

# Development of Little Cakes Application Based on Android as Lunch Box Cake Sales

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## ABSTRACT

Information technology and the internet today, which continues to develop, have a considerable influence on the sales of a product. It also affects the sales of cakes, including the Lunch Box Cake. Cake sellers are now starting to switch to marketing their products through online media to increase sales. This study aims to develop an android-based application that provides information about products, product prices, and product details to help increase sales of Lunch Box Cake. The method used in application development is a waterfall which consists of (1) Analysis, (2) System design, (3) Coding, (4) Testing. This research will produce an android-based application as a sales medium for Lunch Box Cake that is easily accessible by a smartphone and can make it easier for customers to find information about products, product prices, and product details.

**Keywords:** *Cake sales, Android, Sales app, Waterfall.*

## 1. INTRODUCTION

Along with the times, food products now consist of various kinds of choices with their uniqueness. Lunch Box Cake is a beautiful cake with unique packaging like a lunch box. This is one form of product packaging innovation development to attract more consumers. Cakes are packaged as beautifully as possible with the aim of satisfying consumers. The main target in marketing this cake is the millennial generation who are very sensitive to new things and technology. Thus, it is necessary to develop technology in the field of marketing or product sales to get a wider market.

Information technology that continues to develop rapidly makes humans and companies required to use it according to their goals and needs, and technology is currently seen as one of the determinants of achieving company goals and strategies [1]. Following current trends, developing online media as a marketing and sales medium needs to be done to make buying and selling transactions easier. Sales through online media are now starting to penetrate various areas of sales, including food sales, especially cakes.

Marketing 4.0 combines offline and online marketing strategies to get customer engagement [2]. This is undeniable because currently, offline marketing

is not enough, but online is also needed so that customers get services from the products or services offered. Online sales are not only selling clothes but now food sales including cake sales are also done online. Unlike in the past, which only marketed products in stores, now cake sales are also done online through e-commerce such as shopee, etc.

The application of sales through this android-based application is expected to make it easier to promote products. With the media application, customers can easily access it from anywhere and anytime using only a smartphone. This is suitable for customers who currently only want convenience in buying products. The convenience can also be felt by the seller, with this application can make it easier to promote and record sales. In this way, this application can speed up the product sales process and increase product sales results.

### 1.1. Android

Android is software on mobile devices consisting of an operating system, middleware, and application keys [3]. The Android SDK (Software Development Kit) provides the tools and APIs needed to start developing the Java language [4]. Android is an operating system available for smartphones, the operating system can be

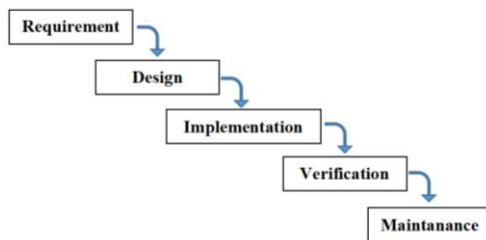
interpreted as a 'bridge' between the device and its users so that the device can interact with its users and users can run applications provided by the device [5].

**1.2. Sales App**

Applications are ready-to-use programs that function to run application user commands to get results following the application maker's plans, while sales are activities to satisfy consumer needs and desires, to maximize sales, and generate profits or profits [6].

**1.3. Waterfall**

The waterfall is a traditional software development process with a gradual model from the first to the last stage so that the completion of the first stage will affect the start of the next stage of activity, which is why it is often called the waterfall model [7].



**Figure 1.** Waterfall Model

**2. METHODS**

In developing an android-based application as a medium for selling lunch box cake, using the waterfall method with sequential and continuous stages such as a waterfall. The stages of the waterfall method [8] are:

- a. Software requirements analysis
 

This needs analysis aims to analyze the needs needed in the design that can help solve problems both from the user and admin sides.
- b. Design

In the design of the software using the database modeling ERD (Entity Relationship Data).

- c. Program code generation
 

At this stage, the researchers began to build applications following the needs analysis for buying and selling transactions with android-based applications.
- d. System testing
 

Testing at this stage is done by testing the system that has been made in accordance with the needs analysis to find out the system that has been made can run in accordance with the requirements hope.
- e. Support and maintenance
 

In this stage, the author seeks to carry out maintenance in the development of software systems that have been designed to the maximum so that the application can run properly.

**3. RESULTS AND DISCUSSION**

- a. Need System analysis
 

Analysis of the needs on the android application as a Lunch Box Cake sales medium is to create an online shopping application that makes the seller and customer or prospective customer not meet face to face directly. Prospective customers only need to make transactions using the application. The following is an analysis of system requirements using a use case diagram:
- b. System overview
 

The system is built in 2 parts of an Android-based application. On the admin side, the system is used to store data and add information related to the application and on the user side, it is used to order cake products.
- c. Identify actor
 

This study, using 2 actors which will be described in the following table.

**Table 1.** Actor result

Actor	Description
Admin	Admin whose role is to manage data, store data, delete or add data in the application.
User	Users or customers who act as application users, who see the application display, product display, product details, product prices, etc.

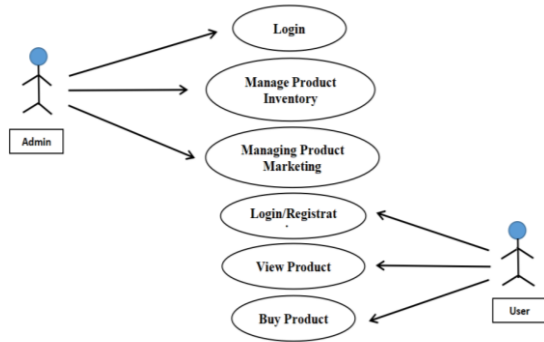


Figure 2. Use Case Diagram

d. ERD (Entity Relationship Data)



Figure 3. ERD (Entity Relationship Data)

e. Interface implementation

- Login Page

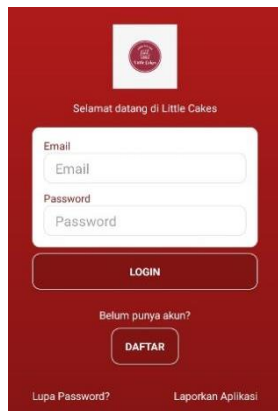


Figure 4. Login Page

- Account Page

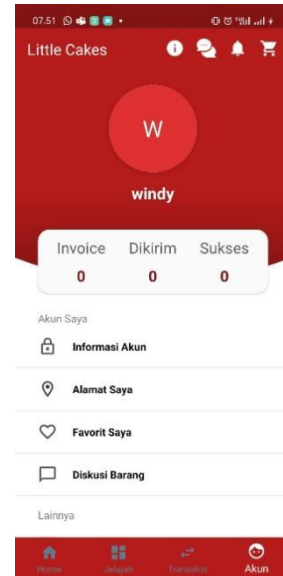


Figure 5. Account Page

- Main page

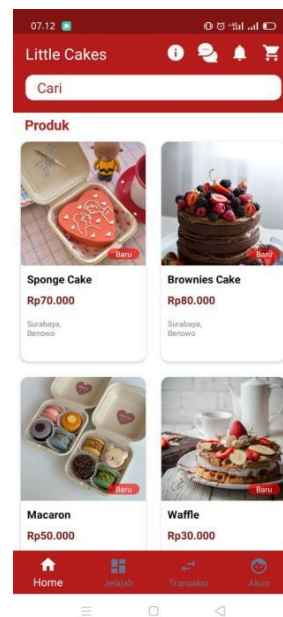


Figure 6. Main Page

- Product Details Page



Figure 7. Product Detail Page

Source: <https://app.bukaolshop.com/toko/littlecakes>

f. System testing

System testing is used to test whether the application that has been made can be run properly. This research produces an android-based application that is used as a medium for selling Lunch Box Cake. This application can simplify the transaction process between sellers and buyers or customers. This application can make it easier for customers to find out information about the products sold by the store. Meanwhile, the store admin can add and delete products, view products, manage transactions that have been made by customers. In the application, there is also a chat room that can facilitate interaction between sellers and customers.

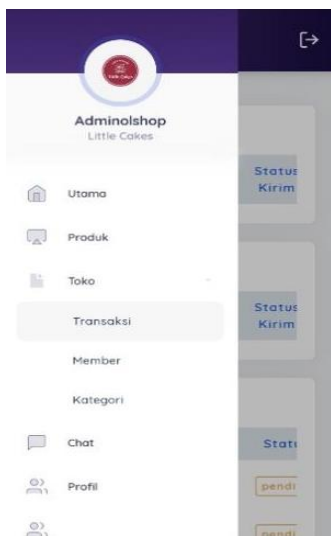


Figure 8. Main admin screen

Sellers or admins can add products and product categories as shown below, find out the number of product stocks, add descriptions or other information to product descriptions.

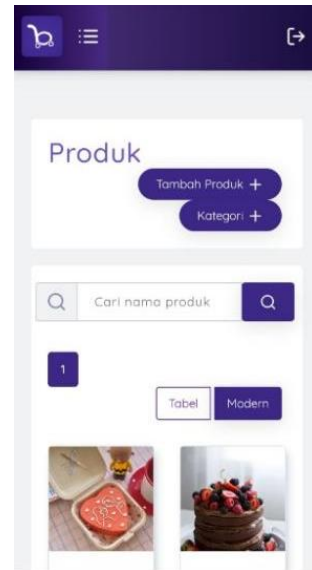


Figure 9. Product display

Sellers can find out all transaction activities that have been carried out by customers on the transaction menu. All forms of transactions will be recorded on the menu as shown below, whether processed transactions, completed transactions, invoices, or canceled transactions.

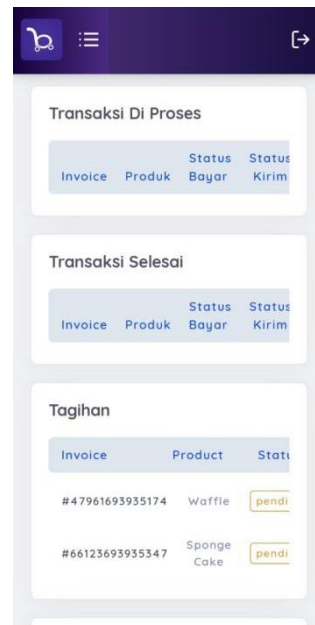


Figure 10. Display of transactions made by customers

From the system test above, the test results can be obtained as in table 2.

**Table 2.** System test results

No	Research	Results	Information
1	Android based application	Success	Applications can be run as expected.

#### 4. CONCLUSION

Based on the results of research that has been carried out by researchers, it is obtained the results of an android-based application that is useful as a medium for selling Lunch Box Cake. This application is expected to be further utilized and developed again to increase sales of Lunch Box Cake. This application is designed to simplify the transaction process and interaction between sellers and buyers in stores Little Cakes.

In this study, of course, there are still shortcomings that must be improved. Therefore, the researchers developed to the future are develop regarding the appearance and menu of the application Little Cakes to be more complete and develop a platform so that it can not only be accessed for Android but also with IOS devices.

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