

FINAL PROJECT CONSULTATION INFORMATION SYSTEM INTEGRATED NOTIFICATION SYSTEM BASED ON SMS GATEWAY

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Abstract

The process of final project research consultations is now often done by making a schedule to meet with supervisors within the time set by students and supervisors. It is known that the consultation process by the way it is done now still has problems from the effectiveness of student research time and the distance between the research center and the location of the supervisor. With these problems resulted in students not being timely in conducting research consultations with their supervisors. Therefore, a system is needed that can provide a system of research consultations remotely using internet facilities that are integrated with the consultation notification system via the SMS Gateway. The methodology is built using the phases of context diagrams, data flow diagrams and entity relationships. The system is built using PHP programming, MySQL database and Gammu. The results of the final project consultation information system research integrated with the notification system using the SMS Gateway have produced several tables and forms, namely student forms, lecturer forms, consultation forms and document forms. The form has been able to provide a remote consultation system using web media and has been able to provide notification to students and lecturers regarding the consultation status using the SMS gateway service. It is expected that this information system can facilitate students and lecturers in conducting more effective and efficient consultations.

Keywords: *Final Project, Consultation, Information System, SMS Gateway, Web*

Abstrak

Proses konsultasi penelitian proyek akhir saat ini sering dilakukan dengan cara membuat jadwal bertemu dengan supervisor dalam waktu yang telah ditetapkan oleh mahasiswa dan supervisor. Diketahui bahwa proses konsultasi dengan cara seperti yang dilakukan saat ini masih mempunyai permasalahan dari efektifitas waktu penelitian mahasiswa dan jarak antara pusat penelitian dan lokasi supervisor. Akibatnya mahasiswa tidak tepat waktu dalam melakukan konsultasi penelitian dengan supervisornya. Maka diperlukan sebuah sistem yang dapat memberikan sistem konsultasi penelitian secara jarak jauh menggunakan internet yang diintegrasikan sistem notifikasi konsultasi melalui SMS Gateway. Metodologi yang dibangun menggunakan tahapan diagram kontek, data flow diagram dan entity relationship. Sistem dibangun menggunakan pemrograman PHP, database MySQL dan Gammu. Hasil penelitian ini telah menghasilkan beberapa tabel dan form yaitu form mahasiswa, form dosen, form konsultasi dan form dokumen. Dari form tersebut telah memberikan sistem konsultasi jarak jauh menggunakan media web dan telah dapat memberikan notifikasi pemberitahuan kepada mahasiswa dan dosen mengenai status konsultasi menggunakan layanan SMS gateway dan dapat mempermudah mahasiswa dan dosen dalam melakukan konsultasi yang lebih efektif dan efisien.

Kata Kunci: *Proyek akhir, Konsultasi, Sistem Informasi, SMS Gateway, Web*

1. Introduction

The final project is one of the tasks aimed at final year students who have completed all courses provided by the campus. Besides that, the final project aims to demonstrate the ability of students to implement courses that have been studied in the form of research. With this research, students can build analysis and design in a case in real activities in the world of work.

In carrying out the final project, one or two supervisors are needed who can direct students to work on the research. A student in carrying out this final project research is required to conduct consultations frequently until the research is completed with his supervisor.

The process of final project research consultations is now often done by making a schedule to meet with supervisors within the time set by students and supervisors. It is known that the consultation process by the way it is done now still has problems from the effectiveness of student research time and the distance between the research center and the location of the supervisor. With these problems resulted in students not being timely in conducting research consultations with their supervisors. Therefore, a system is needed that can provide a system of research consultations remotely using internet facilities that are integrated with the consultation notification system via the SMS Gateway.

Based on the problems faced above, this paper aims to explain the making of the final project consultation information system integrated notification system using the SMS Gateway.

2. Literature Review

The use of information technology today has provided many benefits to the community. With information technology, data obtained from the public can be processed into information in a short time. Information technology cannot produce fast decision information without the presence of optimal hardware systems and software systems [1]. The final stage of processing data into information that is distributed to the public is the interface. The web is a popular information system interface that is easily accessible to the public today [2].

Several studies related to information technology such as information systems have been developed by previous researchers. Among several studies there are information systems related to business such as business management information systems in terms of buying and selling community-generated plantation commodities [3]. Besides that, information systems not only in business information systems will management information systems have been applied to health clinic information systems such as patient medical record information systems integrated with queuing systems. [4]. And information systems that are applied to schools such as scheduling systems and study hours change notifications [5]. And the application to the education system in campus environments such as information systems proposing final project supervisors for students [6]. From some research that has been done, the dominant interface used is the web. This is because the web is an interface that can be used in various platforms to make it easier for users of various information systems [7].

In addition to web media as an information system interface, to build an information system, as will be built in this paper, a notification of the latest data updates from information using GSM technology is required, namely the SMS Gateway service.

The use of the SMS Gateway system has been carried out in the application of information systems that aim to provide information remotely such as a house fire

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information system that provides notification of symptoms of fire through SMS [8] and some of them are SMS gateway applications on home security systems [9][10]. On the other hand there is an SMS Gateway application that notifies inventory of goods that have run out [11].

3. Method

The methodology carried out on the construction of this system uses two stages, namely system analysis and system design. In system analysis there are context diagrams and in system design using data flow diagrams (DFD).

3.1 Analysis System

System analysis built can be described in the context diagram Figure 1. Context diagram explains that there are three users who access the information system with a specific task, namely the admin is tasked to input data of students and lecturers. Students make uploads of final project revision data and access correction data from lecturers along with SMS notification upload correction data from lecturers. Whereas lecturers can upload final project correction data along with accessing revised data and receive notification SMS uploading data from students.

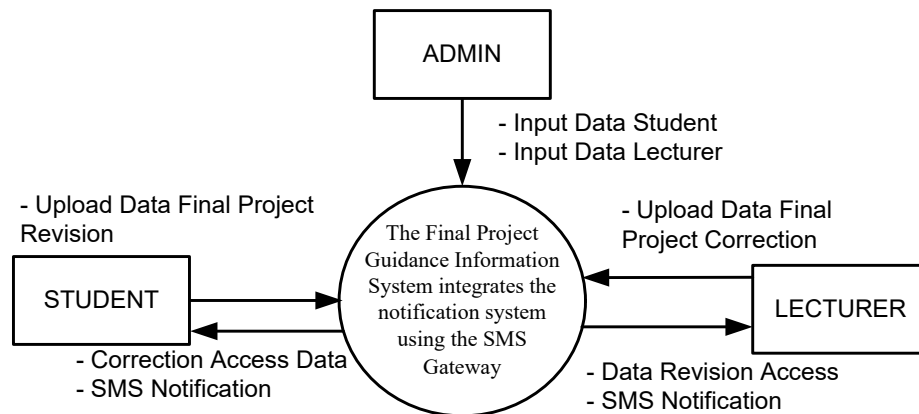


Figure 1. Context diagram

3.2 Design System

System design built on this information system in the form of data flow diagrams (DFD) seen in Figure 2 where the admin inputs student data and stores it in D1 - student. admin input lecturer data and save it to D2 - lecturer. Students enter consultation data by accessing lecturer and student data and save to D3 - consultation. And lecturers enter consultation data by accessing student and lecturer data and save it on D4-document.

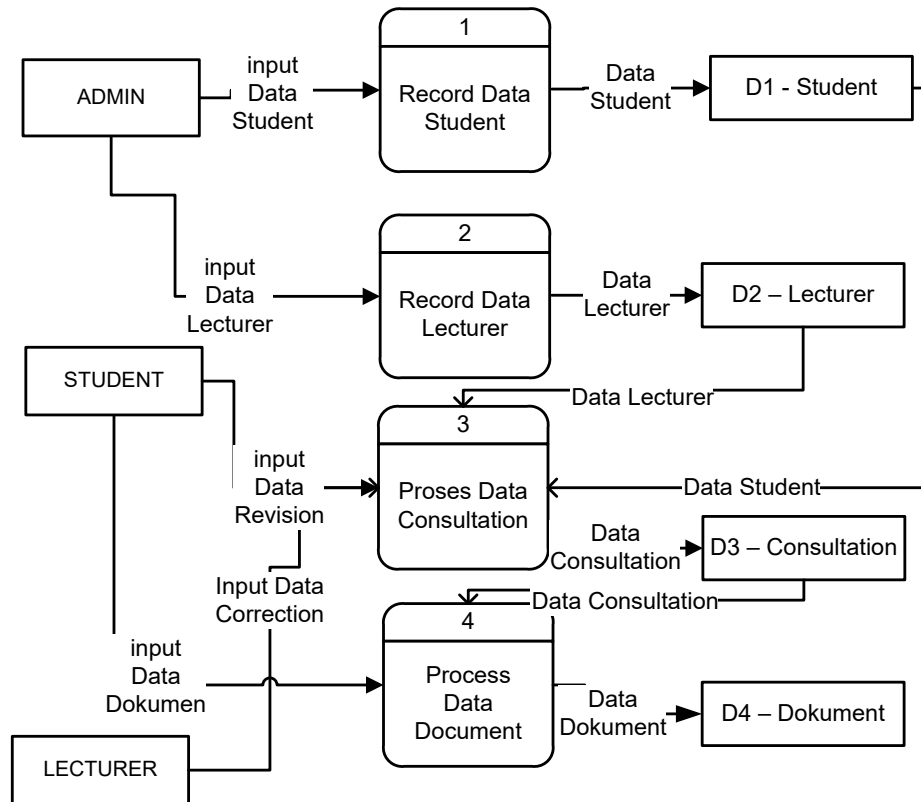


Figure 2. Data Flow Diagram

4. Result

Based on the results of analysis and design, this study produced several forms including the student and lecturer data input forms, consultation forms for student users as shown in Figure 3 with information displayed on the consultation date, nim, student name, consultation name, description and upload form link. revised document.

Fanggal	NIM	Nama Mahasiswa	Dosen Pembimbing	Nama Bimbingan	Keterangan	Form Dokumen
018-09-5	1314030012	Junaidi	Mahdi, S.ST, M.Si	BIMBINGAN	Saya Lampirkan Bab I Untuk Diperiksa	Form Dokumen

Figure 3. Consultation Form

While the consultation page for the lecturer as shown in Figure 4 has information on the consultation date, student name, consultation status, correction information, form of correction document upload and see the student revision document.

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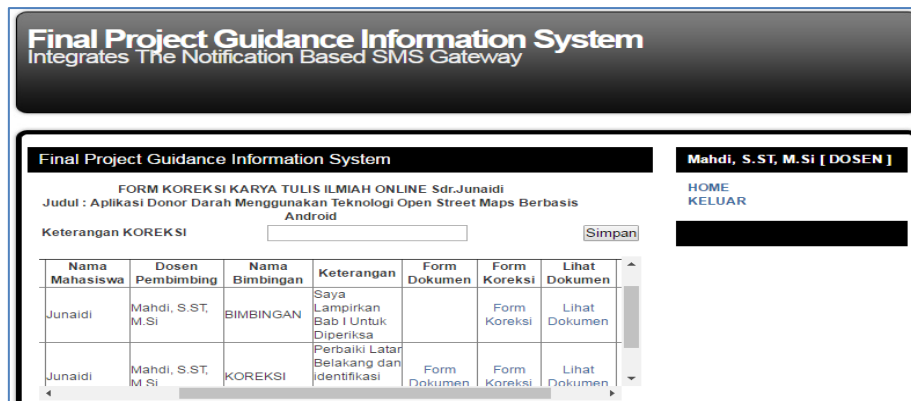


Figure 4. Supervisor Correction Form

In the form of the supervisor the user can see the overall report on student consultation as seen in Figure 5 with information on student names, supervisor names, final project titles, consultation dates, types of consultations and information.

DATA PEMBIMBING TUGAS AKHIR			
Nama Mahasiswa: Junaidi NIM 1314030012 - Dosen Pembimbing: Mahdi, S.ST, M.Si			
Judul: Aplikasi Donor Darah Menggunakan Teknologi Open Street Maps Berbasis Android			
No	Tanggal	Nama Bimbingan	Keterangan
1	2018-09-25	BIMBINGAN	Saya Lampirkan Bab I Untuk Diperiksa
2	2018-10-27	KOREKSI	Perbaiki Latar Belakang dan identifikasi masalah Pada Bab 1

Figure 5. Consultation Data Report

For SMS-based notifications students or lecturers will receive when both uploading revised documents or corrections are sent, the system will automatically send SMS-based notifications as shown in Figure 6.



Figure 6. (a) SMS notification for Students, (b) SMS notification for Lecturers

5. Conclusion

Based on the analysis and design of the system from the making of the final project consultation information system that is integrated with the notification system using SMS

Gateway has produced several tables and forms, namely student forms, lecturer forms, consultation forms and document forms. The form has been able to provide a remote consultation system using web media and has been able to provide notification notifications to students and lecturers regarding the consultation status using the SMS gateway service. It is expected that this information system can facilitate students and lecturers in conducting more effective and efficient consultations.

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