



Development of Website-Based Office Documentation Media Information System

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Abstract

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This application is a form of development of the existing applications. Office Documentation Application is designed to store and document all activities of employees in and outside the office. In designing and developing this application, the study applied the waterfall method; then, the Javascript programming language was for the appearance, and the PHP and Mysql programming languages were for database processing. To make the application display more efficient, the researchers redeveloped this Office Document application to make it more optimal when used, both in terms of appearance and more complex functions. So, it is hoped that with the development of the Office Document application, users can get a new experience when using this application, followed by a better look and function.

Keywords: Office document application, Website, Javascript

Abstrak

Aplikasi ini merupakan bentuk pengembangan dari aplikasi yang sebelumnya sudah dibuat. Aplikasi Dokumentasi Kantor merupakan sebuah aplikasi yang dirancang untuk menyimpan dan mendokumentasikan seluruh kegiatan para pegawai di dalam maupun di luar kantor. Dalam merancang dan mengembangkan aplikasi ini, metode yang digunakan adalah metode waterfall, serta bahasa pemrograman Javascript untuk mengembangkan tampilan aplikasi dan bahasa pemrograman PHP serta Mysql untuk pemrosesan database. Untuk membuat tampilan aplikasi yang lebih efisien, peneliti mengembangkan kembali aplikasi Dokumen Kantor ini agar lebih maksimal saat digunakan, baik dari segi tampilan serta fungsi yang lebih kompleks di dalamnya, sehingga diharapkan dengan dikembangkannya aplikasi Dokumen Kantor, para pengguna dapat merasakan pengalaman baru saat menggunakan aplikasi ini, diikuti dengan tampilan serta fungsi yang lebih baik.

Kata-kata kunci: Aplikasi dokumen kantor, Website, Javascript



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1. Introduction

The development of Information Technology in this era of Globalization always experiences a rapid increase in its utilization which is increasingly diverse to adapt to the daily activities of increasingly modern humans. Some of them are information technology, media promotion, and documentation. Media are no longer limited to print, TV, and radio, of which production costs are considerably expensive; there is another method at a very affordable price, namely by utilizing the internet. In addition to its wider reach, the internet also allows people to interact directly with other people. One way to use the internet is to create a website. The internet is one of the global marketing media, where information can be easily and quickly obtained and disseminated. To create a website, programming languages are needed, such as HTML, CSS, PHP, and MYSQL. Offices, in general, often hold general meetings, seminars, training activities, and other activities, which allows a lot of documentation activities. A program was made on the Office website Documentation Application, which is currently still in its development stage. The development made focuses on the appearance of a modern and more efficient system, where the system created aims to make it easier for users to upload all office activities and categorize activities according to the desired category.

2. Method

In conducting this research, qualitative method was employed. Qualitative method is a way of doing research by focusing on measuring the quantity and the relationship between attributes using a strict procedure or process [1]. The SDLC (System Development Life Cycle) method was applied in developing this Office Documentation Application. The SDLC method refers to a process of developing a software system using models based on well-tested methods [2]. In developing this application, the type of SDLC development model used is the waterfall model proposed by Sommerville (2010). The waterfall method has five main stages: Requirement Definition, System and Software Design, Implementation and Unit Testing, Integration and System Testing, and Operation and Maintenance [3]. The waterfall development model is very helpful in developing software. The waterfall development model is presented on [Figure 1](#).

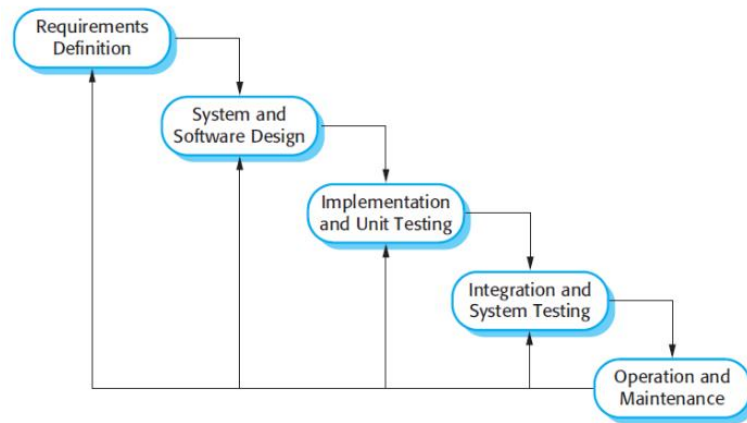


Figure 1. Waterfall Model (Sommerville, 2010).

The stages of the SDLC (System Development Life Cycle) method with the waterfall model in question-based on the waterfall flow chart above are as follows.

a. Requirements Definition

In this process, a systematic analysis of the Office Documentation Application needs to be carried out to find out and analyze what needs are needed or improved in developing this application. That way, we can immediately take development steps on this application.

b. System and Software Design

After recognizing the system in the application, it is necessary to design a system by adjusting the needs and correcting the shortcomings of the previous one to optimize and realize more efficient applications when used. This application was designed using the UML (Unified Modeling Language) modeling method to find out and determine how the system in this application will work later. Implementation and Unit Testing.

Implementation refers to the implementation stage of the results of the design that we made earlier. The implementation aims to produce an information system that fits the needs. To implement the results of the designs that have been made, the system design was translated into code using programming languages such as HTML, CSS, and Javascript as user display building tools and the PHP and MySQL programming languages for database processing on the Office Documentation Application system, which is very necessary for the development process of this application in the future. Hyper Text Markup Language (HTML) is a structured programming language developed for web pages that can be accessed or displayed using a web browser. HTML was created by Tim Berners Lee and developed by the World Wide Web Consortium (W3C). The development of the HTML language has now entered the HTML 5 version, the latest version of

HTML that does not only support images and text but also interactive menus, audio, video, and so on [4]. CSS, which stands for Cascading Style Sheet, first appeared after the emergence of SGML (Standard Generalized Markup Language) in the 1970s. The basic format of CSS that is commonly used by people is the idea of Hakon Wium Lie in 1996. CSS provides an easy and efficient way for programmers to determine the layout of web pages and beautify pages with design elements such as colors, rounded corners, gradients, and animation [5]. JavaScript is a high-level and dynamic programming language. JavaScript was first designed by Brendan Eich and developed by Netscape Communications Corporation, Mozilla Foundation JavaScript. JavaScript is classified as a client-side scripting language (Client-Side Script Programming). Currently, JavaScript is not only used on the client-side (browser) but also on servers, consoles, desktop programs, mobile, the Internet of Things, games, and so on [6]. PHP stands for Hypertext Preprocessor, which is a programming language designed specifically for web development. PHP has Server-Side properties because PHP is run or executed from the server side. The purpose of running the server side is PHP is run on the server computer and not on the client computer. Almost all large and popular websites are developed using PHP. such as Facebook, Twitter, Wikipedia, WordPress, and other big sites [7]. MySQL is a free database server licensed under the GNU General Public License (GPL) so that it can be used for personal or commercial purposes without having to buy an existing license. MySQL is included in the type of RDBMS (Relational Database Management System). Terms such as rows, columns, and tables, are used in MySQL. For example, in a MySQL database, there are one or more tables. MySQL is a database engine or database server that supports SQL database language as an interactive language for managing data, multithreading, and multi-user [8]. PHP will be used as the backend of the website. MySQL is used as the database of the website [9].

c. Integration and System Testing

Then after that, it is necessary to test the system. The method used in the development of this application was the BlackBox testing method. Blackbox testing is a stage or process in testing the results of the execution or design that has been built to find out and check the functionality of the system being tested [10].

d. Maintenance

After all stages of the method are carried out, it is necessary to manage or maintain the system that has been developed.

3. Results and Discussion

a. The System Design

System design is carried out to provide an overview of the system to be proposed. [11] In designing this Office Documentation Application system, UML (Unified Modeling Language) diagrams was used, namely user case diagrams and class diagrams.

1) User Case Diagrams

User case diagram is a diagram that describes any activity between the actor and the system. The User case diagram in this system involve one actor, namely admin. Admins can carry out activities including Login, managing galleries, managing image uploads, managing image edits, and print data, and managing reports. Use case diagram presented in **Figure 2**.

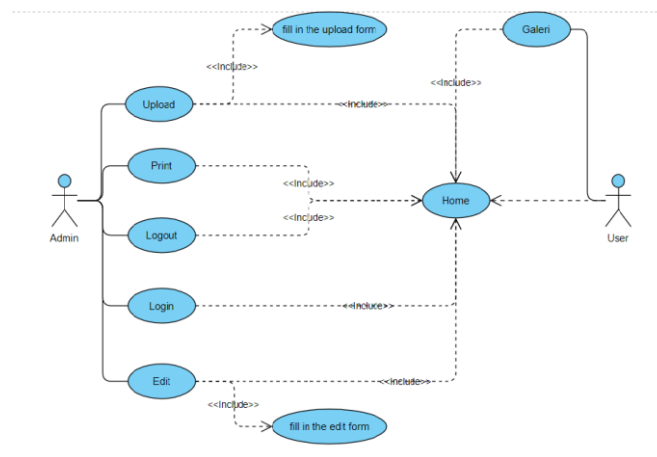


Figure 2. User Case Diagrams

2) Class Diagrams

Class diagrams describe the state (attributes) of a system, as well as offer services to manipulate these conditions (methods). Four class diagrams were developed in this system, including admin, login, home, and gallery. Class diagrams is presented in Figure 3.

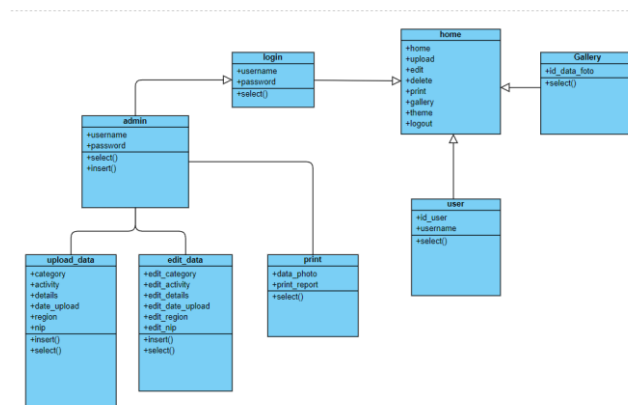


Figure 3. Class Diagrams

b. System Implementation

1) Login Page

The Login page is the page that first appears when accessing the Office Documentation Application. On this page, the user must enter a username and password to be able to access the application and enter the main application page. Login page is presented in **Figure 4**.

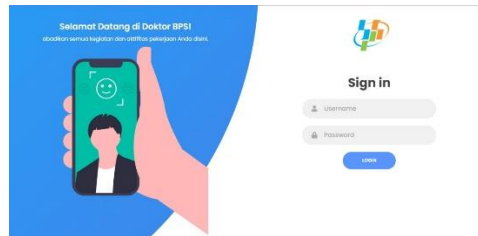


Figure 4. Login Page

2) Home Page

Home is the main page that will appear when the user successfully logs in after entering the username and password. On this page, there are several menus that can assist in managing activity documentation such as Print, Gallery, Upload, and Friends. Home page is presented in **Figure 5**.

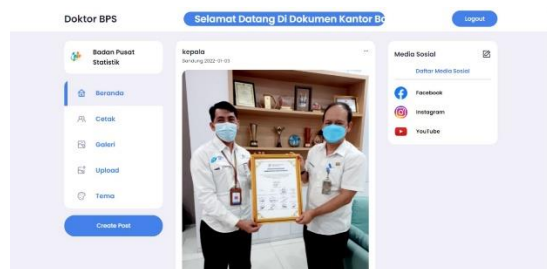


Figure 5. Home Page

3) Print

The print menu is a menu for downloading all the photos in the Office Documentation Application in PDF form to provide reports if needed. Print figure is presented in **Figure 6**.

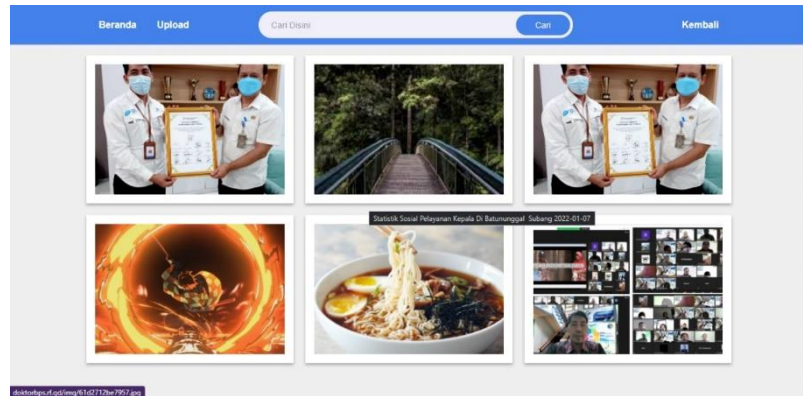
Daftar Data Foto

No.	Gambar	Subjek	Kegiatan	Detail	Tahun	Wilayah	NIP
1		Sp2020	Pelayan	ZOOM Meeting BPS Kota Bandung Jumat 23 Juli 2021 pukul 10.00 wib s.d selesai dengan agenda "Membacakan Teks Pancasila" sebagai implementasi	0000-00-00	Bandung	1314115
2		Neraca Wilayah dan Analisis	Pencatatan	Pencatatan SP2020 di Kecamatan Lengkong kecil	2021-12-30	Bandung sadas	1245156341
3		SP2020	Pencatatan	Pencatatan SP2020 di Kecamatan Lengkong kecil	2021-12-30	Bandung	1156711

Figure 6. Print

4) Gallery

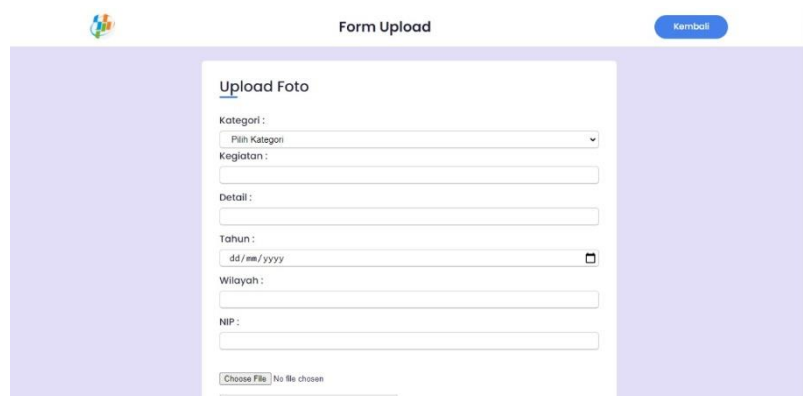
A gallery is a place where the photos of the documentation that have been uploaded by the user from this application are stored. In the gallery, there is a search function to find the photo that we want to open by entering the name of the photo that was previously written in the upload form. Gallery is presented in [Figure 7](#).



[Figure 7](#). Gallery

5) Upload Form

Upload Form is a menu for uploading photos of office activities and documentation activities, where some data must be inputted first to classify the types of activities and determine the date when the photos of these activities are uploaded. Upload page is presented in [Figure 8](#).



[Figure 8](#). Upload Page

6) System Test

At this stage, testing on a software system is very necessary to find out and test whether all the attributes involved in the system are running according to the design that has been made before until later used by the user. If it turns out that after testing the system, an error is found in this application system, it can be repaired and re-developed. In the testing process, the method used was the BlackBox testing method. The results of the system testing that has been carried out can be seen in the [Table 1](#).

Table 1. Blackbox Testing on Office Documentation Applications

No.	Testing Scenario	Expected results	Results after testing
1	Login only by filling in the username field using a valid email address without inputting a password.	The system in the application will refuse to log in because it only inputs the username without entering the password.	Successful / appropriate
2	Login using the wrong username and password (invalid email).	The system will refuse to login and a notification will appear "Incorrect username and password"	Successful / appropriate
3	Login without entering username and password.	The system will refuse to login and a "please fill in" notification will appear.	Successful / appropriate
4	Fill in the username and password fields using a valid email address, then press the "Login" button.	The system will accept and then display the main application page.	Successful / appropriate
5	Upload new data to the main page by filling in the data in the fields provided by pressing the "Submit" button.	The system will upload the data to the main page and stored in the database.	Successful / appropriate
6	Clear one of the data on the upload form page.	The system will refuse / fail to upload data to the main page because there are empty fields.	Successful / appropriate
7	Adding data/files on the upload form with a file size exceeding the requirements on the system created (maximum 10 Mb).	The system will refuse to upload the selected file / data because the file size exceeds 10 Mb.	Successful / appropriate

Based on the results of testing the Office Documentation Application using the BlackBox testing method above, it can be seen that the system works by the design and testing expectations. So testing on this application system is successful.

4. Conclusion

Based on the results of the design and development that has been carried out in developing the Office Documentation Application, it can be concluded that:

- a. The development of the Office Documentation Application can help staff and employees in the office in managing assets in the form of documenting activities and staff performance while carrying out their duties properly and safely which is managed in a web-based information system.

- b. The development of this Office Documentation Application also has a new design and appearance so that it can provide a memorable experience for users when using this Office Documentation Application.

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