Value Input Application (E-Pak) Functional Position of Bandung City Health Department Based on Web Database

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Abstract

Technology is present and becomes a part of human life. Each era has its own technological advantages. The history of technology begins millions of years ago. The first technology discovered by mankind was to create sharp stone chips which were used as stones. Then humans began to develop and found several technologies, one of which was computers and the internet. computers and the internet have a close relationship, especially in today's era where all activities cannot be separated from computers and the internet. One of these activities is in the office world. The Bandung City Health Office is a government agency that has a lot of data, especially in the section where the author is placed, namely the Division of Human Resources and Health or SDMK. The SDMK Division is tasked with receiving data on the credit score of a functional position from the assessment team to calculate whether a functional position is eligible for promotion or not. On that basis, the purpose of this paper is to create an application for inputting the credit score for a functional position based on a web database to make it easier for the assessment team, SDMK to view, recap and change credit scores as well as a functional position in viewing its credit score. The main finding is a web database-based application called E-PAK.

Keywords: Technology, Data, Computer,

1. Introduction

In the office world, the thing that is done every day is to store data from an activity. Before the introduction of computers and the internet, a company's data storage process was carried out by storing physical files (Retnowati et al., 2021; Sadiah, 2020; Kuncoro et al., 2020). This of course raises some problems such as taking up a lot of space, data access can only be done in a data storage area (Kumaladewi and Sugiarti, 2016; Saleh and Dewi, 2020). However, after the introduction of computers and the internet, the process of storing data became easier (Setena et al., 2021). By using a database management system (DBMS), companies can Create, Read, Update and Delete data anywhere and anytime without having to come to the data storage area (Atikah and Qomariah, 2020).

One of the database applications that can be made for data storage is a web-based application. Web-based applications written in HTML, CSS, JavaScript, and PHP (Manueke et al., 2020). The advantage of this web-based application is that users can access data anywhere and anytime (Istambul, 2019). However, because this application is web-based, the drawback is that every user is required to have a device and a good internet network in order to access the data (Triyanto, 2020; Asari et al., 2020).

The Bandung City Health Office is a government agency that has a lot of data, especially in the section where the author is placed, namely the Division of Human Resources and Health or SDMK (Thabrany, 2006). The SDMK Division is tasked with receiving data on the credit score of a functional position from the assessment team to calculate whether a functional position is eligible for promotion or not (Milkhatun et al., 2020). The scoring system is carried out manually, meaning that the assessment team writes directly on the paper that has been provided and is submitted to the SDMK Division for re-inputting the value (Purwanto et al., 2021). On this basis, the problem faced is how to make this system work effectively to facilitate both the assessment team and the SDMK Division in processing data.

Sharko et al. (2015) development of UET online lecturer performance evaluation system. They found that the final report will reflect on qualities associated with good teaching such as lecturers' knowledge, the most updated syllabuses and texts used for teaching, better class management and course organization. Lumba and Waworuntu (2020) presented the application development of lecturer performance reports using the Model View Controller (MVC) architecture with Java programming language. They found that the desktop-based application that will be used by the head of the study program and the lecturers. Santoso et al. (2020) studied of the influence caused by the implementation of information technology at the university on the level of performance improvement of lecturers at the University/College by using the ability to use information technology as a moderating variable. They found that the implementation of technology by companies on human resources who already have excellent abilities in using technology will have a positive impact on the performance of lecturer publications.

Based on the formulation of the problem above, the purpose of this paper is to create an application for inputting the credit score for a functional position based on a web database to make it easier for the assessment team, SDMK to view, recap and change credit scores and a functional position to view the credit score.

2. Materials and Methods

2.1 Materials and Equipment

To design the system, the first step that needs to be done based on the waterfall method is project definition. The materials and tools used in the research and preparation of this final project require computer specifications such as Windows 11 operating system, Processor: Intel Core i3-6100U 2.30GHz, Memory: 12GB DDR4 RAM, Storage: 500GB SSD. Also requires applications to be used such as XAMPP, PHP, Web Browser and Visual Studio.

2.1.1. Database

Database is a collection of tables. One table represents a particular entity. An entity consists of several attributes (Harahap, 2010).

1. Entity
An entity is an object (both real and abstract) in the real world that can be distinguished from other objects based on the characteristics it has. For example, employees of a company, goods sold, students, lecturers of majors and so on. To distinguish between data on one identity, we need an attribute as an identifier that can distinguish one from another. This attribute is called the primary key. For example, in student entities, the NPM attribute is used as the primary key, because no two or more students have the same NPM. Considerations for choosing attributes that can be used as primary keys are:
   a. Attributes must be unique, different objects, these attributes will be different too.
   b. The attribute value is rarely changed
   c. Easy to remember and has a certain format
2. Relationships
Relationship is an association that states the relationship between entities. There are 3 types of relationships in the database, namely:
   a. One to One
      One to One relation is a relation in which each row of data in the table only corresponds to one row in the second table.
   b. One to Many
      One to Many relation is a relation in which every single row of data in the first table corresponds to more than one row in the second table
   c. Many to Many
      Many to Many relation is a relation in which every more than one row of data from the first table corresponds to more than one row of data in the second table.
3. Cardinality
Cardinality is the degree of connectedness in a relationship. There are 3 types of cardinalities, namely:
   a. One to one (1-1)
   b. One to many/many to one (1-N)
   c. Many to many (N-N)

2.1.2. Entity Relationship Diagram (ERD)

Entity Relationship Diagram (ERD) is a type of flow chart that describes how "entities" such as people, objects or concepts relate to each other in a system. ER diagrams are most often used to design or debug relational databases in

software engineering, business information systems, education, and research. The relationships between entities can be seen in Figure 1.
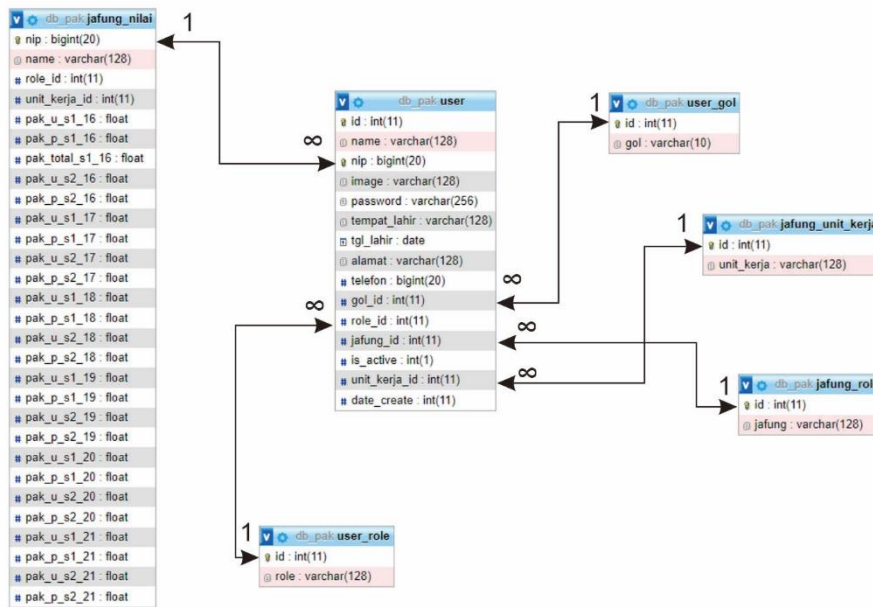

Figure 1. Relationships between entities

2.1.3. Flowchart

Document flowcharts are standard symbols used by system analysts to describe the document flowchart of a system. In Figure 2, explains how an admin (left) and a user (right) can access an application
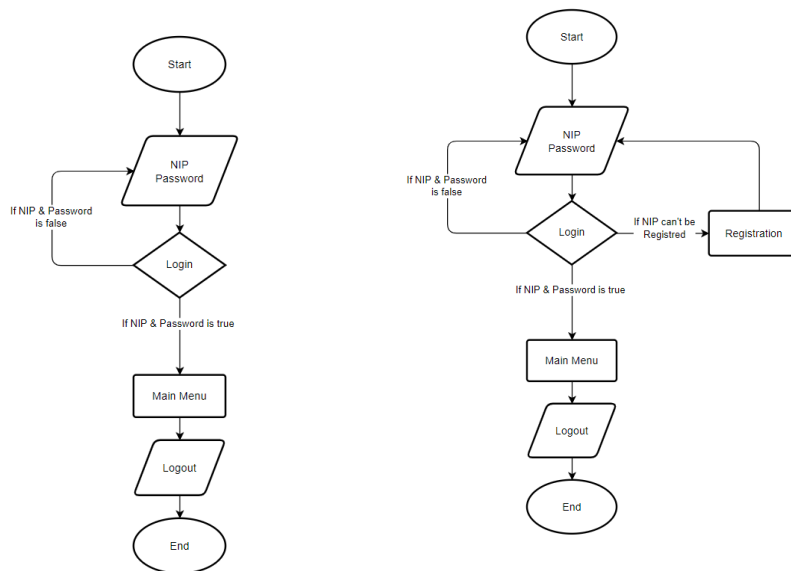

Figure 2. App. Flowchart

2.1.4. HTML

Hypertext Markup Language (HTML) is the language used to write web pages. HTML is basically ASCII or plain text documentation, designed to be independent of a particular operating system. HTML was created by Tim Bernes-Lee while still working for CERN, and was first popularized by the Mosaic browser. During the early 1990s, HTML experienced very rapid development. Each HTML development will definitely add capabilities and facilities that are better than the previous version.

2.1.5. CSS

Cascading Style Sheet (CSS) is a stylesheet language that is used to manage the appearance of a website, both layout, type, font, color, and everything related to the appearance. In general, CSS is used to format web pages written in HTML or XHTML.

2.1.6. XAMPP

XAMPP is a web server that aims to test whether a web application can run well or not. This web server is a place to store a web application and then access it via the internet. In addition, the need for this web server is because for server-side scripts such as PHP, a new check will appear if using a web server

2.1.7. MySQL

MySQL is a database management system (database management) using basic SQL (Structured Query Language) commands. MySQL is an open-source DBMS with two licenses, namely Free Software and Shareware (proprietary software whose use is limited). Therefore, MySQL is a free database server with the GNU General Public License (GPL) so that it can be used for personal or commercial purposes without having to pay for an existing license. Because MySQL is included in the type of RDBMS (Relational Database Management System), therefore, terms such as rows, columns, tables, are used in MySQL. For example, in a MySQL database there are one or more tables. SQL itself is a language used in data retrieval in relational databases or structured databases. Thus, MySQL is a database management system that uses the SQL language as a liaison language between the application software and the database server.

2.1.8. PHP

PHP or PHP Hypertext Pre-processor is a scripting language especially used for web-based application development. PHP can also be integrated with HTML, JavaScript, JQuery, and Ajax. With PHP, a web-based application developer can create applications dynamically along with database management.

3. Results and Discussions

3.1. Login Menu

Before accessing the application, the user must enter the NIP and Password as access to enter the application. In Figure 3, displays the display of the Login menu. there is a NIP and Password input menu, a login button, remember me, and create an account.
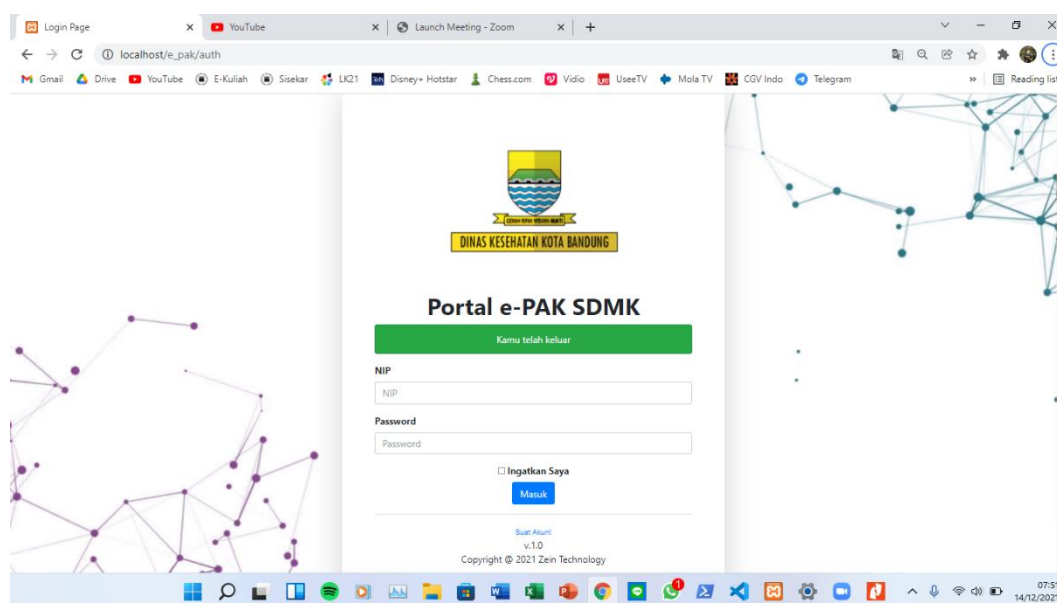

Figure 3. Login Menu

3.2 Registration Menu

This registration menu serves to register a functional position that has not been registered. Figure 4 show that the display from the Registration menu. There is an input menu of full name, NIP, functional position, work unit and password. After the user fills in everything, the user presses the account registration button, and the account is automatically created.
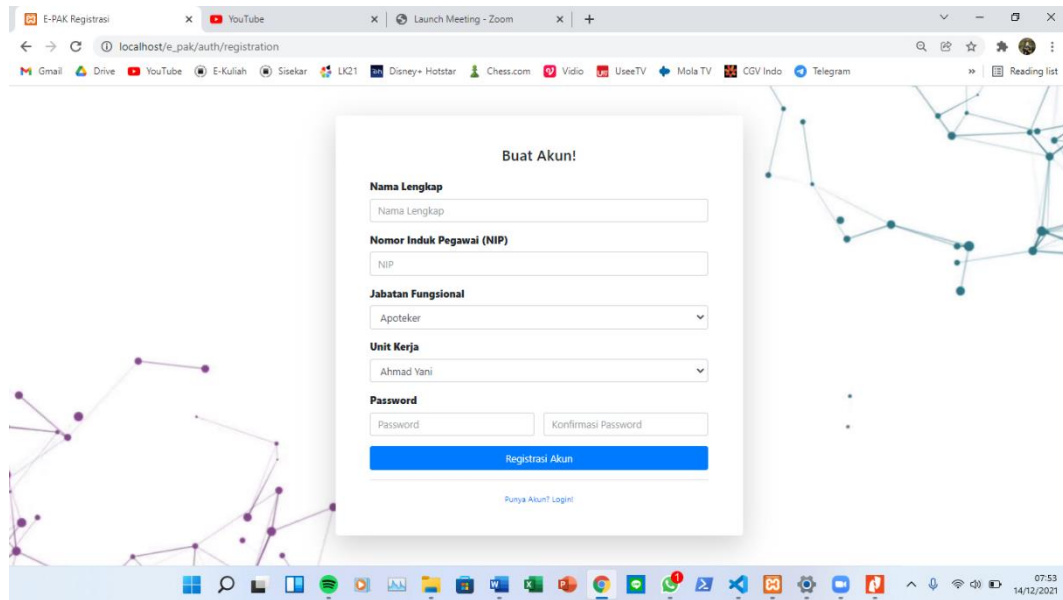

Figure 4. Registration Menu

3.3. Dashboard

After the user enters the NIP and Password, the system will direct to the Dashboard menu. In Figure 5, displays the view from the main admin menu. The difference between the admin and user menus is only in the functional position (*jabatan fungsional, or known as* "Jafung") List menu. The Jafung List menu can only be accessed by the admin because this menu contains a summary of all users of the E-PAK application.
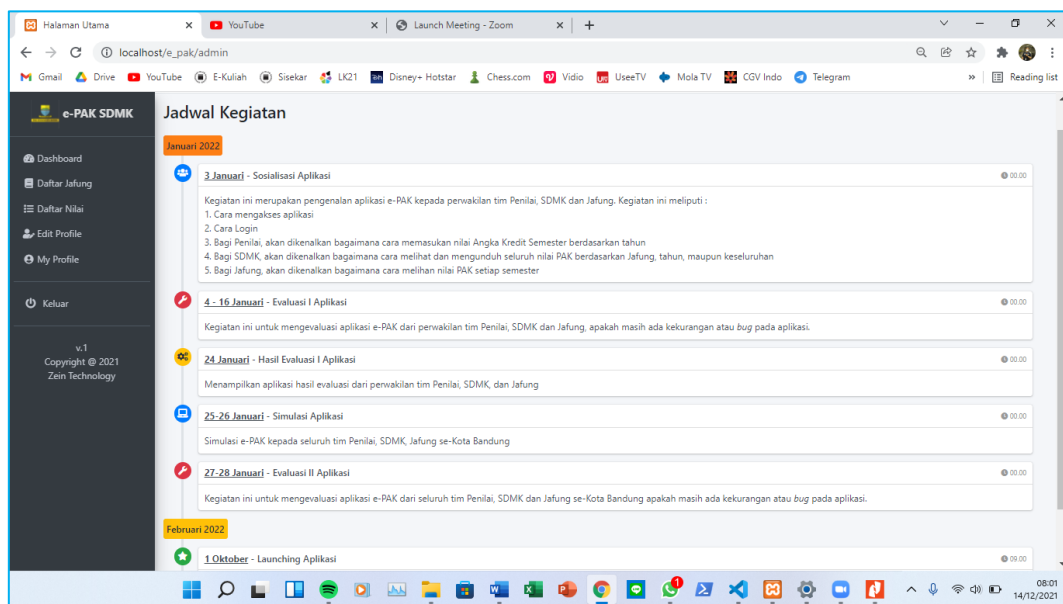

Figure 5. Dashboard Menu

3.4. List Menu of Jafung

In this menu, only admins can perform several activities, such as viewing, editing, adding and deleting data for a functional position. In Figure 6, display a search menu based on NIP, print a recap based on profession, edit and delete menus for each jafung.

Figure 6. List of Jafung Menu

3.5. Score List

In this menu, a functional position can only see its credit score every year. In Figure 7, displays the Credit Score of a Jafung by year and semester. Users can also view details of grades, namely primary and supporting grades by semester.

Figure 7. List of Credit Score Menu

3.6. Edit Profile

In this menu, in Figure 8 it is explained that all users, both admin and functional positions, can change their respective profiles such as name, place of birth, address, phone number, and others.
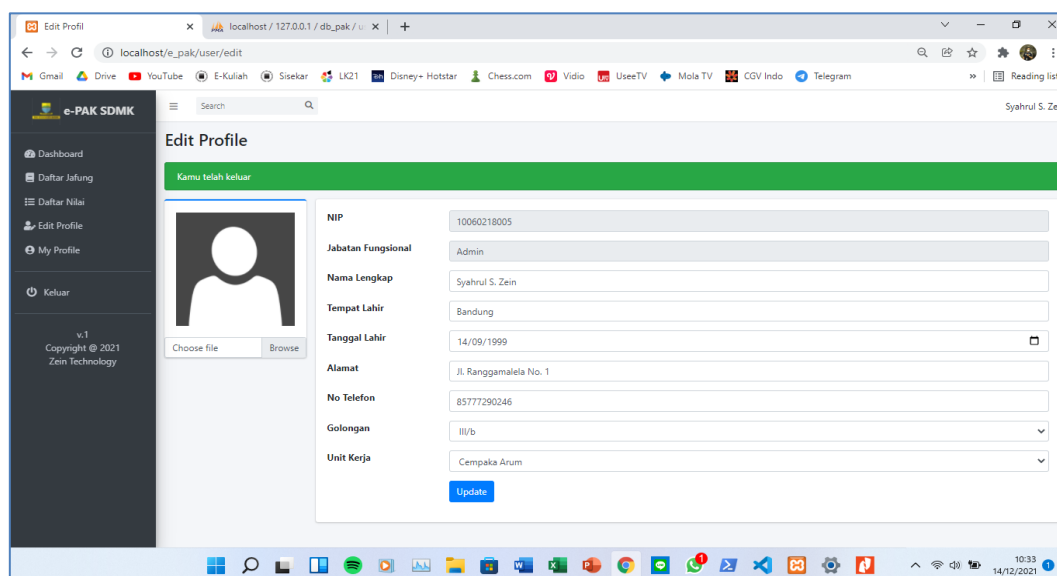
Figure 8. Edit Profile Menu

4. Conclusion

The conclusion is that the process of entering a credit score that is done manually is seen as less effective, time-consuming and space consuming. However, with the e-PAK application, the process of entering a credit score is made easier. The design of this application is very effective for the progress of an agency in the process of entering a credit score. Web application design is considered more flexible because everyone can access it anytime and anywhere without having to rely on application makers

Acknowledgment

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