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Employee Information System Design Of KAI Property Management Limited Liability Company Medan Based On Android

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ABSTRACT

Indonesian Railways Limited Liability Company Property Management or KAI Property Management Limited Liability Company Medan is one of the subsidiaries of KAI Limited Liability Company which was established in 2009 with core businesses in the fields of construction, property, trade and maintenance of railway infrastructure and its supporting facilities. In the process of importing employee data at KAI Property Management Limited Liability Company Medan still uses manuals, so to make it easier to collect data, it makes an employee information system that is easy to use and quite safe. This study used waterfall, uml, and blackbox methods. The waterfall method consists of analysis, design, development, testing, and deployment, and uml used usecase diagrams, activity diagrams, and sequence diagrams. The results of this study are in the form of an information system design that uses codular as an android application maker that can help in terms of processing office employee data.

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1. INTRODUCTION

The advancement of information technology today is driven by the many demands on technology and information systems that are very accurate, efficient and effective. The development of computer technology today greatly impacts human performance as an operating system, which has led to the transition to computer information systems getting deeper. In recent years, various Internet applications have emerged due to the development of information and communication technologies [1].

Limited Liability Company KA Property Management or KAI Properti is one of the subsidiaries of the Indonesian Railway Limited Liability Company (Persero) which was established in 2009 with core businesses in property, construction, trading and outsourching. The Construction Business is devoted to railway infrastructure and its supporting facilities. The Trading Business is aimed at meeting the needs for spare parts for railway facilities and infrastructure, and the the Property Business focuses on developing and optimizing land owned by KAI and partners.

When carrying out the research, there were several obstacles, one of which was the management of employee information which was still carried out manually causing several errors in filling in employee data and in the process took a very long time due to the large number of employees who had to be recorded. Therefore, an idea was sparked to create an information system that can help manage existing data, especially employee data management which can greatly facilitate and increase work effectiveness and does not take time that can be used by employees to fill in data independently.

According to Tohari Hamim, "Information is data that is processed in such a way that it has a more useful meaning for its users." [2].

Pamungkas in his research entitled "Development of Learning Media Using Codular in Branching and Looping Materials to Improve Student Understanding" stated that applications made from codular can improve student outcomes and are worth using [3].

Setiawan in his research entitled "Design to Build Android-Based Learning Media Without Coding is as Easy as Compiling a Puzzle" stated that android-based teaching media now does not always require programming knowledge, without

programming knowledge teachers can make android applications based on hybrid programming technology as offered by the codular platform, the results of testing all the functionality of the application can be accepted by users and the implementation of the results of the development of teaching materials on mobile devices is successfully carried out without any problems installing [4].

Rahma in her research entitled "Development of Codular-Based E-handout teaching materials for Gebang Palace Material for History learning at State High School 1 Blitar" stated that codular is very helpful in making creative applications that can increase students' interest in learning [5].

Cholid, according to him, codular is very helpful in terms of developing students' talents because it can provide various visuals for learning materials [6].

From the various predecessor quotes above, the idea came up to create an employee information system that uses a website that provides convenience in making android applications called codular. Kodular is a website that provides tools for creating android applications with the concept of drag-drop block programming.

2. RESEARCH METHOD

Research methods are one of the ways carried out in order to obtain information needed in preparation. In this study, several research methods will be used, namely [7]:

1. Observation

Research is carried out by coming directly to the field, observing and analyzing problems with the object that has been selected.

2. Interviews

The next stage is to conduct interviews with related parties and make observations so as to obtain the necessary data in this study.

3. Literature Study

By collecting journals, articles and books that are sources according to the topic of the problem that will be discussed in this study.

2.1 Waterfall Method

The waterfall method is a method that provides a sequential approach to the existing lifeline of software that begins through analysis, design, coding, testing, and support stages [8]. Here's what the waterfall method looks like:

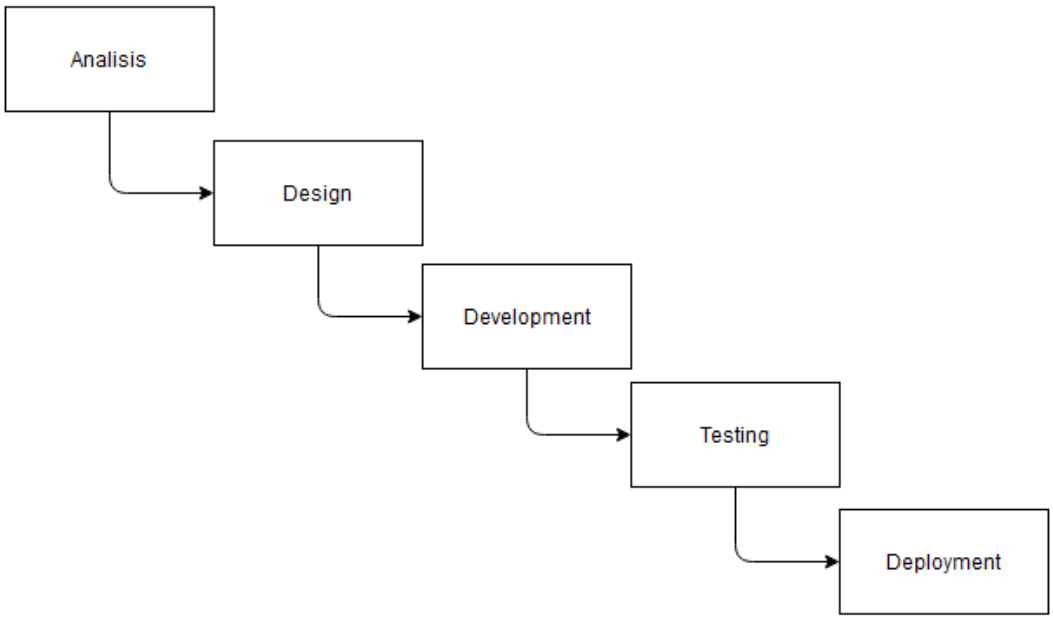

Figure 1 Research Method

The following is an elaboration of the stages of the waterfall method:

a. Analysis

At this stage, an analysis is carried out for the needs of the web to be designed and created. Includes Inputs and Outputs. The analysis was obtained from case studies and observations of KAI Property Limited Liability Company.

b. Design

There is this stage done web designing that will be created to give an overview of Android. Includes input and output design. For the Design of the Employee Information System of KAI Properti Limited Liability Company.

c. Development

On this Hold uses codular to create design and design programs

d. Testing

At this stage an experiment is carried out to run the program. In this study, we will use the blackbox testing method.

e. Deployment

At this stage it is deploying an application for use by employees.

3. RESULTS AND DISCUSSION

3.1. Analysis

The management of employee data at KAI Property Limited Liability Company still uses a manual method when inputting or updating employee data. There is also a lot of data inputted which makes admins overwhelmed in inputting it. The following is an example of a picture of employee data collection at a KAI Property Limited Liability Company :

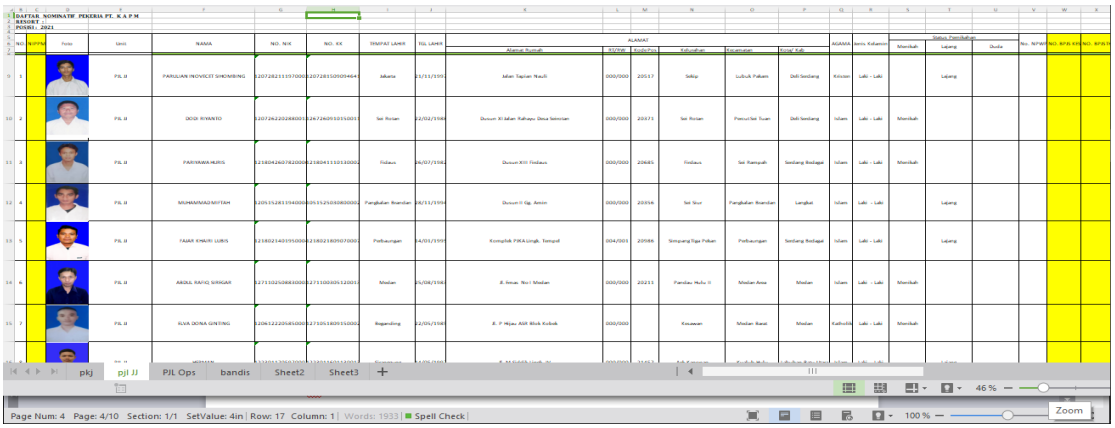

Figure 2 employee data collection

3.2. System Design

1 Use Case Diagrams
This diagram is a modeling method that describes the information system to be designed [9]. In Use case it only tells what the actor did to the system. To make it easier to understand, we can see the image below:

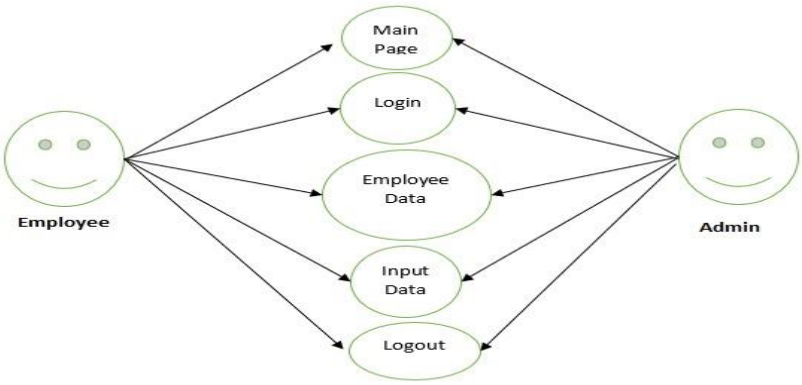

Figure 3 Usecase Diagram

It can be seen from the picture above consisting of 2 actors, namely employees and admins.
2 Activity Diagram
This second diagram is an overview of the workflow and activities of the system that are already available in the software [10]. To make it easier to understand, we can see the image below:

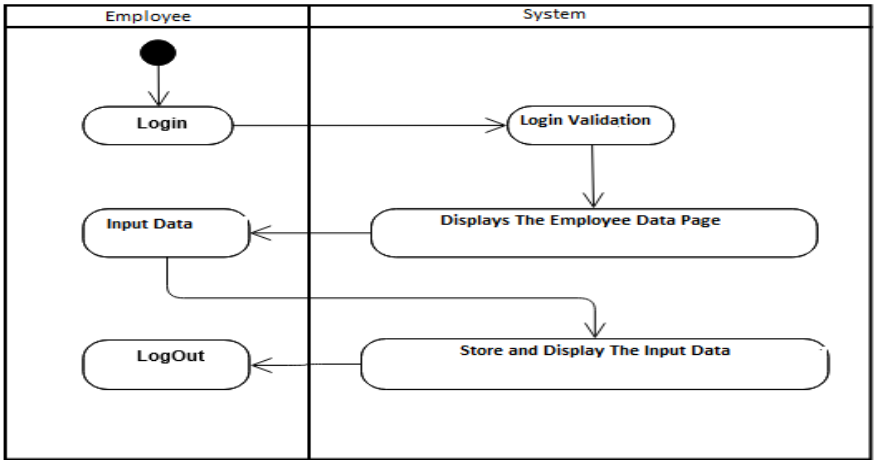

Figure 4 Activity Diagram

3 Sequence Diagram

This third diagram is a form of illustrative description of the relationship between objects in the time sequence [11]. To make it easier to understand, take a look at the image below:

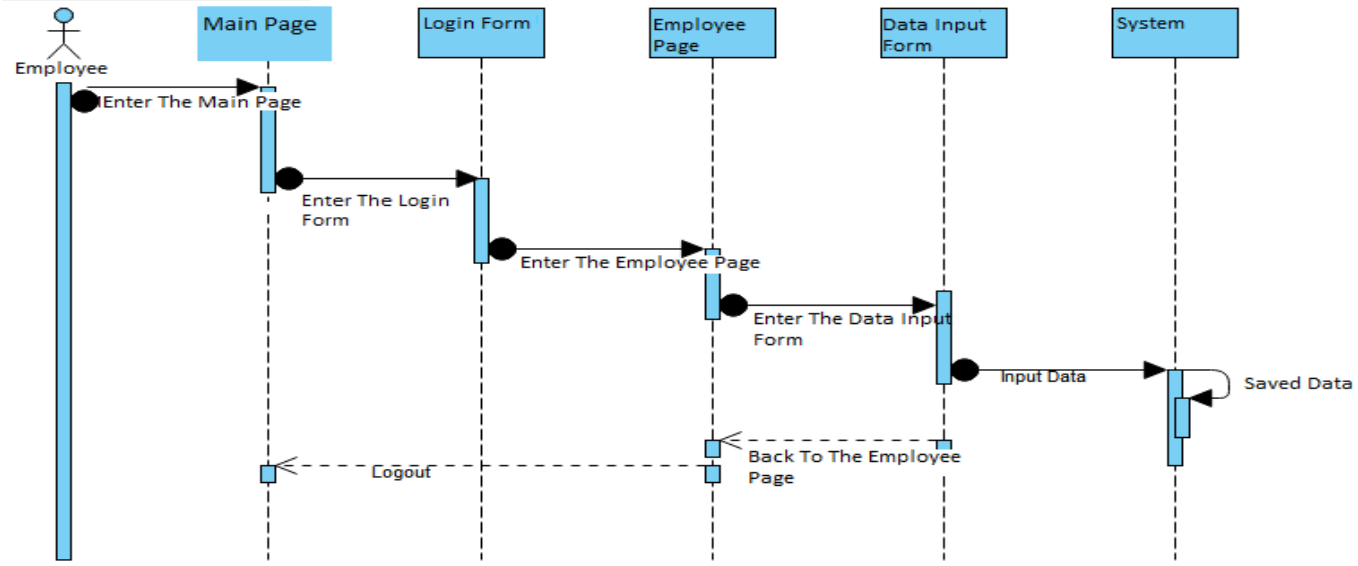

Figure 5 Sequence Diagram

4 Deployment Diagram

This diagram is a depiction of the physical architecture contained in the software, hardware and artifacts of a system [12]. To make it easier to understand, we can see the image below:

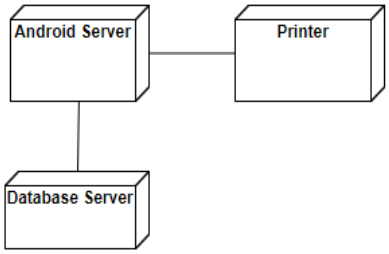

Figure 6 Deployment Diagram

3.3 System Implementation

System implementation is an activity or activity after the creation and determination of a policy. In this implementation process, there are a series of activities such as leading work, organizing, and controlling the ongoing work process. An implementation process generally does not stand alone.

1 Main Page

The main page is created as the front page view of the application. On this main page contains a login button which when clicked will take us to the login page. Below is the main page display on the application.

Figure 7 Main Page

2 Login Form

The Login Form is used to secure the application so that only the user who has access to the application can access it. As in this application, only admins and employees who have been given usernames and passwords have been given a username and password in order to access the application. Below is the display of the login form on the application.

Figure 8 Login Form

3 Employee Page

After the employee logs into the application. The app will display the employee data page. Inside the employee page there is a data fill button which when clicked will take us to the employee data content page, below is the employee data page applied.

Figure 9 Employee Page

4 Fill in Employee Data Page

The employee data body page is used to input employee data.

Figure 10 Fill in Employee Data Page

The Image above Displays a Page where Employees will fill in data later. Such as the Employee biodata form starting from name to status and to add a photo click ***Tambah Foto*** to add a photo, Then click ***Selanjutnya*** to display the next page.

Figure 11

The picture above is a form for filling in data for important numbers such as NPWP, BPJS, Bank Account numbers to the cellphone numbers of the next of kin. Then click ***Selanjutnya*** to display the next page.

Figure 12

The picture above is the data filling form the work area and click ***Simpan*** to save all the data.

3.4 BlackBox Testing

Blackbox-testing is a method used to try out software that has been designed, either testing on small units or results that have been functionally integrated into software [13]. The Blackbox test method is one of the easiest ways that is most often used, because it only uses the lower limit and upper limit of the expected data. Estimation of the amount of data to be used for calculation through the number of entry data fields to be tested, the entry rules must first be met through the case of the upper limit and lower limit that meet [14]. Blackbox testing on this system can be seen in the table below:

App Name : Aplikasi Karyawan PT KAI Properti. Is an application specifically for PT KAI Property Employees				Test Date : 20 Mei 2022 Tester : Admin	
	Tested pages	Action	Reaction Systems		Result
			True	False	
1.	Main Page	Click the Login Button	Sign in on The Login Page	Not Sign in on The Login Page	As Expected (Valid)
2.	Login Page	Entering Username and Password	Sign in on The Employees Page	Not Sign in on The Employees Page	As Expected (Valid)
3.	Employees Page	Click Data Input	Sign in on The Fill in Employee Data Page	Not Sign in on The Fill in Employee Data Page	As Expected (Valid)
4.	Fill in Employee Data Page	Click Save	Stored Data	Not Stored Data	As Expected (Valid)

4. CONCLUSION

After conducting research at KAI Property Limited Liability Company, conclusions can be drawn, namely the compounding of the employee information system with the waterfall method can facilitate and help admins and employees in filling in

employee data. Testing the employee information system using blackbox identifies that in the system that has been designed there are no errors found in the data structure or database access, so with it the application system has worked according to the expected goals.

5. SUGGESTION

In this research there are still many shortcomings that may be refined in the future by future research. Suggestion that can be used is that the application might be more user friendly so that it is easier to use again and maybe more features can be added.

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