E-LEAVE MANAGEMENT SYSTEM AND PAYROLL (E-LMSP)

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I hereby declare that I have checked this thesis and in my opinion, this thesis is adequate in terms of scope and quality for the award of the degree of Bachelor of Computer Science (Computer Systems and Networking).

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I hereby declare that the work in this thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at University Malaysia Pahang or any other institutions.

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E-LEAVE MANAGEMENT SYSTEM AND PAYROLL (E-LSMP)

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ABSTRAK

ABSTRACT

E-Leave Management System and Payroll (E-LMSP) project is a web application and mobile application which can be used for all the organization or company that will ease the employees leave management. This is due to the problem in using manual system which can cause damage, missing and can be costly as well. In addition, it also will cause delay in leave request when the respective officer not in the office. To solve leave delayed problem, this system provided with the automated function ease leave management process such as information of employees, approval of leave, types of leave, leave balances, payment, notification of email, report generation are element of this system. The system is design in such a simple and friendly user interface to ease the users to use. Every employee is provided with unique username, password and accessible either by an employee or admin for log into a system. Moreover, the functions of administrator for this system are to register the new employee, delete and update information of user in a database. Administrator is known as higher authorities that use to manage the leave whether want to approve or reject the leave of employees. This system also provides the function that help the administrator to auto calculate the salary for each employee based on leave request by employees. This system is developed by using Waterfall method to ensure it is deployed in the prescribed time. As a conclusion, this system is very useful for any companies or organization where there are have large number of employee and easier to track and manage employees leave.
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<table>
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<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>E-LMSP</td>
<td>E-Leave Management System and Payroll</td>
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<tr>
<td>AMS</td>
<td>Absentee Management System</td>
</tr>
<tr>
<td>HRMS</td>
<td>Human Resources Management System</td>
</tr>
<tr>
<td>PMS</td>
<td>Payroll Management System</td>
</tr>
<tr>
<td>GB</td>
<td>Gigabyte</td>
</tr>
<tr>
<td>SRS</td>
<td>Software Requirement Specification</td>
</tr>
<tr>
<td>SDD</td>
<td>Software Design Document</td>
</tr>
<tr>
<td>UAT</td>
<td>User Acceptance Test</td>
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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Seri Barat Mixed is a company that was developed in 1983 with its major source of revenue continues to be derived from construction sector with premix production and Quarry. Seri Barat Mixed has factories which are located at Pulau Condong, Tanah Merah and Gua Musang with around 50 staff that needs to be managed.

Currently, the company uses the manual method for leaves application. The employees who want to apply their leave need to follow some procedures. The first procedure is the employee need to submit the leave application form at least 3 days earlier. The second procedure is the employee needs to get a sign or approval from official manager or administrator. The third procedure is the approval leave form need to be submitted to administrator for their record (Miss.Tan, 2015)

By using the manual method, , it raises some problems for the company where it is difficult to manage the leave for each employee due to they need to follow many procedures to apply their leaves and this will take a longer times and difficult to get faster approval leaves if the staff is having an emergency. The problems also could be happen even the approving officer is not available. This will cause the leaves applied will be delayed. This process is not efficient especially when employees have an emergency. Another problems are by using the paper-based system, the record can be damaged or lost and need content supply for inks, papers and files (Datin.Ginny., 2015) Besides that, the administrator will also face some problems which every month before
given the salary for each employee he/she needs to manually calculate the salary based on leaves that applied by employees, especially for the employee who applied an extra leave where their salary will be deducted based on the number of extra leave applied (Miss.Owi, 2015 & Datin.Ginny.,2015)

With respect to the matter, this project proposes an E-Leave Management system and Payroll (E-LMSP) which will be used by employees and administrative which will make the leave application at ease. This system is designed to be used by employees to apply their leaves and help administrative to auto update salary for each employee easily.

Therefore, E-LMSP is a web based and mobile application that makes employees easy to access the systems. This system is an automated system for managing leaves which able to provide leave information of every employee which consists of leave balance, approval of leave, leave cancellation, date of leave application and so on. In this systems, it also provides some features that will auto update salary based on employees apply their leaves, store the employee details into database, view and generate the leave report, apply leave anytime anywhere and so on.

Moreover, to provide a better leave management system of large employee, this leave online system is proposed to handle repetitive and complicated process efficiently. The E-LMSP application will make the leave application become easier to apply without having to filling up their information because the all information will retrieve from the database. This system will able to provide an efficient process the information. Furthermore, this system can reduces the mistake done by human, saving the time and man power, save cost and so on.

1.2 PROBLEM STATEMENT

Currency, Seri Barat Mixed uses manual system for managing leave application. The using of paper-based system can cause missing, damage and need supply cost to buy the papers, files, inks, and storage drawers to keeps leave application form. Moreover, every month when the company is about to give salary for employees, the administrator need to manually calculate the salary based on leave applied by the
employees. Manually calculation of the salary is time consuming and sometimes can lead to some mistakes in calculation of salary. This may cause delay in salary payment (Datin.Ginny., 2015) Therefore, with the proposed E-Leave Management systems and Payroll (E-LMSP) application, it will provide an auto-update salary function when employees take an extra leave without the need of the administrator to manually check and calculate the leave application applied by employees each times.

The use of paper-based system will cause the employees difficult to applied leaves because it needs follow a lot of procedures of the organizations. This will cause the need a lot of man power and time to apply leave which they need to fill up the leaves form at least 3 days earlier and must get a sign or approved by the approving officer and the leave approval will be delayed if approving officer is not in office. Other than that, the employee also does not know the current balance of leave (Datin.Ginny., 2015 & Miss.Tan, 2015)

By using E-LMSP system, the employees does not need to wait to get a sign of the approving officer to approve their leave because this system will provide an email notification to the approving officer for further action. The proposed E-LMSP application does not require the applicant to fill up the information because the employees information are stored into database and can be retrieved easily, prevent the leave delay and it can help to reduces input error. This E-LMSP application will make more efficient and effective that employees no need to follow many procedures of organization which applied leave application for three days earlier, get a sign approval from official manager and submitted leave application form to administrator for their record and employees has a user friendly to use our systems.

The process of E-LMSP application will make easy for staff and administrator who provides information or queries about leave of every employee whether it may concerned on leave balances, leave types, approval of leave and cancelation of leave. This system will be able to provide the administrator an easy way to calculate salary for each employee based on leave applied without any mistake. Then, it can help the administrator do the less work, make employees easy to apply their leave without take a longer time, auto update the salary when the staff apply the leave, store all staff information, save time and cost of the organization.
REFERENCES


Technology, A., To, A., & Kuim, I. L. M. S. (2012). Faculty of Information and Communication Technology ( MITU 5213 ) AGENT TECHNOLOGY APPROACH TO IMPROVE LEAVE MANAGEMENT SYSTEM, (Mitu 5213).