Room Loan Information System At Website-Based National University

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A R T I C L E   I N F O

A B S T R A C T

Information technology continues to evolve rapidly as well as evenly across a range of: each line. The use of information Systems management in the agency has been widely implemented because: it is believed to make a process very practical and efficient. The activities of an institution, especially on: educational institutions both basic, medium and high, generally require an information system for a more efficient and effective performance. Lending space is one of the ways in supporting the business process of a field especially campus that has a few empty spaces to be processed into additional opportunities. In conducting this loan, students or related parties should still inquire in the campus of the schedule directly to come to the room providers, this also makes students or related parties who want to borrow space waste a lot of time and also the certainty of whether or not the provider. In addition, lending procedures still use manual processes, this is sometimes in the case of loan transactions that arise as conflicts and errors. Therefore, this application is made by the title: "Information system for lending room at National University based Website".

1.　Introduction

Information technology is now growing rapidly and evenly across various lines: every line. The use of Management Information Systems at Agencies has been widely applied because: it is believed to be able to make a process very practical and also efficient. The activities of an institution, especially in: educational institutions whether basic, secondary or high, generally require information systems for more efficient and effective performance.

Loan space is one of the ways in supporting business processes from a particular field of campus which has several empty spaces to be processed into additional opportunities.

Part of the National University which also specifically to regulate the security and the room also requires information systems on campus that already exist to be able to: renewed.

One system that can still be updated is the system of borrowing space and facilities on campus by all academics at: National University.

In making this loan, students or related parties still have to ask on campus the schedule directly by going to the room provider, this makes students or related parties who want to borrow space waste a lot of time and certainty the presence or absence of the provider.

In addition, the lending procedure still uses a manual process, this sometimes in the room lending transaction arises as various conflicts and errors.

Therefore this application was made with the title: "Room Loan Information System at the National University Website-based"

2.　Literature review

2.1　Theoretical basis

To support the preparation of this study, the authors use an algorithm, some software and also the following programming languages:

2.2 PHP Definition

PHP is a language from server side scripts that can also be mixed by: HTML language or documents simultaneously to be able to build a web application. PHP language is similar to: C, Perl, and Java languages with their own uniqueness. The open source nature of PHP gives PHP the ability to develop: quickly. PHP besides being able to create HTML documents dynamically, it can also create images, PDFs, and flash animations with a combination of a collection of simple scripts and databases, including: MySQL, etc.(Kurniawan & Asri, 2019).

2.3 MySQL Database Definition

According to Kadir in 2002: MySQL in the group in the form of: "DBMS (Database Management System) which is also useful for managing data by: flexible and fast(Kurniawan & Asri, 2019). DBMS or also commonly known as Database Management System is: a software that is useful for creating, maintaining, controlling, and also accessing databases in a practical and efficient manner(Kurniawan & Asri, 2019). Whereas at: RDBMS or Relationship DBMS is: one of the DBMS that supports the Relationships / relationships between tables(Kurniawan & Asri, 2019).

2.4 Definition of UML

Unified Modeling Language or commonly also known as UML is: one of the tools to develop object-oriented systems that are very reliable in: the world (Kurniawan & Asri, 2019). This is due to the fact that this MU also provides a visual modeling language that allows system developers: to make a blueprint for their vision in a standardized form, easy to understand and equipped with effective mechanisms for sharing and communicating their designs from others.(Kurniawan & Asri, 2019). UML is: a unity of various modeling languages developed by Booch, and Object Modeling Technique (OMT) and also Object Oriented Software Engineering (OOSE). The Booch method from Grady Booch is very well known as: The Object Oriented Design Method(Kurniawan & Asri, 2019).

2.5 Definition of XAMPP

 XAMPP is: "free software, which also supports a lot in the operating system; compilation of several programs. Its function is as a stand-alone server (locahost), which consists of programs such as: Apache HTTP Server, MySQL database, and language translators written in the PHP and Perl programming languages. This program is available in the GNU (General Public License) and Free, is a web server that is very easy to use, can also serve the display on the web with dynamic(Kurniawan & Asri, 2019).

3.   Research methods

The methodology in designing this system uses: the System Development Life Cycle (SDLC) method, the reason for using this method is because at this stage the system can make revisions or improvements to the previous system. The SDLC stages will also be carried out sequentially from the planning, analysis, design, implementation and maintenance of the SDLC methodology structure in a Web-based information system development. It is hoped that the system built will make it easier: to manage data and in room lending can also reduce transaction errors.

The system modeling used is also: UML (includes: Use Case, Sequence Diagram and Activity Diagram).
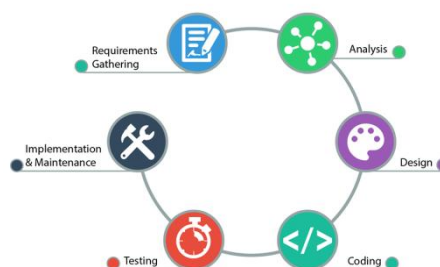

Fig 1. SDLC method (Purwanto, 2017).

a) Planning (Planning)
   This stage the researchers plan all the needs in: making the application.
b) Requirements Analysis

In this needs analysis phase, researchers collect data in the form of: what information is needed in the design of the application.

c) Designing Design

At this design stage: researchers must have planned the design of an application design / display concept.

d) System Development

This stage the researcher implements - design the design that has been made in the next stage of building a Space Loan Application.

e) Stage Testing

Testing researchers conducted trials: applications in order to get the results of an application that runs well.

f) Implementation.

At this stage the researcher prepares: all the needs related to building applications so that they can be immediately implemented in the UNAS (Univ. National) campus space.

4. Results and Discussion

To be able to make the application later we will also design a variety of flow (flow), the design is also determined as in the design in general are: a set of flow's, application performance runs and also the implementation of application results

4.1 System Flowchart Running

To see and know the flow in the current system can be seen in the picture about the flow (flow) of the existing system of borrowing and re-room that already exists below:

Fig 2. System Flowchart Running

4.2 Proposed Use Case System

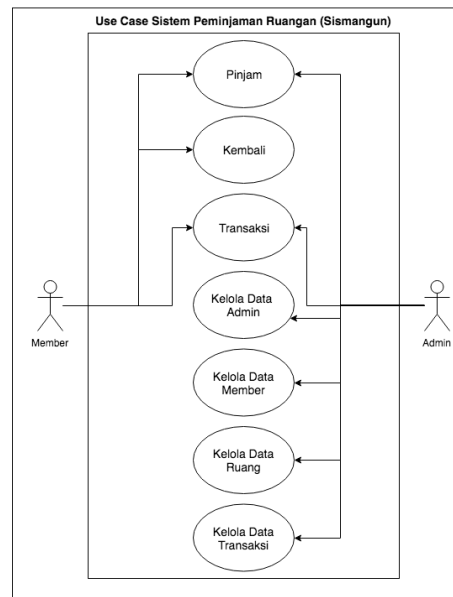The following is a use case that will also be proposed for making this system, which can be seen in the image below:

Fig 3. Use Case Space Loan System

4.3 Class Diagram of the Proposed System

The following is a class diagram that will also be proposed for making this system, which can be seen in the picture below:
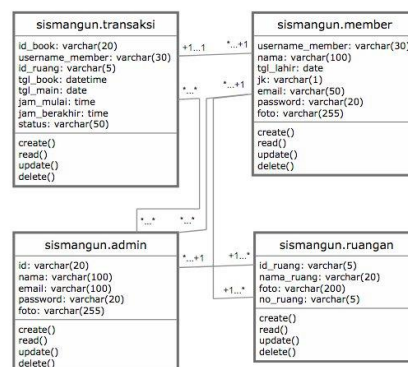

Fig 4. *Class Room Loan System Diagram*

4.4 Activity Diagram of the Proposed System

The following is a set of activity diagrams that will also be proposed in making this system, which can be seen in the image below:

Fig 5. *Activity Diagram of a Space Loan System*
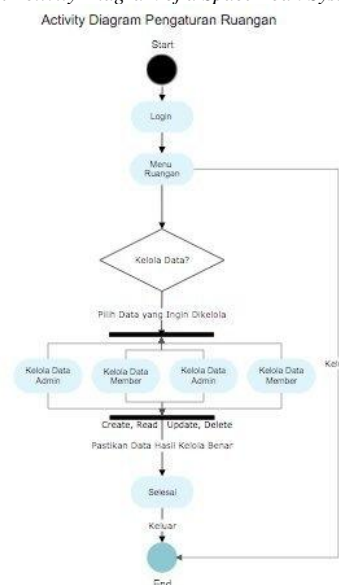
Fig 6. *Activity Diagram of Space Loan System (Manage Admin)*

4.5 Implementation on the Website

The following are the results of the implementation on the website that has been made using several depictions of the paths that have been made, the following is a description:
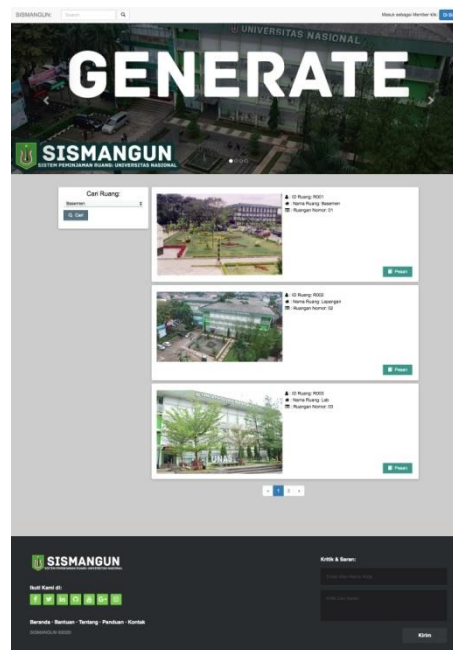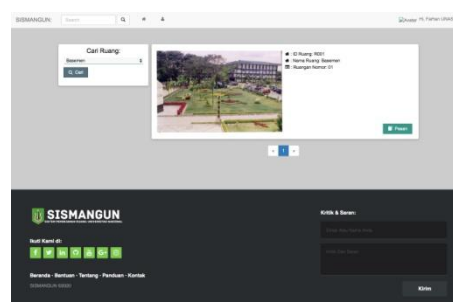
Fig 7. Start Page for Members

Fig8. Search page in Members

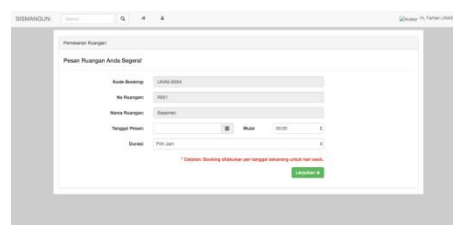
Fig 9. Login page for Members

Fig 10. Register page on Members

In a home page there are: functions such as finding a room for a room that you want to find specifically and there is also a login feature as a member to be able to reserve a room and there is a register feature in which there is a registration form to be a member. And also after logging in there is also a special member feature, namely: monitoring the results of orders that have been processed by the admin and also also there are contact info about room and campus rental in the footer section

Fig 11. Transaction page on Members

After registering or logging in, we can immediately to: order the room we want and also monitor via my profile in the upper left corner near the home button and name on the website.
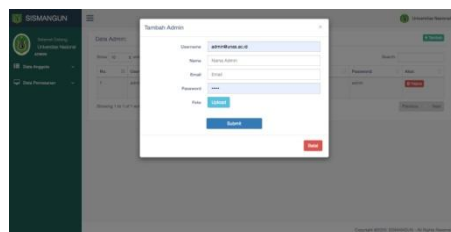

Fig 12. Start page on Admin

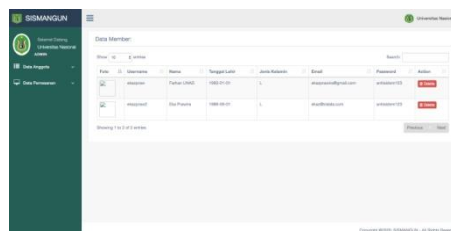**Fig 13.** Manage Admin Data page on Admin

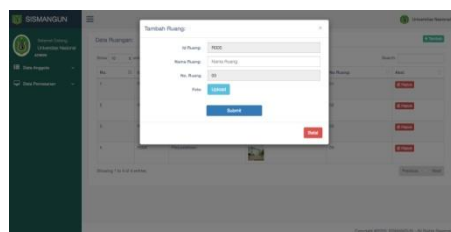**Fig 14.** The Manage Member Data page on Admin

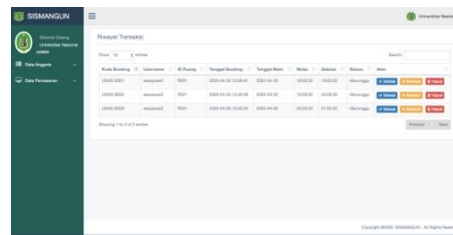**Fig 15.** Manage Room Data page on Admin

Fig 16. Manage Transaction Data page on Admin

In this admin panel we can set the functions we want, such as: managing admin data, member data, data in the room, and also managing the course of a loan transaction in this room according to the admin's needs.

4.6 Black Box Testing

The following is a test plan in which there are types of tests and test results from the black box as follows:

Table 1.
Test Plan

Item	Test Type
Login	*Black Box*
Register	*Black Box*
Book a room	*Black Box*

Table 2.
Detailed Testing Plan

Item	Test Type	Item	Conclusion
Login button	Can be Pressed	Can be Connected	Corresponding
Room Message Button	Can be Pressed	Can be Connected	Corresponding
Message Button	Can be Pressed	Can be Connected	Corresponding
Register button	Can be Pressed	Can be Connected	Corresponding
Search Button	Can be Pressed	Can be Connected	Corresponding
Enter Username / Email	Can Enter Input	Form Goes Well	Corresponding
Enter password	Can Enter Input	Form Goes Well	Corresponding
Transaction Input	Can Enter Input	Form Goes Well	Corresponding
Search Input	Can Enter Input	Form Goes Well	Corresponding

5. Conclusion

Based on the conclusions that can be with the research conducted above regarding the results: "Room Loan Information System at Website-based National University can also be concluded as follows:
1. The process of borrowing space at the National University cannot be done optimally.
2. Management in the development of managing the room and routines carried out every room is good but not yet neatly arranged.
3. With this online room lending, it can reduce the shortcomings in managing space at the National University.

6. Reference

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