DEVELOPMENT OF WEB APPLICATION TO MANAGE SCHOOL STUDENT AND FINANCE DATA

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ABSTRACT
Information and computer technology advances very rapidly inline with the increase of the need for information. The use of IT in education has also become the norm. As for Elementary School MIM Innovative Gonilan, information systems have an important role in an educational institutions to improve the effectiveness and performance. Managing student and finance data is a very important part because every activity in school will definitely require funding. The system design is intended to process and managing student financial data. The main purpose of developing financial information system is for processing financial data quickly and accurately, because manual system that is currently used cause some problems, the current system does not produce 100% accurate data and data processing system of financial administration manual also requires a long time. Based on the analysis of the problem we try to design a student and financial information system that is expected to support the reporting of financial data so that reports generated more quickly and accurately. The system was implemented using PHP programming language and MySQL database. The results is a functioning financial information system for processing and making financial reports, and the financial data processing becomes more accurate, faster, and more timely than manual processing.

Keyword: student data, financial, data processing, information system, web application.
INTRODUCTION

According to Diamond (2006), information and computer technology systems are growing very rapidly in line with the magnitude of the need for information. Nowadays, agency enterprise, government and educational organization requires an information system to conduct activities so that they are more orderly, purposeful and efficient. Information technology plays an important role in human life, is no exception in the educational world. MIM Gonilan as an educational institution under auspices of Muhammadiyah always wants to keep abreast of emerging information technologies. The division of student affairs and finance faces difficulties to handle their task because of using manual formatting.

According to Prasetya (2011), Student and finance data processing in an educational institution is the main activity carried out periodically or at any time, the finance data always change every day, due to the mature of financial activities, student admission change every year due to new student registration. The division get pressure to keep the information actual, and to achieve it they have to process data quickly and effectively. MIM Gonilan located at the Village District Kartasura, Sukoharjo is one of the educational institutions under the auspices of Muhammadiyah who still use manual systems in student and finance data processing. Student data are recorded manually in a ledger and so is the financial data. Reporting are written using Microsoft Word after manual compilation processing. Financial and student data processing in the form of a file is conducted by administrative divisions and they risk losing the file because it is not stored well. The administrative division found difficulties to make a report if they are new financial and student data because they have to repeatedly compile and calculate the recapitulation.

Another issue that arises is the accumulation of file storage which causes
the beam is broken, and the length of time it takes to find the data because of the many files stored. Some problems that often arise are dues payment services committee that still using manual recording. Manual recording often incur human error, because sometimes the recording is done in sober. separated in several financial books.

By seeing and observing the system that running on MIM Gonilan, build the finance and student data application system using website is one of the solutions to overcome the problems of student and financial data processing and management so that the resulting information is more accurate, maximum, and timely. The results of this final form of is a Web Based Student and Financial Information Systems at MIM Gonilan.

**LITERATURE REVIEW**

According to Welda (2013), it is stated that the development of financial information systems ease the financial management administration in making payments and financial reporting at schools with using computerized system, so that the performance of employees in the management is more effective and efficient, because the constraints in managing the finance can be minimized in terms of accuracy, ease, and security.

According to Appiah (2013) in its research states that Schools organize and manage their financial operations differently depending on such factors as the size of the school, administrative structure, staffing, automation, and federal program participation. Although fiscal operations can vary from school to school, successfully managing programs at any school depends on coordinated efforts across institutional offices. A school’s accounting system includes those procedures that deal with the organization and controls necessary to identify and record transactions in a school’s journals and ledgers, while systematically providing for the supporting documentation for all journal entries. The accounting system is a
subset of the school’s larger system of financial management.

Prasetya (2011) in its research states that SMP Muhammadiyah Panjatan Kulon Progo as an educational institution that currently develops and always wanting to keep track of the technological development. Financial administration sector that up to this day still seemingly to be difficult to be done due to the use of manual format influencing a writer to conduct a research on it and developing a financial administration system of information computer-based. Several problems that often occur is the service in committee insurance payment service. A way of recording which is still manual, causing some human errors because the registry is sometimes done with whatever is there is without a sweat. Other problems that occur are in compiling a report. Problem that often being complaint is the hardship in data collection of the financial that spreads over different financial books. For this, it needs a system that is able to handle such problematic situation so that management is maximum. Financial administration of system information in this school is a system based on computer.

Mardani (2009) in its research states that in Surabaya as a sub existence from the Education Deparment Surabaya. Up to this day, it has been giving a routine report of financial to the Department of Education Surabaya. Up until now, the making of financial report has been done by a computer supported by Microsoft Word or Microsoft Excel, that will then put into diskette or compact disk and given to each of the UPTD-BPS. Several reports of financial has the same content but a form of format which is different, thus elementary school must maintain the filling up of data report several times. Cahyaningrum (2012) in its research states that administration data management in an institution of education is a main activity established periodically or everytime, those data always change every months or every months or every years, students addition, or the policy of the
government change causing those data always changed. Whereas information is demanded to be always actual, thus it would need a system of information that could manage such many data quickly and effectively.

**RESEARCH METHOD**

A. Previous system analysis

Researcher describe a manual system that is currently running at MIM Gonilan Kartasura in the diagram shown in Figure 1. Based on a diagram we can observe a deficiency from the manual system there are validation and inputing data was undertaken by an officer who is more likely that causing the occurrence of human error because of the data that must be validated and inputed in a short time.

![Old system analysis diagram](image)

**Figure 1.** Old system analysis diagram

B. Proposed New System

Based on the problems that were found at previous work, Researcher proposed a new system described diagram shown in Figure 2. In the diagram preview that the completion of the data conducted by the school officer and the validation of data will be done by the web application system so the mistakes of inputing data can be avoided.
The difference previous manual systems and systems proposed in is old system still using manual data searching so it need more time to do a search, more detail difference old system with new proposed system can be seen in table 1. In table appear a list of validation already applied in the system.

**Table 1** Comparation table between the old system and the proposed system

<table>
<thead>
<tr>
<th>Old system</th>
<th>Proposed system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual data searching</td>
<td>Data searching through system</td>
</tr>
<tr>
<td>Manual data validation</td>
<td>Data validation through system.</td>
</tr>
</tbody>
</table>

**C. Unified Modeling Language** (UML)

After analyzing the data collected and related information in the system process, actor model data is gathered, which is identified the activity that supports the designed system, based on the information gathered researcher divided actor into 3 part, they are admin, student affairs, and finance field, every...
actor will have different task and activities.

1. **Use Case Diagram**

Use Case diagram identification uses the interaction between actor and the system, there are 3 actor that included on the system they are admin, student affair, and finance field. Every access rights have different use case, the admin privilege have access to manage the school data master like master class room, master academic year, manage religion and master occupation. The complete of admin use case shown on Figure 3 below.

![Use Case Diagram](image)

**Figure 3** Use case admin

Student affairs privilege have access to manage all student data, room placement, class history, class grade and can print or making a report directly from the system. The complete use case student affairs is shown on Figure 4 below.
Finance field have access to determining the financial activity on the school. The complete of Finance use case shown on Figure 5 below.
2. Class Diagram

The complete class diagram shown on Figure 6. In this stage, classes that will be used as communication media between actor and system will be intensified. Interface class identified according to the actor’s needs towards the system.

![Figure 6 Class Diagram]
RESULT AND DISCUSSION

The result of this research is hosted online, and can be accessed through URL http://panel.mimgonilan.sch.id. This system is developed in the form of web-based so it needs the programming language for the client side and server side. For the server side, the researcher uses the PHP programming language with the support from Apache web server. While for the client side, the researcher uses the HTML script (Hyper Text Markup Language), CSS (Cascading Style Sheet) and javascript in which the result is interpreted by the client through a browser. For the database, DBMS (Database Management System) MySQL is used, which is connected to the system through the server side. All files and database implemented into a website by uploading to the cPanel-based hosting.

The system is divided into three parts, which are the administrator page, student affair page and finance page. The following is the documentation of some of system’s website page.

In figure 7, student affair officer can manage the student data. After selecting an academic year and class, all student data will be displayed on the page. Student affair officer can update the student data or print student data with clicking the print logo. Student affair officer can import data from excel into web application or export data into excel file using import and export menu. Web application supports searching student data based on nis, nisn, and name, to searching just select the type of searching and input the data and click submit button.
In Figure 8, the treasurer can manage the student payment nominal. Treasurer must select payment type first, select academic year, and select class room then web application system will show the student list and nominal must be pay by student. Example on figure 8 we use infaq payment type, after student list show on the right side treasurer can input payment nominal that must be pay by student. Every student have a different nominal of infaq payment, so the treasurer must input the data one by one.
Figure 9 is the display of the receipt output. Treasurer can directly print all payment receipt through the web application. On every payment menu on the finance page, treasurer can easily print all receipt by clicking the printer logo. After clicking the printer logo, treasurer will be redirected into the payment print page. The printed paper can use as proof of payment.

Figure 9 Payment receipt output display.

Figure 10 is the display of monthly school expenditure, treasurer can input all expenditure data of school using this page. First, the treasurer must select the academic year and then select the month. All expenditure data is displayed. Treasurer can add new data with inputting the name of expenditure, total number expenditure, and nominal of expenditure. Treasurer can delete expenditure data if treasurer inputting wrong data into the web application. Usually in any finance system, update or delete menu is unavailable to avoid data manipulation. In this web application system, the researcher still put delete menu because school management request.
CONCLUSION

Testing applications has been done by researchers and the school MIM Gonilan stakeholder, the test results has been repeated and repaired until it proved suitable order to achieve the expected system. The final results of developing this web application had been used to support the school management. The advantage that is offered on the web application to manage student and finance data at school has been reached to ease school staff on managing student data and making financial report of the school. In addition by using a web application that integrated online will ease the school management staff to access website from anywhere and anytime.
BIBLIOGRAPHY


