

Implementation of Information System in Submitting Employees' Annual Leave at PT. Tesco Indomaritim

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Abstract— The progress of a company is always supported by appropriate management in managing the company and labor resources. By utilizing one of the developments in web-based computer network technology, it can support the development of information systems in companies so that the flow of information can be delivered quickly and accurately. PT. Tesco Indomaritim needs to change and build a new system in the process of submitting leave to be a computerized and web-based system. In the process of submitting leave by filling in the leave form and making reports using Microsoft Word and Microsoft Excel so that obstacles are still found. The large number of files which accumulate results in difficulties in searching, capturing and losing data. So to overcome this, a Submission Leave Information System was created at PT. Tesco Indomaritim which is expected to be able to provide solutions to the shortcomings of the old system. The web-based annual leave submission system that is made simple and easy to use must be applied in order to facilitate all employees, ease the staffing in making reports, ease for superiors for the proposed leave approval process, so that they are more effective and efficient because they are interconnected indirectly.

Keywords— *Information Systems, Web-Based Leave, Information Technology*

I. INTRODUCTION

Human resources are one of the important components owned by each company in supporting the progress and quality of each company in achieving its goals. Competition in an increasingly competitive industrial world encourages every company to strive harder to improve the quality of its company. The quality of human resources is needed to improve the productivity of the performance of a company. [4]. Therefore, each employee has annual leave rights which aim to restore the freshness and health of them physically, mentally, also social life of employees themselves. Leave consists of maternity leave, sick leave, holidays, annual leave and leave for important

reasons, which are regulated in Act No. 13 of 2003 Article 79 paragraph (2).

Before applying for leave, it requires an employee absenteeism, because attendance is a factor that is very necessary to see a condo. Data on attendance that is owned by the company will be seen periodically and will be a supporting factor for submission of leave received or rejected by the leadership. Leave is a condition where employees do not work for a certain period of time. Giving leave is an effort given by the company to employees in refreshing and relaxing employees after a long period of work.

The submission process and leave report conducted by PT. Tesco Indomaritim is still manual, where employees apply for leave by completing leave and recapitulation forms by administration and will be forwarded to the human resources (HR) department. Thus, the storage of leave data is less effective and does not have a database to find the data.

Human error often occurs in requests and leave reports, so there needs to be a system that can solve the problem. The development of information systems for filing leave will greatly affect the effectiveness and efficiency in providing accurate information and reports.

To be able to make it easier for employees to take leave and get information related to leave in full and detailed, the staffing department is expected to make a computerized system. Employees no longer have to get leave information by coming directly to the staffing department, but simply by accessing the web-based leave application easily, it does not require a long time. So the authors are interested in raising this issue to become a web-based information system.

II. LITERATURE STUDY

A. System Definition

The system is a logical and rational procedure to do or design a series of components that are related to each other [1]. The system comes from Greek, namely "sistema" which means unity, namely the whole of the parts that have relations with one another [3]. The system is a collection of various parameters that lead to order to fulfill the objectives agreed upon in an organization or group with one vision and one mission [5]. Based on the opinions stated above, it can be concluded that the system is a set of elements consisting of humans, machines or tools and procedures and concepts that are gathered together for the same purposes.

B. Concept of Website Design.

The concept of website design contains the definition of the internet, website, database, programming language used by the author, and the system development model used.

1. Internet

The internet is a network that interconnects one computer with another computer, with the help of a connection installed on hardware and spread widely in the world between users. Based on simple conclusions simply can be said "the internet is a world computer network, all communicate in the same language. Many

of the benefits of computer networks, including productivity and efficiency".

None of the people, groups, or organizations responsible for running the internet. The working mechanism of the internet is not based on humans, but is an electronic working mechanism. Each network that is connected to one another, communicates with certain protocols, such as the Transmission Control Protocol (TCP) and Internet Protocol (IP).

2. Website

"A website or website is a number of web pages that have related topics, sometimes accompanied by images, videos or other types of files" [2]. The combination of all sites that can be accessed publicly on the internet is called the World Wide Web, also known as www. A website is usually placed on a web server that can be accessed via an internet address which is known as a Uniform Resource Locator (URL).

a. Web Browser

Still according to [2], "Web Browser is an application used to surf the internet or to view web pages, examples of web browsers are Google Chrome, Mozilla Firefox, Opera, and Internet Explorer".

b. Web Server

"Web Server is a computer that is used to store web documents, this computer will serve requests for web documents from its clients (Web Browser), data storage websites on the internet are called hosting" disclosures [2].

C. Web Based Learning Model.

One effort to improve the quality of a learning process is to facilitate learning with certain media. The web is one medium that can be used by an agency to improve the quality of the learning process. Web-based learning is learning that is accessed through the internet network. Web-based learning can create a virtual learning environment. The learning environment provided by the web is equipped with several facilities that can be combined using to support the learning process, including discussion forums, chat, online assessment, and administration systems.

This web-based learning is expected to facilitate the activities of each individual or group, in every field of service, education and company and others. With the implementation of this learning, everyone does not need to come directly to find the information needed, just relying on the internet network can all be done easily. Such as the ease of finding information, exchanging information through social networking or e-mail, learning with e-learning systems, and so forth.

D. Database

"The database system is a computerized system whose main purpose is to maintain data that has been processed or confirmed and make information available when needed". In essence, the database is the media for storing data so it can be accessed easily and quickly. In designing this information system for filing employee leave, it uses a relational database that is implemented with several tables. [6]

E. System Development Life Cycle (SDLC)

In the system development phase the writers use the System Development Life Cycle (SDLC) Framework with a waterfall approach consisting of several stages of activity flow that runs one direction from the beginning to the end of the system development project.

The Waterfall method, there are certain steps that must be achieved in the same direction after the other stages, in a certain sequence, such as a stair or multilevel waterfall such as, software requirements analysis, design, programming code, testing and support and maintenance.

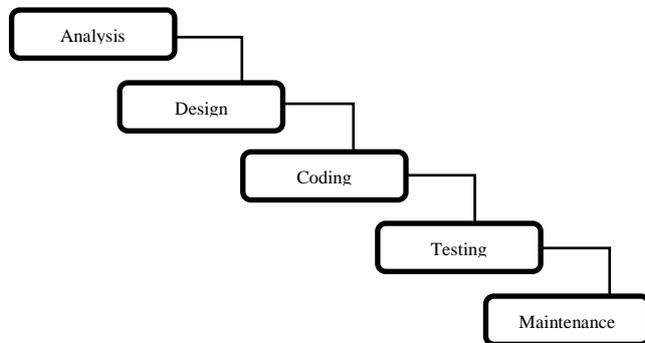


Figure 1. SDLC

F. Entity Relationship Diagram (ERD)

ERD is a diagram used to design a relationship between multiple tables in a database.

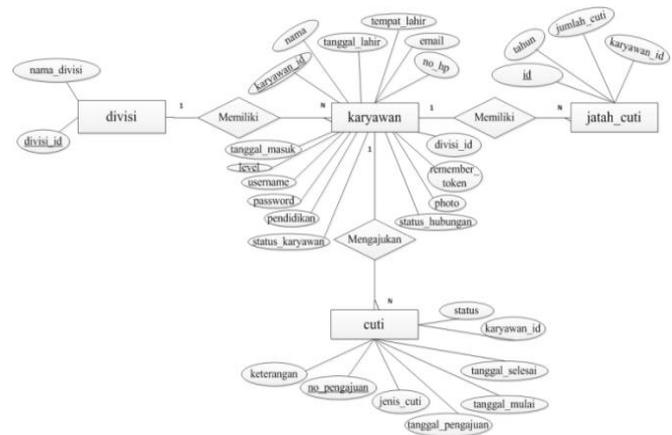


Figure 2. ERD

G. Logical Record Structured (LRS)

It is a form of ERD depiction in a clearer and easier to understand form that reads the image.

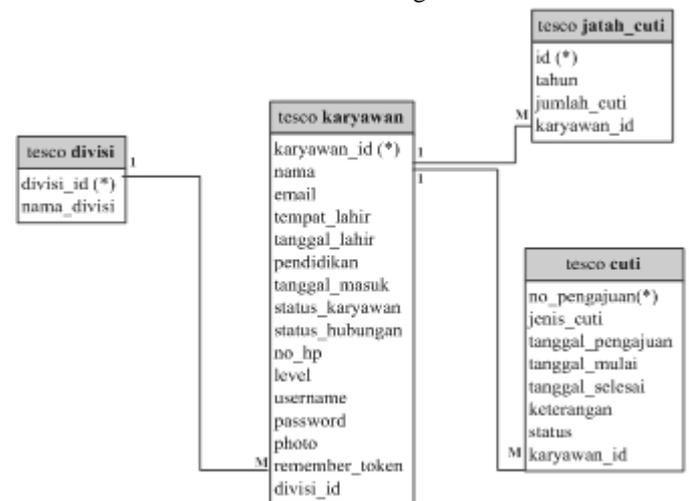


Figure 3. LRS Proposal System

III. RESEARCH METHODS

Research conducted using two methods, namely the technique of data collection methods and software system development:

1. Data Collection

a. Observation Method (Observation)

The technique of collecting data with this observation or observation method explains how the writer observed the annual leave request at PT. Tesco Indomaritim as a consideration in making web applications made.

b. Literature review

A method of data collection is conducted by searching and studying various data from various sources such as books, articles both from the library and the internet.

2. Software Development Methods

a. Analysis

This stage of the development of the system requires communication that aims to understand the software expected by users or the limitations of the software. This information can usually be obtained through interviews, discussions or direct surveys. Information is analyzed to obtain data needed by the user.

b. System planning

The specification of the requirements from the previous stage after analyzing the system design stage is prepared. Web-based leave submission at PT. Tesco Indomaritim is desktop and MySQL based. The purpose of designing information systems is:

- 1). To fulfill the need for a leave of absence.
- 2). System planning is made so that an activity for filing leave becomes effective and efficient to support data processing in the company

c. Implementation

At this stage, the system was first developed in a small program called an integrated unit in its later stages. Each unit is developed and tested for functionality called unit testing.

During the leave process, before employees make employee leave applications, they must first log in to access the system. The system checks employee leave rations, if it is still available, the system will forward the submission to the head of the employee division. The division head will approve the leave. If the division head is approved, the system will forward the HR department as a validation of the leave. After the leave has been validated, the system will automatically save the leave history and reduce the employee's leave.

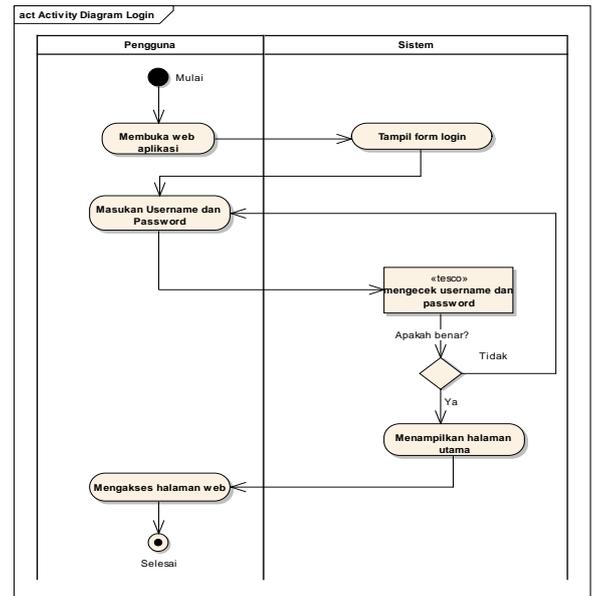


Figure 4. Proposed User Login Activity Diagram

Table 1.
Description of Use Case Submitting Leave

Use Case Name	Mengajukan Cuti
Requirements	1. Login to the system as an employee 2. Submit leave according to the amount of leave arranged in the system
Goal	Employees apply for leave via the web
Pre-Conditions	The employee has logged in
Post-Conditions	Submissions made were approved by the head of the division
Failed end Condition	Insufficient leave quota
Actors	Employees
Main Flow/ Basic Path	1. The employee chooses to take leave 2. The system displays the amount of leave remaining 3. The employee enters the start and finish date of the leave 4. Employees enter leave information
Alternate Flow/Invariant A	A1. Employees ask for leave according to the system-based leave
Invariant B	B1. Employees choose the menu plus submission of leave B2. The employee types the start date of leave, leave date, and leave information B3. The system calculates the remaining leave

zd. Integration and Testing

All units developed in the implementation phase are integrated into the system after the testing of each unit. After the integration stage, the entire system is tested to check for any failures or errors.

e. Operation and Maintenance

The final stage in the waterfall model. Software that has been created, is run and carried out for maintenance. Maintenance is included in correcting errors that were not found in the previous step. Improvement of system unit implementation and improvement of system services as new requirements.

IV. RESULTS AND DISCUSSION

A. Interface Design

The design of the interface is made to describe input choices on the part of employees, division heads and HRD. Available menus are carried out by the process of invoking data, on a database server and making output.

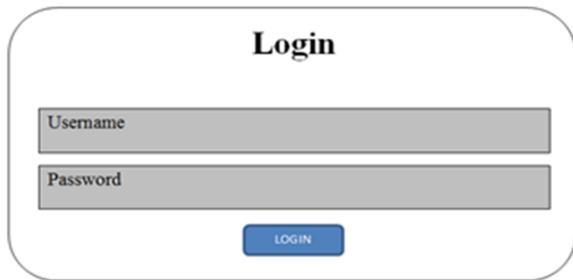


Figure 5. Design of login interface

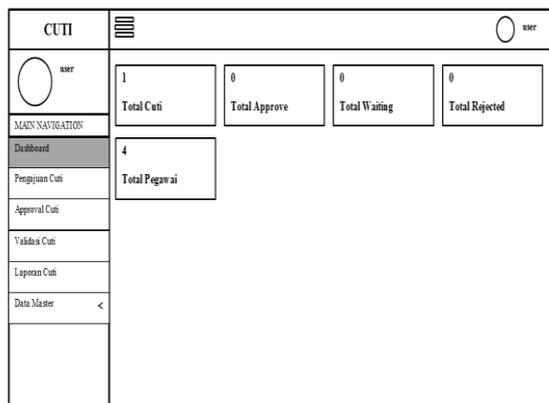


Figure 6. Design of Dashboard Interface

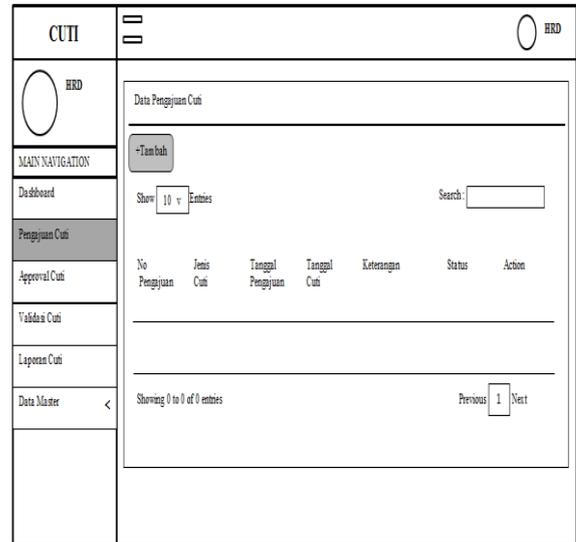


Figure 7. Design of the Filing Leave Case

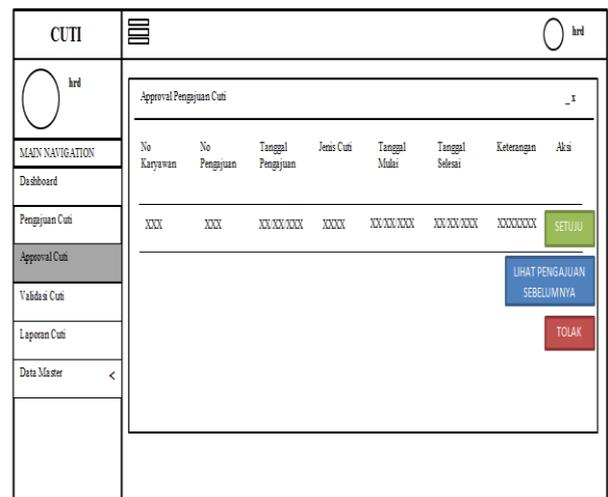
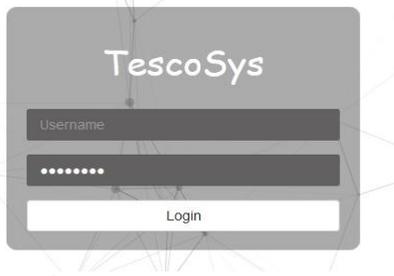


Figure 8. Design Interface Approval Leave

B. Implementation of Interface Design

The following is the implementation of the interface design on information systems for employee leave applications based on the interface design results.

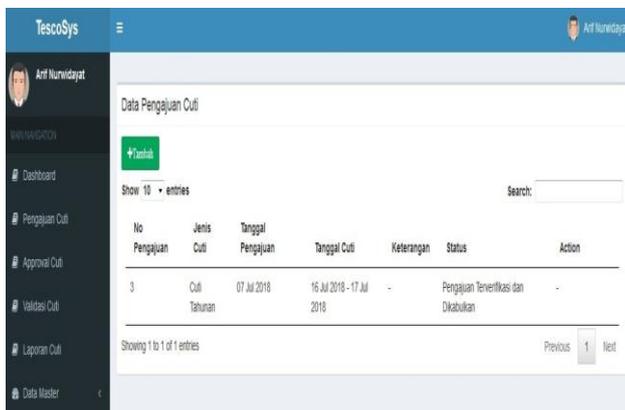
1. Display Login



2. Dashboard page



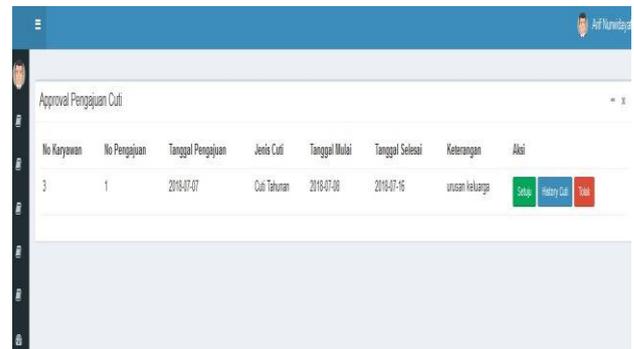
3. Display of Leave Filing



4. Display Add Leave



5. Approval Leave page view



This page has access to only HRD who can view, change, delete and add data related to employee leave.

F. Computer System Specifications

The following are the minimum hardware and software specifications needed to implement a website application to build a leave request within the company.

1. Hardware Specifications

Before implementing a computerized system, some preparations are needed, both in terms of hardware requirements and software as a means of supporting the program to be run. These supporting facilities must be able to help the system become more effective and efficient computerized.

A. Hardware (Hardware)

Hardware is equipment that is physically used to support the system. The hardware specifications that the writers propose for making this leave program are as follows:

- a. Server
 - 1) Processor: Intel Core i3-380M
 - 2) Memory (RAM): 8.00 GB
 - 3) Monitor: 14 "
 - 4) Hard drive: 400 GB
 - 5) Keyboard: 86 Key

- 6) Mouse: Optical Mouse
- 7) Printers: Deskjet Printers

b. Client

- 1) Processor : Intel Pentium IV @2.6 Ghz
- 2) Memory (RAM) : 2.00 GB
- 3) Monitor : 14"
- 4) Harddisk : 100 GB
- 5) Keyboard : 86 Key
- 6) Mouse : Mouse Optik

B. Software (Software)

Software is a program that contains commands for processing data. The software specifications used:

a. Server

- 1) Operating System: Microsoft Windows Server 2012
64 bit R12
- 2) Web Server Bundle Application:
Xampp which consists of components:
 - a) Apache Server application
 - b) PHP Server Application
 - c) MYSQL Server Application
 - d) PhpMyAdmin application
- 3) Web browser applications such as Mozilla Firefox Internet Explorer, Google Chrome.

b. Client

- 1) Sistem Operasi Microsoft Windows 7 64 bit
- 2) Aplikasi Web Browser seperti Mozilla Firefox, Internet Explorer, Google Chrome.

V. CONCLUSION

Based on our analysis on the process of filing annual leave for PT. Tesco Indomaritim, which still

uses manual systems, the writers conclude they need to build a computerized system that can assist employees in filing annual leave, reduce paper use and avoid data clutter and data loss that often occurs in the previous process.

We try to design a leave submission system that is simple and easy to use by the user (user friendly) with the system that leave leave will be more effective and efficient in terms of time and material. It is hoped that this system can make it easier for employees to apply for annual leave, simplify the HR department in viewing and printing leave reports, facilitate manager access to monitor employees' leave.

ACKNOWLEDGMENT

Alhamdulillah and praise to Allah SWT who has bestowed His Grace and Gift, and all colleagues for the creation of this paper. As well as the Bina Sarana Informatika University, as a place to study and discuss with all colleagues, so that they can discuss and share knowledge.

REFERENCES

- [1] Achyani, Y. E., & Arviana, E. (2018). Sistem Informasi Pendapatan Jasa Pada Koperasi Pdam Tirta Patriot Bekasi, 4(1), 178-185
- [2] Anhar. (2018). Trik Seo Dan Security Codeigniter. Lokomedia
- [3] Arisandy, Y., Harpepen, A., & Kurniawan, A. (2017). Sistem Informasi Manajemen (Teori Dan Implementasi Dalam Bisnis). (A. Sunarto, Ed.) (Cetakan I)
- [4] Dari, W. (2018). Penerapan Metode Fuzzy Inference System (Fis) Untuk Penilaian Kinerja Karyawan Level
- [5] Nugroho, A. S. (2017). Analisa Dan Perancangan Sistem Informasi. Yogyakarta : Trans Tekno.
- [6] Sukamto, R. A., & Shalahuddin, M. (2015). Rekayasa Perangkat Lunak. Jakarta: Elex Media Komputindo.