate points are the uses of the smart culinary API in application development :

   a. Users (buyers) can know the position of the store will be purchased and can know the position of the delivery service in smart culinary.

2.5 Functional Requirements Analysis

Functional requirements are requirements that contain the processes that will be carried out by the system. These functional requirements include the presence of several

UML diagrams (Use Case Diagrams, Class Diagrams, Sequence Diagrams, and Activity Diagrams) as well as for the frontend namely moble and DFD (data flow diagram) and for the backend using the website. It is used as a design of the design to facilitate the application development process, especially for applications that are developed using object-oriented programming :

2.5.1 Functional Requirements Specifications

Functional requirements specifications are system specifications provided to users. Specifications of the functional needs of users can be seen in Table 1.

SKPL-F	Software Requirements Specifications
001	The system provides login facilities for potential buyers, sellers, couriers, and admin user
002	The system provides facilities for displaying food recommendations.
003	The system provides facilities to display price changes for sellers.
004	The system provides facilities to display the activity history for buyers, sellers, and couriers
005	The system provides facilities for food search using photos or images for buyers
SKPL-F	Software Requirements Specifications
006	The system provides facilities to display profiles for buyersSeller as well as courier..
007	The system provides the facility to display seller survey history

The following use case scenarios created can be seen in Table 2.

Table 2. Use Case Scenario registration

008	The system provides facilities for displaying notifications to sellers
009	The system provides facilities for displaying maps for couriers

Table 1. User Functional Specifications

2.6 Use Case Diagram

Use case diagram is one diagram to model aspects of system behavior. From the analysis of existing application users, the following are the overall activities in Figure 6 below.
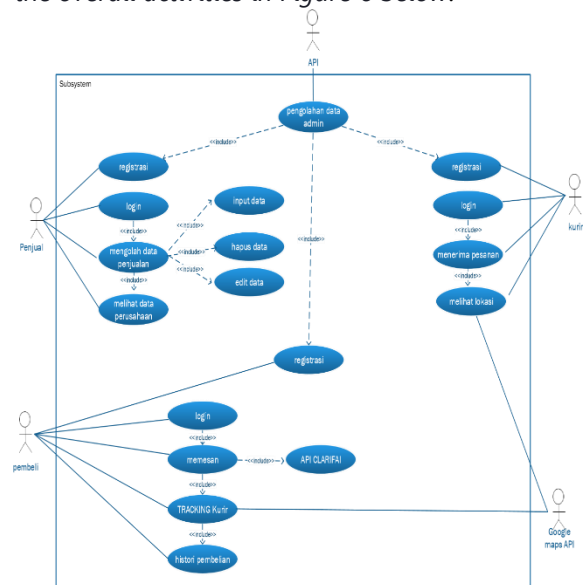

figure 6. Use Case Diagram

2.7 Scenario Use Case

The use case scenario aims to explain how the steps of each process exist in each use case. The use case definition is a description of the use case which is used with a brief explanation but can help read the description of the system that runs on this Smart Culinary application system. From the results of the analysis of the existing system, the definition of use case for the Smart Culinary application system is as

Identification	
Name	Registration
Purpose	Ensuring the user to register and login after a successful registration
Description	Form to register on the application
Actors	Admin , traders, buyers, couriers
Scenario	
Main	
Actor Fill	**Action System**
Register at System applications	Store user data in a database.
Condition End	Application displays a popup or notification that registration has been successful

Table 3. Use Case Scenario ordering data

2.8 Class Diagram

A class diagram is a class that describes the structure of the system in terms of defining the classes to be created Identification Name Data Order Purpose Ensuring that the user can see the data order on the application Description Contains ordering data from each merchant on the application Actors Trader Main Scenario Fill Actor Action System Open the data page Purchase

Displays purchase data from database on the application Condition end The application displays the ordering data page to build a system. The classes that exist in the system structure must be able to perform functions in accordance with system requirements. The following is the class diagram for the Smart City culinary application in Figure 7.
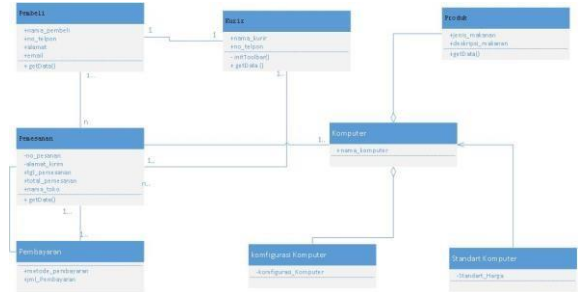

Figure 7. Class Diagram

2.9 Sequence Diagram

Sequence diagrams are diagrams that illustrate the dynamic collaboration between a number of objects. Its purpose is to indicate the sequence of messages sent between objects as well as interactions between objects. Something that happens at a certain point in the system execution. The following is a sequence diagram for the Smart City culinary application system in Figure 8 and Figure 9.

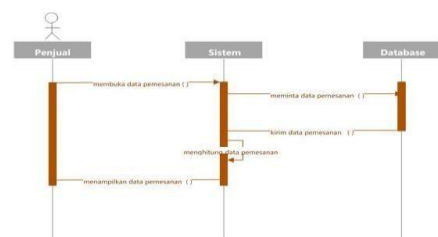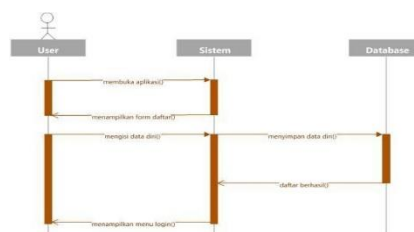**figure 8.** Sequence Diagram registration

Figure 9. Sequence Diagram data order

2.10 System planning
2.10.1 Interface Design

The design of the interface describes the display plan in the application, making it easier for implementation and application development. Here is an overview of the application interface that is built ie:

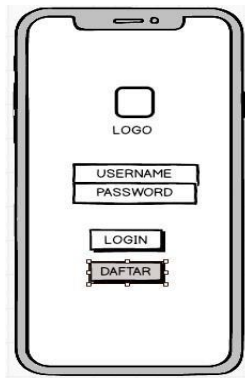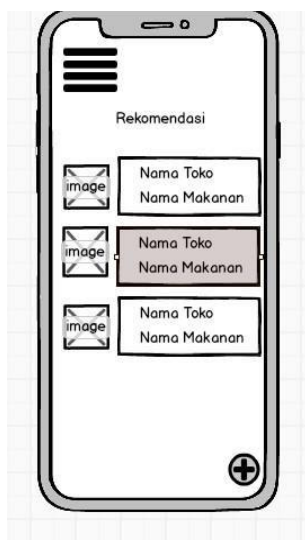**Figure 10.** *Design interface registration*

Figure 11. *Design Interface login*

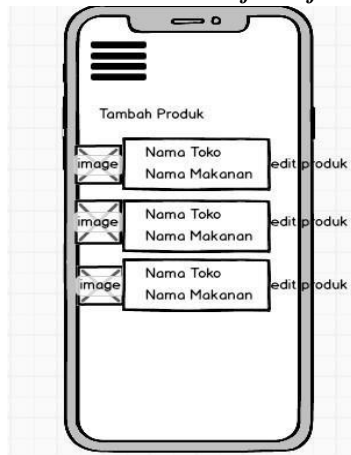**Figure 12. Main menu interface of the buyer**

Figure 13. Interface of the seller's main menu

3 cover

3.1 Conclusion

Based on the results of the design made this, then smart application design Cikampek City Culinary (Kutaci) based on Android is by what It is expected to further test.

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