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Delivery Order Information System in Raya Family Restaurant Based on Android Application

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Abstract: ***The development of information technology and communication facilitates and accelerates access to information we need as well as facilitates corporate or individual transactions for business purposes. The development of the culinary world resulted in entrepreneurs competing to open restaurants or restaurants. Family Raya restaurant is a field of business or company that is still developing so it needs to be designed an information system. The information system is useful for providing management information in making decisions and also for carrying out company operations. The purpose of this research is to make it easier for customers who want to order a food menu simply by accessing the application with an Android-based cellphone. It is hoped that more customers will later buy Family Raya cuisine and of course the benefits will be even greater. Therefore, an Android-based Application information system is needed. The method used in this study is the waterfall model which has several stages, namely design, analysis, design, coding, test and maintenance. The supporting software used is MIT App Inventor, Java, CSS3, HTML5. Based on the results of the implementation it was concluded that this application can facilitate customers to order food and increase profits at Rumah Raya Family Restaurant.***

Keywords: Restaurant, Family Raya, Application, Android

1. INTRODUCTION

1.1 Background of the problem

In the current modern era, the development of information and communication technology as well as the development of the culinary world, especially in Indonesia, has experienced very significant developments. With the development of information and communication technology, it is easier and faster to access the information we need and facilitate corporate or individual transactions for business purposes. The development of the culinary world has resulted in entrepreneurs competing to open restaurants or restaurants. According to the Decree of the Minister of Tourism, Post and Telecommunications No.

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KN.73/PVVI05/MPPT-85, food service is a business that provides commercially managed food and beverage services [1]. The purpose of restaurant operations is to seek profit apart from business or profit-seeking purposes, providing satisfaction to its customers is the main operational goal of the restaurant. In general, a restaurant is a place that people visit to look for various kinds of food and drinks.

Family Raya restaurant is a business field that is quite promising and is always in demand by all people. Family Raya restaurant is a business or company that is still developing so it is necessary to design an information system. Information systems are very important for companies. Information systems are useful for providing management information in making decisions and also for carrying out company operations.

There are several articles on systems to solve this problem. As in the article Muhammad akbar, et, all (2014) about making food delivery service applications. The researcher uses an android-based application system that aims to make customers who want to order food menus can access this system using an Android-based cellphone as their mobile device. The results of the design and manufacture of the Food Delivery Service application are compiled using the Java programming language with the Android SDK which is included in Android ADT, and the database uses MySQL [2]. In the article NilaWilda (2016) uses an Android-based system for the development of smart delivery orders for cooking ingredients. The purpose of building this application is to assist housewives in getting food ingredients, so there is no need to go to the market alone because this application is designed to make it easier for housewives to order online and wait for the seller to deliver food orders [3].
Rini Agustina, et, all (2017) analyzed the design of ordering food using an Android-based Smartphone. Based on the results of the analysis of the implementation of menu ordering using an Android-based smartphone, it can provide services quickly and efficiently. This is known through the presentation of the questionnaire which shows that almost 86.2% said they strongly agree to use this application to make menu orders [4].

Through the Android application, we can introduce company or product profiles, make it easier to update information, with a wide range, and the data gives a professional impression because we are not left behind in terms of the progress of the times and it is an innovative way. Delivery orders will provide interesting innovations for customers. Not only waiting for buyers but also providing services that will make it easier for customers so that it will make it easier for customers who want to order food menus just by accessing the application with an Android-based cellphone. It is hoped that later more customers will buy Family Raya dishes and of course the profits will be even greater.
With this, it is necessary to design a system. Based on the background above, the author takes the title "Information System for Delivery Orders at the Family Raya restaurant based on Android Applications".

1.2 Problem Formulation

Based on the problems above, what will be raised or discussed in this research is how to design an android-based Family Raya restaurant delivery order information system that can increase sales and make it easier for customers to order food.

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1.3 Research Objectives and Benefits

The purpose and benefits of this research are to help marketing and sales which are still fixated on purchases that come to the Family Raya restaurant. So it is hoped that later using this information system can increase sales and make it easier for customers. Promote the profile of the Raya family restaurant so that it can be more advanced.

2. LITERATURE REVIEW

2.1 Previous Research

Sakurakita restaurant has a problem in the process of ordering the number of customer orders that are not clear resulting in losses. Difficult to get the desired table place. The service at the Sakirakita restaurant has not been enjoyed by customers from getting to know product information, ordering and information technology in order to get new customers and retain old customers. Researchers IndraSukma and Andri (2019) designed a system whose development uses the Waterfall method [5]. The final result is to provide a system that can place orders using the Android Application, by providing a system that can book orders and online payments.

2.2 Android

Android is a subset of software for mobile devices that includes an operating system, middleware and core applications released by Google. The Android SDK (Software Development Kit) provides the tools and APIs needed to develop applications on the Android platform using the Java programming language. The history of Android began in 2005 Google then in that year also began to build the Android platform intensively. November 12, 2007 Google together with OHA (Open Handset Alliance) which is a consortium of open mobile devices, released the Google Android SDK, after announcing a week earlier[6].

2.3 MIT App Inventor

Amerkashi (2015:15): "Android App Inventor is an open-source web application that was originally developed by Google, and is now held by the Massachusetts Institute of Technology (MIT)", while according to Kamriani (2016:2): "MIT App Inventor 2 is a free, drag-and-drop, blocks-based, visual programming language that allows anyone to build an app, and regardless of coding experience, to create mobile apps for Android devices"[7].

2.4 Java

Java is a technology where technology includes Java as a programming language that has its own syntax and programming rules, also has a virtual machine and libraries needed to write and run programs written in the Java programming language. Java is an object-oriented programming language created by Sun. Microsystems in 1995. Java can create all forms of applications, desktop, web and others as created using other programming languages. Java can be run on various operating system platforms. Java development does not focus on an operating system, but is developed for various operating systems and is open source [8].

2.5 HTML5

HTML 5 (Hypertext Markup Language Version 5) is one of the works of the World Wide Web Condortium to define a single markup language that can be written in HTML or

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XHTML. In the future HTML 5 will become very important for browser and web and web design service providers, in advancing their tools and browsers to become more interactive and attractive application, web and web design works [9].

2.6 CSS3

CSS 3 is the latest version of CSS that is still being developed by W3C. However, some web browsers already support CSS 3. CSS 2 is fully supported by CSS 3 and there are no changes, only a few additions, so when migrating from CSS 2 to CSS 3, there is no need change anything.

CSS 3 has several new features, such as:

1. Animation, so that making animation does not require programs such as Adobe Flash and Microsoft Silverlight.
2. Multiple text effects, such as shaded text, newspaper column, and Word-wrap.
3. External typeface, so you can use fonts that are not "web-safe fonts"
4. Several effects on the box, such as a box that can be resized, 2-dimensional and 3-dimensional transformations, blunt corners and shadows.
5. Those are some of the new features of CSS3.

2.7 White box testingand Black Box

White box testing is a test that is based on checking the design details, using the control structure of the program design procedurally to divide the test into several test cases. Black box testing is a software testing method that tests application functionality as opposed to an internal or working structure (see white box testing).

3. RESEARCH METHOD

3.1 Data Collection

Data collection is done to obtain information in conducting a research in the form of valid data. This study uses the following methods:

a. Observation Stage

A method of data collection that is carried out by observing the object directly and directly taking data at the place where the research is being carried out. At this observation stage, the researcher makes direct observations in one of the branches in Pringsewu District.

b. Interview Stage

At this stage, the researchers conducted interviews with employees and owners of the Pringsewu branch family restaurant. This interview was conducted to find data that is in accordance with the facts for the researcher.

c. Library Stage

At this stage the researcher also uses the library method in the form of printed media books and the internet in the form of previous journals that are related or related to the title. Then record or quote what is contained in the book.

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3.2 System Development Method

At this stage, the research model used is the waterfall model. By using this model, it has a systematic and sequential software development approach, starting at the level and progress of the system. The following is a waterfall diagram below:

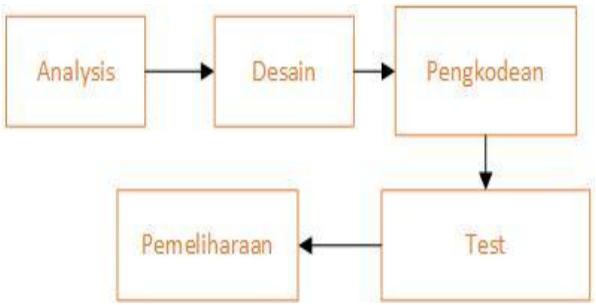

Figure 1. Waterfall Diagram

The explanation of the stages of the waterfall diagram above is as follows :

1. Analysis
   In this stage the researcher analyzes that the educational environment in Pringsewu still does not use technology in education. Therefore, the researcher analyzes and then thinks about making attendance and assessment applications so that education in Pringsewu is more advanced..
2. Design
   In this stage the researcher begins to design, design, create the application. By using the Mit App Inventor facility which is intended to make the application.
3. Coding
   In this stage the researcher uses several programming languages Java, HTML5, and CSS3 in the process of making the application.
4. Test
   At this stage, the researcher tests the application, because the new application is suitable for various smartphones. So it is necessary to test so that this application runs smoothly and as expected by the researcher.
5. Maintenance
   At this stage the researcher acts as the admin of the application, so if an error report occurs in the application, the researcher will immediately repair the application or add content and update the application.

4. DISCUSSION

4.1 System Design

In system design, explain a little about the flowchart of how the application works using flowchart diagrams.

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a. Admin Flowchart

In the admin flowchart, here is explained about the design system that is used as a reference for making the layout of the application. This makes it easier for admins to manage or edit the contents of the application

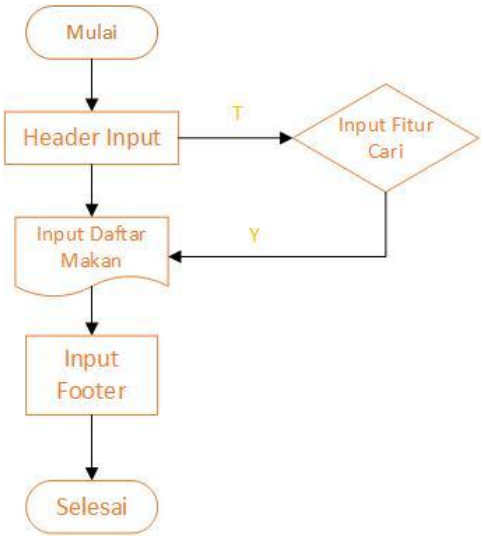

Figure 2. Admin Flowchart Diagram

b. Admin Flowchart

In the Flowchart Visitors here explain about the first appearance when the application is opened. With this Flowchart, it aims to make it easier for users to use the application.

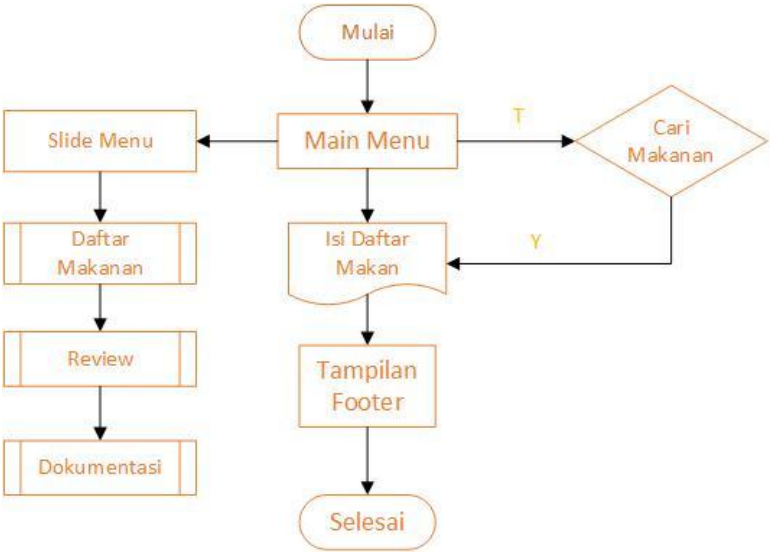

Figure 3. User Flowchart Diagram

4.2 Interface Design

a. Login Menu Display Design

This initial display design is a graphic form of the application.

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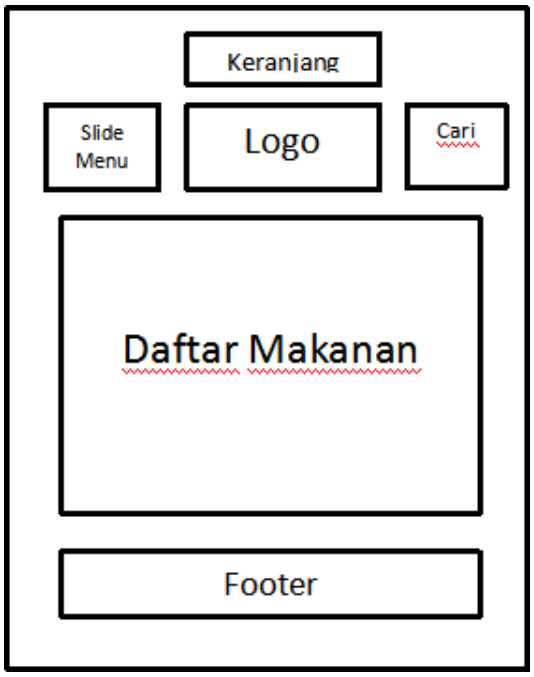

Figure 4. Initial Display Design

b. Food Preview Display Design
Design the food preview view as follows:

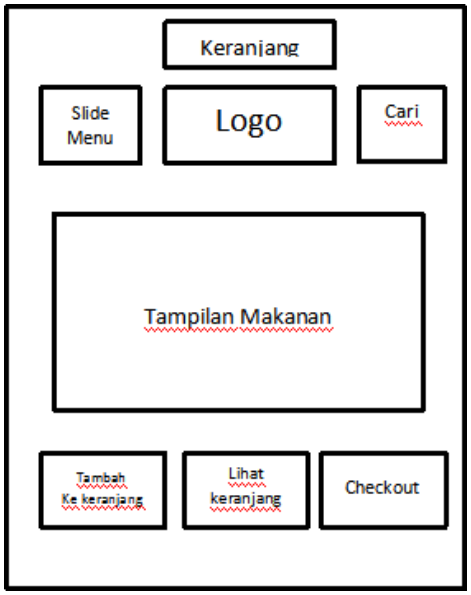

Figure 5. Food Preview Design

4.3 Implementation
The implementation is the actual finished result of a study and the following is an image of the finished application:

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Figure 6. Display on the Home Page

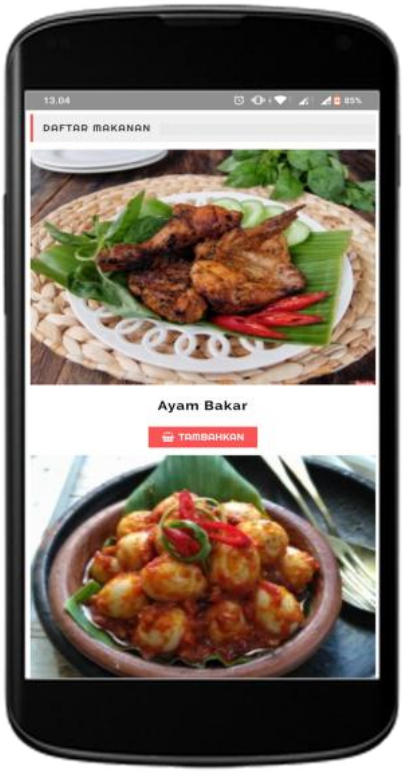

Figure 7. Display of Food List Menu

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Figure 8.CheckOut Menu Display (Basket)

4.4 Analysis of Research Results

In order to know the results of the application that the researchers made, the researchers distributed 10 questionnaires which were distributed to 10 respondents.
Answer Choice Description

SS = Strongly agree
S = Agree
TS = Don't agree
STS = Strongly Disagree

Table 1. Questionnaire

No.	Question	Answer Options			
		SS	S	TS	STS
1	Does the application run smoothly?	8	7	1	0
2	Does the application make it easier for customers?	9	8	0	0
3	Does the application look attractive?	8	7	0	2
4	Are the features of the application complete?	7	8	1	2
5	Is the application fast to access?	8	7	1	0

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6	Does the application feature have many errors or bugs?	7	6	2	1
7	Can customers use the application?	9	8	2	0
8	Do you find it helpful or not with the application?	8	7	1	0
9	Can the application run on all Android smartphones?	9	8	2	0
10	Does the application need to be developed?	9	7	3	1

Questionnaire data can be categorized if the sum of those who answer SS and S is more than 80, then this application is suitable for use for users, if the sum of those who answer TS and STS is less than 20, then this application is not suitable for use by users. From the 10 questions posed above, it can be concluded that the respondents who answered SS (Strongly Agree) there were 82, S (Agree) There were 73 answers, so if you added 155 answers, TS (Disagree) there were 13 answers, STS (Strongly Disagree) there were 6 answers, so if you add up 19 answers. Many answered positive responses from respondents to continue the development of this Attendance and Assessment application.

4.5 System Test Analysis

At this stage the aim is to find out all the problems and whether or not the application is running. The following is a system test table below:

Table 2. System Test

No.	System Test	Running	Error	Information
1	Main course	✓	-	Success
2	Food list	✓	-	Success
3	Customer service	✓	-	Success
4	Delivery order	✓	-	Success
5	Order Cart	✓	-	Success

From the explanation of the system test above, it can be concluded that of the 5 system tests that have been carried out, all the features or menus in the application run normally. With this, attendance and assessment applications are eligible to be published to Android smartphone users.

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5. CONCLUSION

Based on research conducted by researchers, it can be concluded that this study resulted in an application that is used as a delivery order system that makes it easier for customers to order food, and makes it easier for employees to make transactions, makes it easier to update information, with a wide range, can increase sales. And data gives a professional impression because we are not left behind in terms of the times and it is an innovative way. This application is only available and can only be operated on the Android platform.
This application is easily accessible by customers. And through the questionnaire data received a positive response from respondents to continue development to make it more attractive and easier to use by customers through more in-depth system testing.

Suggestion
For other researchers, further development can be done by fixing and looking for existing bugs to be more responsive, and can add other more interesting features to make it easier for users to use.

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