Web-Based Honorary Teacher Payroll Information System

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Abstract. The purpose of this research is to design a web-based honorary teacher payroll information system. This research uses descriptive approach method and prototype development method and the system approach used is a structured approach. The results of this study, starting from the design to the implementation stage of the web-based honorary teacher payroll information system, can simplify the work of the treasurer in the payroll process. The treasurer is the most important part in the educational institution, because it handles the employee payroll process including the honorary teacher. But apparently the treasurer is still experiencing various obstacles such as when the process of calculating and recording salaries is still using the manual method. This can be seen in the process of calculating and recording teacher salary data which is still done in a notebook. The coordinator also experienced difficulties when recapitulating teacher absence.

1. Introduction
In an organization, there are many departments. Every department has a payroll system to manage the payroll process. Every part has to do required activities such as data collection and preparation, entry, data updating, monitoring and reporting. Lots of this existing activities and procedures need to be reviewed. This is because it constantly needs change and demands change. All of this is greatly influenced by changes and developments in technology [1, 2]. Payroll is an important activity for every organization to pay employee salaries accurately and on time [3]. The net salary for each employee is calculated based on pocket money and deductions according to company rules. Individual payment slips are printed as a receipt if employees want to print. Payroll band, class salary, allowances, deductions and updated tax information if there is a change in salary structure. Payroll computer applications offered are web-based design [4]. In an educational institution, the government pays teachers as the main source of teacher remuneration in all situations. The Ministry of Education in any situation must have the resources to hire teachers who are predicated as state civil apparatuses. However, usually, limited technical resources, from the Government, will ensure a timely and accurate teacher payroll process [5]. Teacher salaries are a reward for work given by the school to teachers. This benefit is given within the allotted time for services provided by the teacher for the school. The system that runs on several educational institutions still has some problems. For example, in the teacher attendance process is still done manually by signing the attendance form provided by the teacher coordinator in charge. At the end of the month there may be an error during the recapitulation of teacher attendance. Another problem is the absence of making teacher attendance reports to be evaluated by the headmaster every month. The payroll system implemented by Arjun V. Singh, Siddesh V. Chaphekar, and Yogesh S. Sawant is a desktop based system, which is developed in VB.net as frontend and Microsoft Access 2007 SQL server 2008 as backend. The base of the planned
system is a database, which stores all information pertinent to personnel allowances, deductions, taxes and net pay [6, 7].

In previous studies conducted by Ahmad Fudholi [8] have some similarities with this study. The similarities are to discuss, analyze and design a payroll information system in an educational institution with the same development method, that is prototype method. While the difference is Ahmad Fudholi only discusses 2 modules namely payroll and transportation calculation while this study uses 3 modules namely the attendance of honorary teacher attendance, honorarium teacher payroll and personal loan of honorary teacher. Payroll research was also carried out by Yuniarlita Dwi Jayanti. This study analyzed the payroll accounting system for employees at PT Petrokimia Kayaku Gresik [9]. This is what distinguishes it from research by the author, namely the website-based honorary teacher payroll information system. While Suyanti conducts research on the design of payroll information systems at PT BS Logistics Batam [10]. However, different from the research that the author did, this payroll information system is desktop based. In 2018, Sulis Sandiwarno [11] also examined payroll information systems. The difference with the research that the author does is, this study uses the object method as a method of development, while the desktop-based system. On the other hand, Andrew Trotter [12] reviews teacher payroll. The difference with the research that the author did was that this study only analyzed the elementary secondary education teacher payroll system, and did not design for the improvement of the system.

The purpose of this research is to design a web-based payroll information system that will assist school treasurers in managing all payroll activities, such as salary calculation, salary deductions, printing salary slips and making teacher salary reports.

2. Method
The research method used descriptive method which aims to make a description of a situation about the object of research by using certain data collection methods. Data collection methods used are interview and observation methods at educational institutions to get primary data. As for secondary data obtained from existing sources, such as documents related to the research conducted.

The system approach method used is a structured approach method. The system development method used is the prototype method.

The following are the stages in the prototype method [13]:

1. Communication
   Making a prototype begins with communication between the software developer team and the customer, in this case is the school. The software development team will hold meetings with the school to define the overall goals for the software being developed, identify the specifications of whatever needs are currently known, and describe areas where further definitions of the iteration are necessary. This step is done in about two weeks.

2. Planning quickly
   Iteration of making prototypes is planned quickly and modeling (in the form of "quick design") is carried out. This stage is done in about two weeks.

3. Fast design modelling
   A fast design focuses on representing all aspects of software that will be visible to the end user (e.g. the design of the user interface or display format). This stage is done in one week.

4. Making of prototype
   The design will quickly begin construction of the prototype. This stage is done in about three weeks.

5. Submission of systems / software to customers / users, shipping & feedback
   The prototype will be handed over to the school and then they will conduct evaluations of the prototypes that have been made beforehand, then finally will provide feedback that will be used to refine the specifications. This stage is done in about two weeks.
3. Results and Discussion

The design of this system is done to create and design a new information system in order to give an overview to the user. The purpose of the system design is to facilitate the teacher in the attendance process and make it easier for the teacher’s picket coordinator to recapitulate the attendance of the teacher, simplifying the payroll and loan process carried out by the treasurer.

General description of the proposed system as below (Figure1):

![Figure 1. Context Diagram Web-Based Honorary Teacher Payroll Information System Proposed (Source: Research Design)](image)

Caption of Figure 1:
The system accepts personal loan request forms and subject attendance data from the teacher. The system provides teachers with approved personal loan request forms and salary slips. The system provides teacher salary reports, teacher attendance reports, teacher salary documents to the headmaster. The system accepts teacher salary documents that have been approved from the headmaster.

The payroll information system implementation is described below:

1. Software implementation for Server uses Operation system is Microsoft Windows 7, Web browser that supports HTML5, Javascript, PHP5 and CSS, Apache 2.4, MySQL, iReport 5.6.0 and XAMPP v3.2.1.
2. Software implementation for Client uses Operation system is Microsoft Windows 7 and Web browser that supports HTML5, Javascript, PHP5 and CSS.
3. Hardware implementation for Server uses Minimum processor is Intel Core2Duo or AMD Athlon X2, RAM 4GB or more and 1GB, Harddisk 320GB or more, Port LAN 10/100Mbps, Wi-Fi Direct, Mouse, keyboard, monitor and printer.
4. Hardware implementation for Client uses Minimum processor is Intel Core2Duo or AMD Athlon X2, RAM 2GB or more, Port LAN 10/100Mbps, Wi-Fi Direct, Mouse, keyboard, monitor.

The implementation of the honorary teacher payroll information system interface is explained below (Figures 2 - 12):
Figure 2. Login Page
(Source: Research Design)

Figure 3. Teacher Data Page
(Source: Research Design)

Figure 4. Teaching Schedule Data Page
(Source: Research Design)
**Figure 5.** Position Data Page  
(Source: Research Design)

**Figure 6.** Extracurricular Data Page  
(Source: Research Design)

**Figure 7.** Subject Attendance Page  
(Source: Research Design)
**Figure 8.** Attendance recapitulation page  
(Source: Research Design)

**Figure 9.** Loan Submission Page  
(Source: Research Design)
Figure 10. Loan Data Page
(Source: Research Design)

Figure 11. Teaching Honor Data Page
(Source: Research Design)

Figure 12. Teaching Honor Data Page
(Source: Research Design)

4. Conclusion
By implementing this web-based honorary teacher payroll information system, it can help the treasurer and the teacher picket coordinator to get involved in this payroll activity. The facilities obtained are in calculating salaries, calculating personal loans, and calculating the absence of the teacher concerned. In addition, the making of payroll reports is also faster and more accurate.

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