

Designing of Library Information System to Support Learning in High School

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Abstract :

In this era of globalization, the existence of computers is necessary in all aspects of life. Computer is a tool to assist the process of a job so that it can make a job becomes easier and efficient. Library in high School as an institution that provides library materials as a means of information resources requires a computerized system to process data and to perform library work activities. The method used is doing research to find out directly the problems that arise. From the results of this practice that the upper secondary school library has not utilized the computer system effectively to perform its work activities. While visitors who want to get the sources of information increasingly longer. The ease of visitors to register, get information about library materials and to conduct lending transactions library material into something that needs to be considered, because the librarian high school still manually process, in addition to these things computerization will also assist the management in decision making.

Keywords – **Library, Information Technology, Computerization**

I. INTRODUCTION

Today advances in science and information technology are at a very rapid rate of development, especially in the case of information exchange. Information is now a very important commodity in winning the competition in education. Without realizing the development of information technology has become a wider learning resource for students beyond school learning. The ability to access and provide information quickly, accurately and accurately has become an important need for education. To support it, it is necessary to implement a computerized information system and well-integrated. One of the important information to support the activity of lending activities in the library. Library is a place of book lending facilities for students and schoolgirls to support learning activities. However, the lending system in the library is still done manually. This creates many problems, such as the length of information

generated as a result of slow data processing and decision making that is not fast, precise and accurate. Then required a computerized system to facilitate the process of data processing so that the resulting information will be faster, precise, and accurate.

II. RELATED WORK

System is a set of interrelated or integrated elements intended to achieve a goal. As an illustration, if in a system there are elements that do not provide benefits in achieving the same goal, then the element can certainly not part of system ^[4]. The more common sense of the library is to include a room, part of a building or building, or a separate building containing collections of books, arranged and arranged in such a way that it is easy to find and use whenever the reader needs ^[9]. A library is a room, section, or sub-section of a building or building itself used for storing books, usually stored according to a particular

arrangement and used for library members [1]. While the definition of the library put forward by the national library of RI (Republic of Indonesia) is a work unit that has human resources at least librarians, rooms or special places and a collection of library materials at least a thousand titles from various disciplines that suit the type and mission of the library concerned and managed according to a particular system. Three definitions above, a library has the characteristics and requirements (5) the existence of the necessary facilities and infrastructure (6) the application of certain systems and mechanisms which are the procedures, procedures and rules to make things work smoothly [9]. Characteristics of quality library services can be seen from: collections, facilities, Human Resources, library services [9]. Some types of library services are as follows: circulation services, reference services and reading room services [11]. System design is the depiction, planning, and formation of sketches or arrangements of several separate elements into a unified whole and functioning [3]. Use Case Diagram is a functional model of a system that uses actor and use case. Use Case is a service (or services) or functions provided by the system for users - users [2]. Class is a collection of objects that have a common structure, general behavior, general relations, and common words [2]. Sequence Diagram is a diagram that shows or displays interactions between objects in the system arranged in a sequence or series of time. Interactions between objects including users, displays, and so on are "messages" [2]. PHP (PHP Hypertext Preprocessor) "is a programming language to run through web pages, commonly used to process information on the internet, while in another sense PHP is a web server programming language that is open source. PHP is a script that integrates with HTML and resides on a server (server-side HTML embedded scripting) [6]. The most important function of MySQL is as the content management of a website, which

is to organize the content or information displayed on a website [5].

III. METHOD

In the process of borrowing the books, members of the library are required to carry membership cards then members search for their own library materials that are borrowed then submit books to be borrowed with a member card to the librarian to record the date of borrowing and returns, then the library officers submit books borrowed and membership cards are stored by librarian as collateral. In the process of returning the book, the member borrowing the book shall return the borrowed book in accordance with the specified date of return. If you have passed the maximum limit of book lending that is 3 days. If the book is damaged or lost borrowed then the officer will give a fine that is by changing the book according to the title of the book borrowed. If there is no problem or already paid a fine then the member card is returned. The lending system in the library starts from:

- a. Students who enter the library area first fill the visitor book in the library
- b. Students choose books to borrow
- c. Students bring books to be borrowed to librarians for recording
- d. The librarian keeps track of the student library card and the bookkeeping in the ledger.

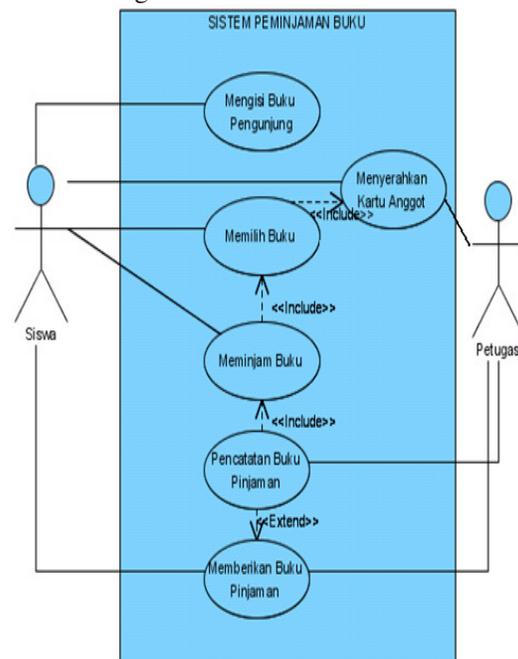


Fig 1. Lending the books

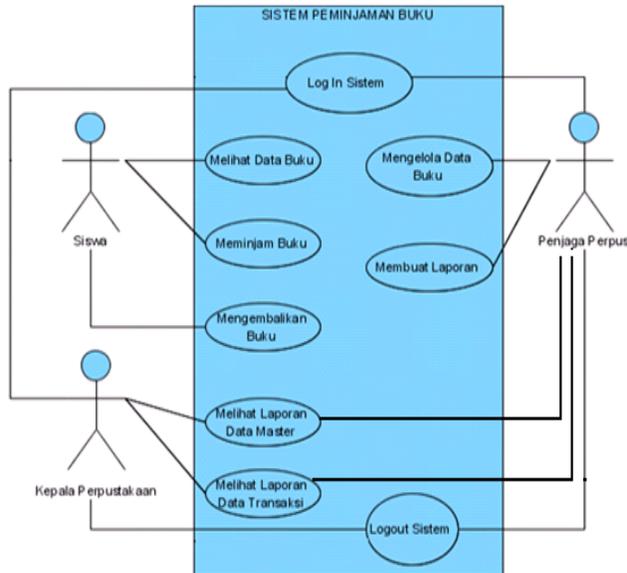


Fig. 2 Proposed use case diagram

1. One system that covers all activities of library data input.
2. There is one actor who performs activities within the system, librarians. The other two actors are the Student and the Head of the Library, including the officer himself being the user of the system.
3. There are 9 Use Case that can be done by the actor include log in system, view book data, borrow books, restore books, manage book data, create reports, view master data reports and view reports data transaction.

IV. RESULT AND DISCUSSION

Black-box testing focuses on the functional requirements of the software. This test allows the system analyst to obtain a set of input conditions that will work on all the functional requirements of the program. The purpose of this method looks for errors in: 1. Function wrong or missing. 2. Error on the interface. 3. Errors on data structures or database access. Testing using Black Box Testing method is done by giving a number of input (input) on the application program which then processed in accordance with the functional needs to see whether the web application program produces the output (output) desired in accordance with the function of the web application program.

If from the input given the process of producing output in accordance with its functional requirements, then the application program that the author designed successfully but if the resulting output does not match the functional needs, then there is an error in the application program.

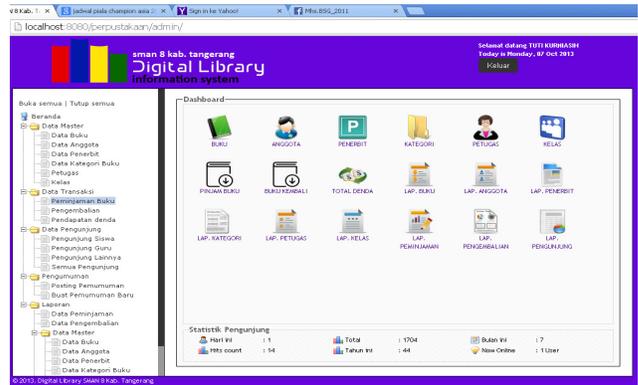


Fig 3. Home of library

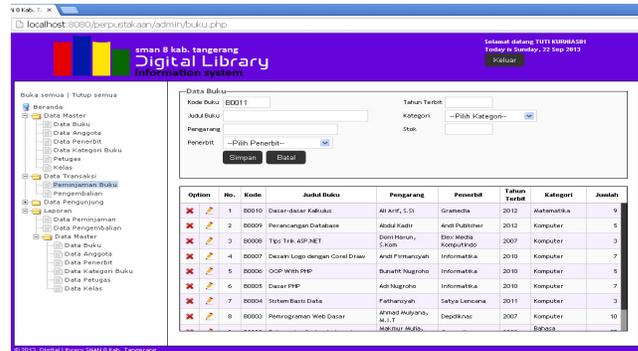


Fig 4. Books of library

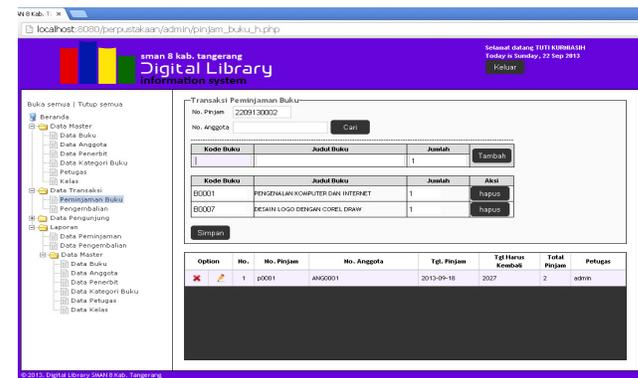


Fig 5. Lending books in library

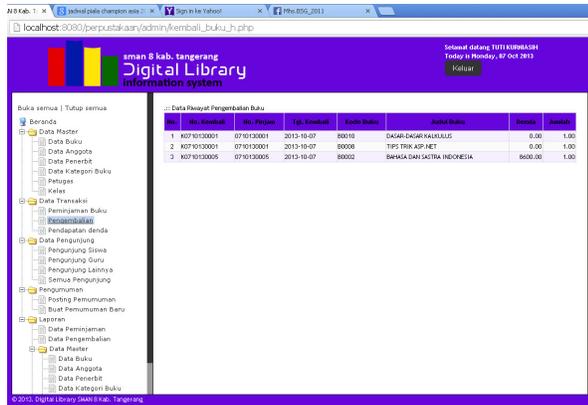


Fig 6. Returning books of library

V. CONCLUSION

Based on the discussion described earlier, the following conclusions can be drawn:

- Data processing system is still done manually because the librarian still does recording for data processing and service.
- With the computerized system can provide convenience to officers and visitors during the process of borrowing and return of books. Can provide quick, precise and accurate information to officers and visitors.
- Computerized system can also assist library managers in making monthly and annual reports quickly, precisely and accurately.

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