

Mama Laundry: Optimizing Mobile Based Administration Processes for Laundry Businesses

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Abstract

The laundry application is a mobile application that acts as a service provider resource to its customers. This application is a mobile application and therefore it was developed to facilitate the handling of user problems that are often faced by system administrators, such as: facilitating administrative processes via a smartphone without using a computer because we know that computers are relatively very expensive and consume a lot of electricity. This application is equipped with functions such as order management, customer management and order history. The method used is the SDLC model prototyping method used to quickly gather specific information about user information requirements. Mama Laundry application development as a mobile-based business form optimization solution for laundry businesses which has tremendous potential to advance skills and quality.

Keywords: *laundry, app, mobile, android studio, java*

Abstrak

Aplikasi laundry adalah aplikasi seluler yang bertindak sebagai sumber daya penyedia layanan kepada pelanggannya. Aplikasi ini merupakan aplikasi mobile dan oleh karena itu dikembangkan untuk memudahkan penanganan masalah pengguna yang sering dihadapi oleh administrator sistem, seperti: memudahkan proses administrasi melalui smartphone tanpa menggunakan komputer karena kita tahu bahwa harga komputer relative sangat mahal dan memakan banyak listrik. Aplikasi ini dilengkapi dengan fungsi-fungsi seperti order management, *customer* management dan order history. Metode yang digunakan adalah metode *prototyping* model SDLC yang digunakan untuk dengan cepat mengumpulkan informasi spesifik tentang persyaratan informasi pengguna. Pengembangan aplikasi Mama Laundry sebagai solusi optimalisasi formulir bisnis berbasis mobile untuk bisnis laundry yang memiliki potensi yang luar biasa untuk memajukan kecakapan dan kualitas.

Kata Kunci: *laundry, aplikasi, mobile, android studio, java*

1. Introduction

The field of information and communication technology is currently developing rapidly. This can be seen from the many life experiences that set new standards. The most important requirements for all processes and human needs are speed and accuracy. In addition, data requirements. The most commonly used tools for meeting data and correspondence needs are computers and mobile phones, which have become endlessly better as a result of the web. The Internet makes it possible to send information quickly from various locations without requiring space or time[1].

The positive effects of technology on business are not limited to large companies. Adoption of information and communication technology by small and medium businesses can make it easier for entrepreneurs to support their businesses. The innovative use of data and correspondence for these situations makes business simpler, faster and more solid to limit human error[1].

Currently, people's needs are increasing, but not everyone has much time for household work, especially washing. The Mama Laundry application offers folding washing, ironing, scented ironing and shoe washing services[2].

2. Literature Review

2.1 Laundry

Laundry companies provide ironing and washing services. This organization has a place in the classification of fast-growing organizations. This means that there is a short time lag between the first industry request and the client's request. More specifically, when the clothes are dirty, the customer will almost certainly go to the nearest laundromat. Apart from that, the laundry industry is included in the sustainable business category and is a business that always requires a large workforce. People will continue to wash clothes for whatever length of time the clothes become the individual's main need. The laundry industry looks very promising because of this [3].

2.2 Android Studio

Google developed Android Studio, an IDE for creating Android applications. Android Studio is an upgrade of Eclipse IDE and relies on well-known Java IDEs, specifically IntelliJ Thought. The official IDE for developing Android applications in the future is expected to be Android Studio, not Eclipse. Compared to Eclipse IDE, Android Studio, Eclipse development tool, offers many new features. Android

Studio uses Gradle as its build environment, as opposed to Eclipse, which uses ADT. Features in Android Studio include[4]:

1. Use a customizable form framework based on Gradle,
2. Can create various APKs,
3. Model support for Google administration and other gadgets,
4. Better format corrector.

2.3 Firebase

Firebase is a programming interface provided by Google for storing and matching information with Android, iOS or web applications. Realtime database is one of the highlights that stores data in datasets and restores them quickly, but Firebase is not just a collection of realtime databases. Firebase has authentication, database, storage, hosting, notifications, and many other features[5].

2.4 Java

One of the fastest growing programming languages today is Java. Java can run on several different dataframes and gadgets[6].

Java is a programming language that can be used on many PCs, including mobile phones. The language was originally created by James Gosling while he was at Sun Microsystems, now part of Prophet, and shipped in 1995. The language takes significant parts of the sentence structure of C and C++, but has a more straightforward punctuation model[7].

2.5 XML

A more useful markup language than HTML is XML, which stands for Extensible Markup Language. On February 10, 1998, the W3C approved XML, a simplified version of the Standard Generalized Markup Language (SGML). HTML is complemented, not replaced by XML. Each of them is produced for different reasons. HTML focuses on displaying information and is used to display it. Rather than focusing on the information itself, XML describes its sequence[8].

2.6 Information System

An information system is a system within an organization that finds a balance between daily transaction processing needs and supports the organization's strategic and operational management functions to produce reports required by certain external parties [9].

2.7 Activity Diagram

Activity diagrams are depictions of different movement flows from a structured framework, how each flow begins, what choices can be made and how it closes. Parallel processes that can occur in several executions can also be represented by activity diagrams [10].

2.8 Sequence Diagram

Sequence diagrams are used to depict associations between objects in and around a framework to the extent that the message makes sense over time. There are vertical dimensions (time) and horizontal dimensions (related objects) in sequence diagrams [10].

2.9 Class Diagram

The most common type of diagram, class diagrams are used to show the class structure of a system. Class graphs can also show relationships between classes and provide point-by-point clarification to each layer in the design model (legitimate perspective) of a framework. Class diagrams are used to show the structure of all layers that make up the system architecture during the design process [10].

2.10 Use Case Diagram

Use case diagrams are models for understanding the data framework that will be understood. A utilization case describes the collaboration of at least one artist with a subsequent data frame. The function of an information system and who is qualified to use it is determined using this diagram [10].

3. Research Materials and Methods

3.1 System Design Methods

In planning the Mama Laundry application framework using SDLC by utilizing prototyping techniques. A method for quickly gathering specific information about user information requirements is the prototyping model. Centers on introducing the parts of the product that will be visible to users. Users will evaluate prototypes before selecting software development requirements. Others argue that prototyping is a software development technique that produces an initial version of a system in the form of a physical model. and enable users to participate in the development of information systems. Determining the rules from the start is essential for the prototyping process to run smoothly; developers and users must

agree that a prototype is built to determine initial requirements. To accommodate developer planning and analysis, the prototype will have components removed or added until testing is carried out simultaneously with development[11].

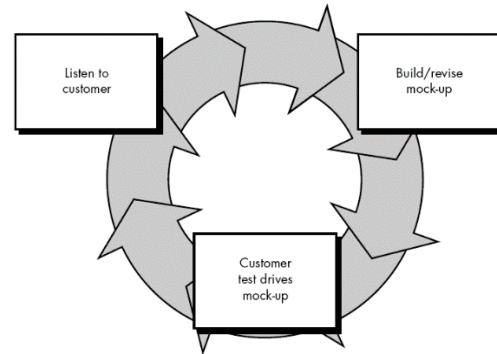


Figure 1. Prototyping Method

Software development using the Prototype method includes the following activities [12]:

1. Determine needs

Users and programmers together determine the requirements for the software to be built.

2. Create/modify a prototype

Create/modify system prototypes by creating designs that focus on specified user needs. Manufactured according to system requirements that have been determined with the user.

3. Prototype testing

This test is carried out by the user to evaluate whether the prototype created meets the user's wishes. If appropriate, the software is ready to use. If it is not suitable, the prototype will be improved by listening to user complaints to improve the previous prototype.

3.2 System Design Tools and Materials

In designing and implementing the mobile-based Mama Laundry application, you must use a device that is very supportive because the design of the Mama Laundry application uses Android Studio software. The following tools and materials are used, such as:

1) Laptop with specifications:

- a) Processor: Intel Core i3-1115G4
- b) Version: Windows 11
- c) RAM: 4 GB
- d) Hard disk: 512 GB

2) Software used during system design:

- a) Android Studio
- b) Firebase

- c) Figma
- 3) Smartphone with specifications:
- a) Processor: Snapdragon 680
 - b) RAM: 4 GB
 - c) ROM: 64 GB

3.3 Research Stages

1) Collect data from laundry business owners by listening to their complaints in the customer/customer data administration process so that we know what problems they are experiencing

2) Designing and improving the system: making the Mama Laundry application using Android Studio software with Java and XML programming languages. For the database in this application, Firebase is used. And this application modeling uses UML which consists of activity diagrams, class diagrams and sequence diagrams.

3) The user performs this testing to determine whether the resulting prototype meets the user's needs. If it fits, the product is ready to use. If it is not suitable, the model will be corrected by taking into account the client's complaints about working on the previous model.

4. Needs Analysis

4.1 Actor

Table 1. Actor Identification

Actor	Description
Laundry's administrator	Record customer administration processes

4.2 Functional Requirements

Functional requirements or functional requirements are very necessary because this system must run smoothly and have functions that are very necessary in the laundry business, for example the services available in the laundry business such as folding washing, ironing, scented ironing and shoe washing. The following functions are really needed in the Mama Laundry application:

Table 2. Functional Requirements

Code	Actor	Function	Description
FR-1	Laundry's administrator	Customer Management	The application must be able to store and manage customer information such as name,

			address, telephone number, email, and order history.
FR-2		Order Management	The application must be able to receive orders from customers, manage order status, and provide order confirmation to customers.
FR-3		Order Scheduling	The application should be able to show a schedule of when to come in and when to pick up.
FR-4		Security System	Applications must have adequate security systems to protect customer and business information.

4.3 Non-functional Requirements

Table 3. Non-Functional Requirements

ID	Parameter	Requirements
NFR-01	Availability	The application must be available 24/7 with a maximum downtime of 1 hour per month.
NFR-02	Relability	The application must be able to run stably and not experience frequent crashes.
NFR-03	Ergonomy	The application interface must be designed ergonomically and user-friendly.
NFR-04	Portability	Applications must be able to run on various operating systems and platforms.
NFR-05	Memory	Applications must be efficient in memory usage and not consume too much memory on the user's device.
NFR-06	Safety	Applications must pay attention to user safety and health aspects, such as

		minimizing the risk of work accidents for employees.
NFR-07	Language	This application only provides 1 language, namely Indonesian.

4.4 Use Case

The use case section will provide a brief overview or explanation of the functional requirements that have been created in point 4.2 which will be explained in Figure 2.

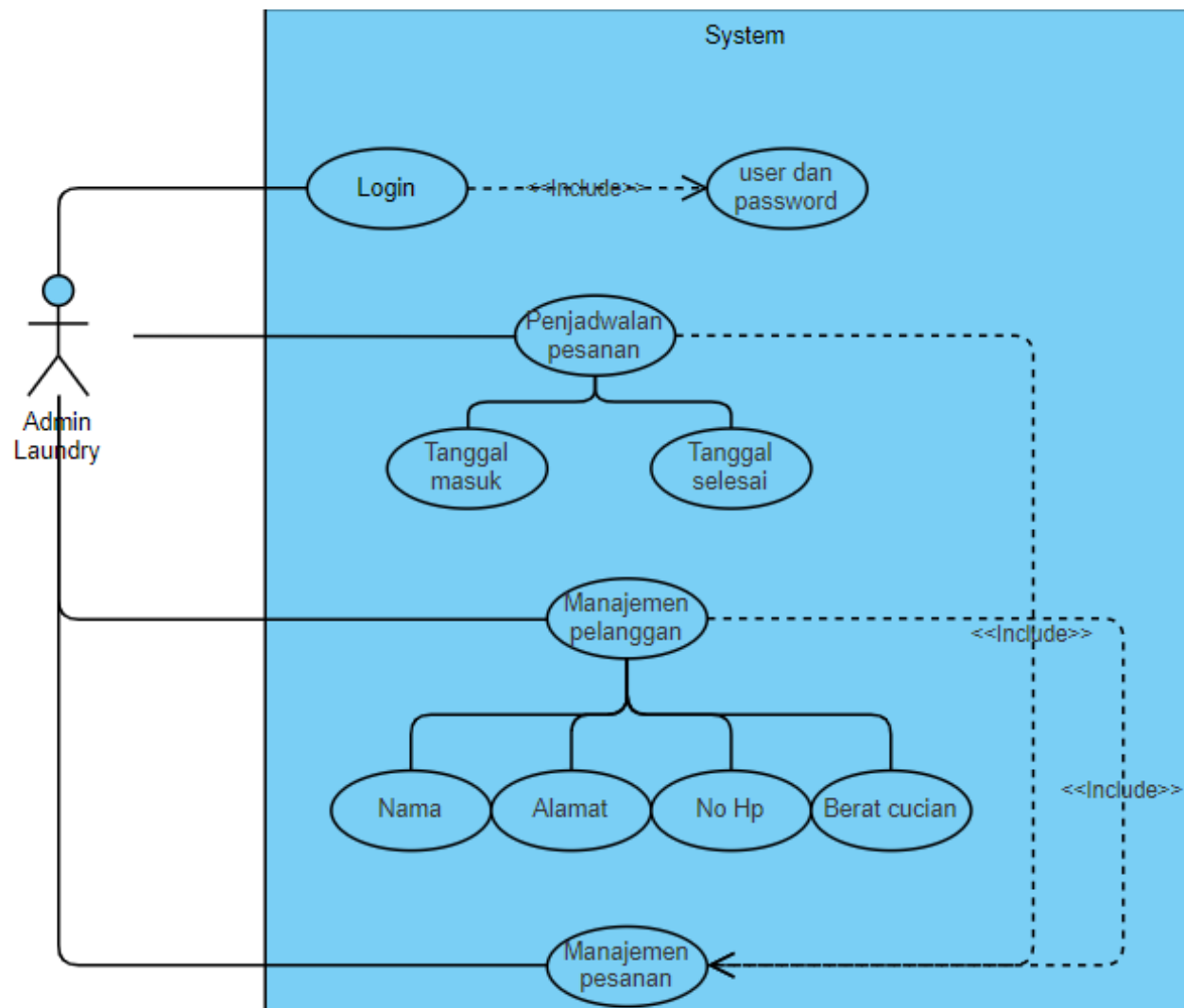


Figure 2. Use Case

Caption:

a. Use case: Login; Actor: Admin

Description: Admin or laundry owner or cashier from a laundry business opens the application then presses the login menu if you already have an account. If you don't have an account, just create one via the application by pressing the "register" button. If so, just log in by entering the email and password you created.

b. Use case: Customer Management; Actor: Admin

Description: When the admin has entered the application, the admin just has to choose 1 of the 4 services that have been created when the customer wants to wash their clothes, for example the folding washing service by pressing the "order" button. There will be a data collection form containing name, address, telephone number, weight of laundry, entry date and completion date.

c. Use case: Order Scheduling; Actor: Admin

Description: Like what is in point 2, namely by entering the entry date and completion date according to the day and date the customer wants the clothes to be washed.

d. Use case: Order Management; Actor: Admin

Description: When the admin has finished filling in the customer data collection form, the data will be stored in the database and then displayed in the application so that the admin (user) can control each customer's order.

5. System Design

5.1 Sequence Diagram Design

The work processes that have been explained in the functional requirements will be explained in the sequence diagram. The sequence diagram is depicted in Figure 3.

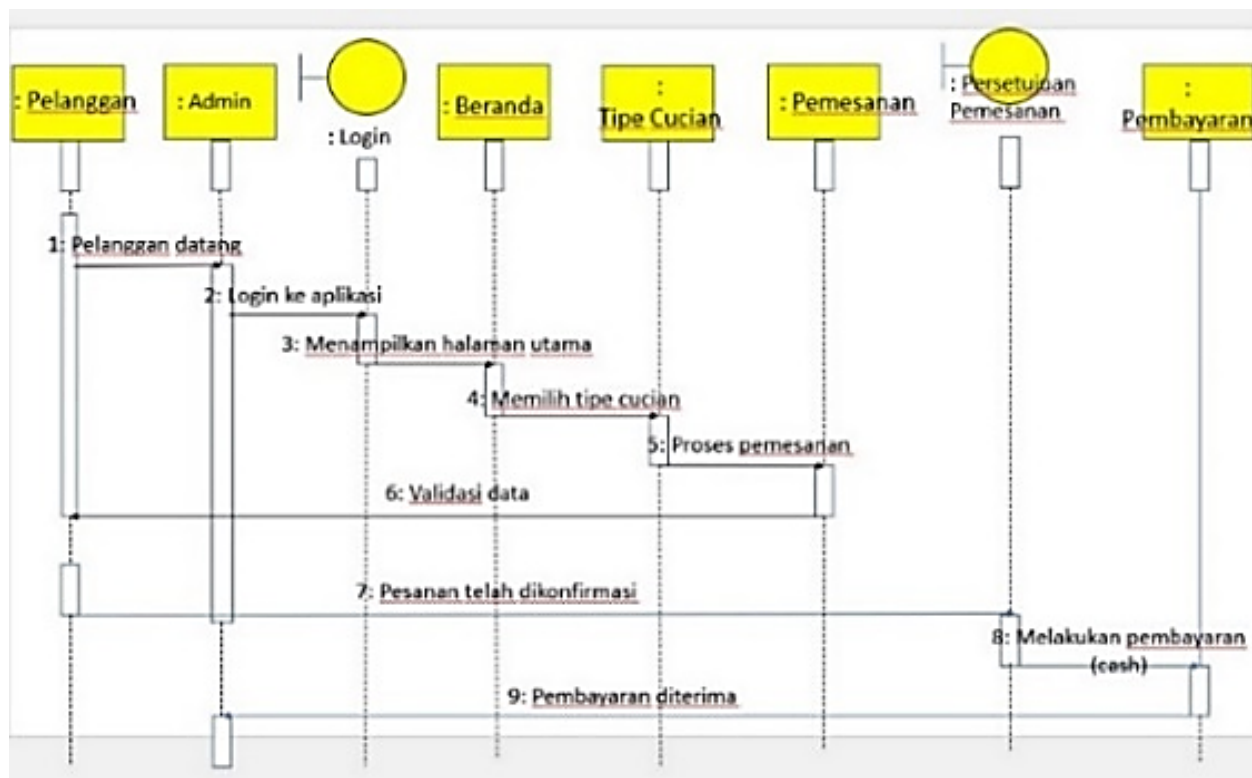


Figure 3. Sequence Diagram

The following is an overview of designing a class diagram regarding elements such as classes, attributes, methods and inheritance in our programming with the aim that the system can develop over time in Figure 4.

In figure 4 above is a class diagram of the program we have created which will run later. Of course there are several classes in the program that will run according to the commands that we programmed previously.

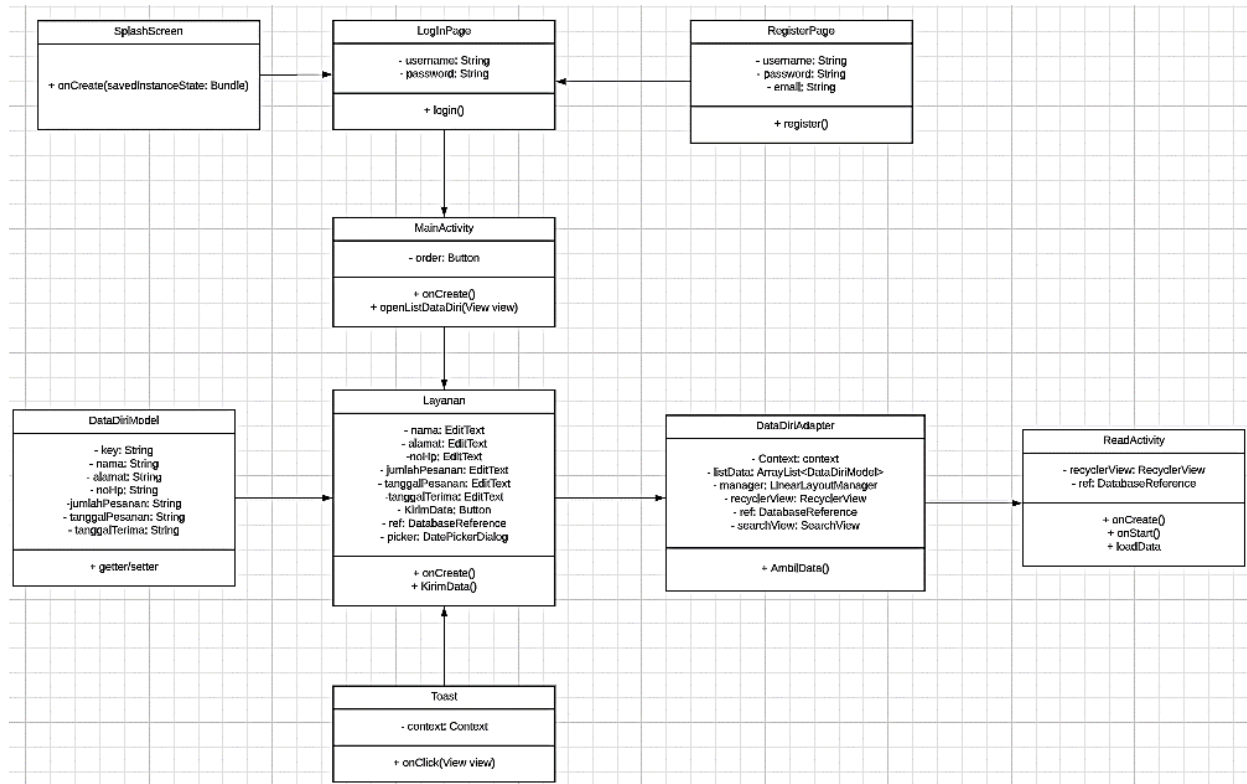


Figure 4. Class Diagram

5.3 Interface Design

The following is the interface design for the Mama Laundry application which has been designed via the web called Figma in Figure 5.

In figure 5 above is the design of the application that we will create using Figma software. And of course the application design above is a prototype where the design will definitely be changed to suit the user's needs so that it looks simple and easy to understand.



Figure 5. Interface Design

6. Results and Discussion

The following is Table 4. A snippet of the classes in our program uses the Java programming language which has been worked on in the Android Studio software.

```
public class CucuLipat extends AppCompatActivity {
    DatabaseReference ref;
    EditText nama, alamat, noHp, jumlahPesanan;
    Button KirimData;
    private EditText tanggalPesanan, tanggalTerima;
    private DatePickerDialog picker;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_cucu_lipat);

        // Inisialisasi DatabaseReference
        ref = FirebaseDatabase.getInstance().getReference("DataCucuLipat").push();

        // Mendapatkan referensi ke elemen-elemen tampilan (EditText, Button, DatePicker)
        nama = findViewById(R.id.nama);
        alamat = findViewById(R.id.alamat);
        noHp = findViewById(R.id.noHp);
        jumlahPesanan = findViewById(R.id.jumlahPesanan);
        tanggalPesanan = findViewById(R.id.tanggalPesanan);
        tanggalTerima = findViewById(R.id.tanggalTerima);
        KirimData = findViewById(R.id.kirim);

        // Menambahkan listener pada button KirimData
        KirimData.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                // Mengecek apakah semua data telah diisi
                if (nama.equals("") || alamat.equals("") || noHp.equals("") || jumlahPesanan.equals("") || tanggalPesanan.equals("") || tanggalTerima.equals("")) {
                    Toast.makeText(getApplicationContext(), "Data Tidak Boleh Kosong !!", Toast.LENGTH_SHORT).show();
                } else {
                    // Menanggil metode KirimData untuk menyimpan data ke Firebase Database
                    KirimData(nama.getText().toString(), alamat.getText().toString(), noHp.getText().toString(), jumlahPesanan.getText().toString(), tanggalPesanan.getText().toString(), tanggalTerima.getText().toString());
                }
            }
        });
    }

    // Metode untuk menyimpan data ke Firebase Database
    public void KirimData(String nama, String alamat, String noHp, String jumlahPesanan, String tanggalPesanan, String tanggalTerima) {
        DatabaseReference ref = FirebaseDatabase.getInstance().getReference("DataCucuLipat").push();
        ref.setValue(new ValueEventListener() {
            @Override
            public void onDataChange(@NonNull DataSnapshot snapshot) {
                // Membuat HashMap untuk menyimpan data
                HashMap<String, String> map = new HashMap<String, String>();
                map.put("nama", nama);
                map.put("alamat", alamat);
                map.put("noHp", noHp);
                map.put("jumlahPesanan", jumlahPesanan);
                map.put("tanggalPesanan", tanggalPesanan);
                map.put("tanggalTerima", tanggalTerima);

                // Menyimpan data ke Firebase Database
                ref.setValue(map).addOnSuccessListener(new OnSuccessListener<Void>() {
                    @Override
                    public void onSuccess(Void aVoid) {
                        Toast.makeText(getApplicationContext(), "Data Berhasil Disimpan", Toast.LENGTH_SHORT).show();
                        startActivity(new Intent(CucuLipat.this, ReadActivityCucuLipat.class));
                        finish();
                    }
                });
            }
        });
    }

    @Override
    public void onCancelled(@NonNull DatabaseError error) {
        // ...
    }
}
```

Figure 6. Source Code Snippet for Saving Data to Firebase Realtime Database

The code provided is Android Java code for a class of programs called CuciLipat. This code is used to store data entered by the user in the Firebase Realtime database. The WashFold class is an activity class in an Android application that implements the AppCompatActivity method. This code contains several example variables such as ref (databaseReference), name, address, telephone number, OrderAmount, OrderDate, ReceiveDate (all EditTexts) and SendData (button). In the onCreate method, the task layout is set using setContentView. The ref conversion starts with a reference to the "FoldWashData" node in the Firebase Realtime Database. Next, the desired view is initialized using the findViewById method with the id attribute of each item.

The click listener is added to the SendData button using the setOnClickListener method. In the click listener, the code checks if the column is empty. If the column is empty, a Toast message will appear indicating that the data cannot be empty. If all fields are filled in, the SendData method is called with the appropriate parameters. The SendData() method takes an input value and adds an event listener value to the pointer. In the onDataChange method of the value event listener, a HashMap is created to store the data entered by the user.

This data is stored in the Firebase Realtime database using the setValue reference method. If successful, a Toast message will be displayed, and the user will be redirected to the ReadActivityWashFold class. The method that cancels the event listener does nothing in the given code.

6.1 Splash Screen Page



Figure 7. *Splash Screen*

A splash screen is a page that displays the application brand (logo) for a short duration so that users don't have to wait long. A splash screen page designed for an app includes the app branding (logo), app name, and loader animation. The time required to render the designed homepage is short. Short-term design is carried out during application coding[13].

6.2 Login Page

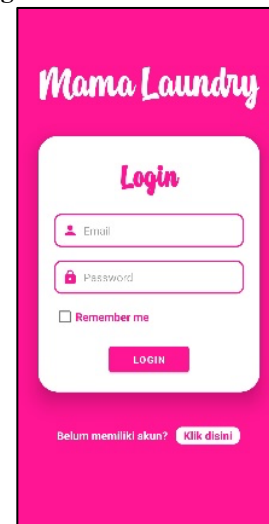


Figure 8. *Login Page*

Next there is a login page after the splash screen page. This menu is a signin and registration menu to access the system for administrators. Administrators who already have an account can directly enter their email and password[14].

6.3 Register Page

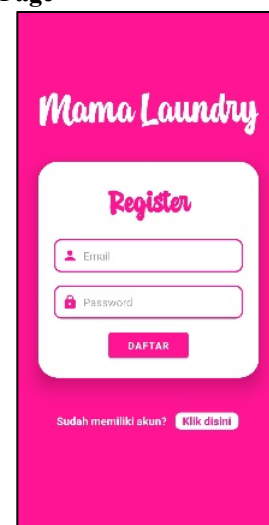


Figure 9. Register Page

The registration page is used for users who still don't have an account so they can register so they can enter the application just by entering their email and password.

6.4 Main Page

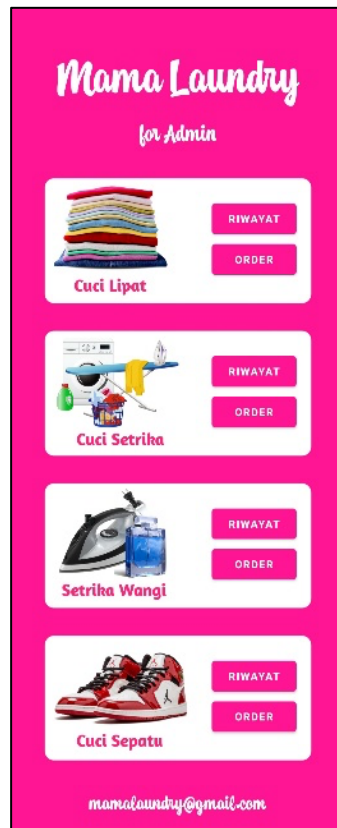


Figure 10. Main Page

This main page is one of the functional pages in this system because this main page contains 4 services in the laundry business such as folding washing, ironing, scented ironing and shoe washing.

6.5 Administration/Customer Data Collection Page



Figure 11. Cuci Lipat Service Administration Page

Because the main page has 4 services such as folding washing, ironing, scented ironing and shoe washing, now we will select the order menu for the folding washing service. This facial washing service administration page is one of the page displays that will contain the customer information system to be entered into the application using a database that has been linked via Firebase.

6.6 Order History Page

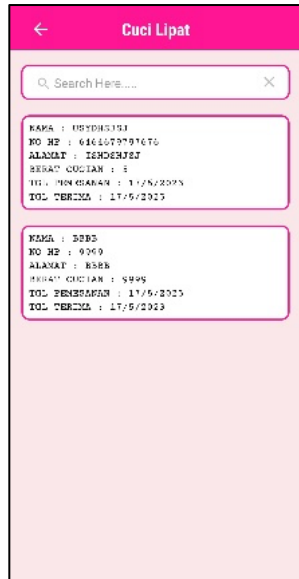


Figure 11. Order History Page

On this order history page it is quite clear that this page will display data that has been input by the administrator via the application which will also be displayed in the application because it has been linked via Firebase.

7. Conclusions and Recommendations

Based on the research that has been carried out, it can be concluded that the development of the Mama Laundry application as a solution for optimizing mobile-based business forms for the laundry business has extraordinary potential to advance skills and quality. The design of this application uses the prototyping method of SDLC in the preparation of a framework plan, which is centered on collecting specific data about user data needs.

In making the Mama Laundry application, several software were used such as Android Studio, Java, XML, and Firebase. Android Studio is used as an IDE to create portable applications based on Android, while Java is used as the programming language that is most widely used to realize application usability. XML is used to describe data structures in markup networks, and Firebase is used as a platform for storing and coordinating data with applications.

The Mama Laundry application has the potential to expand the effectiveness and accuracy in handling administrative processes. With the features in the application, administrators can easily manage client data and monitor the status of settings. Arrangement planning highlights will also help in overseeing check-in and clothing pickup plans, which can improve the customer experience. In addition, an adequate security framework will safeguard client information and maintain data confidentiality.

In an effort to make progress in Mama Laundry's client experience and app development, here are some recommendations to consider:

1. Development Stage: Create a Mama Laundry application for other stages such as iOS or Android to reach more potential clients.
2. Payment Features: Includes payment features that are more complete and easy to use, such as integration with digital wallets, mobile banking and bank transfers.
3. Improved Appearance and User Interface: Making improvements to the display and user interface to make it more modern, natural and attractive, so that users feel comfortable and up-to-date when using the application.

4. Improved Order Monitoring Feature: Added order monitoring feature with real-time settings, so admin can effectively track the status and progress of customer orders.
5. Improved Loyalty or Member Program: Create a loyalty or member program to provide motivation or some special programs to clients who are accustomed to using Mama Laundry services such as special discounts, gift vouchers, or bonus points that can be earned back for free services.
6. Expansion of Service Range: adding several new services for the laundry business so that there are more choices for customers according to customer complaints.
7. Improved Ratings and Reviews: Overhauled the client ratings and audit framework, taking into account the feature to submit criticism specifically for the client's benefit, so that the Mama Laundry group can quickly react and resolve any issues that will arise.
8. Special Promotions and Campaigns: Conduct dynamic marketing campaigns, including online publications, social media, and partnerships with influencers or general customers to expand Mama Laundry's brand perception and awareness.

8. Thank-you Note

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Reference

- [1] S. Alam, M. Yunus, and Irmah, "INFORMASI JASA LAUNDRY BERBASIS WEB," *J. Sintaks Log.*, vol. 1, no. 1, pp. 18–25, Jan. 2021, doi: 10.31850/jsilog.v1i1.682.
- [2] R. M. Winarto, A. Setiawan, and D. H. Setiabudi, "Aplikasi Laundry Nalendra berbasis Android".
- [3] B. Mulyadi, Jaroji, and A. T, "Aplikasi Sistem Pemesanan Jasa Laundry (E-Laundry) Berbasis Android," *ZONasi J. Sist. Inf.*, vol. 1, no. 1, pp. 48–57, Mar. 2019, doi: 10.31849/zn.v1i1.2386.

-
- [4] A. A. A. Makiolor, A. Sinsuw, and X. B.N. Najoan, "Rancang Bangun Pencarian Rumah Sakit, Puskesmas dan Dokter Praktek Terdekat di Wilayah Manado Berbasis Android," *J. Tek. Inform.*, vol. 10, no. 1, Jun. 2017, doi: 10.35793/jti.10.1.2017.16552.
- [5] G. R. Payara and R. Tanone, "Penerapan Firebase Realtime Database Pada Prototype Aplikasi Pemesanan Makanan Berbasis Android," vol. 4, 2018.
- [6] A. F. Ali, "RANCANG BANGUN APLIKASI PENJUALAN BARANG BERBASIS JAVA PROGRAMMING," vol. 2, no. 1.
- [7] M. Irsan, "RANCANG BANGUN APLIKASI MOBILE NOTIFIKASI BERBASIS ANDROID UNTUK MENDUKUNG KINERJA DI INSTANSI PEMERINTAHAN".
- [8] T. Wahyuningrum, "Implementasi XML Encryption (XML Enc) Menggunakan Java," *J. INFOTEL - Inform. Telekomun. Elektron.*, vol. 4, no. 1, p. 17, May 2012, doi: 10.20895/infotel.v4i1.98.
- [9] E. Susanto, T. H. Utami, and D. Hermanto, "Sistem Informasi Pemesanan Laundry Berbasis Android Di Kota Palembang," *JATISI J. Tek. Inform. Dan Sist. Inf.*, vol. 5, no. 2, pp. 158–168, Mar. 2019, doi: 10.35957/jatisi.v5i2.144.
- [10] T. B. Kurniawan, "PERANCANGAN SISTEM APLIKASI PEMESANAN MAKANAN DAN MINUMAN PADA CAFETARIA NO CAFFE DI TANJUNG BALAI KARIMUN MENGGUNAKAN BAHASA PEMOGRAMAN PHP DAN MYSQL," vol. 1, no. 2, 2020.
- [11] Y. Firmansyah, R. Maulana, and M. S. Maulana, "Implementasi Metode SDLC Prototype Pada Sistem Informasi Indeks Kepuasan Masyarakat (IKM) Berbasis Website Studi Kasus Dinas Kependudukan Dan Catatan Sipil," *J. Sist. Dan Teknol. Inf. Justin*, vol. 9, no. 3, p. 315, Aug. 2021, doi: 10.26418/justin.v9i3.46964.
- [12] M. S. Robbi and Y. Yulianti, "Perancangan Aplikasi E-Learning Berbasis Web dengan Model Prototype pada SMPN 7 Kota Tangerang Selatan," *J. Teknol. Sist. Inf. Dan Apl.*, vol. 2, no. 4, p. 148, Oct. 2019, doi: 10.32493/jtsi.v2i4.3768.
- [13] U. Simalango, A. Huda, and N. Dwiyani, "RANCANG BANGUN APLIKASI MULTIMEDIA INTERAKTIF MOBILE LEARNING," *Voteteknika Vocat. Tek. Elektron. Dan Inform.*, vol. 6, no. 2, p. 44, Nov. 2018, doi: 10.24036/voteteknika.v6i2.101986.
- [14] A. Bahrudin, P. Permata, and J. Jupriyadi, "OPTIMASI ARSIP PENYIMPANAN DOKUMEN FOTO MENGGUNAKAN ALGORITMA KOMPRESI DEFLATE (STUDI KASUS :STUDIO MUEZZART)," *J. Ilm. Infrastruktur Teknol. Inf.*, vol. 1, no. 2, pp. 14–18, Dec. 2020, doi: 10.33365/jiiti.v1i2.582.