Meeting Attendance Design Using Web-Based Qrcode On Diskominfo Kota Tebing Tinggi

M. Fahri Aditya Nasution[1], Latifah Hanum[2]

Program Studi Sistem Informasi Universitas Islam Negeri Sumatera Utara, Indonesia[1]
Program Studi Sistem Informasi, Stmik Triguna Dharma, Indonesia[2]

ARTICLE INFO	ABSTRACT
	Attendance is an activity carried out by a person to prove himself or not present in a meeting. The current condition of the presence of the meeting in the High Cliff City Diskominfo is still done by manual handwriting. This is ineffective and efficient and causes inaccurate attendance data obtained, so a system is needed that makes attendance effective and efficient for employees of the agency. Therefore, the Meeting Attendance System Design was created using a Web-based QR Code with PHP programming language and MySQL database. The system was created aimed at facilitating the process of the presence of agency employees and making it easier for High Cliff Diskominfo in the data of employees who have done absenteeism. The system is made by utilizing QR Code technology to make it easier for employees to do attendance absences no longer write manuals but by only scanning QR Codes when for absence. The system created has a QR Code scanning feature from qr code that has been created in admin, for scanning can use a webcam on a Personal Computer (PC). The implementation of this QR Code, is expected to make the attendance system easier and is expected to facilitate employees of the High Cliff City Diskominfo in carrying out meeting absences.

Corresponding Author:

M.Fahri Aditya Nasution,
Department of Information Systems, State Islamic University of North Sumatra, Medan,
Email: fahriadityanasution@gmail.com

1. INTRODUCTION

The rapid development of technology and information in this era is related to the growing need for data and information, because data and information can be used as a good foundation in control activities and operational planning in the future. The communication and informatics office commonly also called kominfo is authorized to give permission related to its field and in the area of its work area. Some licensing management under the cominfo such as Electronic System Supervisory Permit, Telecommunication Network Implementation Permit, Telecommunication Service Implementation Permit, Broadcasting Implementation (Private Broadcaster and Subscription Broadcaster), License for The Principle of Implementation of Telecommunication Services, License of Special Telecommunication Implementation Principles for Legal Entities, License of Telecommunication Network Implementation Principles, Certification of Telecommunication Devices and Devices, to Permits Radio station. In addition, kominfo is also authorized in formulating services and websites that can operate, websites that are not in accordance with policies and laws will be subject to website blocking policies. Kominfo also has a role as the implementer of communication and informatics development through programs such as digitalent and others. In addition, kominfo also often conducts meetings to discuss an agenda that will be implemented in The City of Tebing Tinggi, one example such as discussing the agenda regarding the transition to digital tv and other agenda discussions. However, the current condition of the presence of the meeting in the High Cliff City Diskominfo is still done by manual handwriting. This is ineffective and efficient and causes inaccurate attendance data obtained, so a system is needed that makes attendance effective and efficient for employees of the agency. Then it is necessary to create a meeting attendance system to make it easier for employees to do the absence.

2.   RESEARCH METHOD

2.1   Data Analysis

Data analysis aims to facilitate in making a meeting attendance design using a Web-based QR Code in Diskominfo Kota Tebing Tinggi. The data used for the creation of this meeting attendance application is as follows:

a. Attendance Data

Absentee data Divided into 2 is in the form of incoming and absentee attendance data. Both types of absences are data.

b. Schedule Data

This schedule data is presented to an employee who wants to know the list of meeting schedules and data created in the admin when there are meeting activities.

c. Agency Data

Agency data is created to create a QR Code in placing which location will be created qr code.

2.2 System Analysis

a. System

A system is a group of components and elements that are combined into one to achieve a specific goal. [1]

b. Information Systems

An information system is a collection of elements that are interconnected and serve to process, collect, distribute and store information that is useful as a support in decision making and supervision in the organization. [2]

c. System Planning

System design is the stage of the system development cycle which can be defined as the stage of defining functional requirements and describing how a system is formed. [3]

d. Absenteeism

Absenteeism can be said to be a collection of attendance that is part of the reporting in an institution. Absences are arranged and arranged so that it is easier to be searched and used when needed by interested parties. [4]

e. QR Code

Quick Response Code or commonly referred to as QR Code is a two-dimensional barcode introduced by Japanese company Denso Wave in 1994. A QR code is a two-dimensional matrix image that has the ability to store data in it. QR codes are an evolution of barcodes.

f. Web Browser

A web browser is a program for displaying pages in the form of HTML code. All web pages are written in HTML (Hypertext Mark Up Language). Even if some files have different extensions (eg .html, .php, .php3), the output of these files is still HTML.[5]

g. Website

A website or often abbreviated as a site is a number of web pages that have related topics, sometimes accompanied by image files, videos, or other types of files. [6]

h. CSS

Cascading Style Sheet (CSS) CSS is a way to make the format or layout of web pages more attractive and manageable. [7]

i. PHP

PHP or which stands for PHP Hypertext Preprocessor is a programming language that is used to build a dynamic website. PHP is integrated with HTML code, so it is a different condition. HTML is used as a builder or foundation of the web layout framework, while PHP serves as a process so that with the PHP, a web will be very easy to play. [8]

j. XAMPP

XAMPP is the most widely used server. The features are complete. Easy to use beginner PHP programmers because all you need to use is to run one of the modules called Apache that can process PHP. [9]

2.3 System Plan

1. Flowchart Chart

Flowchart is a chart that shows the flow in a program or system procedure logically Flowchart is used primarily for communication aids. [10] Flowcharts are charts that have currents that describe the steps to solve a problem. Graphical depiction of the steps and sequence procedures of a program. Flowchart helps analysts and programmers solve problems into smaller segments and helps in analyzing other alternatives. Flowchart Website can be seen below:

a. Flowchart Running System

The explanation in Figure 1 is flowchart before the application of Absentee Meeting of employees who still do absenteeism manually using the absentee book. The absentee book contains the date, employee's name and employee's signature. The employee performs the absence by way of signature on the Absentee book.
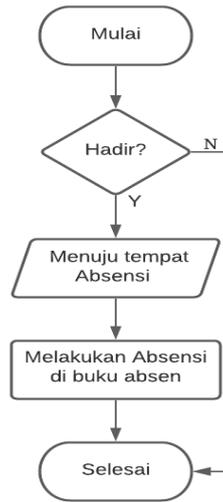
Figure 1 Flowchart Running in Meeting Absence

b. Flowchart Proposed System

In figure 2 below can be seen the absentee flowchart system begins by entering the main menu page where there are two options, namely absentee entry and absentee exit. Then after choosing between the two it will enter the absentee page in or out. After that, scanning QR Code to input data. Furthermore, if you have input all the data, it will be processed to display the results of absences in the absence data in the admin and do the storage process to the attendance database. If it fails to input all data, it will be redirected to the entry or exit absence page.
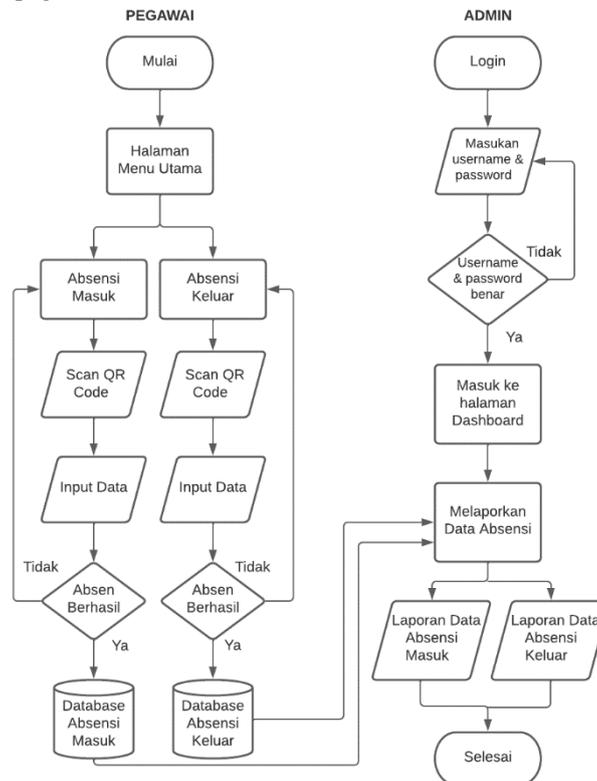
Figure 2 Flowchart Proposals on Meeting Attendance Applications

2. Unified Modelling Language (UML)

Unified Modeling Language (UML) is a language based on graphics or images to visualize, specify, build, and document an OO (Object-Oriented) based software development system. [11]

UML Can Simplify the complicated software design process, create blueprints for construction. It is important to note that although UML brings structure to the process of modeling and creating *project diagrams*, it is not a development methodology and does not provide any formal structure related to how diagram techniques are used. [12] The diagrams used in this design are usecase diagrams, activity diagrams, and sequence diagrams.

a.   Use Case Diagram

Is a diagram that works by describing the typical interaction between users (users) of a system with a separate system through a story of how a system is used. Use case diagrams consist of an actor and the interactions he performs, these actors can be

humans, hardware, other systems, or those that interact with the system. [13] The use case system diagram of the study can be seen in figure 3
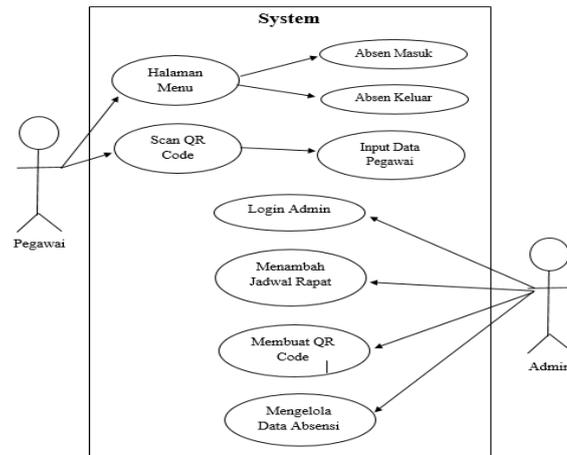
Figure 3 Usecase Diagram of Meeting Attendance Application

The explanation of the image above is that admins can interact with the system to login and process data while employees can only interact with the system to see the main menu page and can only enter the page to do absences.

b. Sequence Diagram

Sequence Diagram is one type of diagram on UML that describes the interaction of objects based on time order, Sequence Diagram can also describe the sequence or stages that must be done to be able to produce something like in the Use Case Diagram. [14]
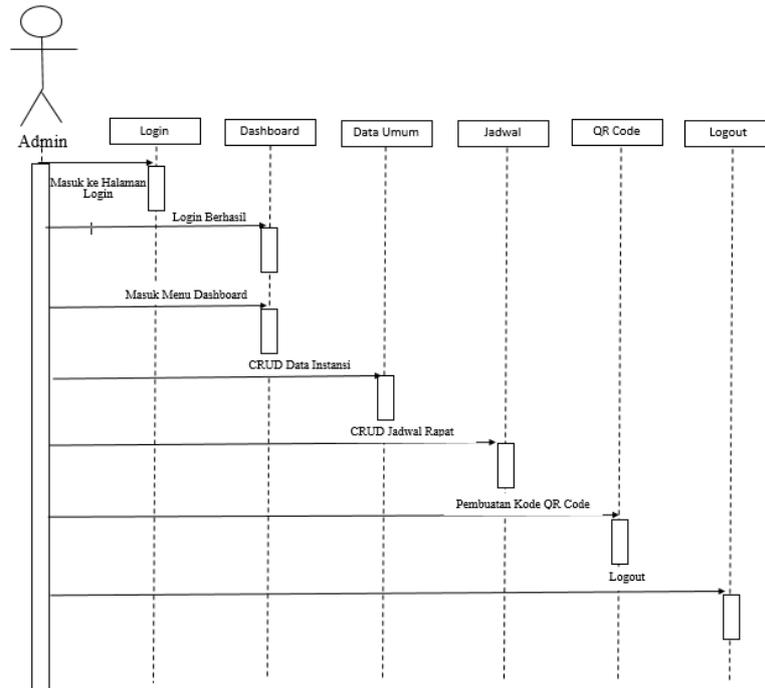
Figure 4 Sequense Diagram of Meeting Attendance Application

The explanation of the image above is that the admin logins into the system, if the login fails then the system returns to the login page, if successfully logged in then the system directs the admin to the dashboard view, admin can also go to the general data page, schedule data, create QR Code to perform data processing. The system also provides a logout menu for admins to end the session.

c. Class Diagram

Class diagrams describe the structure and description of classes, packages and objects and their relationships with each other. It is thus understood that Class Diagrams describe static structures. [15]
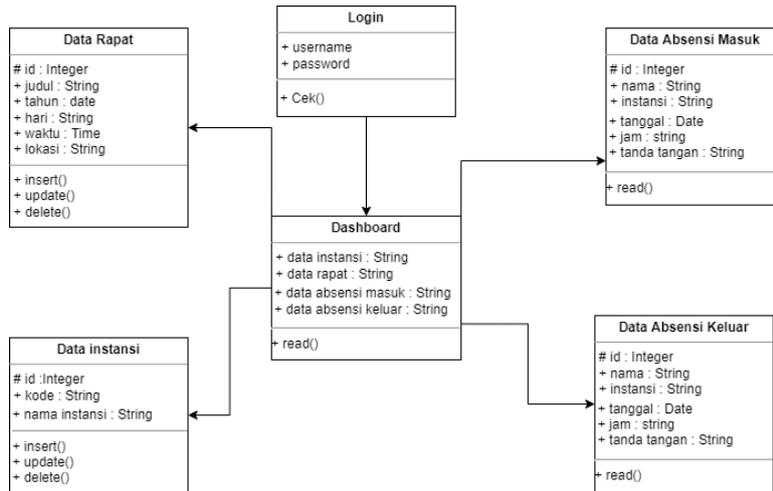
Figure 5 Class Diagram Meeting Attendance Application

3.   RESULTS AND DISCUSSION
3.1. Main Menu Page
On this page is a page that can be accessed by employees especially to agency employees in The City of Tebing Tinggi which displays a menu page to select absenteeism or exit absence.

Figure 6 Main Menu Page

3.2. Incoming Absence Menu Page
On this page is to perform a Qr Code Scanning absence ketika want to enter the meeting and this page also provides a
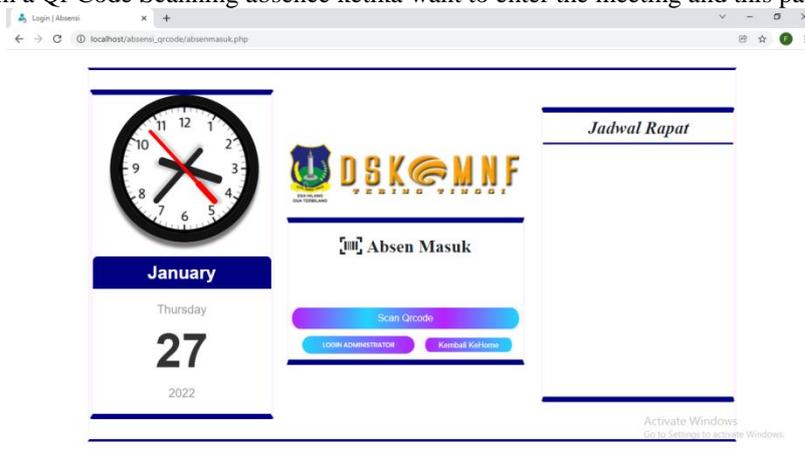
Figure 7 Incoming Attendance Menu Page

3.3. Incoming Data Input Page
On this page is when after scanning qr code it will be instructed to fill out form data.
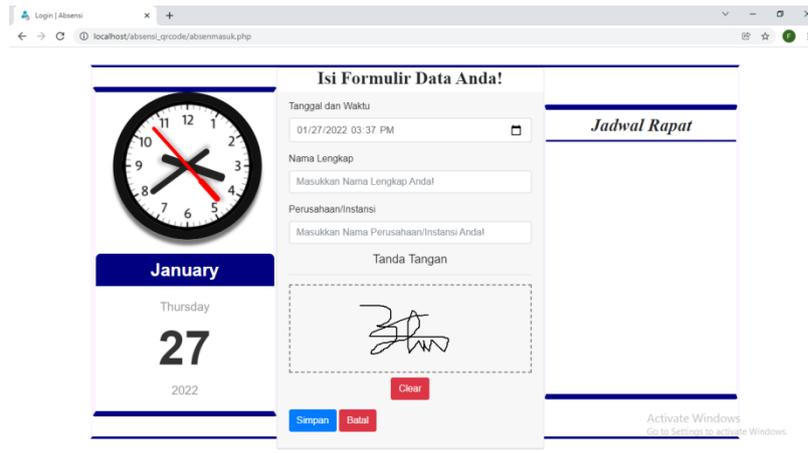
Figure 8 Incoming Data Input Page

3.4. Exit Absence Menu Page

On this page is to perform a QR Code Scanning absentee when completed and want to exit the meeting. Then this page also provides a meeting schedule information.
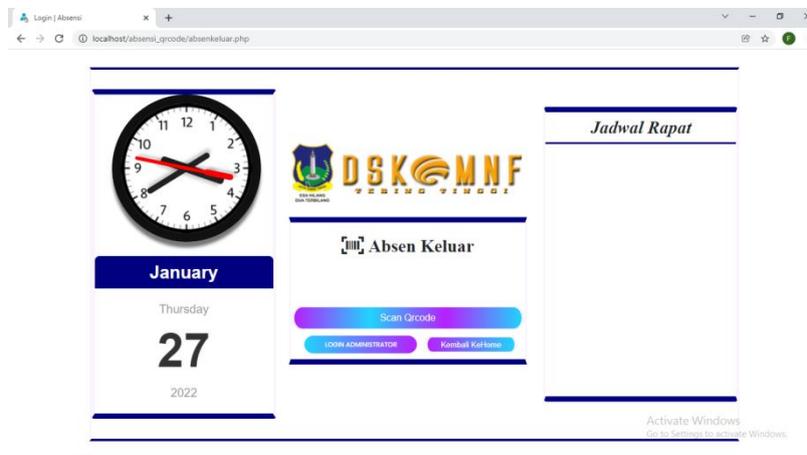
Figure 9 Exit Absence Menu Page

3.5. Outgoing Data Input Page

On this page is when after *scanning QR Code* it will be instructed to fill out form data just like the input of incoming data before.
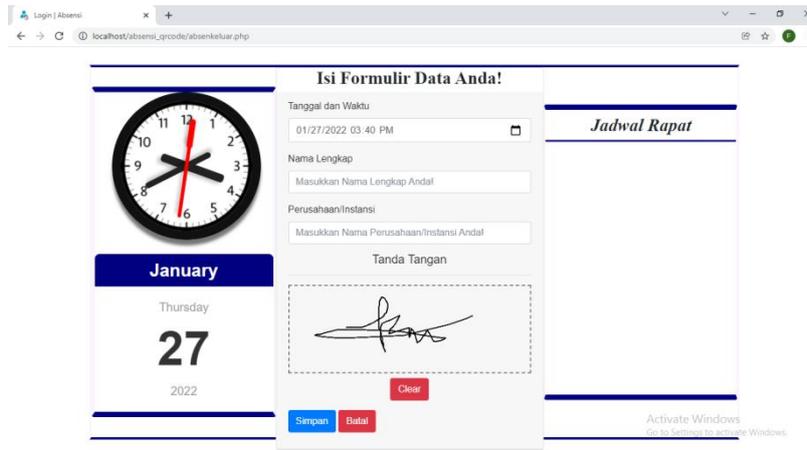
Figure 10 Outgoing Data Input Page

3.6. Admin Login Page

On this page is for admins to login, then enter *the username* and *password* that if the login is successful the system will direct the admin into the dashboard.
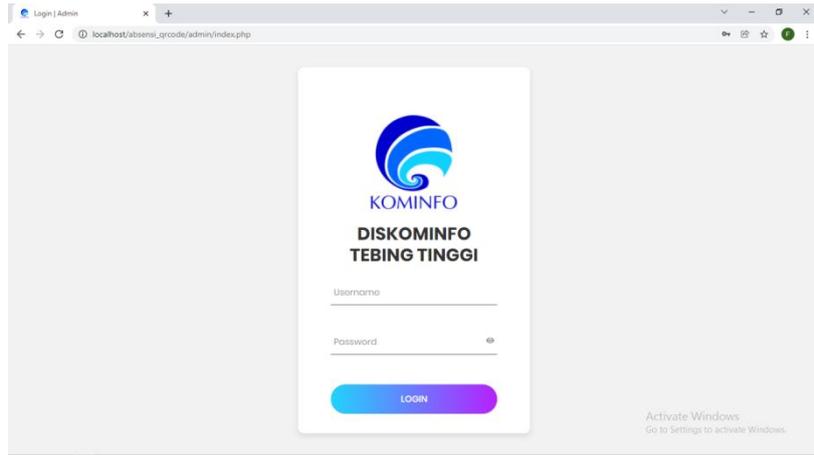
Figure 11 Admin Login Page

3.7. Dashboard Page

On this page is to display an information of incoming and absentee attendance data as well as information about the profile of the Diskominfo.
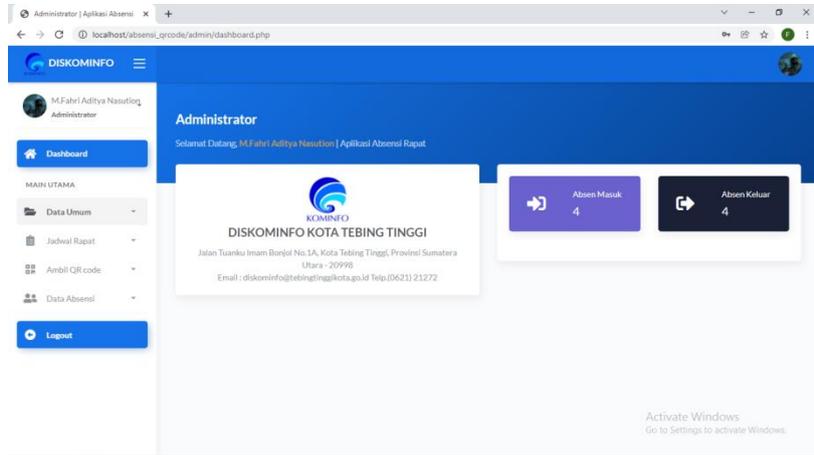
Figure 12 Dashboard Page

3.8. General Data Page

On this page is to add agency data as well as a list of agency data, the purpose of which is to capture the location of the QR Code.
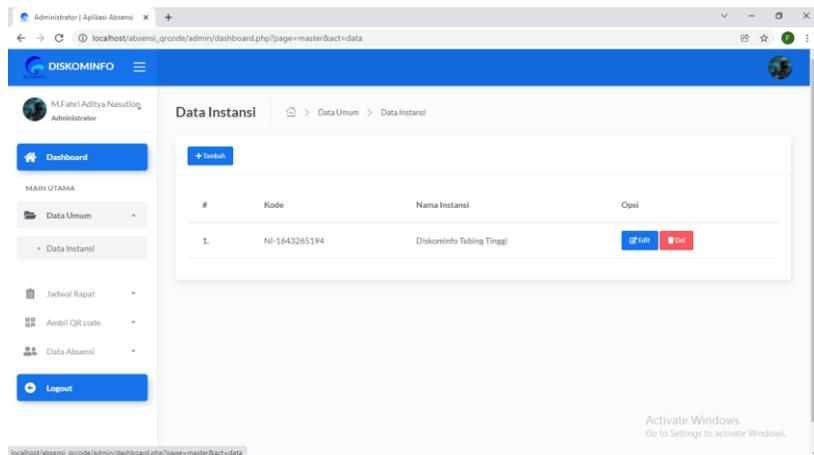
Figure 13 Agency Data Page

3.9. Meeting Schedule Page

On this Page is to add a meeting schedule and a list of meeting schedule data
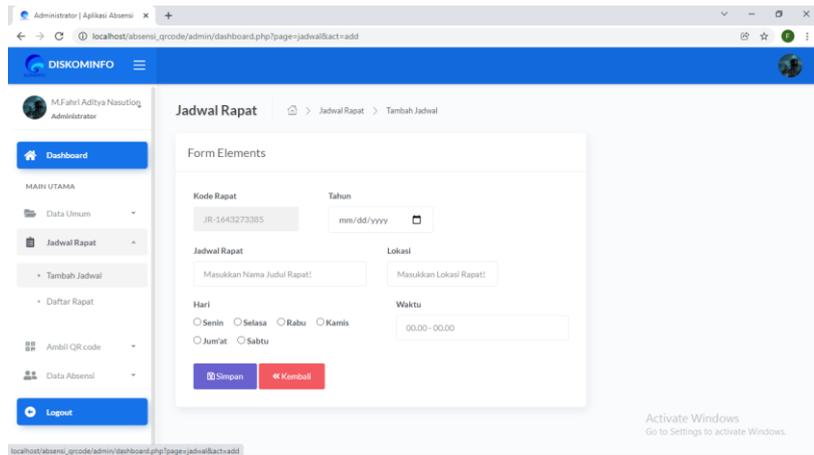
Figure 14 Page Add Meeting Schedule
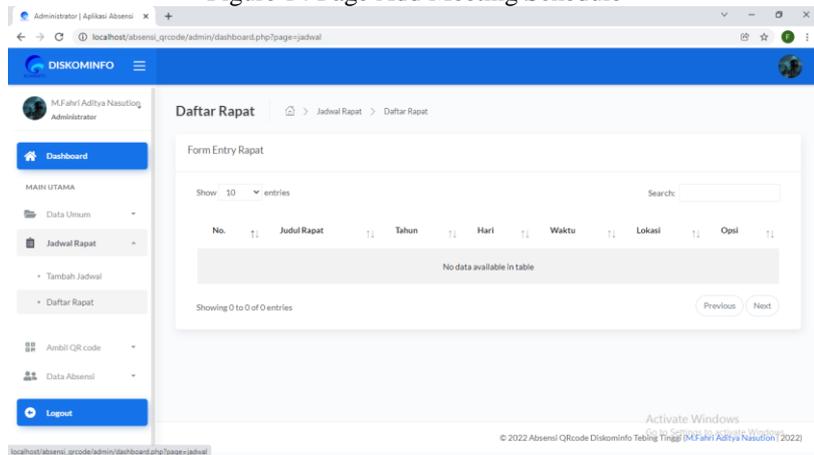
Figure 15 Meeting List Page

3.10. QR Code Creation Page
On this page is the creation and results of a QR Code by entering the name of the agency in the agency data.
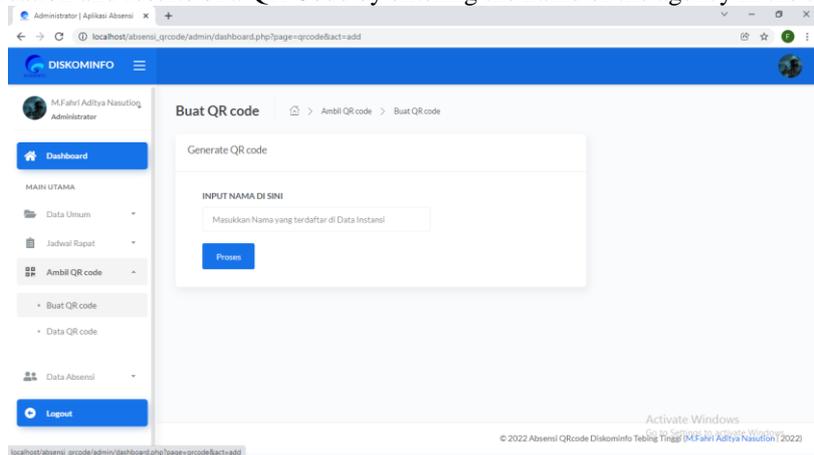
Figure 16 Qrcode Creation Page
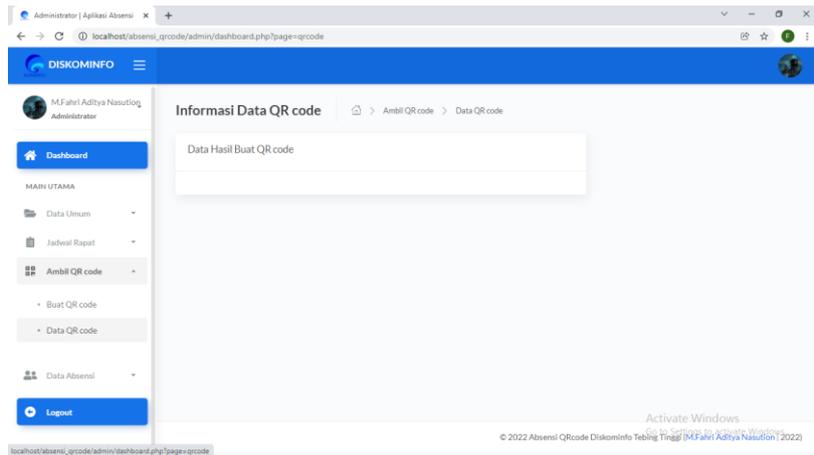
Figure 17 Qrcode Creation Data Page

3.11. Attendance Data Page

On this page is a history of absences in and out whose data is taken from the input of absenteeism in and out of the User. Then here also displays the absentee recap page, its function is to search for absentee data and export it.
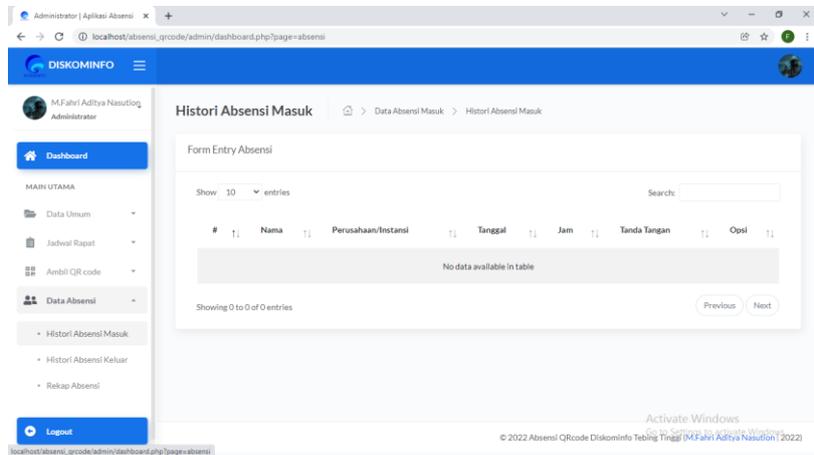
Figure 18 Page Attendance history
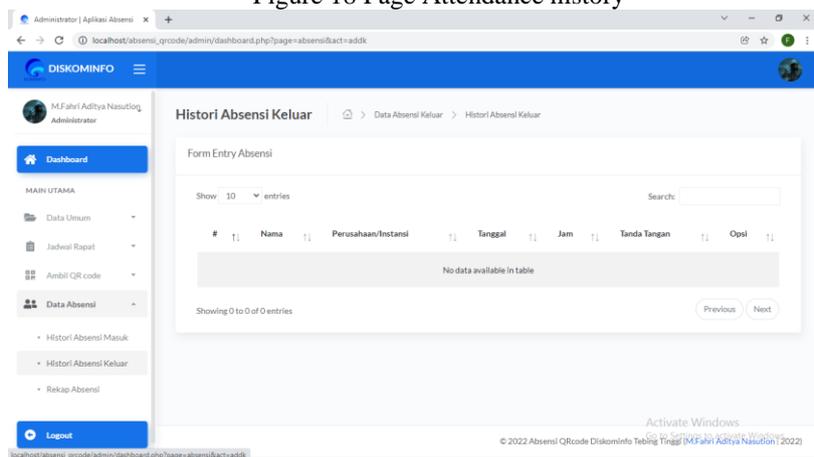
Figure 19 Page Absence history Out
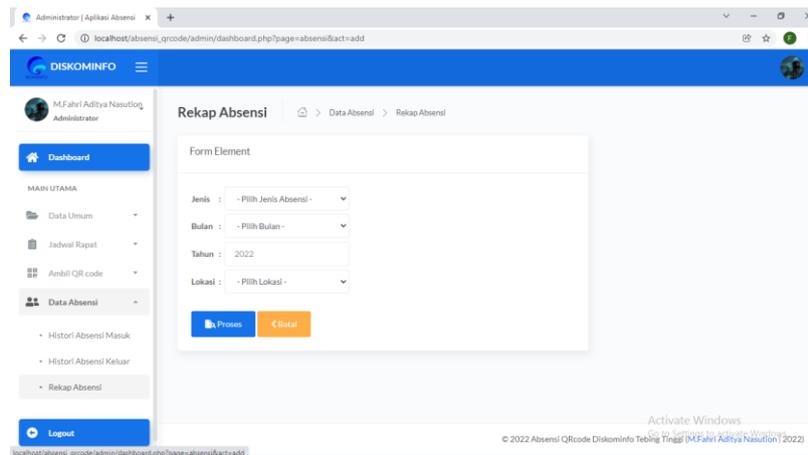
Figure 20 Absentee Data Recap Page

4. CONCLUSION

With the results of the system described above, it can be concluded that the current Diskominfo when wanting to attend meetings is still doing it manually. Therefore, the existence of a meeting attendance application system will make it easier for employees to take attendance and no longer do handwriting manually and make it easier for Diskominfo to manage attendance data effectively and efficiently and avoid fraud such as leaving attendance or other fraud.

REFERENCES

[1]   A. Irawan, M. Risa, M. A. Muttaqien, and A. E. Shinnay, "Perancangan Sistem Informasi Penjualan Pakaian Pada Cv Nonninth Inc Berbasis Online," *POSITIF J. Sist. dan Teknol. Inf.*, vol. 3, no. 2, pp. 74–82, 2017, doi: 10.31961/positif.v3i2.417.

[2]   R. D. Syah and N. D. Girsang, "Design Of Attendance Information System With Web Based QrCode In PT.Andalas Prima Teknologi," *Online) J. Res. Comput. Sci. to Cite Muhathir*, vol. 1, no. 1, pp. 36–46, 2021.

[3]   E. Rahwanto, "Perancangan Sistem Informasi Penjualan Berbasis Web Pada Pt. Inter Aneka Plasindo," *J. Pendidik. dan Dakwah*, vol. 2, no. 3, pp. 335–358, 2020, [Online]. Available: https://ejournal.stitpn.ac.id/index.php/pandawa.

[4]   E. Herlina and T. Hidayatulloh, "Penerapan QR Code Untuk Sistem Absensi Siswa SMP Berbasis Web," *J. Teknol. dan Inf.*, vol. 7, no. 2, pp. 102–112, 1970, doi: 10.34010/jati.v7i2.865.

[5]   M. Susanti, "Perancangan Sistem Informasi Akademik Berbasis Web Pada Smk Pasar Minggu Jakarta," *Informatika*, vol. 3, no. 1, pp. 91–99, 2016.

[6]   D. Maharani, "Perancangan Sistem Informasi Akademik Berbasis Web Pada Sekolah Islam Modern Amanah," *J. Manaj. Inform. dan Tek. Komput.*, vol. 2, no. akademik berbasis web, pp. 27–32, 2017, [Online]. Available: http://jurnatik.amikroyal.ac.id/index.php/amikroyal/article/view/37.

[7]   D. Pranata, H. Hamdani, and D. M. Khairina, "Rancang Bangun Website Jurnal Ilmiah Bidang Komputer (Studi Kasus : Program Studi Ilmu Komputer Universitas Mulawarman)," *Inform. Mulawarman J. Ilm. Ilmu Komput.*, vol. 10, no. 2, p. 25, 2015, doi: 10.30872/jim.v10i2.187.

[8]   M. K. Rusli Muhidin, N Faisal Kharie, "IJIS Indonesian Journal on Information System ISSN 2548-6438," *IJIS-Indonesia J. Inf. Syst.*, vol. 4, no. April, pp. 69–76, 2019.

[9]   B. A. Pgri, G. Raya, R. Sma, and W. Using, "JTIM : Jurnal Teknik Informatika Mahakarya," vol. 2, no. 2, pp. 41–52, 2019.

[10]   A. Ikhwan, H. Cipta, and A. H. Hasugian, "Perancangan Aplikasi Penjualanbuku Online Dengan Metode Model View Controller (Mvc)," *Konf. Nas. Teknol. Inf. dan Komput.*, vol. I, no. October, pp. 149–153, 2017.

[11]   Suendri, "Implementasi Diagram UML (Unified Modelling Language) Pada Perancangan Sistem Informasi Remunerasi Dosen Dengan Database Oracle (Studi Kasus: UIN Sumatera Utara Medan)," *J. Ilmu Komput. dan Inform.*, vol. 3, no. 1, pp. 1–9, 2018, [Online]. Available: http://jurnal.uinsu.ac.id/index.php/algoritma/article/download/3148/1871.

[12]   I. Maulana, M. Irawan Padli Nasution, and A. Ikhwan, "Aplikasi Pendaftaran Siswa Baru Menggunakan Algoritma Best First Search pada SMP Negeri 1 Medab," *J. Chem. Inf. Model.*, vol. 53, no. 9, pp. 1689–1699, 2020.

[13]   S. Kurniawan, T. Bayu, "Perancangan Sistem Aplikasi Pemesanan Makanan dan Minuman Pada Cafetaria NO Caffe di TAnjung Balai Karimun Menggunakan Bahasa Pemrograman PHP dan My.SQL," *J. Chem. Inf. Model.*, vol. 53, no. 9, pp. 1689–1699, 2020.

[14]   Endayani and L. L. Hin, "Dan Pembelian Sparepart Motor Pada Baruna Motor Menggunakan Metode Unified Modeling Language," *Idealis*, vol. 1, no. 5, pp. 95–98, 2018.

[15]   Monalisa Ibrahim Ahmad Mustanir A.Astinah Adnan Nur Alizah P, "ISSN 2656-2790 (online)," *Movere J.*, vol. 2, no. 2, pp. 56–65, 2020.