

Development of Web-based Tuition Payment Information System Supported by Whatsapp Notifications

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ABSTRACT

The use of the internet at the Cersa Pasaman Vocational High School (SMK) is still not optimal, the internet is only used for school information and there is no school financial information system. Based on observations, tuition payments at schools are still manual and make the work of the finance department slower. This type of research is research and development data retrieval is carried out to users of the web-based SPP payment information system. The research sample consisted of 30 people consisting of 5 people for a limited trial and 25 people for a wider trial taken from the principal, Administration Officer, teachers and students of VOCATIONAL HIGH SCHOOL Cersa Pasaman, the instrument of this research was a questionnaire to determine the feasibility of the SPP payment information system. The results obtained from this research development is a web-based tuition payment information system. Based on the results of this study, it can be concluded that the developed information system is declared valid with an average value of 85.67%. The information system developed was very practical from the results of the limited trial to teachers and students with an average value of 92.60%, while the results of a wider trial obtained an average value of 92.68%. Based on the findings of this study, it was concluded that the web-based SPP payment information system at Vocational High School Cersa Pasaman was valid, practical and feasible to use for student tuition payments.

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1. INTRODUCTION

The use of the internet at the Cersa Pasaman Vocational High School (SMK) is still not optimal, the internet is only used for school information, such as school biodata, school

vision and mission, school activities, academic calendar, and other news regarding school information. At Vocational High School Cersa Pasaman not yet have internet access regarding school financial payments, due to the absence of internet use regarding tuition payment information, researchers want to create a school financial information system, namely tuition payment activities, which are carried out by students to the school finance department, with the application that the researcher made This is expected to help make the work of the school finance department easier and more practical in carrying out their duties.

Tuition payment services in schools are still manual using spreadsheets and a slow system makes the work of the school finance department take longer. Currently at Vocational High School Cersa Pasaman in conducting tuition payment transactions at the school it is still manual. Based on the observations I made at Vocational High School Cersa Pasaman, they had problems with the school finances, especially when making SPP payments which were still manual, which could slow down the process of payment transactions made by students so that the work of the finance department piled up because the payment data was recorded in the book. then just transferred to the spreadsheet. Not only that, there are other problems such as what happens when students make tuition payments where the proof of payment can be lost or damaged before it reaches the parents/guardians of the student.

Based on the problems above, the researchers developed a process for paying tuition fees in the form of a web-based tuition payment information system that can facilitate the work of school admins in managing tuition payment data. This system has a login feature as a user by entering a username and password when running the application, users of this system consist of the TU of the school finance department which has access rights to input student tuition payments, then access rights for principals and teachers to view student payment reports. , while the access rights for students by logging in using the NISN and each student's password to find out whether or not tuition has been paid, this system is also equipped with output in the form of proof of payment using whatsapp and sms notifications for parents/guardians of students.

This information system is supported by the existence of a MySQL database as a data storage for student transactions in order to know that the tuition payment has been made [1]. MySQL is a SQL database-managed system that has an open nature and is currently widely used. The MySQL database has the ability to accommodate the existing features of system management [2]. MySQL can meet the needs of a database system that is easy, fast and reliable. Not only that, MySQL can be said to be the implementation of a database management system that is used for free. [3] The MySQL database in this application functions as a data storage medium for student tuition payments, and payment transaction reports.

The web-based tuition payment information system can be used on school computers, laptops, and also mobile phones that have internet access, so that it can make it easier for the school finance department to make transactions and recap financial reports

easily and practically, not only can it be done at school, the finance department can also complete tasks at home using the information system [4]. Besides being able to be accessed anywhere, this application also has a feature of reporting proof of tuition payments to parents/guardians of students through social media in the form of WhatsApp, where parents/guardians of students can find out that the student has made tuition payments [5].

2. RESEARCH METHOD

The development of a WEB-based SPP payment information system is an R&D research using the Sugiyono model. According to Sugiyono [6] this research method is the result of a product in the form of hardware (hardware), such as books, stationery, learning tools and can also be in the form of software (software) that has been tested for the effectiveness of the product.[7]. According to Sugiyono [8] there are twelve steps in the research and development methods that can be seen in Figure 1.

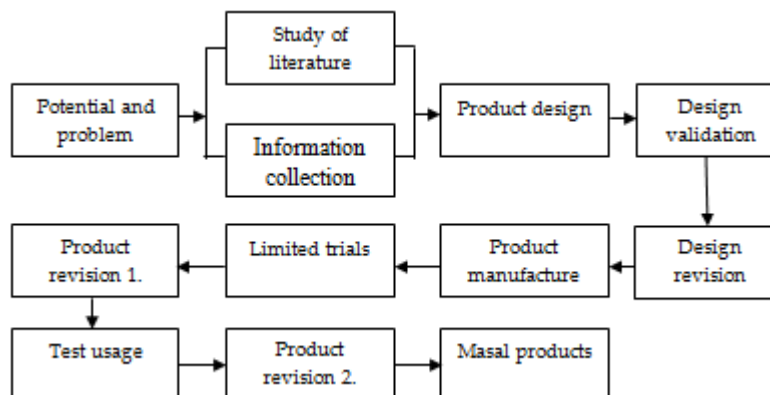


Figure 1. The steps for using the Research and Method Development (R & D)

The development and implementation of a web-based SPP payment information system is a series of processes or activities carried out to produce a SPP payment information system that is valid, practical and feasible to use [9][10]. This information system was developed based on an R&D development model consisting of 10 steps[11], [12] , namely: (1) potential and problems, (2) data collection, (3) product design, (4) design validation, (5) design revision, (6) product trial, (7) product revision, (8) usage trial, (9) product revision, and (10) mass production. In the first step of potential and problems, namely paying attention to the analysis of application requirements, such as hardware and software, then collecting data, the next step is product design[13]–[15], namely designing the information system that will be made [6], [16].

The web-based SPP payment information system that has been created is then validated to determine the feasibility of the application. The web-based SPP payment information system was validated and then tested on Administration and students to find out the practicality of a web-based SPP payment information system. The following is a discussion of each feasibility test of a web-based SPP payment information system.

3. RESULTS AND DISCUSSION

This study aims to produce a web-based tuition payment information system that is valid and practical and suitable for use by the admin/TU of the school finance department. The development model used in the development of this SPP payment information system is the Sugiyono R&D model, where the steps for developing this SPP payment information system are as follows:

3.1. Potential and Problems

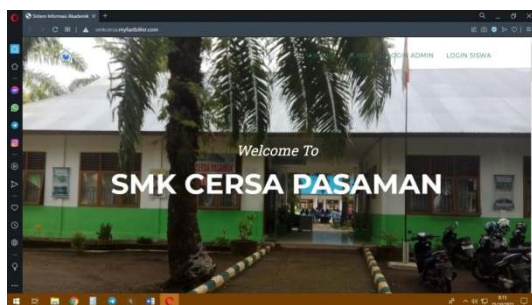
This research produces a product in the form of a web-based tuition payment information system at Vocational High School Cersa Pasaman. This step is done by identifying problems, identifying needs and collecting materials.

3.2. collect information

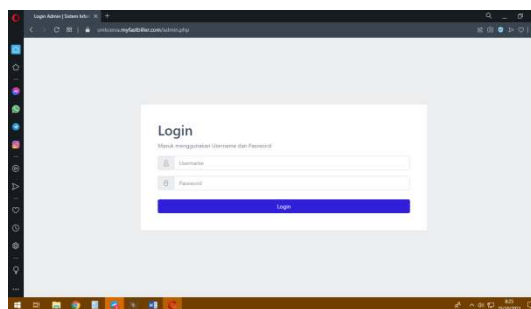
Collecting information at this step through interviews, from the interviews it was found that experiencing several difficulties which were influenced by several factors, one of which was: The management system and data management of SPP payments were still manual, so activities related to SPP payments were still less effective in data processing.

3.3. Product Design

product design on a web-based SPP payment information system consisting of the main page display design, login page, payment page and payment proof page, can be seen in the image below:



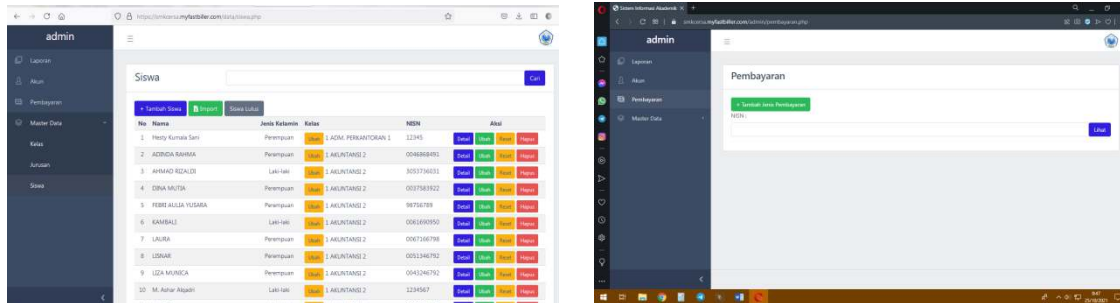
(a)



(b)

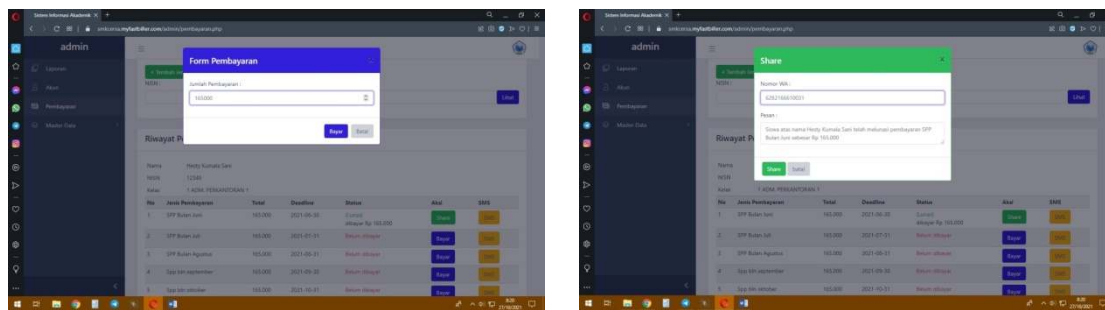
Figure 2. page view (a) main menu page, (b) login page

Figure 2 (a) is the main menu page that appears before entering the login or home page. On the main menu page there is a login button. Figure 2 (b) is a login page consisting of a username, password and login button



(a) (b)
Figure 3. page view (a) student data page, (b) payment page

In Figure 3 (a) there is a student data page, there are buttons for details, edit, reset, delete and also add student data. Figure 3 (b) The payment page will connect to the student tuition payment data by typing the student's NISN in the form provided.



(a) (b)
Figure 4. page view (a) payment transaction page, (b) whatsapp notification page

In Figure 4 (a) there is a payment transaction page which contains student transaction input and is also equipped with a search button to make it easier for users to search for student data. picture 4 (b) The SPP Payment Proof page can be in the form of a WhatsApp notification to parents/guardians of students.

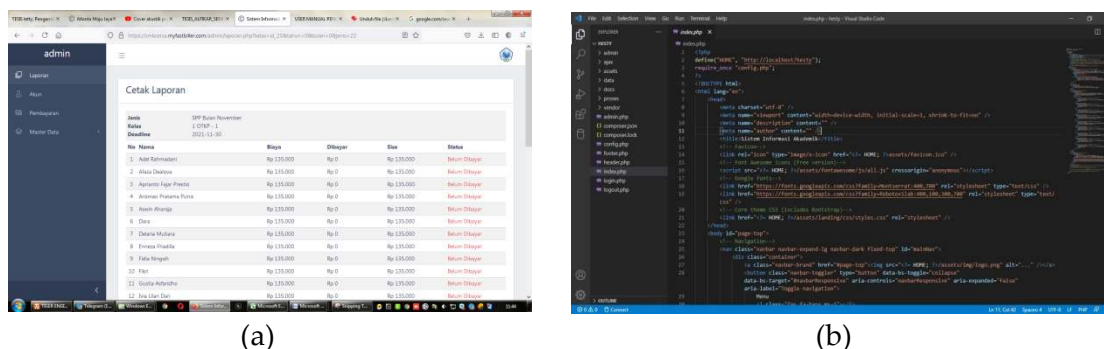


Figure 5. page view (a) transaction report page, (b) app coding page

In Figure 5 (a) the transaction report page is linked to the report print menu per class, month, year and overall. Figure 5 (b) Writing code/syntax to run form and button functions in accordance with the design objectives. Writing this code using Sublime Text.

3.4. Mass Products

The mass product stage is carried out to publish the product so that it can be accepted by users in the SPP payment process. The distribution of this product is carried out on teachers (Administration) and students at Vocational High School Cersa Pasaman.

3.5. Product Trial Results

Table 1. Overall Product Trial Results

Test Results	Percentage	Description
Validation	85,67	Valid
limited trial	92,60	Very Practical
wider experiment	92,68	very effective

Based on table 1 above, it can be concluded that the information system developed is declared valid with an average value of 85.67%. The information system developed is very practical from the results of a limited trial for teachers and students with an average value of 92.60%, while the results of a wider trial get an average value of 92.68%.

4. CONCLUSION

The results of this study on the SPP payment information system are in line with Zakyudin's statement (2011: 9), "The information system is a system within an organization that supports managerial operations and strategic activities of an organization and external parties with the necessary reports. and unify everyday transaction processing needs.

According to Kadir (2014:9), an information system is "a series of formal procedures in which data are grouped, processed into information, and distributed to users". Where the SPP information system is made according to user needs. Based on the findings above, it can be concluded that the web-based tuition payment information system at Vocational High School Cersa Pasaman is feasible to use in making tuition payments because it has been tested for validity and tested on teachers/administration, students and parents regarding practicality. and effectiveness. The product trial results are declared valid, practical, and feasible to use.

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