Design of Postgraduate Thesis Exam Registration and Scheduling Information System For IAIN Palangka Raya

Suparno[1], Abdul Qodir [2], Sapto Pamungkas*[3], Puji Astuti[4], Mualimin[5]
[1]STMIK Palangka Raya, Palangka Raya, Indonesia
[2,3,4] IAIN Palangka Raya, Palangka raya, Indonesia
[5]Sakarya Üniversitesi, Serdivan-Sakarya, Türkiye
Email: [1]suparno@stmikplk.ac.id, [2]abdul.qodir@iain-palangkaraya.ac.id, [3*]sapto.pamungkas@iain-palangkaraya.ac.id, [4]puji.astuti@iain-palangkaraya.ac.id, [5]mualimin.mualimin@ogr.sakarya.edu.tr

Abstract─The design of an information system for registration and scheduling of postgraduate thesis exams at IAIN Palangka Raya is a system that will be built to make it easier for users to operate the system in managing thesis exams. This information system provides facilities to users who can interact in accordance with standard operating procedures according to user needs. As for the users involved in it, such as: students, academics, study programs and directors. This information system will contain activities starting from submitting a thesis title, determining a supervisor, making a supervisor's decision, thesis guidance, registration and scheduling of thesis proposal seminars as well as thesis examination seminars along with attached documents for each activity. The research method used is a structured method (waterfall model). This information system is designed and built using CSS, HTML, PHP, Auto Generate, Boostrap and Mysql. The result of this research is the achievement of creating a web system that is expected to facilitate the management of registration and scheduling of quality thesis examinations at the Postgraduate IAIN Palangka Raya. Researchers also suggest that this research can be developed according to user needs.

Keywords: Information System, PHP, Schedule, Thesis, Web System

1. INTRODUCTION

The management of higher education academic information systems is currently experiencing significant technological advances, where conveniences are always provided for every activity carried out. Lots of web design application applications that have been made that make it easier for users to carry out their activities and needs. In serving students and lecturers, all activities can be recorded neatly and easily in data storage. Academic data can be easily stored and searched with just one click. Therefore the researcher intends to provide convenience in managing the thesis examination from the initial submission of the thesis title to the thesis examination seminar.

In this study, researchers will carry out and create a design in managing registration information systems and scheduling thesis exams at the Postgraduate IAIN Palangka Raya with a web design. Postgraduate IAIN Palangka Raya is a tertiary institution in Central Kalimantan, to be precise in the city of Palangka Raya, which currently has 5 study programs, namely Islamic education management, family law, sharia economics, Islamic religious education, and Arabic language education. With the number of master students who are still active as many as approximately 300 students.

Currently, the management of registration and scheduling of thesis examinations at the Postgraduate level is still using the manual method. Where students have to carry out the process of submitting titles to thesis examinations, always filling out forms and attaching requirements using hardcopy documents. Of course, this kind of thing is very much behind, considering that nowadays everything can be done with technology or applications. You can imagine if a large number of students do this simultaneously, it will definitely feel very heavy and tiring. Because it has to be recorded and inputted one by one manually.

In the design of this information system, the researcher also compared with previous studies such as research conducted by Pamungkas D [1] regarding the design of a web-based final project scheduling information system (sijukir) (case study: informatics study program, Yogyakarta University of Technology). algorithms that are real-time and scheduling exams with a system that can make it easier for staff to make schedules without asking for lecturer calendar information directly. Subsequent research by Kasim A et al [2] examined the design of web-based thesis information systems and practical work with the results of the research showing that web-based information systems built could produce information that facilitated the documentation of student thesis and practical work activities efficiently and effectively. Subsequent research by Rizky Doli Pulungan, et al [3] made an android-based application for scheduling final assignment sessions at the University of Potensi Utama, this research produced a system that could assist BAAK in managing scheduling and registration of android-based final assignment seminars. Research by Alvian Deffa, et al [4] which examines the design and build of exam scheduling applications at the Surabaya Institute of Business and Informatics STIKOM Using Genetic Algorithms, this research results that with the exam scheduling application it can help users to provide exam schedule information in one semester and be able to includes the conditions and policies that exist at the STIKOM Surabaya Institute of Business and Informatics.

From the research above, the researchers concluded that building and designing a web information system application is very necessary to be able to optimally produce what we will create or build. Registration and

scheduling information systems are needed to facilitate an activity process and also documentation so that it can be structured and easy to collect data.

2. RESEARCH METHODS

The method in this study is the Structured Systems Analysis and Design (SSAD) methodology. The selected model is the modelwaterfall, waterfall is san approach to software development that is systematic and sequential from system progress to analysis, design, code, testing and maintenance[5]. This methodology has several important stages that will be used, among others, as follows:
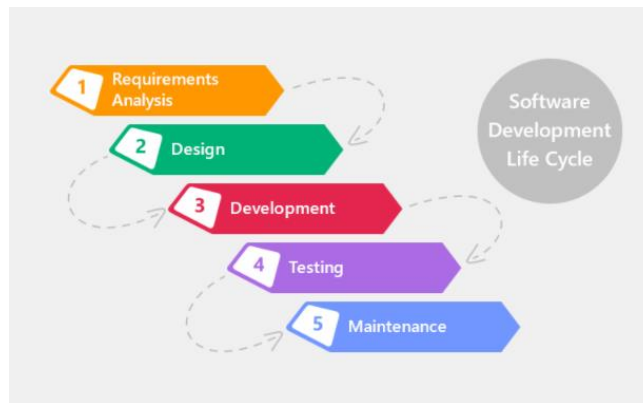

Figure 1. Models Waterfall

3. RESULTS AND DISCUSSION

3.1. Requirement Analysis

At this stage there are several flows that have been running related to the completion of the thesis from start to finish at the IAIN Palangka Raya Postgraduate, namely as follows:

a. Submission of Proposal Title

Pengajuan Submission of a thesis proposal title is carried out by students by submitting a request letter for submitting a proposal title addressed to the Postgraduate Director by attaching 3 volumes of the proposal that has been made. Then the request letter will go to the study program section, the study program will check and provide results whether the title is accepted or not, if the title is accepted, the study program appoints the main supervisor and assistant supervisor, then the academic section will make a supervisor's decision letter. If the submission letter is rejected, it will be informed back to the student and the student is required to re-submit the title submission letter until the proposal title submission process is accepted.

At this stage it is planned and will be implemented into an application that can facilitate students in submitting thesis proposal titles, the application will facilitate the flow of this flow.ini.

b. Thesis Proposal Guidance

Guidance is a process of providing assistance carried out by experts to an individual or group with the aim that each individual can understand himself, know the environment and plan for the future. Guidance is given to overcome various problems or difficulties faced by individuals [6].

Every Postgraduate student at IAIN Palangka Raya gets a guidance notebook, the book is used to record all guidance for the main supervisor and companion until the student is approved for the thesis proposal examination seminar and thesis examination.

The above process is done manually and it is felt that it takes a lot of time because you have to find and meet with the supervisor. Therefore, the design of this application website is expected to be more time efficient and make it easier for students to carry out guidance. Of course, the supervising lecturer will also find it helpful and make it easier to use or use the application.

This design also supports the need to fill in accreditation forms in order to get the best grades, one of which is that guidance is carried out with E-learning.

c. Registration for Thesis Proposal Examination

At this stage students collect all the requirements for the thesis proposal examination and bring all the required documents to the Postgraduate to register in the academic section. Academics will check all the requirements. If the requirements are complete, the study program will make an exam schedule. If the requirements are not complete, the student is required to complete these requirements.

d. Registration for Thesis Examination Seminar

The thesis exam seminar is more or less the same as the thesis proposal exam seminar, the only difference is that the document requirements are more numerous than the thesis proposal exam.

e. Scheduling of Proposal and Thesis Exam Seminars

Scheduling for proposal and thesis exams will be made by the head of the study program, where if students meet the requirments a schedule will be made. Making this schedule is a more difficult activity because you have to determine the time and schedule for the lecturers at IAIN Palangka Raya. Because the scheduling system is still manual by contacting the designated lecturer to determine the exam schedule.
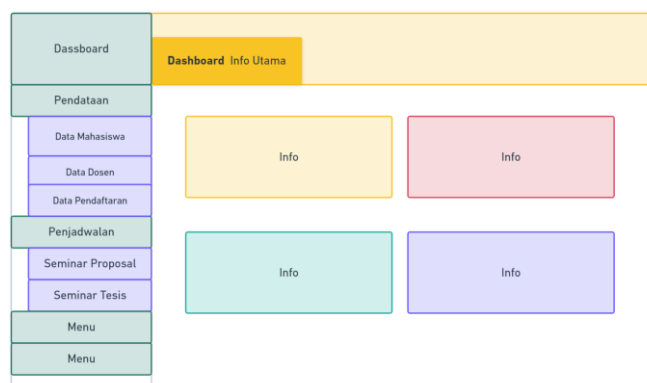
3.2. Design

a. Login

The login menu is a page where users can enter the application as administrators, students, or lecturers [7]. In designing this login page, it is made simple as needed with columns for username, password, click login and also forgot password.
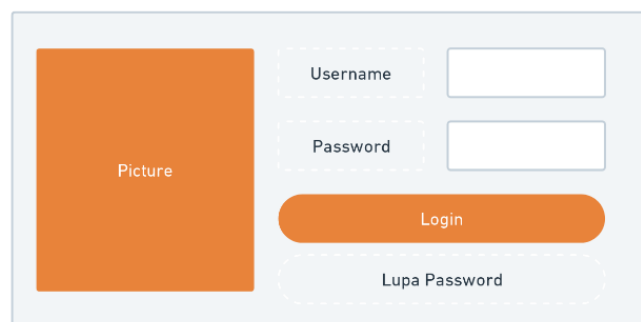
Figure 2. Login

b. Main Page

The main page is the first page that is displayed when a user logs in [8]. The main page displays the features presented on the application website such as the Data Collection menu, Scheduling, Guidance and other menus.

Figure 3. Main Page

c. Title Submission

The design on the title submission menu is made according to administrative needs and a column is also provided for uploading student proposal files to be submitted. This process will later get a message about information from submitting a thesis proposal title whether it is accepted or rejected. For later messages, we will use WatZap. Watzap is a tool that can send messages to many WhatsApp numbers with just one click [9].

Figure 4. Title Submission Form
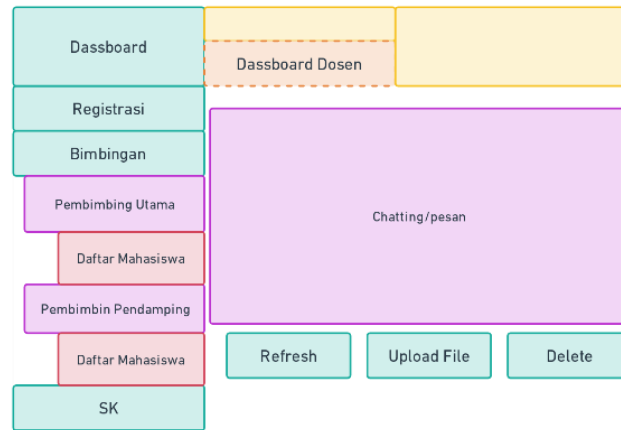
d. Guidance

1) Student Guidance Page

The feature guidance page is used for students to carry out guidance with the main supervisor and assistant lecturers. Students can communicate about their completed thesis proposals. It includes chat and file upload features.

Figure 5. Student Guidance Page

2) Lecturer Guidance Page

It's the same with the student guidance page. Lecturers can communicate with their guidance students regarding the results of the proposals that have been uploaded.

Figure 6. Lecturer Guidance Page

e. Proposal Seminar Registration

On the proposal seminar registration page, a form is provided for students to register online by filling out and uploading the specified requirements.

Figure 7. Seminar Proposal Registration Form page

f. Thesis Seminar Registration

As with the thesis proposal seminar registration page, the thesis seminar registration form is slightly different regarding the specified requirements.

Figure 8. Seminar Thesis Registration Form page

g. Scheduling

In this scheduling process, it is quite a complicated process because you have to find time, examiners, and exam rooms so that they can be synchronized and prevent clashes with other activities. Therefore for this design system is usedAuto Generate. Auto Generate is a system that can make it easier for academic admins to input schedules so they don't waste time making trial schedules so they are more effective and efficient [10].

Figure 9. Scheduling Page

3.3. Implementation

At this stage the researchers designed the coding system to change it into a programming language. The programming used is CI (Code Igniter) and CSS Framework in the form of Boostrap. CI in his research Y. Anggraini, et a [11] is a PHP framework that can help speed up programmers in developing PHP-based web applications. Whereas the CSS Framework Bootstrap according to M. Y. Putra [12] in his research is a frontend website framework. Bootstrap can be downloaded on the getBootstrap.com website, the Bootstrap website has provided complete documentation and basic templates are also available. In using the template, you can copy and paste it in a text editor and then call the Bootstrap css file on the website application that will be built. In this research, calling Bootstrap css is done online. If it is run in a browser, the website display uses Bootstrap without having to type CSS syntax.

3.4. Integration *Testing*

At this stage the program code will be made from all parts such as: header, navigation, menu, content, and footer[13] .
The header is located at the very top of the website which contains brief information about the website that was created. The menu section is made as a shortcut to the content on the website. This content section is the main part of the website which contains the information needed on the application website. The last part, namely the footer located at the bottom, usually contains information about the website owner and copyright. In making this website it is necessary to prepare the software used such as sublime text, notepad ++ and other tools and for the database use the mysql database on phpMyAdmin. PhpMyAdmin is an open source based application that we can use for free to do programming on the MySQL database [14]. Then create an index.php file, style.css file, home.php file, about.php file, contact.php file. and all of these files can use the Code Igniter framework or what is often called CI.

3.5. Operation and Maintenance

Operation and maintenance is the final stage of the waterfall development method [15]. At this stage, the finished software or website application will be run and tested by users in the form of tables related to the contents and menus that are executed. At this stage it will be found related to the process of running the application whether it is in accordance with the needs or is there something that is still not appropriate. If there are problems in operation there will be an inspection stage for obstacles and will be corrected.

4. CONCLUSION

The conclusion obtained from the design of the registration and scheduling information system for the IAIN Palangka Raya Postgraduate thesis examination is that in making a website application, it is necessary to design an application in terms of software and hardware to find out various things or obstacles when making the website application, everything must be arranged clearly and neatly so that easy to understand.

REFERENCES

[1] D. Pamungkas, "Rancang Bangun Sistem Informasi Penjadwalan Ujian Tugas Akhir (SIJUKIR) Berbasis WEB (Studi Kasus: Prodi Informatika Universitas Teknologi Yogyakarta)."

[2] A. Kasim, L. Hadjaratie, and R. H. Dai, "Rancang Bangun Sistem Informasi Skripsi dan Kerja Praktik Berbasis Web," *Jambura Journal of Informatics*, vol. 2, no. 2, pp. 95–107, Oct. 2020, doi: 10.37905/jji.v2i2.5331.

[3] R. B. Aplikasi *et al.*, "Android-Based Application For Seminar And Final Project Assembly And Thesis Scheduling Applications At Potential Utama University," 2023. [Online]. Available: http://kti.potensi-utama.ac.id/index.php/JUREKSI/index|

[4] A. Deffa, T. Wurijanto, and T. A.B, "Rancang Bangun Aplikasi Penjadwalan Ujian di Institut Bisnis dan Informatika Stikom Surabaya dengan Menggunakan Algoritma Genetika," *JSIKA*, vol. 6, no. 3, 2017.

[5] T. Rijanandi *et al.*, "Web-Based Application with SDLC Waterfall Method on Population Administration and Registration Information System (Case Study: Karangklesem Village, Purwokerto)," *Jurnal Teknik Informatika (JUTIF)*, vol. 3, no. 1, pp. 99–104, 2022, doi: 10.20884/1.jutif.2022.3.1.145.

[6] J. Pendidikan and D. Konseling, "Manfaat Bimbingan dan Konseling Bagi Siswa Tika Evi."

[7] A. Bahrudin, "Optimasi Arsip Penyimpanan Dokumen Foto Menggunakan Algoritma Kompresi Deflate (Studi Kasus :Studio Muezzart)."

[8] A. Arif, Y. Isro', and M. Mukti, "Rancang Bangun Website Sekolah Menengah Pertama (SMP) Negeri 8 Kota Pagar Alam," *Jurnal Ilmiah Betrik*, vol. 08, no. 03, 2017.

[9] "WatZap: Solusi Lengkap WhatsApp Marketing Anda." https://watzap.id/?referrer=https%3A%2F%2Fwww.google.com%2F (accessed Jun. 05, 2023).

[10] I. Handayani, Q. Aini, and P. A. Azis, "Edisi Februari 2018 E-ISSN: 2528-6544 P-ISSN: 2620-3383 1 | Indri, Qurotul, Priyatna-Pemanfaatan Generate Penjadwalan Sidang……."

[11] Y. Anggraini, D. Pasha, D. Damayanti, and A. Setiawan, "Sistem Informasi Penjualan Sepeda Berbasis Web Menggunakan Framework Codeigniter," *Jurnal Teknologi dan Sistem Informasi*, vol. 1, no. 2, pp. 64–70, 2020, doi: 10.33365/jtsi.v1i2.236.

[12] M. Y. Putra, "Responsive Web Design Menggunakan Bootstrap Dalam Merancang Layout Website," *INFORMATION SYSTEM FOR EDUCATORS AND PROFESSIONALS: Journal of Information System*, vol. 5, no. 1, pp. 61–70, 2020.

[13] M. Y. Putra, "Responsive Web Design Menggunakan Bootstrap Dalam Merancang Layout Website," *Information System for Educators and Professionals*, vol. 5, no. 1, pp. 61–70, 2020.

[14] R. F. Ramadhan and R. Mukhaiyar, "Penggunaan Database Mysql dengan Interface PhpMyAdmin sebagai Pengontrolan Smarthome Berbasis Raspberry Pi," 2020.

[15] F. Heriyanti and A. Ishak, "Design of logistics information system in the finished product warehouse with the waterfall method: Review literature," in *IOP Conference Series: Materials Science and Engineering*, Institute of Physics Publishing, Jun. 2020. doi: 10.1088/1757-899X/801/1/012100.