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Design and Build Point of Sales Applications with Rapid Application Development (RAD) for Sales Effectiveness

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ABSTRACT

Payment Information Systems Administration deals with financial information in schools. Payment information which is the basis for schools to determine future policies. The object of research in this thesis is Demak Pembangunan SMA which is one of the institutions engaged in science and education. The research objective was to design an effective and efficient school payment administration record design information system and design school payment administration record information system that has system security that can maintain data accuracy. The research method used is Borg and Gall R&D Development Research Model, Prototyping System Development method to produce a product in the form of a prototype with 6 stages: Research and Data Collection, Planning, Initial Product Development, Product Testing, Product Revision, Final Trial. The conclusion from the results of this study is that the system can facilitate the administration of payment transaction records so that there are no errors in recording, users can more easily present fast payment reports so they can minimize recording time and record errors, and make it easier for users to print payment reports with effective results and efficient so as to support and accelerate decision making.

Keyword : Information System; Payment administration; Client Server;

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1. INTRODUCTION

Analysis and design of a network-based school fee payment information system is a process used to configure, control, and maintain an information system that can be used to assist the school fee payment process. This information system can help schools organize and manage school fee payments efficiently and effectively. This will make it easier for students and parents to pay school fees easily, quickly, and safely. With this information system, schools can also automatically rearrange fee payments, ensuring that each student will pay fees that are in accordance with their financial capabilities. This system can also help schools to monitor school fee payments in real-time, allowing schools to take quick action if there is a problem with payment.

The need for information is highly relied on in all fields including organizations, businesses, companies, academics, educational institutions. (Masripah & Ramayanti, 2019). Technology that affects everything from various life activities is used as a guideline to solve existing problems and improve quality (Setyaningsih & Saputra, 2021). This condition is very relevant to the implementation of computerization and has become something that is no longer foreign in the business world because it is very helpful in increasing more effective performance productivity in order to achieve the expected goals (Romdoni et al., 2022).

The Point of Sales (POS) system is an application system used for businesses in the trade sector where this system is specifically designed to process purchase transaction data, sales transactions (Widiastuti et al., 2021). In his research, "Point of Sales (POS) will be important in the business world because it is a money terminal as a place to receive payments from buyers" (Widiastuti et al., 2021). The use of the Point of Sales (POS) system aims to allow shop owners to access sales data without coming to the shop (Purba Sugumonrong et al., 2019).

There are several methods that can be used in developing information systems (Wijaya, 2021). This study used the Rapid Application Development (RAD) method. The RAD method is a stage in developing information systems that only takes a relatively short time (Ismai, 2020).

From these problems, in this study, a system is needed that can help effectively and efficiently in the sales system (Kusnadi & Yulia, 2023).

2. RESEARCH METHOD/MATERIAL AND METHOD/LETERATURE REVIEW

The stages of collecting research data to develop a Point of Sales (POS) system using a qualitative method are intended to obtain information related to the research and describe the needs of the existing system. The steps used are observation and literature studies related to the research topic. The data that has been obtained will be processed into system development according to the method used using Rapid Application Development (RAD) (Wijaya, 2021).

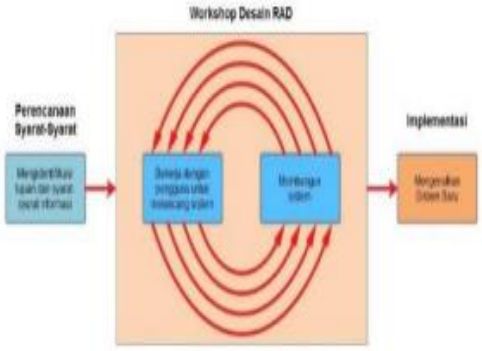

Fig 1. Rapid Application Development (RAD)

1. Requirements Planning
   This stage describes the user's needs and identifies the application's needs. The results obtained are the Point of Sales procedure or mechanism.
2. RAD Design Workshop
   The next stage is to design or improve the system design that will be implemented into the Point of Sales system design by involving users.
3. Implementation
   After analyzing the system requirements and system design, the system is implemented according to the needs and system model created.

3. RESULTS AND DISCUSSION

A. Needs Analysis

Needs analysis is a process of collecting information that is carried out intensively to specify software needs so that it can be understood what is needed by users (Kusnadi & Yulia, 2023).
The results obtained are related to all system needs that will be developed between user categories and the access obtained.

Table 1. Needs Analysis

No	User	Access
1	Admin	Admin can create account level, enter Supplier, Customer, Product, transaction, report
2	Cashier	cashier cannot create account, can enter Supplier,

	Customer, Product, transaction

B. System Design

1. Login

   The login form input design is used for the user interface when entering all menu functions by authorizing through a user and password. The login form input design is shown in the Figure below.

Fig 2. Page Login

   To be able to enter the application, a login form is used. A user/operator will be able to log in if the user name and password are correct. On the login form there is a user name textbox that functions to enter the user name.

2. Home Page

   If users can access the form as desired, the main menu design can be used. The existing menu is in accordance with the user's access rights that have been determined when logging in. The image below shows the main menu design.

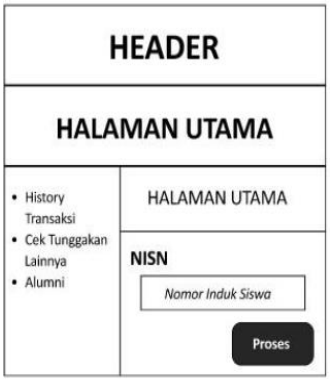

Fig 3. Home Page

3. Student Data

   The student data form is a form used to maintain student data consisting of student_id, student_name, address, class, year of entry, academic year and student photo. The design of the student form can be seen in the image below.

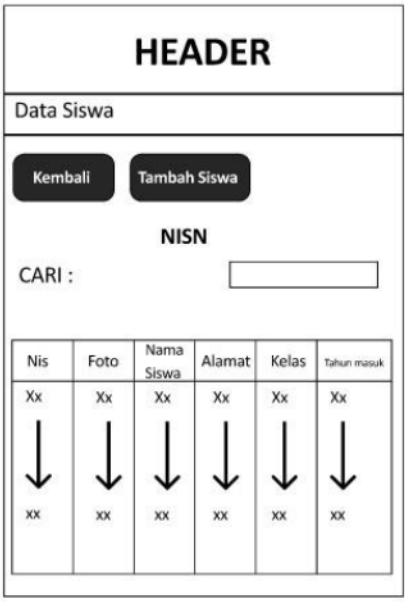

Fig 4. Student Data

4. Transaction
The SPP transaction form is a form used to make a SPP payment transaction consisting of nis, class, name, transaction date, total payment and payment month. The image below shows the SPP payment transaction design.

Fig 5. Transaction

5. Class
Class Form is a form used in class master data maintenance consisting of class ID, class name, number of classes and homeroom teacher. The class master design is shown in the Figure below.

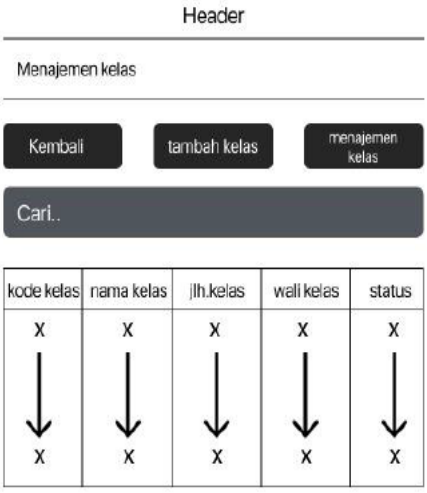

Fig 6. Class Page

6. Homeroom Teacher
The homeroom teacher form is used to manage homeroom teacher data, either to change or replace the homeroom teacher. The image below shows the homeroom teacher form design.

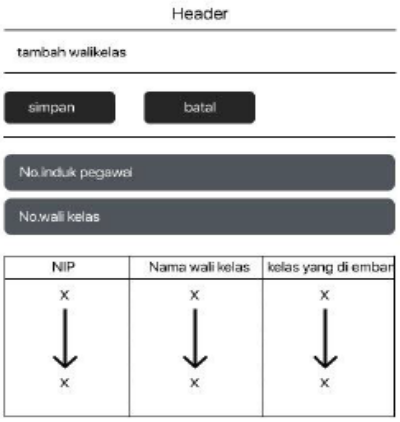

Fig 7. Homeroom Teacher Page

7. Cost
The cost form is a form used to manage payment costs, types of payments and the amount of costs per period. The image below shows the design of the cost form.

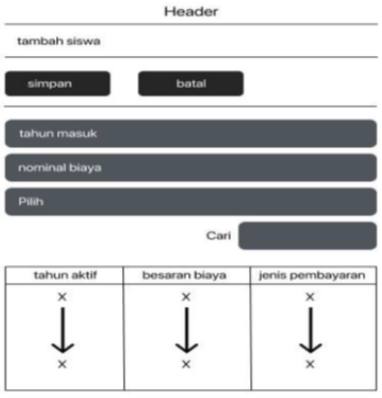

Fig 8. Cost Page

8. Academic Year

The academic year design is a form used to process academic year data such as to change or replace the current academic year. For a clearer display, see the image on the side.

4. CONCLUSION

The conclusion of the results of this study is that the system can facilitate the recording of payment transaction administration so that errors do not occur in recording, users can more easily present fast payment reports so that they can minimize recording time and record errors, and make it easier for users to print payment reports with effective and efficient results so as to support and accelerate decision making.

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