Jurnal Informasi dan Teknologi

https://jidt.org/jidt

2023 Vol. 5 No. 4 Hal: 136-140 e-ISSN: 2714-9730

Development of Employees Attendance Features of Human Resource Information System in A National Logistics Company

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Abstract

The purpose of this study is to determine how to create an HRIS application. The following steps make up the data collection approach used in the development of this application: observation, interviews, and literature review. The author develops systems using the Requirements Analysis and Design (RAD) method, which comprises three stages: requirement planning, design workshop, and implementation (application). The author has presented research and authors from which the following conclusions can be made: Using UML (Unified Modeling Language) tools and the RAD (Rapid Application Development) methodology, the HRIS attendance information system was evaluated and designed. through the use of three stages for the design, implementation, and requirements planning processes. Through the attendance function in the developed HRIS (Human Resources Information System) application, the system development can facilitate data processing and employee absence reporting for HR (Human Resources). Obviously, there are still issues with this method. Numerous things can still be done to improve and further expand this system. It is envisaged that development will extend beyond attendance and include the ability to use the HRIS application to distribute information on HRD activities.

Keywords: Human Resources Information System, Personnel Database, Attendance System.

1. Introduction

Web-based information systems are used to increase information along with the technology's rapid development. Work will be easier as a result, including faster data processing, more accurate decision-making, and cost and time savings. Web-based information systems can also be a powerful marketing tool and a data source that more and more people with internet access can access. Today, the majority of corporate information is still stored on paper. The document storage drawer is still stocked with paper documents. It takes a lot of energy to look through storage for papers [1]. Document backups of this kind are uncommon, and papers can be lost or misplaced. There are still manual work procedures in corporations. Microsoft Excel is still used for creating attendance records, and all data processing, particularly in the personnel department, is still done by hand. The impact affects operational activities, namely the preparation of monthly reports, which takes quite a long time. To make it easier for the personnel department to obtain complete and detailed information relating to attendance, the author will analyze the company's needs and the field of personnel. In this analysis, finally an idea was found: the author will develop a system. A program that makes it easier to collect attendance information or personnel data on absences [2].

The system is no longer something foreign to most people in everyday life. Often, people think of a system as a set of computers. Systems can also have broader meanings, such as the solar system, respiratory system, and other systems. A system is an arrangement of components that work together as a cohesive entity to accomplish a primary objective. This knowledge makes it possible to explain why "a system is a collection of elements that form a network that are interconnected with each other to achieve a certain goal." An input, processing, and output system is the general model of a system [3]. Given that a system can have several inputs and outputs, this is a fairly basic idea in system architecture. In addition, a system possesses other traits or attributes that support the notion that it is a system. Information is defined as organized data with applications and advantages. According to the definition of information, however, not all outcomes of data processing can be classified as information; specifically, outputs of data processing that lack significance or practical utility for an individual do not qualify as information for that individual [4]. One way to define "information" is as "data that has been processed into a useful form and can be used for decision-making." Information is therefore a valuable resource for a company's business process operations [5]. Information that is accurate, exact, clear, and good will lead to decisions that are highly advantageous for a business. For some uses, this information system gathers, organizes, stores, examines, and

Diterima: 03-12-2023 | Revisi: 04-12-2023 | Diterbitkan: 10-12-2023 | doi: 10.60083/jidt.v5i4.428

distributes data [6]. An information system has input (data, instructions) and output (reports, calculations), just like other systems [7].

Information systems generate output that is provided to users or other systems after processing input. Operational control mechanisms that are reciprocal may also be included. An information system functions in a certain environment, just like other systems. Understanding the distinctions between data, information, and knowledge is essential for anyone studying information systems [8]. The conclusion that follows from this knowledge is that "an information system is a series of procedures where data is grouped and processed into information that is useful for decision-making." Since information can assist an organization in achieving the objectives for which it was established, information is vital to an organization and cannot be created [9]. An organization may govern all of its internal operations and use information to tackle the difficulties it encounters. System analysis is the process of breaking down an entire information system into its constituent pieces in order to discover and assess possibilities, challenges, issues, and anticipated needs in order to suggest improvements [10]. One way to design, sketch, or arrange multiple components into a single, functional entity is to create a system. Meeting user needs and giving computer programmers and other technical professionals engaged a clear image and full design are the general goals of system design [11].

Rapid Application Development (RAD) is an object-oriented approach to system development that encompasses both software and development processes. RAD is a tool for creating screens and displaying an application's general flow [12]. The visual model is approved by the user, who also signs off on the design. Because users contribute to the system's business aspect design, there is less implementation. The three stages of RAD are as follows: plan for requirements [13]. In order to determine the objectives of the application or system and the data required to satisfy those objectives, users and analysts get together in a meeting-like setting at this point. The most important thing at this stage is involvement from both parties, not just approval of the proposal that has been made [14]. Furthermore, user involvement is not only at one level of an organization but at several levels of the organization so that the information needed for each user can be fulfilled properly. The design process (RAD) design workshop, at this stage, is carrying out the design process and making improvements if there are still design discrepancies between the user and the analyst [15]. At this stage, the activeness of the users involved is crucial to achieving the goal because the user can immediately provide comments if there is a discrepancy in the design. Usually, users and analysts gather together and sit at a circular table where each person can see each other without any obstacles. Implementation: after the design of the system to be created has been approved by both the user and the analyst, the programmer develops the design into a program [16].

A modeling language for object-oriented software or systems is known as a unified modeling language. In actuality, modeling is used to simplify difficult issues so that they are more easily learned and comprehended. One of the most dependable tools for object-oriented development is the unified modeling language (UML). This is so that system developers can generate a consistent blueprint of their vision using the visual modeling language that UML offers. In summary, unified modeling language (UML) is an object-oriented modeling language that has gained widespread use for the purpose of simplifying complicated problems through the visualization, design, and documentation of software systems [17]. PHP is a shortened form of hypertext processor.PHP is an example of open source software, which is governed by general-purpose licenses (GPL). PHP is primarily used for dynamic web development, and it may be attached to HTML scripts or the other way around. Another programming language that is server-based (also known as server-side scripting) is PHP. This means that all PHP scripts are first loaded onto the web server, after which the translation results are sent to the client browser. The PHP programming language shares technological similarities with Cold Fusion, ASP (Active Server Page), JSP (Java Server Page), and Perl [18].

We can write JavaScript code more quickly and easily by using the JavaScript library JQuery, which is a collection of ready-to-use JavaScript functions and code. When viewed at the source, a web page that generates an application using JQuery will appear like a typical HTML document; no JavaScript code is displayed immediately. Unobtrusive JavaScript programming is the term for this type of web development [18]. JQuery is a library that builds client-side web applications that are not visible to regular JavaScript programs and need to be specifically included to web pages. When utilizing standard JavaScript for client-side programming, each element with an event will clearly indicate that it has an associated event. JQuery was first developed by John Resig and was made slimmer than the prototype library, which was the inspiration for this JQuery library. Programmatically, JQuery has similarities to a prototype. JQuery is a very slim library; the core of this library in a compressed state is only around 19KB in size [19].

A company's human resources are crucial to its success since they are essentially responsible for the design, installation, operation, and maintenance of its critical systems. Materials, information, and energy are the inputs needed to develop a corporation. These inputs are processed by machinery, equipment, and software to create output in the form of tangible goods and services. Because people are the ones who manage the resources inside a company as stated in the Matsushita Electric idea, which holds that people are made first, things are made second the significance of human resources to the organization cannot be understated. One of the primary areas of focus

for the organization is how human resources are processed, from the phases of recruiting, selection, placement, and development to the retirement or termination of employment (PHK) stages, in order to enable the organizational life cycle to grow and develop sustainably [19]. Employee job satisfaction will increase with an effective HR management system in place at the business, which will ultimately boost organizational performance. It is reasonable to think that overseeing human resources in a company is similar to overseeing a business where pungent materials are received, processed through a number of steps, and finally delivered as a finished good to customers. Every stage of the process needs to be planned and managed in compliance with the established standards and specifications in order for the final product's quality to fulfill requirements [18]. The standards that have been established for each role must also be adapted to HR management, beginning with the hiring, placement, advancement, and termination phases.

2. Research Methods

The data collection method in developing this application is divided into several stages as follows: observation, interviews, and literature study. Through direct observation or observations carried out at the company to obtain the data in question. Observations are carried out by directly observing the running system processes. Interviews make it possible to obtain data in more depth because they meet the source directly. Interviews were conducted with system analysts. Literature studies are carried out to add references to theories needed in research by reading and studying literature that supports this research, including journals, books, papers, and articles. The system development method used by the author is the RAD method, with a process of requirements planning, design workshop, implementation.

3. Results and Discussion

Data analysis is carried out to determine user needs regarding the application to be created. The data analysis of user needs based on this application is as follows: Determine the object of the system being created. The object of the system to be created is the user, consisting of HR supervisors. Studying related organizations. Studying related organizations is necessary to make it easier to create applications and for users to implement the system that has been created later. Apart from that, studying related organizations also makes it easier to collect data and information regarding user needs. Analyzing existing output. The existing output here is in the form of data analysis. Studying the system that is already running has not been implemented optimally; therefore, to obtain information quickly, a definition of the system that already exists or is running is carried out. Analysis carried out on the system currently running in HRIS uses a flowchart. Administrator, log in to the HRIS system. Administrator, input employee data into the HRIS menu. Administrator, update employee data on the HRIS menu. Starting with determining the performance parameters that will be used by logging in and inputting employee data so that an HRIS application can be produced. Based on the flowchart of the running system, the weaknesses of the system can be found. The weaknesses are as follows: Currently, the services provided by HRIS are only for inputting and updating employee data. Employee attendance information is still not in the system. By looking at the problems with the existing system, we need a medium that can reduce these problems and make the performance of the HRIS system run better and be more useful. Therefore, the author suggests creating an attendance system that uses a fingerprint attendance device. This attendance measure aims to monitor employee attendance. Making HRIS applications is based on the user classification of system users.

Use case diagrams clarify the intended functional links in system design. Here, the focus is on "what" the system is capable of doing, not "how." An exchange between an actor and a system is described in a use case. A use case is a specific task, such as arranging an employee's working hours, compiling a list of names for the workforce, or logging in as a user to the system. An actor is a machine or human entity that can communicate with the system to carry out specific functions. Use case diagrams can be quite useful, particularly when gathering requirements for a system, organizing its modules, explaining its design to clients, and creating test cases for each feature. Thus, use case diagrams have a significant impact on system design; in fact, they serve as the foundation for system planning. The relationships between the classes listed in the HRIS attendance application are explained in the class diagram. Entities or objects with properties and functions make up the class. A database can be created from this class by creating a table that can be connected to other tables.

State diagrams show how an object in a system transitions and changes its state (from one state to another) in response to external stimuli. State diagrams, which might include more than one for a class, typically describe specific classes. A state in the UML is named based on its current state and is represented as a rectangle with rounded sides. Guard conditions, or the requirements for the transition in question to take place, are typically specified in square brackets and apply to transitions between states. A slash indicates actions taken in response to specific circumstances. The full and half-colored circles represent the start and end points. The username and password are entered into the system by the user. Click the login button after entering the username and password. Subsequently, the system will verify the login credentials in the database. Then, a check is carried out in the database. If successful, the home menu is active, and if it fails, the system returns to the login menu. The time

schedule menu is said to be active if the time schedule menu is selected. The time schedule menu is said to be passive if it is not selected and active again if it is selected. Users no longer enter the time schedule menu when they exit the system.
The time holiday menu is said to be active if the time holiday menu is selected. The time holiday menu is said to be passive if it is not selected and active again if it is selected. Users no longer enter the time-holiday menu when they exit the system. The employee time schedule menu is said to be active if the employee time schedule menu is selected. The employee time schedule menu is said to be passive if the employee time schedule menu is not selected, and the employee time schedule menu is said to be active if the employee time schedule menu is selected. The employee time schedule menu is said to be passive if the employee time schedule menu is not selected and is active again if selected. The user will no longer enter the employee time schedule menu if he exits the system. The individual print menu is said to be active if the individual print menu is selected. The individual print menu is said to be passive if it is not selected and active again if it is selected. Users no longer enter the individual print menu when they exit the system. The print department menu is said to be active if the print department menu is selected. The print department menu is said to be passive if it is not selected and active again if it is selected. Users no longer enter the print department menu when they exit the system. The SBU print menu is said to be active if the SBU print menu is selected. The SBU print menu is said to be passive if it is not selected and active again if it is selected. The user no longer enters the SBU print menu when exiting the system. The logout menu is said to be active if the logout menu is selected and the system calls the logout menu module. The user has logged out of the system.
Activity diagrams show the different activity flows inside the system under design, together with their starting points, potential outcomes, and endings. Activity diagrams can also show processes running concurrently in many executions. Special state diagrams known as activity diagrams have a majority of states that are actions, with some transitions initiated by the conclusion of a preceding state (internal processing). As a result, activity diagrams generally depict processes and activity channels from the top level rather than precisely describing the fundamental behavior of a system (including interactions between subsystems). An object in a system that is arranged in a sequence or time series can interact with one another, as shown by a sequence diagram. Messages are exchanged between these things in the form of users, displays, and other entities. Sequence diagrams are used to illustrate a situation or a set of actions performed in reaction to an occurrence in order to achieve a particular result. The activity's cause, internal processes and modifications, and resultant output are shown first in the sequence diagram. In designing integrated multiuser applications, two main components are required, including: Software, including the selection of software applications used in system development, includes: a web browser used as an interface in developing web-based applications; web servers are used for developing web-based applications that can serve requests from clients via a web browser; databases are used as data storage places; and a programming language that can connect database applications with servers. Software specifications include: Windows 8 Operating System; Apache HTTP Server Version 3.2.1; PHP versions 4 to 5.3.0; MySQL versions 1.3 to 5.0; and Mozilla Firefox and Google Chrome Web browsers. Hardware, including the selection of hardware used as a supporting tool for application development, includes the physical form of the computer used as an input/output tool in application development; network topology and architecture are used to integrate data in application development. Specifications for hardware include the following: processor at least Pentium Core 2 233 Mhz or above; RAM/memory at least 2 GB; monitor with resolution up to 1366 x 768; keyboard and mouse such as serial, PS/2, or USB; network technology in the form of internet or LAN. The application menu offered is: For administrators: input, update, and delete all data on the HRIS menu. setting the user's abilities when using the application. For attendance, input, update, and delete all data on the HRIS menu.
The HRIS application has access rights to view, input, delete, menu access, and user edit. All admins carry out the login process with the same login interface. Administrators set user rights when managing HRIS. In this case, the administrator is a super admin who can carry out all activities in HRIS. The following explains an overview of calendar application management rights: first, administrator, namely view all employee, organization, attendance, payroll, and user data; input, edit, and delete user data that will manage HRIS. Second, attendance, namely viewing and editing HRIS data. After installing, the next stage is creating the program. Creating programs (coding) can make it easier to write program code, especially web-based (hypertext). These applications include Notepad, Wordpad, Dreamweaver, Ultraedit, Frontpage, and so on. Testing is basically finding and eliminating 'bugs' (errors) in the system or software. The testing carried out on the system aims to find errors that still exist in the system. Testing is carried out using a black-box testing approach. By using a black-box testing approach, we can find out whether the system can provide the output we expect. The results of black-box testing show that it contains the functional requirements of the system that was tested with the user. Even though the system has been tested several times, it does not rule out the possibility of errors. Therefore, testing and improvements must continue as this system is used.

4. Conclusion

The author has presented research and authors from which the following conclusions can be made: Using UML (Unified Modeling Language) tools and the RAD (Rapid Application Development) methodology, the HRIS Attendance Information System was analyzed and designed. through the use of three stages for the design, implementation, and requirements planning processes. Through the attendance function in the developed HRIS (Human Resources Information System) application, the system development can facilitate data processing and employee absence reporting for HR (Human Resources). Obviously, there are still issues with this method. Numerous things can still be done to improve and further expand this system. It is hoped that development will not only be limited to attendance but can also be developed into a form of delivering information on HRD activities through the HRIS application.

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