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Designing a Web-Based Employee Task Management Information4s System at CV Achai Berkat Sejahtera

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ABSTRACT

Designing a Web-based Employee Task Management Information System on CV. Achai Berkat Sejahtera is a plan made to assist business owners in employee management and help employees communicate an obstacle in an organized manner so that communication misses do not occur. Designing CV Employee Task Management Information System. Achai Berkat Sejahtera has features such as Employee Task Management Systems and a dashboard for admins to see employee performance. The design of this Information System uses the Waterfall System Development Life Cycle (SDLC) development methodology. The database that this application uses uses a MySQL database. The programming languages used are HTML, CSS, JS, and PHP with the Bootstrap Framework and CodeIgniter which produce attractive and dynamic web applications. With a dynamic web application, it will be able to help admins and employees in accessing and processing data.

Introduction

In the modern era of the 21st century, the use of information technology has become a common and essential thing in human life (Afifah, Anjani, Ks, & Ap, 2021). Technological advancements continue to develop rapidly as time goes by, and this affects all aspects of human life. Information technology has provided significant convenience in people's daily lives (Adityara & Rakhman, 2019). One aspect that needs to be considered is how humans access information. The internet has become the main and trusted channel for many people in seeking and obtaining information (Alfaruqy, 2022).

In this modern era, web applications have become an essential component of human daily life. They allow easy and flexible access to a wide range of services and information through a web browser, provided the user is connected to the internet. Web applications have a wide range of functions, including social media, email, online banking, e-commerce, distance education, and more (Aresti, Lukmantoro, & Ulfa,

2023). They are also constantly undergoing development and innovation, with developers working to improve the user experience and take advantage of the latest technologies such as artificial intelligence and data analytics (Hidayat & Hidayat, 2020).

The web app is also designed to be accessible through a variety of devices, allowing users to connect easily from anywhere. As such, web applications have changed the way humans interact with the digital world, providing more convenient and connected services in this digital age (Huda, Fitriyani, & Hidayati, 2022). In the current situation, many stores and small businesses are shifting their focus to online marketplaces, and most of them are allocating investments to online services. Nowadays, almost all types of products and services can be found in online stores or e-commerce platforms. With the rapid growth in online business, small businesses need to continue to adapt to the times to compete with other business competitors (Hisan, 2022).

CV. Achai Berkat Sejahtera is a company engaged in the distribution of food rice and is a rice supplier for markets and supermarkets. Established on July 29, 2022, CV. Achai Berkat Sejahtera is experienced enough to provide quality products but is quite affordable making it an attractive choice for consumers who are looking for rice. Rice originating from Majalengka is the main product of CV. Achai Blessing Sejahtera (Laksana & Fadhilah, 2021).

CV. Achai Berkat Sejahtera who is in Bali plans to recruit from several other regions, especially outside Bali. This makes it difficult for the company to manage employees in the company, if you only use social media such as WhatsApp or email, the tasks that have been given by the boss or supervisor will be difficult to monitor by the boss and it will be difficult to see what tasks have been done (Kurnia, Johan, & Rullyana, 2018). Communication between one employee and another to assign tasks between divisions can be double or redundant and will be miscommunication and confusion. Attendance will be difficult to date with the spread of employees in several areas that are quite far away, therefore it will be easier if online attendance is made on the web. If everything is in one website application, it will be easy to data and easy to make a history of each job that is assigned. Existing data can be made into a data report for each employee or a performance report for employee evaluation. The difficulty of applying for leave is one of the problems experienced by employees on CVs. Achai Blessing Sejahtera (Kaloeti, Kurnia S, & Tahamata, 2021).

Based on the situation described by the author, the author will propose a thesis topic "Designing a Web-Based Employee Task Management Information System on CV. Achai Blessing Sejahtera". The main result that the author wants to achieve from this study is that the website can be a means to carry out distributed Employee Task Management, information, and data collection on the level of division performance. The author hopes that this website will make it easier to Manage Employee Tasks on CVs. Achai Blessing Sejahtera (Rusdin, Unde, & Bahfiarti, 2023).

The objectives of this study are:

1. Producing a web-based Employee Task Management application that can be useful to help the Employee Task Management process become easy and efficient.
2. Produce an application that can make it easier for the owner or company owner to see the performance of his employees.
3. Make it easier for employees to carry out work activities.

Research Methods

In designing a web-based Employee Task Management application on a CV. Achai Berkat Sejahtera will use the SLDC (Software Development Life Cycle) Waterfall model. The waterfall model has the principle of planning and scheduling all process activities before starting development. Each stage of development is carried out one after the other and flows down like a waterfall. The waterfall model has a clear structure and encourages authors to determine the final goal of the review from the research results. The following are the stages of the Waterfall model that will reflect the basics of software development:

1. Requirements analysis and definition

The author searches for data and analyzes system services, limitations, and research sources to understand the software that users need and the limitations of the software. Data analysis and search will be carried out by observation of CV. Achai Blessing Sejahtera.

2. System and software design

The system design process creates requirements for the software system. The system design process establishes the overall architecture of the system. The author uses Unified Modeling Language (UML) to create Sequence Diagrams, Class Diagrams, Use Case Diagrams, Activity Diagrams, Prototype User Interfaces, and Windows Navigation Diagrams.

3. Implementation

Based on the system design from the previous stage, the author realizes a software system with the process of creating software program code. The programming language used is Hypertext Preprocessor (PHP) and MySQL database. The framework that the author will use is CodeIgniter.

4. Integration and system testing

Individual programs are integrated and tested as a complete system to ensure that software requirements have been met.

5. Operation and maintenance

The maintenance process includes fixing errors or shortcomings found in the previous stage and newly discovered errors.

Database Design

The design of a database describes the design of the process for developing a web-based Employee Task Management Information System on a CV. Achai Blessing Sejahtera. In designing this database or database, the author searches for data and

analyzes the needs of CVs. Achai Blessing Sejahtera. Data analysis and search will be carried out by observation of CV. Achai Blessing Sejahtera.

Conceptual Data Model Design

Conceptual database design is based on basic concepts and relationships identified in the system. The stage of the conceptual database design process consists of identifying entities and identifying the relationships between entities [8]. Based on the theory from Louis Davison's book, entities are generally classified into several types, such as people, places, objects, ideas, or things

Logical Data Model Design

Unlike conceptual database design, where the design focuses on the big picture, logical database design will focus on the details of the database. Conceptual database design transforms logical database design into schemas for data models [8]. In the process of designing a logical database design, the author identifies attributes and domain entities.

Physical Database Design

Physical database design is a stage that aims to implement the results of logical database design into a form that can be physically stored on external storage media, according to the type of Database Management System (DBMS) used. This physical design process involves transforming the logical design into a format that is concrete and accessible to the DBMS on the appropriate hardware.

Results and Discussion

Governance of Programs Created

The application design made in this study is a web-based Employee Task Management Information System on CV Achai Berkat Sejahtera. The following are the hardware specifications that will be used in the design of the web-based Employee Task Management Information System at CV Achai Berkat Sejahtera.

Software

1. Windows 11 operating system.
2. Web browser Chrome.
3. XAMPP Control Panel.
4. IDE (Integrated Development Environment) Visual Code Studio.
5. Database MYSQL.
6. Framework CodeIgniter than Bootstrap.

Hardware

1. Laptop dengan processor AMD Ryzen 7 4800H With Radeon Graphics @ 2.90GHz.
2. Random Access Memory (RAM) 16GB.
3. Graphics Processing Unit (GPU) NVIDIA GeForce GTX 1650 TI.
4. Solid State Drive (SSD) with a capacity of 1 TB.
5. Mouse.

Keyboard.

Conduct research and evaluation regarding the needs and specifications of the Employee Task Management Application, including identifying who will be the user of the application, the main purpose of using the application, and the time and location of application use (Sachiyati, 2023). The specifications and features of the website used are determined based on the needs of CV Achai Berkat Sejahtera. The data search was carried out by interviews with the owners of CV Achai Berkat Sejahtera and observation of the employee management process at CV Achai Berkat Sejahtera.

Designing a web-based Employee Task Management Information System on CV Achai Berkat Sejahtera. The design will determine how the application will operate. The design process includes the creation of Data Flow Diagrams, Entity Relationship Diagrams, Sequence Diagrams, Class Diagrams, Use Case Diagrams, Activity Diagrams, and Prototype User Interfaces (Rubin, Scanlon, Cechony, & Chen, 2021).

The implementation process of creating a web-based Employee Task Management Information System application on CV Achai Berkat Sejahtera is based on the analysis and design that has been made. Writing program code using the IDE (Integrated Development Environment) Visual Studio Code with the Hypertext Preprocessor (PHP) programming language with the CodeIgniter and Bootstrap frameworks, MySQL databases. In addition, in writing program code, the XAMPP Control Panel is used as a local server.

Personal

The personnel in designing the web-based Employee Task Management Information System at CV Achai Berkat Sejahtera consists of all employees including owners, supervisors and admins at CV Achai Berkat Sejahtera and their staff as well as writers who will carry out maintenance during the time that has been determined by CV Achai Berkat Sejahtera.

System Implementation and Schedule

After the application program creation is completed, the author conducts unit testing of features in the application and tests the entire application. Testing is carried out to ensure that the features and programs of the application are running according to specifications and to prevent errors or bugs when the application is used. Testing will be carried out once a week for one month to ensure that the features and application programs are running according to the expectations of the owner and author.

System Maintenance and Schedule

Applications that have passed the testing stage and have met the specifications and design will be deployed or installed. Maintenance will be carried out on the web-based Employee Task Management Information System application on CV Achai Berkat Sejahtera to ensure that the application runs properly and as desired. In addition, maintenance is carried out to fix errors that are not detected during testing or new errors that appear.

The test method that the author will use is User Acceptance Testing (UAT). User Acceptance Testing, often called User Acceptance Testing (UAT), is one of the important stages in the software development cycle. At this stage, the software that has

been developed is tested by the end-user or a representative of the end user to ensure that the software meets the needs and expectations that have been set.

In the UAT process, the end user will use the software in conditions similar to the actual work environment. They will conduct various testing scenarios that reflect how the software will be used in day-to-day practice. The goal is to find and fix bugs or issues that may not have gone undetected during previous stages of development and testing.

The results of the UAT are very important because they ensure that the software is ready for use by the public or end users. If users find a problem or feature that doesn't work as expected, the developer will make a fix before the software is released. Thus, UAT helps ensure that the final product is of high quality and meets the needs of businesses as well as users.

User acceptance Testing in the form of black box testing is carried out by 2 people, namely the owner and admin. Web testing is carried out to test all features contained in the web. Black Box Testing is a software testing method that focuses on the functionality of an application without regard to its internal structure or source code. Testers only look at the inputs and outputs from the system to determine if the application is functioning according to the predefined specifications. The results of testing users with the SuperAdmin and Admin roles can be seen in Figure 1 and the results of testing with the user role can be seen in Figure 2.

Tabel Pengujian Fungsionalitas *User Admin dan SuperAdmin*

No.	Persyaratan	Penilaian	
		Ya	Tidak
1	Sistem *web* menampilkan Menu *Login*	✓	
2	*User* dapat melakukan *login*	✓	
3	Sistem web menampilkan Menu *dashboard*	✓	
4	*User* dapat melakukan absensi	✓	
5	*User* dapat menampilkan tugas yang diberikan	✓	
6	*User* dapat merubah status pekerjaan tugas	✓	
7	*User* dapat melihat informasi tugas yang diberikan	✓	
8	*User* dapat melakukan *logout*	✓	
9	Sistem web menampilkan halaman *pemberian tugas*	✓	
10	Sistem web menampilkan halaman absensi	✓	
11	Sistem web memberikan data yang akurat sesuai *role user*	✓	
12	*User* dapat memberikan tugas kepada *user* lain	✓	
13	*User* dapat membuatkan akun kepada *user* baru	✓	
14	*User* dapat menganti status pekerjaan tugas yang sudah dikonfirmasi	✓	
15	Sistem web menampilkan halaman *assign new task*	✓	
16	Sistem web menampilkan halaman konfirmasi	✓	
17	Sistem web dapat menghapus absensi yang tidak sah	✓	
18	Sistem web dapat menganti password *user* lain	✓	
19	Sistem web merupakan web responsive yang dapat di gunakan di perangkat lunak lainnya	✓	
20	Sistem *web* menampilkan *menu dashboard*	✓	
21	*User* dapat mengganti tahun pada *dashboard*	✓	
22	Sistem *web* menampilkan data *task report*	✓	
23	Sistem *web* dapat menampilkan *Attendance Report*	✓	
24	Sistem *web* menampilkan data report dengan benar	✓	

Figure 1 Results of user testing with SuperAdmin and Admin roles

Tabel Pengujian Fungsionalitas *User*

No.	Persyaratan	Penilaian	
		Ya	Tidak
1	Sistem *web* menampilkan Menu *Login*	✓	
2	*User* dapat melakukan *login*	✓	
3	Sistem web menampilkan Menu *dashboard*	✓	
4	*User* dapat melakukan absensi	✓	
5	*User* dapat menampilkan tugas yang diberikan	✓	
6	*User* dapat merubah status pekerjaan tugas	✓	
7	*User* dapat melihat informasi tugas yang diberikan	✓	
8	*User* dapat melakukan *logout*	✓	
9	Sistem *web* menampilkan halaman *pemberian tugas*	✓	
10	Sistem *web* menampilkan halaman absensi	✓	
11	Sistem *web* memberikan data yang akurat sesuai *role user*	✓	

Figure 2 results from testing on the user role

Conclusion

Conclusion of designing a web-based employee task management information system on a CV. Achai Berkat Sejahtera is a useful application to help company owners view employee data at the company. Designing a web-based employee task management information system on a CV. Achai Berkat Sejahtera offers significant potential to improve operational efficiency and human resource management. With this application, the process of task management, attendance, and handling employee complaints can be simplified and recorded, reducing unnecessary administrative burdens and increasing overall productivity. The existence of a dashboard allows management to better monitor employee performance, see the total tasks assigned to each division, and make performance comparisons between divisions. In addition, the attendance and task reporting feature provides valuable data for management in conducting performance analysis and strategic decision-making. With easy accessibility from a variety of devices, both employees and management can access the necessary information and take appropriate action from anywhere and anytime. Thus, this system not only improves operational efficiency, but also strengthens transparency, accountability, and management capabilities in managing human resources more effectively.

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