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DESIGN OF INFORMATION SYSTEM FOR INDUSTRIAL INTERNSHIP MANAGEMENT IN INFORMATICS EDUCATION PROGRAM

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Abstract
This study aims to develop an efficient internship management information system for the Informatics Education Program at University PGRI Sumatera Barat. Currently, the management of internship programs in the industry is still manual, time-consuming, and accessing old information is challenging due to paper-based files. The proposed information system will assist students and internship program administrators in managing industrial internships. It involves several users, such as administrators, students, internship supervisors, and industry mentors, each with limited access based on their respective roles. Students can fill out internship registration forms, request supervisors, and upload daily and final internship reports. Internship supervisors and industry mentors can validate students' logbooks and reports and provide final internship grades. Functional system requirements include login features and dashboards for each user. Access to the system is through computer devices using software like XAMPP, Visual Studio Code, and Chrome. The system is expected to enhance the efficiency of the internship program and provide valuable benefits for future internship management. The System Development Life Cycle (SDLC) with the waterfall model is employed as the method for system development, covering stages such as planning, analysis, design, implementation, testing, and maintenance.
Keywords*: Information System, Industrial Internship Management, Informatics Education Program, University PGRI Sumatera Barat.*

Abstrak
Isu-isu pokok kajian membahas tentang dampak kemajuan teknologi komunikasi terhadap pengguna terutama mahasiswa. Pada umumnya kemajuan teknologi telah memudahkan dan meningkatkan proses pembelajaran antara dosen dengan mahasiswa di Universitas swasta di kota Padang, Sumatera Barat. Akan tetapi, mayoritas tenaga pengajar cenderung menggunakan slide power point dalam pembelajaran di kelas. Tujuan penelitian ini adalah untuk menganalisis bagaimana strategi penerapan gadget sebagai sumber belajar dalam pengolahan kelas. Metode pengumpulan data dengan menggunakan wawancara mendalam pada informan. Informan terdiri dari lima informan. 3 orang informan berasal dari mahasiswa Universitas swasta di kota Padang. Peneliti juga melakukan interview terhadap 2 orang informan berasal dari dosen. Metode pemilihan informan dengan menggunakan snowball.

Analisis data dengan menggunakan penelitian kualitatif. Hasil penelitian mendapati dosen dan mahasiswa kurang memanfaatkan berbagai aplikasi pada gadget secara maksimal sebagai sumber belajar ketika proses pembelajaran sedang berlangsung. Sebagian besar dosen yang mengajar di perguruan tinggi swasta menggunakan presentasi Power Point kepada mahasiswa. Kondisi ini membuat siswa bosan di dalam kelas. Penggunaan aplikasi gadget sebagai sumber belajar dapat mengurangi

kebosanan di kelas. Selain itu, penggunaan aplikasi gadget juga menjadi inovasi pembelajaran untuk mengembangkan dan meningkatkan kualitas kegiatan kelas. Kesimpulan penggunaan aplikasi gadget secara penuh dalam kegiatan kelas sebagai pembelajaran inovasi karena pendekatan ini dapat membawa dosen dan mahasiswa lebih aktif melakukan interaksi dalam kemajuan kelas.
Kata kunci: gadget, strategi belajar, komunikasi, budaya

1. INTRODUCTION

The Informatics Education Study Program at University PGRI West Sumatra aims to provide education on information technology and communication in the educational environment. Additionally, the program also aims to prepare its students to engage in the industrial world, including through industrial internship programs. However, the management of the industrial internship program is facing several challenges. The manual management process takes a relatively long time and accessing past information is difficult because the internship documents are still in paper form. To optimize the industrial internship program in the Informatics Education Study Program, the development of an efficient information system is necessary. This information system is expected to assist students and internship program administrators in facilitating the management of industrial internship activities.

2. METHOD

This research aims to design an information system to manage industrial internships in the Informatics Education Study Program. The research methodology includes a description of the research design, data sources, data collection techniques, instruments used, and the research procedure. The chosen research design is a field study with a qualitative approach. Conducting a field study enables researchers to collect data directly from the research location, which in this case is the Informatics Education Study Program at Universitas PGRI West Sumatra. The data sources used in this research are students from the Informatics Education Study Program, internship supervisors, industry mentors, and the head of the Informatics Education Study Program.

Data Collection Techniques:

a. Observation: The researcher will directly observe the industrial internship management processes in the Informatics Education Study Program and determine the desired information system requirements.

b. Interview: The researcher will conduct interviews with key stakeholders involved in the industrial internship management, such as students, internship supervisors, industry mentors, and the head of the program. Interviews will help gain insights and inputs from the stakeholders.

Research Instruments:

a. Interview Guide: This guide contains a structured list of questions that will be used during the interviews with the stakeholders.

Research Process:

a. Field Observation: The researcher will observe firsthand the ongoing industrial internship management processes in the Informatics Education Study Program.

b. Interviews: The researcher will conduct interviews with students, internship supervisors, industry mentors, and the head of the program. The interviews may be conducted face-to-face or through telecommunication media, as feasible.

c. Data Analysis: The data collected from observations and interviews will be analyzed

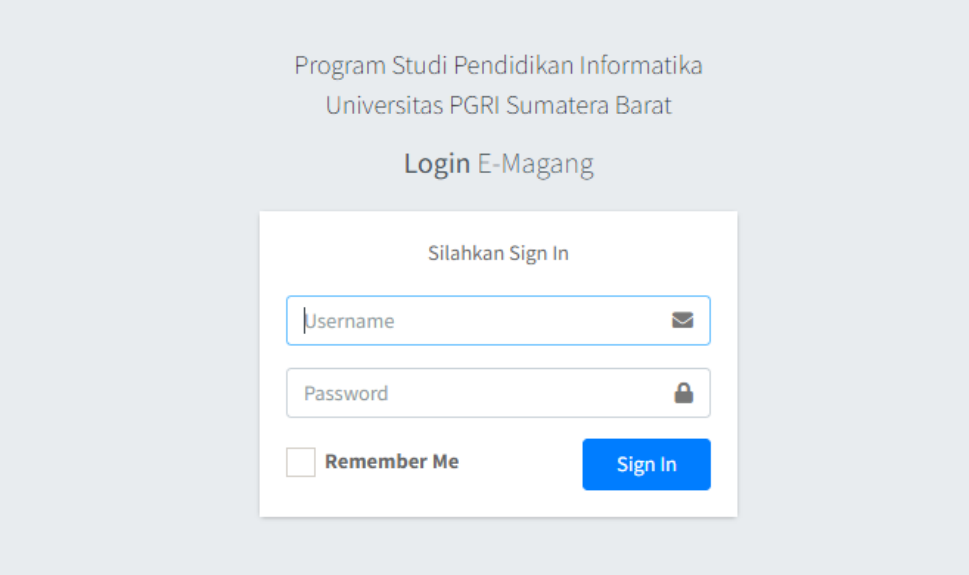
to identify the needs for an information system for managing industrial internships.
d. System Design: Based on the data analysis results, the researcher will design an information system for managing industrial internships that aligns with the users' needs.

3. FINDINGS AND DISCUSSION

The implementation of the internship management information system in the Informatics Education Study Program has gone through various stages. The following is the implementation:

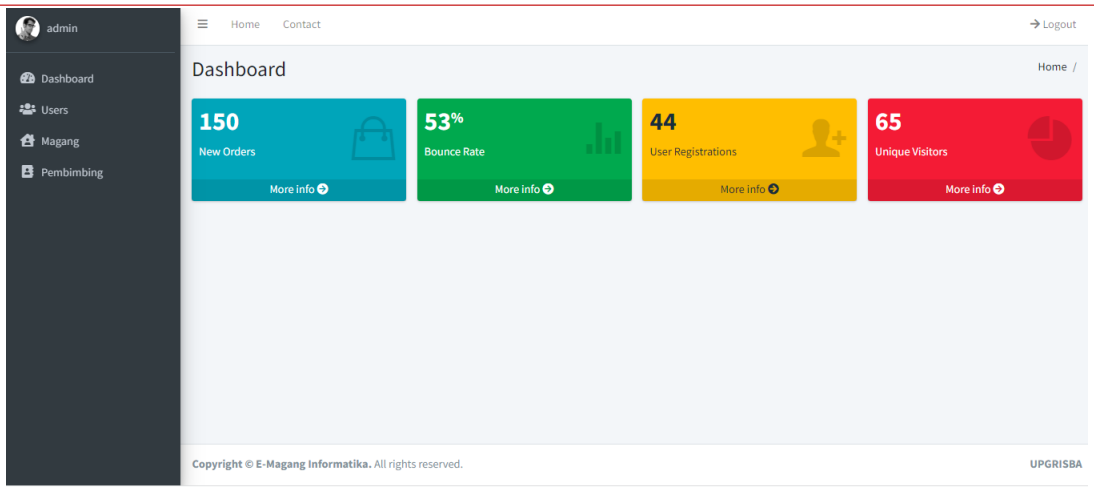
System Implementation

1. Software Implementation
   Software used to support the internship management information system includes the Windows 10 operating system, Google Chrome browser, Sublime Text 4 text editor, as well as several other supporting applications and libraries such as XAMPP control panel, Composer, CodeIgniter 4 Framework, and AdminLTE Template.
2. Program Implementation
   Program implementation involves creating various different interface pages (dashboards) for different user roles, such as administrators, students, internship supervisors, and industry mentors. Each dashboard provides access to relevant features and functionalities for managing the internship process.
   a. Login Page
      On this page, users are prompted to enter their respective usernames and passwords. After successful login, users will be redirected to the dashboard page according to their roles.



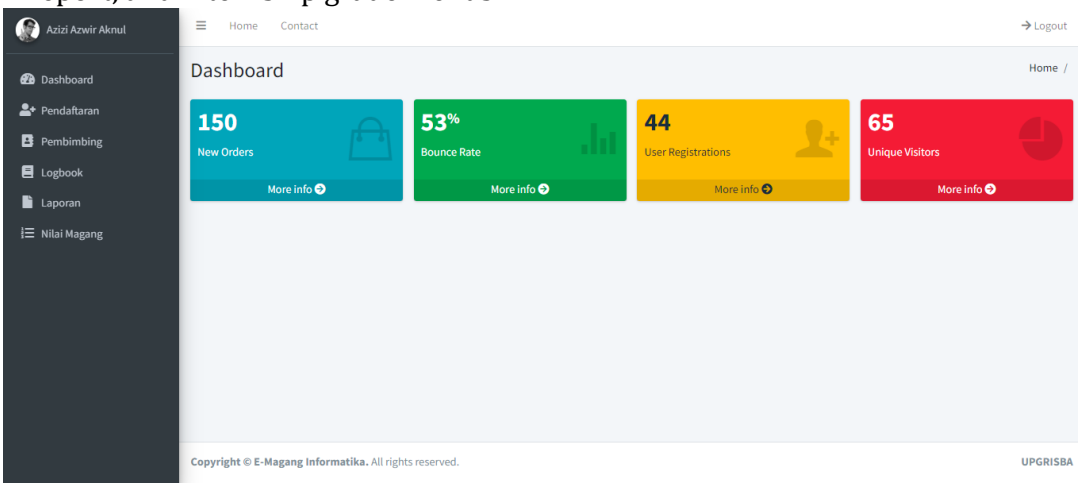
Picture 1. Login page

   b. Dashboard Page
      This page serves as the main page after login. There are several types of dashboards, including:
      Administrator Dashboard: Displays the dashboard, users, internships, and supervisors menus.



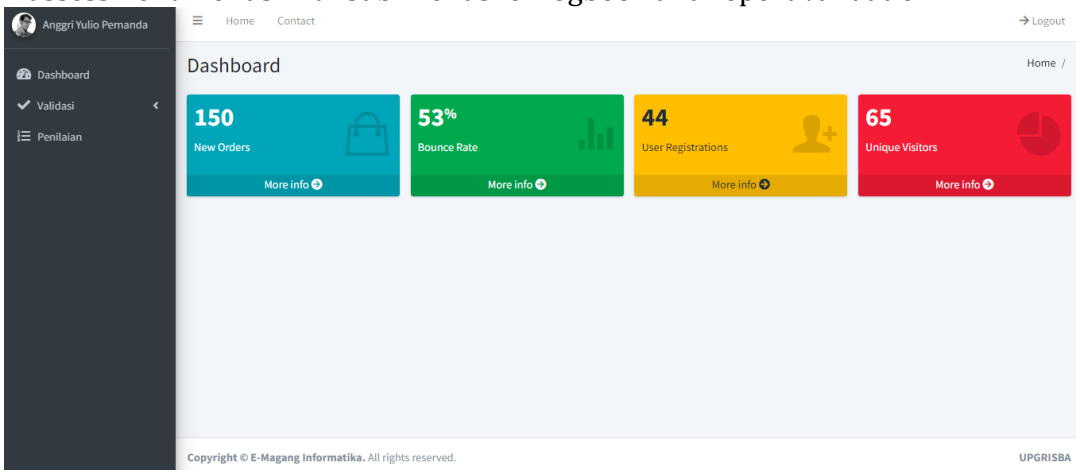
Picture 2. Admin dashboard

Student Dashboard: Displays the dashboard, registration, supervisor, logbook, report, and internship grade menus.



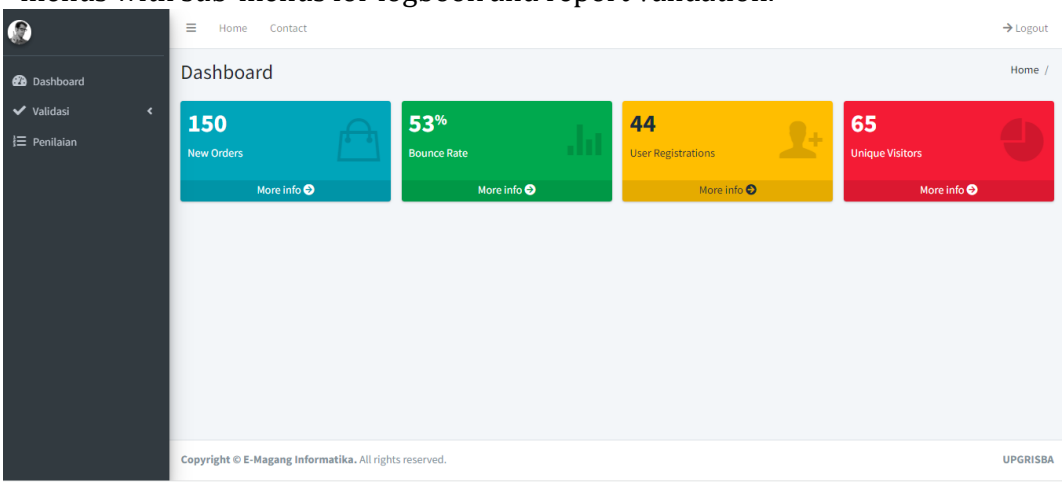
Picture 3. Student dashboard

Internship Supervisor Dashboard: Displays the dashboard, validation, and assessment menus with sub-menus for logbook and report validation.



Picture 4. Internship supervisor dashboard

Industry Mentor Dashboard: Displays the dashboard, validation, and assessment menus with sub-menus for logbook and report validation.

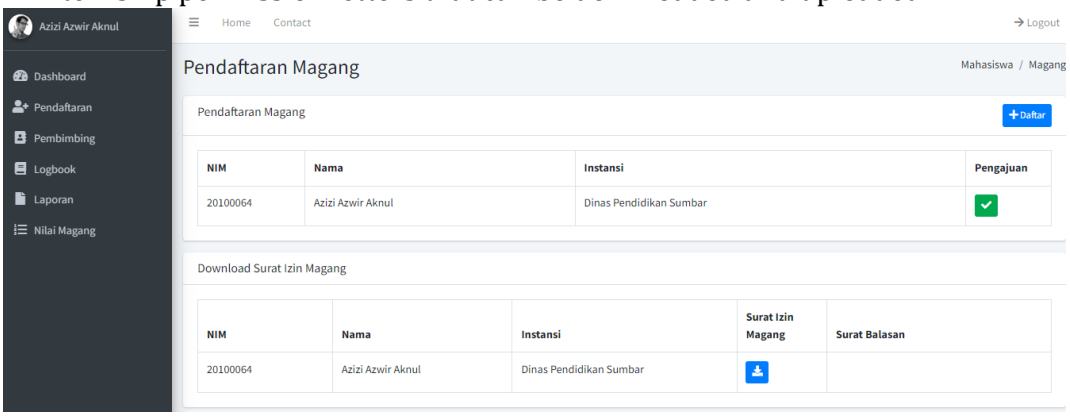


Picture 5. Industry mentor dashboard

c. Menu Page

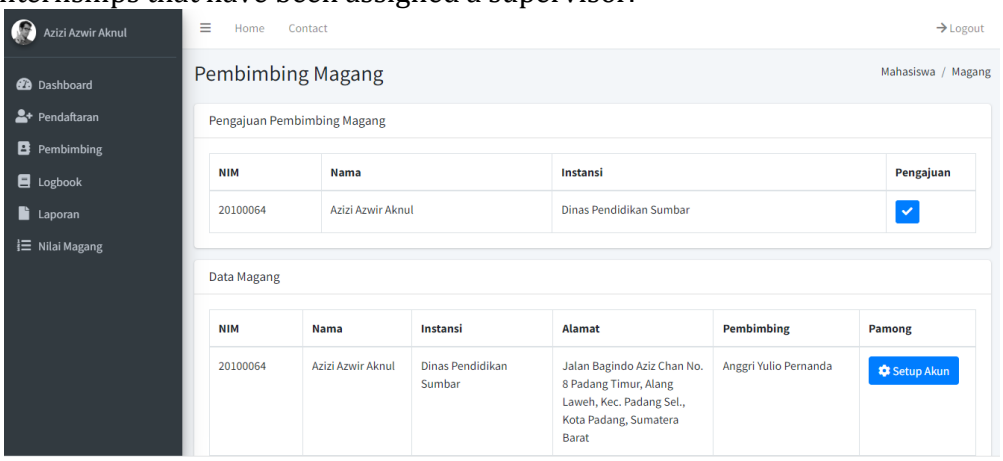
Various menus are available for each user role, including:

Internship Registration Menu: Contains a table for internship registration and internship permission letters that can be downloaded and uploaded.



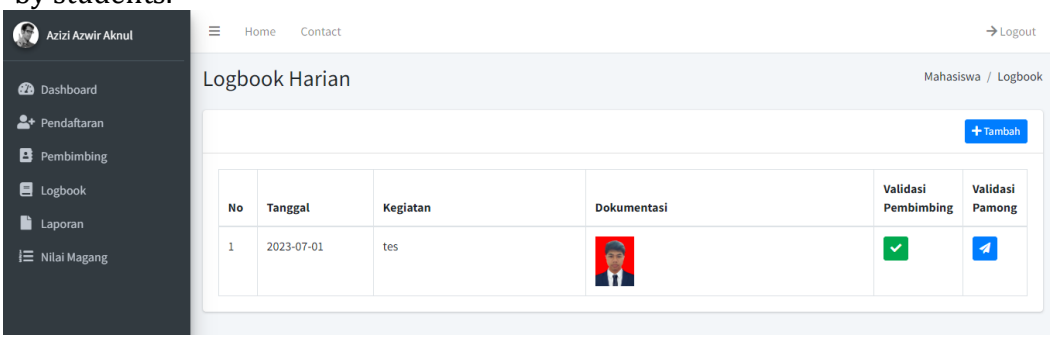
Picture 6. internship registration menu

Internship Supervisor Menu: Contains a table for supervisor submission and data of internships that have been assigned a supervisor.



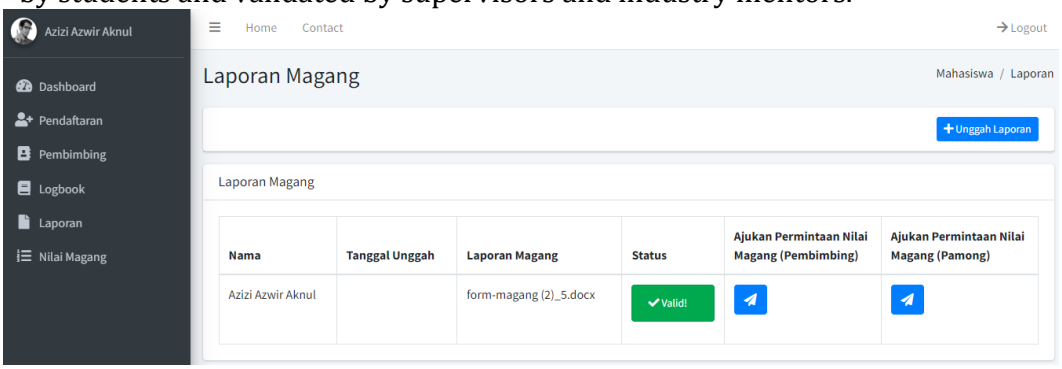
Picture 7. internship supervisor menu

Logbook Menu: Contains a table for daily logbook of students that can be filled out by students.



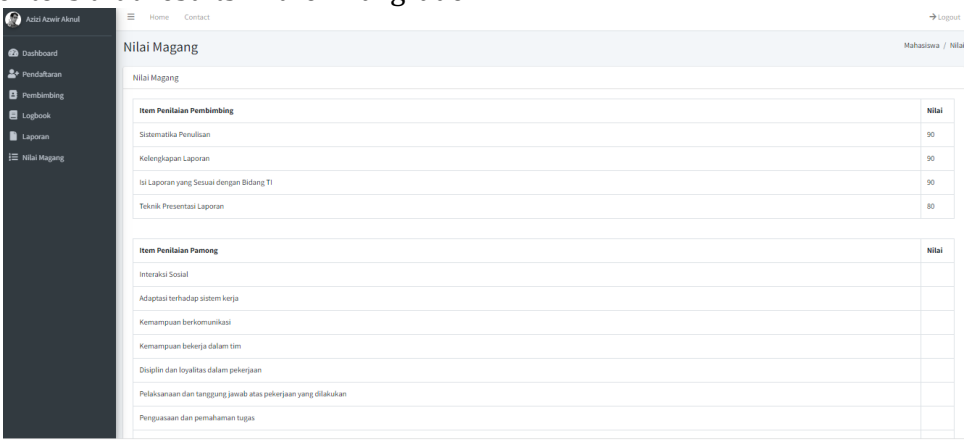
Picture 8. Logbook menu

Report Menu: Contains a table for student internship reports that can be uploaded by students and validated by supervisors and industry mentors.



Picture 9. Report menu

Internship Grade Menu: Contains a table for assessment by supervisors and industry mentors that results in the final grade.



Picture 10. Internship grade menu

3. Hardware Implementation
   The hardware used in the implementation of the internship management information system is the Lenovo ThinkPad T480 laptop.

System Testing

System testing is carried out to ensure that the system functions well and meets user requirements. Testing consists of alpha and beta testing.

1. Alpha Testing

a. Whitebox Testing: Involves analyzing the logical flow of software using flowcharts and calculating cyclomatic complexity to identify independent paths in the system.

b. Blackbox Testing: Evaluates system functionality from the user's perspective without requiring knowledge of programming languages.

2. Beta Testing

   Beta testing involves experts and users testing the system under real conditions. The results of beta testing by experts show that the system has a very good success rate in functionality, reliability, usability, efficiency, maintenance, and portability. Beta testing by users also shows that the system is easy to use and beneficial for both students and supervisors in managing internship activities effectively.

4. CONCLUSION

The implementation of the internship management information system in the Informatics Education Study Program has gone through various stages, including software implementation and testing. The system has been well-designed, functions effectively, and is user-friendly, meeting the needs of students, teachers, and industry mentors involved in the internship process. With its efficient features and capabilities, it is expected that the system can enhance the overall internship management experience in the study program

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