



Management Information System Web-Based Visitor Data Center on PT. Media Nusantara Citra. Tbk (MNC Media)

Dede Unggara¹, Ishak Kholil²

^{1,2}Program Studi Sistem Informasi, Universitas Nusa Mandiri

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ABSTRACT

Information technology is currently developing very quickly. Hardware and software are tools created to facilitate human work. PT Media Nusantara Citra is a company engaged in the field of information media; of course, it is very dependent on information systems in its operations. This is to provide support and make it easy to make decisions. And one of them that is still managed manually is the management of visitor activity data in the PT Media Nusantara Citra data center. Departing from this, the author chose the theme of the web-based Visitor Management Information System at PT Media Nusantara Citra, what is currently happening in the management of visitor data in the data center is the inaccuracy of visitor data every day, and the lack of efficiency in document recording and storage, starting from recording data processing of incoming visitor activities, recording various types of visitor data activities that have been completed, to preparing reports on incoming visitor data activities and various types of visitor activities that have been completed, the authors propose a web-based Visitor Management Information System to be a solution to some of the above, and information system-based visitor data management is expected to increase effectiveness and efficiency in data management.

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Corresponding Author:

Ishak Kholil

Program Studi Sistem Informasi

Universitas nusa Mandiri

Jakarta, Indonesia

Email: ishak.ihk@nusamandiri.ac.id

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1. Introduction

In the rapid development of technology, PT Media Nusantara Citra Tbk (PT MNC) is a media company based in Jakarta, Indonesia, which supports data processing very well to create an information system that is used to achieve maximum work performance [1]. To improve visitor activity information systems in a data center environment, an information system is needed that supports the running of the information process. Regarding computers, namely a hardware device that was created to facilitate human work by making good progress in making hardware and software [2], Many companies whose data processing is supported by information systems or applications find that data processing is more efficient and effective, especially in obtaining information to support decisions [3]. Inspection of incoming activity data and completed activity data in the Data Center at PT Media Nusantara Citra Tbk is done manually by looking at the amount of incoming data directly in the visit book notes written by the visitor. This activity is quite tiring and requires a lot of free time [4]. Therefore, we need a system that makes it easy to obtain visitor data information and its activities as a support for the visitor data management information system at PT Media Nusantara Citra.

Companies that use information technology currently use portal based (web) applications with various views and provide various information related to the duties and functions of the company concerned [5]. The current use of technology has not been fully implemented in all parts of PT Media Nusantara Citra, so this is still an obstacle for those who have not implemented it, namely in improving information services regarding all data management activities in the Data Center and PT Media Nusantara Citra.Tbk. The application of information technology is urgently needed to support and make it easy to provide information in support of work activities in the data center environment of PT Media Nusantara Citra Tbk. [6] [7].

2. Research Method

The research method used by the author in compiling this system consists of data collection and system development using the Rapid Application Development (RAD) method [8]. In data collection, the authors conducted research through observation or field studies by looking directly at PT. Media Nusantara Citra Tbk to determine the selection of research themes safely and find some deficiencies in the existing system that is running [9]. After making direct observations, the authors interviewed the data center manager at PT. Media Nusantara Citra Tbk to ask a number of questions regarding the procedure for running the data center. Additional literature that the author obtained from scientific articles (journals), books, and online articles linked to references related to web-based information system design [10] [11].

For system development, the first step is to analyze the input and output documents of the running system to define the system [12]. Based on the identified needs analysis, the authors designed a user interface suitable for the problem. Then, in the design stage, the author designed the appearance of the program using ERD (Entity Relationship Diagram), LRS (Logical Record Structure), and UML (Unified Modeling Language [13]). Furthermore, in web design, the author uses object-oriented programming because this program focuses on objects that contain data, attributes, and code in the form of functions or procedures, which are better known as method names [13]. The author implements the design using the PHP programming language, which is used to generate program code. He describes all the lists of commands used to process data, which can then be compiled using a local server (localhost) [14]. Then black box testing [15] is carried out through independent testing, testing based on what is seen, with a focus only on functionality and performance and more focus on the results and the core process. Testers clearly carry out tests without knowing business processes [16]. And the final stage is to repeat the development process from the specific analysis to make changes to existing software but not to create new software.

3. Result and Discussion

Each department within the scope of PT Media Nusantara Citra has a routine agenda at the Data center. This begins with submitting a visitor request, which will later be directed according to the GCP policy that applies to the IT Data Center Department, where the data center officer will later direct for certainty of identity checks, and every personnel and visitor will get a member card in the form of a special access card to enter at the front door of the data center. Each personnel and visitor must fill in the visitor logbook records; if they have not been registered, the data center officer will direct the registration of new visitors to complete their name, ID Card or KTP, unit department, and description of activities. Every new visitor must read and understand the data center and GCP general policies before entering the data center, as well as descriptions of types of activities in the data center in the form of handling actions such as device problems, maintenance, permits to work, and incidents. If the visitor is registered, immediately fill in the logbook of records by filling in a description of the type of activity and entry and exit hours after completing activities in the data center.

A. Requirements Analysis

This web-based visitor data center management information system at PT Media Nusantara Citra Tbk is used as an intranet management facility, where data management, both visitor and member data, types of activities, and incoming and outgoing member data, is carried out systematically by the intranet website [17]. Employees or users can access the information needed through a media browser with recommendations from Google Chrome [18]. The following is a requirement specification (System Requirement) of the visitor data center management information system that the author proposes :

Front Page:

- A1. Employees can log in.
- A2. Employees can manage personal data.
- A3. Employees can manage Visitor data.
- A4. Employees can manage activity type data.
- A5. Employees can manage departmental business unit data.
- A6. Employees cannot manage periodic log books.
- A7. Employees cannot manage user account pages.
- A8. Employees cannot print reports.
- A9. Employees can log out.

Admin Page:

- B1. Admins can login
- B2. The administrator can manage personal data.
- B3. Admin can manage Visitors
- B4. Admins can manage activity type data.
- B5. Admins can manage departmental business unit data.
- B6. Admin can manage Periodic logbooks
- B7. Admins can manage user accounts.
- B8. Admin can print reports
- B9 Admin can logout

B. Use Diagrams

Use Case Diagrams here are useful for describing behavior, procedures, and users or actors involved in a web-based Visitor Data Center Management Information System [19].:

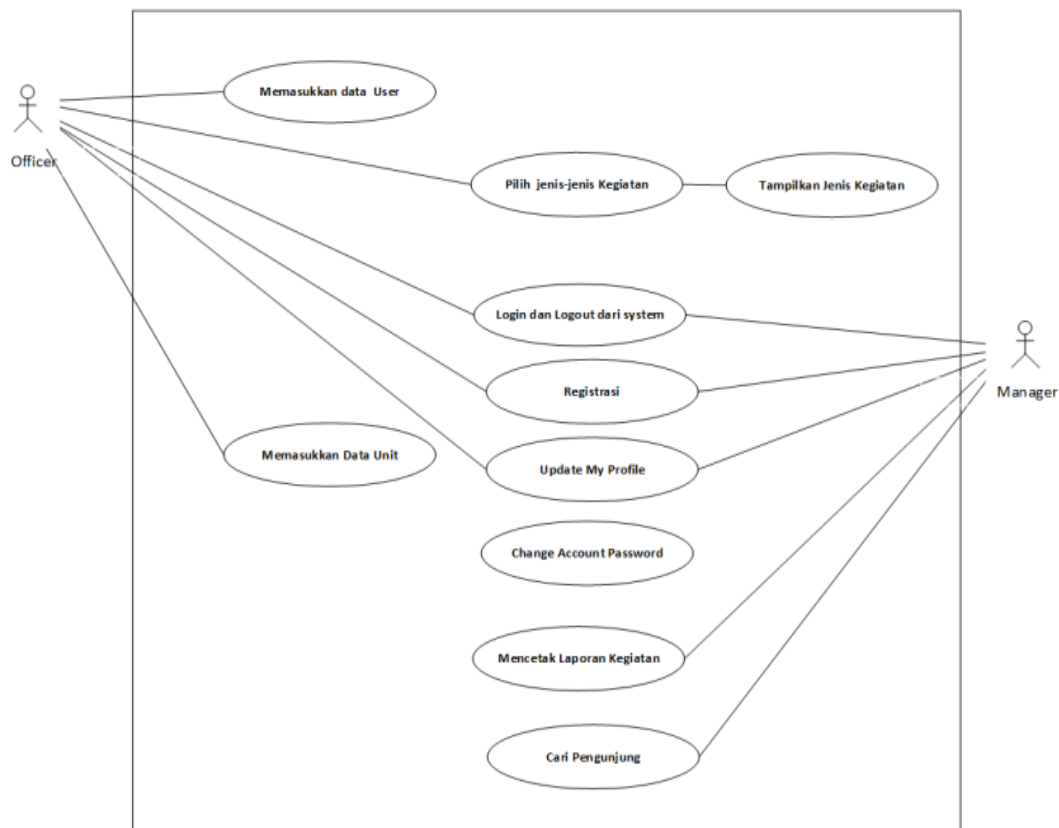


Figure 1. Visitor Use Case Diagrams

Source: Research Results, 2022

- 1) In this Use case, admins and employees can log in by filling in their username and password.
- 2) In this Use case, administrators and employees can see their personal data and change their personal data.
- 3) In this Use case, admins and employees can manage activity data, starting with viewing, inputting, changing, and deleting activity data.
- 4) In this Use case, admins and employees can manage unit data, starting with viewing, inputting, changing, and deleting business unit data.
- 5) In this Use Case, admins and employees can manage activity type data by viewing, inputting, changing, and deleting item type data.
- 6) In this Use case, admins and employees can manage activity data, starting with viewing, inputting, changing, and deleting item data.
- 7) In this Use case, admins and employees can manage incoming goods data, starting with viewing, inputting, changing, and deleting incoming goods data.
- 8) In this Use case, admins and employees can manage outgoing goods data, starting with viewing, inputting, changing, and deleting outgoing goods data.
- 9) In this Use case, the admin can manage user data, starting with viewing, inputting, changing, and deleting user data.
- 10) In this Use case, admins and employees can logout to exit the system.
- 11) In this Use case, only managing report data, such as printing selected report data, is employed.

C. Activity Diagram, depiction of activity flow [20] visitor data recording.

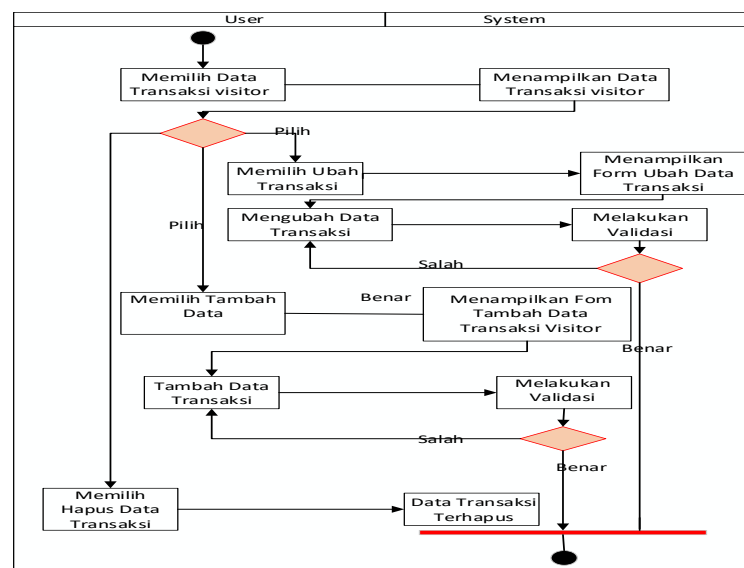


Figure 2. Activity Diagrams

For an explanation of the activity diagram in Figure 2, namely that the user selects visiting visitor data, if the data has been stored, then the user only needs to input the visitor code; if the visitor data is new, then the visitor must attach an employee card identity or assignment letter.

For new visitor data, the user checks identity completeness and inputs it into the system. After the data is stored, new visitors can carry out their activities in the data center, as for data center transaction activities, namely routine server checks and repairs if there are network problems. Thus making the server inaccessible..

D. Database Design

Creating a database design in the visitor management information system is divided into several forms [21] as follows ,

1. Entity Relationship Diagrams

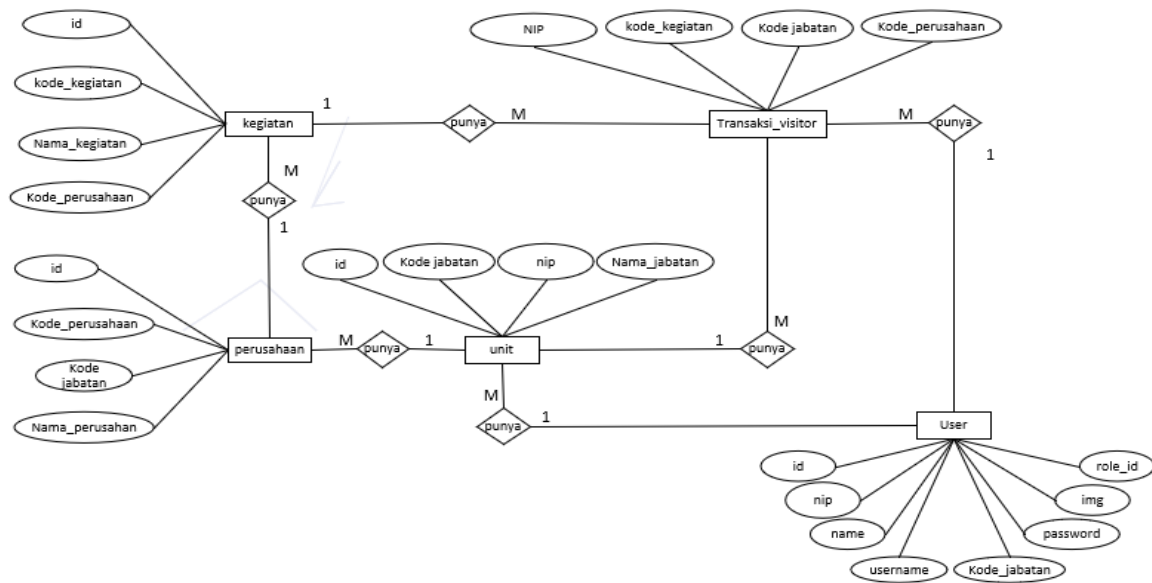


Figure 3. Entity Relationship Diagrams

The Entity Relationship Diagram above illustrates the relationship between tables in the visitor data center management information system with the following tables: activity table, visitor transaction table, company table, unit table, and user/visitor table..

2. Logical Record Structure

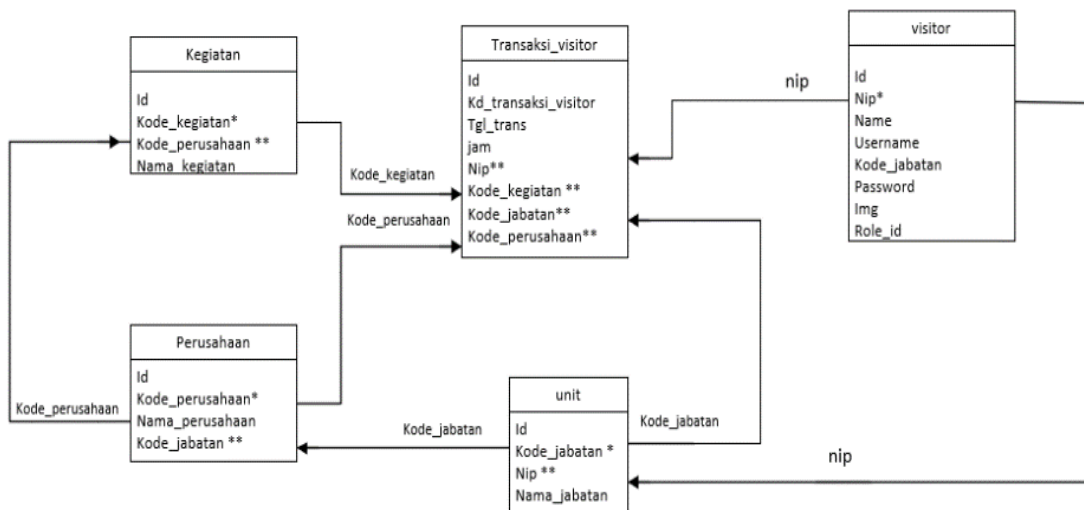


Figure 4. Logical Record Structure

Displayed in Figure 4, namely Logical Record Structure, illustrative of 6 tables that are related to each other in relationships that are connected using nip, activity code, position code, company code as primary key and foreign key, Graph of relationships connected between the table master and table transactions.

E. Software Arsitektur

1. Sequence Diagram, used to describe the interaction between the user and the system [12].

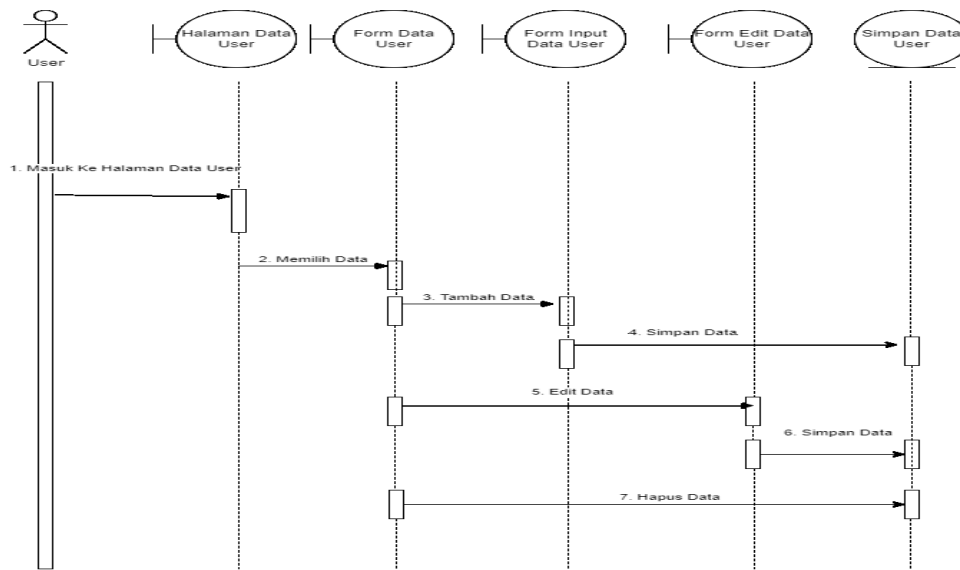


Figure 5. Sequence Diagrams

Figure 5 explains the sequence diagram of the visitor data center management information system, namely the user access page to perform CRUD actions (create, read, update, delete). On this page, the user can process user or visitor data. This is to control visitor activities when visiting and complete maintenance or repair activities in the data center..

2. A class diagram is a diagram structure in the UML concept that illustrates the relationship of classes in table relations [22] in the visitor data management information system.

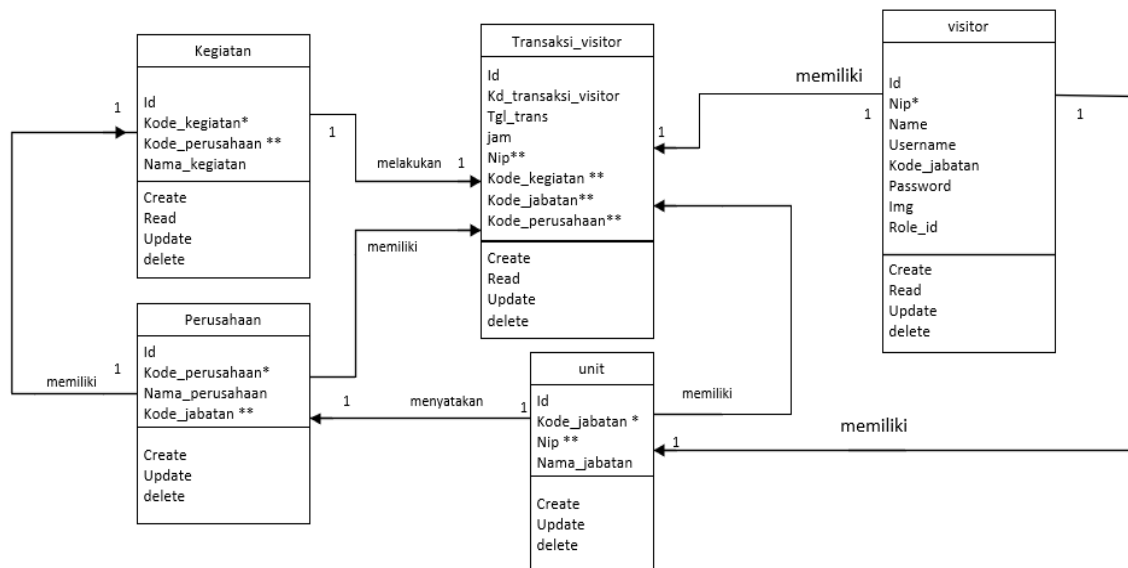


Figure 6. Class Diagrams

The class diagram in Figure 6 displays a figure of interrelated relationships between tables. The relationships between tables are shown in the connected relationships. Of the 6 related tables, there are types of table masters and transactions. The table master is unit, visitor, or company. transaction table, namely visitor activities and transactions.

3. Deployment Diagram, Diagram for Infrastructure Representation [23] Visitor Data Management Information System at PT Media Nusantara Citra Tbk.

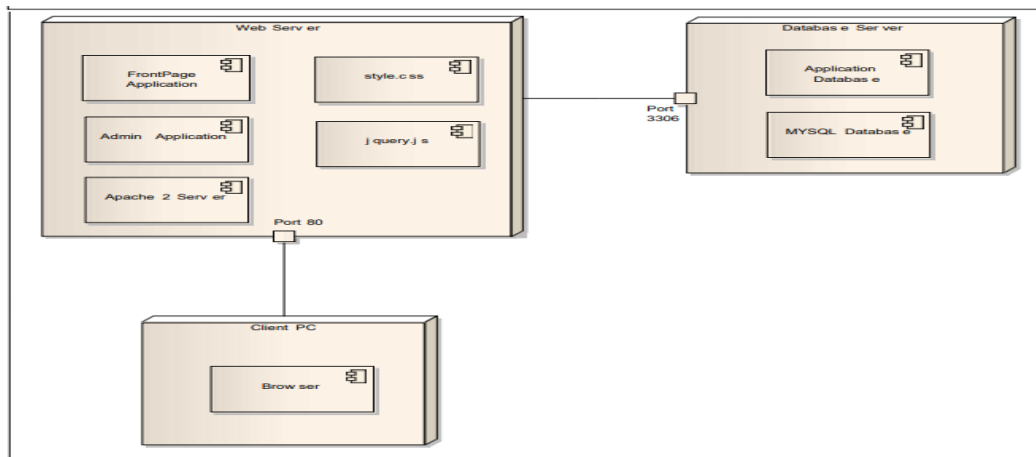


Figure 7. Deployment Diagrams

The infrastructure view of the visitor data center management information system for PT Media Nusantara Citra Tbk, which is shown in Figure 7, displays the server and client parts, which can be accessed simultaneously through a browser application, and it is recommended to use Google Chrome, Mozilla Firefox, and the like. Each of these brochures has its own advantages.

F. User Interface

At this stage, the author will explain the views of the web pages created [24], including the following web pages :

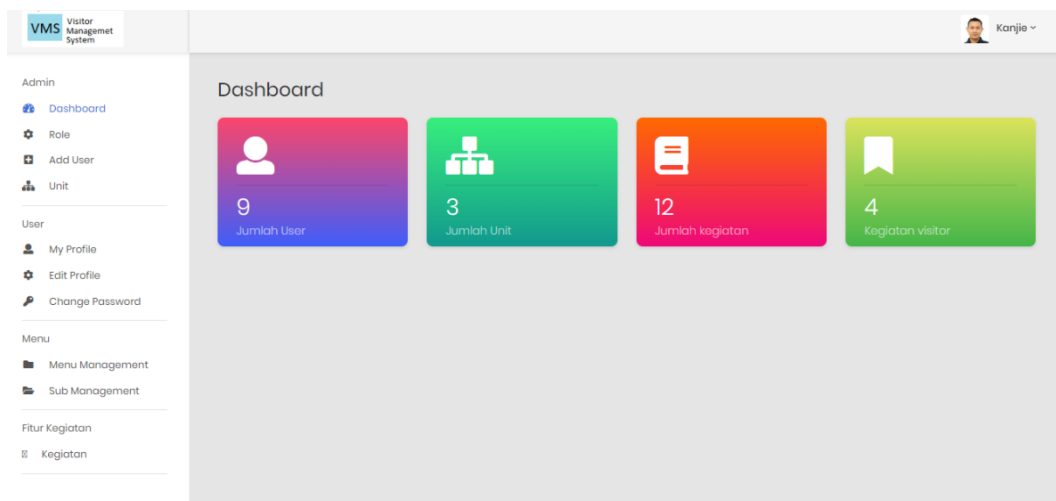


Figure 8. Admin login page

Staff members who work in the data center can access the admin login screen, which is depicted in Figure 8. The Dashboard menu, which serves as the application's initial display menu, the Add User menu (which serves as the menu to add a new user after completing the identity verification stage), as well as several other user submenus, including my profile, edit profile, and change password, as well as the unit menu—specifically, the section or company menu that is in the MNC Media group—are the ways in which access can be obtained. Typically, all of these are recorded in that unit.

A menu of rights to control data center activities can be found on the Management page. These rights include the ability to discover traffic trips to the data center, which are routinely reported to the data center manager and sent to the appropriate director. With the activity menu feature, this menu is meant to

summarize visitor activities and add new activities, if any, should circumstances arise that call for swift leadership decisions.

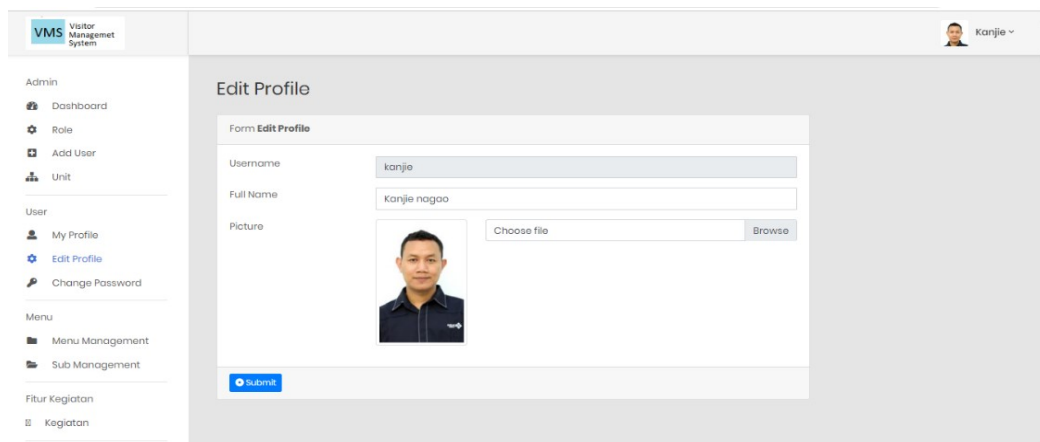


Figure 9. Menu User Profiles

The display of the user menu page in Figure 9 contains user and visitor data. In this menu, the user can make changes to the username, full name, and photo data attached as an identity. This menu is the starting point for visitors to access or enter the data center to carry out their activities.

G. Testing

Testing is a set of planned and systematic activities that are used to test and evaluate, one of which uses the black box testing method. [16] [25].

Table1. Black Box Testing Results

No	Test Scenario	Test Case	Expected results	Testing Results	Status
1	Fill in the username and password and click the login button.	Username: (empty) Password:(empty)	The system will deny access and display the message "username and password fields are required."	Succeed	Valid
2.	Type in the username and password that are not filled in or empty, then click the login button	Username: admin Password:(empty)	The system will deny access and display the message "Password field is required."	Succeed	Valid
3.	The user name is not filled in (blank), and the password filled in, then click the login button.	Username: (blank) Password: asd123	The system will deny access and display the message "fieldusername required"	Succeed	Valid
4.	Type the correct condition in the user name, type the wrong name in the password, and then click the login button.	Username: admin (Correct) Password: 12345 (Wrong)	The system will deny access and display the message "error! Your Password is incorrect."	Succeed	Valid

5.	Typing the wrong condition in the user name, typing the right name in the password, then click login	Username: administration (incorrect) Password: asd123(true)	The system will deny access and display the message "error! Username not registered"	Succeed	Valid
6.	Type in the user name and password with the correct data, then click login.	Username: admin (Correct) Password: asd123(true)	The system will receive login access and display the admin main page.	Succeed	Valid

Source: Research Results, 2022

4. Conclusion

Following the justification given, the author draws the following conclusions:

- In the data center of PT Media Nusantara Citra Tbk, the visitor data center management information system must be installed immediately. This is evident from the data center's daily operations, which are highly intense due to server control by every division of MNC Media.
- PT Media Nusantara Citra Tbk's data center urgently needs the visitor data center management information system to be deployed. This is evident from the data center's daily operations, which are highly intense due to server control by every division of MNC Media.
- The use of a visitor data management information system at PT Media Nusantara Citra Tbk makes it simpler for data center employees to cross-check visitors on a daily or weekly basis to verify data center security, and all visitor actions in the data center are documented.
- The visitor data center management information system at PT Media Nusantara Citra Tbk makes it simple to control visit activities from visitor data in the data center.

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