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Development Of Employee Attendance Information System Using Quick Response Code In Bekasi City Education Office

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Abstract

Attendance can be said as a sign of a presence which is an activity of Reporting in a company or government agency, except for the attendance system in the Bekasi city education office which generally still uses the finger print attendance system. Where this is still inefficient because the current situation still has to be completely limited by the effects of the covid-19 pandemic, therefore it is very necessary to implement an online attendance system development that can be used by employees in the Bekasi city education office. The purpose of this study is to develop an online attendance information system using the "Quick Response Code" where with the implementation of this online attendance system, employees can directly scan the Qr Code using an Android smartphone. The design of this online attendance system uses the Unifield Modeling Language (UML) method. The script editor used is Android studio and visual code. The results of making the development of this online attendance system in the form of an attendance system that can be done online so that the attendance process carried out by employees becomes easier and more effective to use.

Keywords : *Attendance attendance, Qr Code, Android Studio, Visual Code, Unifield Modeling Language.*

Introduction

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Employee attendance is an important factor for an agency or company to achieve goals, this is related to discipline and has an impact on the performance of each employee. For this reason, it is necessary to develop a special data collection system to record attendance so that employee activities at work can be recorded in real time and properly. One of them uses computer technology where its application is an attendance application using a Quick Response Code (QR Code) (Subiantoro & Sardiarinto, 2018). [3]
At the Bekasi City Education Office, the system used by employees when attending attendance still uses fingerprint attendance. However, in the midst of current conditions that do not allow fingerprint attendance, it is still vulnerable and can cause crowds. For this reason, it is necessary to implement an online attendance system that can be applied to the Bekasi City Education Office as a fingerprint replacement attendance tool to improve employee discipline when attending attendance. The online attendance system has been widely implemented in offices or other companies, in order to make it easier for employees when taking attendance.
With the solution to develop an online attendance information system is to use a Quick Response Code (QR Code). The workings of the QR Code system is by scanning the QR Code using an android mobile phone. With very rapid technological advances and fast Quick Response Code (QR Code) is needed, especially in attendance because the online attendance system is very good to be applied to the agency[1].

This research was conducted at the Bekasi City Education Office to make it easier for employees when doing attendance online, a Development of Employee Attendance Information System Using Qrcode was made at the Bekasi City Education Office which could be an online attendance system instead of fingerprints, to make it easier for employees when doing attendance attendance using a qrcode that can be directly scanned on an android phone. In addition, with an online attendance system, employees can avoid crowds

because with the implementation of the use of online attendance using a Quick Response Code (QR Code) [2].

Methodology.

The method used is the Waterfall method. This method has been used in general and widely to build software applications. This study uses the Waterfall method in its research because its application is easier and easier to understand. Even so, this method must be carried out from the beginning of the process to the end and usually this method is more time consuming even though the project being carried out is not as large as in the design method for developing employee attendance information systems using a quick response code (qr code) at the Bekasi city education office. Waterfall stages in this study are as follows:

Requirements

This stage is the stage of analyzing the initial design of the application to be built, at this stage it will begin and determine what type of attendance application will be made and the features in the application.

Design

In the System Engineering process, in this process the interface is also designed, application design, background design, object design, the algorithm you want to use, the software you want to use and the purpose of the system has been determined to make the development of an attendance information system using a QR Code, such as doing application design design.

Coding and Testing

At this stage the researcher tested the attendance information system using the qr code.

Maintenance

In this process, after the software has been completed, the attendance information system will be run and maintenance carried out, fixing bugs or crashes from applications that have been built. Maintenance includes fixing errors not found in the previous step.

Result

At this stage the author will prepare the equipment used in making the online attendance system, such as hardware (hardware) and software (software) as a support in the process of making an online attendance system for these employees.

Hardware Specifications (Hardware)

The types of hardware (Hardware) used by the author in making the online attendance system are as follows.

Table1. Complete Specifications

Complete Specifications	
Type	Lenovo ideapad 320
Processor	AMD A9
Ram	4 Gb
Operating System	Windows 10

The hardware used in testing the employee's online attendance system application is as follows:

Table2 Android Hardware Specifications

Spesifikasi Hardware Android	
Type	OPPO A5
Processor	Qualcomm Snapdragon 665
Ram	3 Gb
Ver. ColorOS	V7.1
Ver. Android	10

Application Program
Menu Display on Android
Login

Fig 1. Login

Attendance Menu

Tanggal	Jam Masuk	Jam Pulang	Keterangan
2021-11-05	08:00	Belum Pulang	
2021-11-08	09:19		WFH
2021-11-09	08:30	-	WFO
2021-11-10	08:00	17:00	Cuti
2021-11-11	08:00	17:00	Cuti
2021-11-12	08:00	17:00	Cuti

Fig 2. **Attendance Menu**

Sick Submission

Fig 3. Sick Submission

Attendance Report

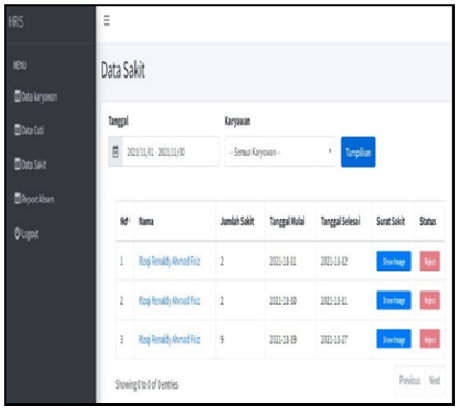

Fig 4. Attendance Report

Sick Confirmation

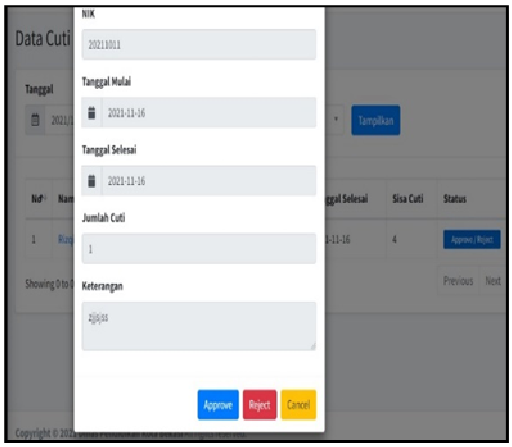

Fig 5. Sick Confirmation

BlackBox Test Results

The results of testing with the black box method show that all the features in the online attendance system application using a qr code can run well and smoothly without any problems. Details of the test results can be seen in the table below.

Table 3 Test Results of the Black Box Method

Skenario Pengujian	Hasil Pengujian	Kesimpulan
Melakukan Login	Menampilkan menu login	
Melakukan Absen Masuk	Menampilkan Form Absen Masuk	Succeed
Melakukan Absen Pulang	Menampilkan Form Absen Pulang	Succeed
Melakukan Scan Qr Code	Menampilkan Qr Code Absensi	Succeed
Melakukan Pengajuan Cuti	Menampilkan Form Pengajuan Cuti	Succeed
Melakukan Pengajuan Sakit	Menampilkan Pengajuan Sakit	Succeed
Membuat Data Karyawan Baru	Menampilkan Form Data Karyawan Baru	Succeed
Membuat Laporan Absensi	Menampilkan Form Laporan Absensi	Succeed
Melakukan konfirmasi cuti atau sakit	Menampilkan form pengajuan cuti atau sakit	Succeed

Conclusion

Based on the results of testing and research results from the application of Qr Code technology for attendance at the Bekasi City Education Office in preparing this thesis, the following conclusions can be drawn: Based on the results of testing this online attendance application, the application can be done using a smartphone by scanning the Quick Response Code (Qr Code), Can avoid crowds of employees at the time of attendance, This online attendance system can be used by employees when they are outside the office or working from home.

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