

Designing a monitoring application for the informatics study program of the engineering faculty of Cokroaminoto University Palopo

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Abstract. Monitoring is carried out at a university to improve the quality of the teaching and learning process. Starting from the initial lecture process to the end of one semester of lecture, lecturers are required to fill in the activity monitoring sheet used to determine the subject matter of a course to be delivered to students. The monitoring sheet is also used as evaluation material for course lecturers if there is a material that has not been delivered. The process of filling in monitoring in the informatics study program so far is still manual using paper. It is not inconvenient to monitor, but with the current conditions, the manual process is transferred online by utilizing a google service known as google form. The purpose of this research is to design a recovery monitoring application that is used by lecturers when they finish teaching. The method used in this research is a research method that uses system analysis and design, system requirements analysis, system design, including the making of stage diagrams. Meanwhile, data collection using observation methods, interview methods, and literature study. The research results were in the form of material reports, teaching methods, and the number of student attendance at each meeting. The report is adjusted to the reporting format used by the head of the study program. Each lecturer will be able to fill in lecture monitoring through a website-based application. The head of the study program can directly monitor lecturer activities without having to ask or directly monitor lecturers when teaching

1. Introduction

Information technology and communication are increasingly multiplying with messages as the age grows increasingly increasingly leads to a virtual era. This development spurred college officials to improve the teaching process of one of them an information study program that was in the background of the cokroaminoto palopo school of computer engineering, The aim is to train students to follow the pace of the assigned program . Monitoring or monitoring was done ata college in order to improve the teaching in college ^[1].

Monitoring processes are made against day-to-day teaching operations. So from the beginning of the lecture to the end of the semester of college because in any company, professors are required to fill out the activity monitoring sheets that are used to determine the subject matter to which the students will be presented. In addition, the monitoring sheet is also an evaluation material for the professor of lectures if any material has not been presented. The monitoring sheet will be monitored by the

chairman of the study program to fulfill the obligation of the lecturer to teach or not. The process of containing the monitoring sheet in the informatica study program was still manually processed using paper. So it's not too inconvenient, but with current conditions, the manual process is rerouted online by using Google services, which is limited to Google form. *Google form is a service of a public and freely accessible Google account when it has a Google account*^[6]. As for the problem raised in this study is how to design a monitoring app in an information study program.

The purpose of the study was to design the monitoring app that teachers would use when teaching. The results of research conducted with material reports, the teaching method and the number of students attending each meeting where the report was adapted to the reporting format used by the study chairman. System recommendations in this study are that each professor will be able to phase out the management monitoring through web-based applications and the study program chairman can instantly monitor the activity of the lecturer at all times without having to request or monitor the live lecturer.

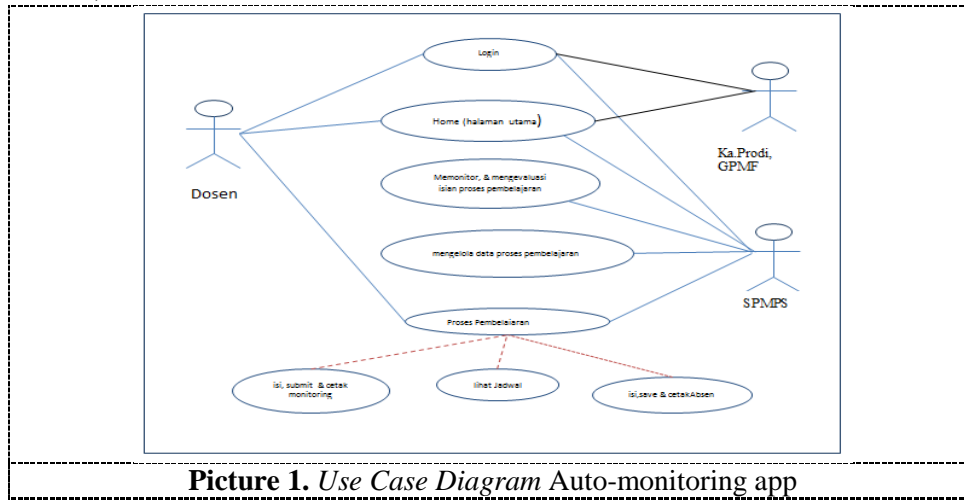
2. Experimental Method

A more femoral or general research and development method called research and development (r&d) is the method used by the authors in the study. R&d is a research method used to produce a particular product, and it tests its effectiveness^[2]. The development model used in the research referred to the *bord and gall* version of development model. These development models have a systemic step-by-step that can help a researcher measure the worthiness standards of a designed product. As a result of time constraints, energy and cost, the total is 3 of the 10 prosedure used in this process of research and development (1) data research and collection (2) planning, and (3) product development^[3]. Research begins by identifying the problem, analyzing the needs of the system and looking for solutions in problem solving, and then doing system modeling using the uml by making *use case diagrams, class diagrams and activity diagrams*^[4,5]. *Usecase diagram describes how actors with systems and how a system modules run*^[6]. *The class diagrams* portray the structure and description of the class, package, and object as well as relationship to each other. Whereas the activity diagram is to describe the flow of activity/activity of the business process, as well as to model the response that will occur when an operation in the system is carried out. Data collection uses method of observation, interview method and library study. System design uses the CMS wordpress application. The subject of this study is the management monitoring performed by informatics studies programs in 2019/2020. The research site is the cokroaminoto palopo university campus at latamacelling number 19 b city of palopo

3. Result and Discussion

3.1. Use case Diagram

The description of the system that was designed is the development of previous research that was relevant to the research that the author did . The title of previous research was the design of the lecture journal information system for monitoring and process assessments (case studies: prodi industrial engineering faculty of kaself university) That discussed designing a monitoring information system and a learning process evaluation by means of a lecture journal in prodi s-1 industrial faculty of techniques for the kaself university in which one is expected to provide solutions to monitoring activities and transparent learning assessments, accounting and realtime^[8]. The relevant or closely related study is entitled "The design and development of the college-based monitoring system application and the presence of web-based students "The result is the ultimate form of the prototype is a web based lecture monitoring system that can be used by the academic administration, the study program chairman, lecturer and class director in assessment and evaluation of students^[9]. And the title "web based based information monitoring system in nusantara nusantara surakarta." The result is a peer-per lecturer evaluation report and a general evaluation report, for the next time it is used by the public to make a report from a college evaluation^[10]. The company's monitoring of this study is described in the following usecase diagram..

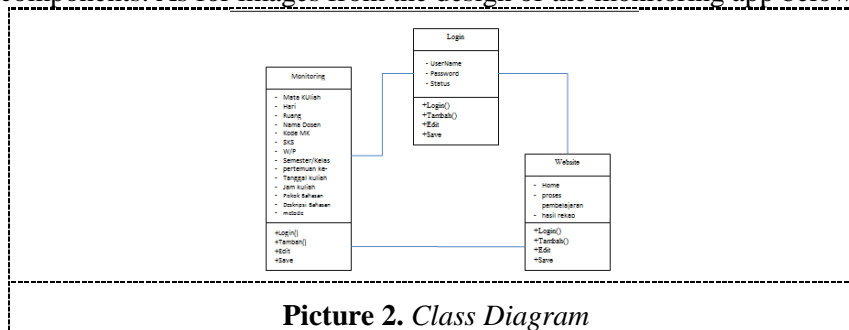


Picture 1. Use Case Diagram Auto-monitoring app

Picture 1 pictures where there are multiuser (professors, prompts and GPMF) that access the application. The professor who handles the course of the lecture is responsible for filling out the online lecture learning process at the prodi website address with logins first using a default password then the learning process (charging monitoring and unexcused) is done after completing the lecture The prodi can look at the results of the college learning process stuffing by the lecturer can then be conducted an evaluation. The SPMPS (the study-insurance system) is an operator of the application that can manage all the good data resulting from every course of study at every meeting

3.2. Class Diagram

The primary purpose of the class diagram is to know the relationship of the one component structure with the other components. As for images from the design of the monitoring app below

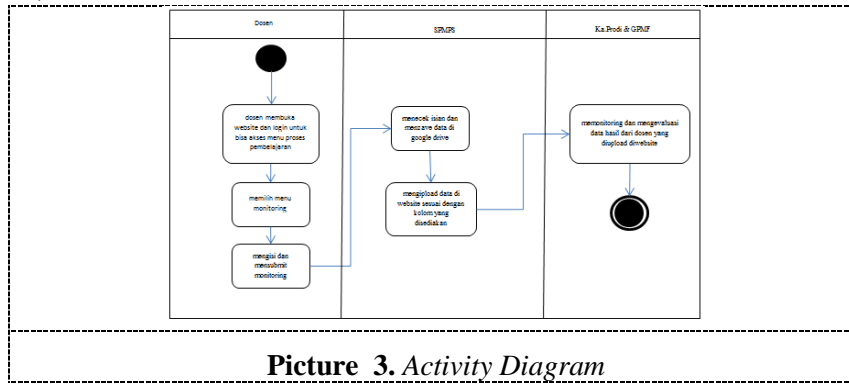


Picture 2. Class Diagram

Picture 2 describes a link between the 3 interconnected components that are the monitoring component can be access if the login component is present or is created an account and when the login component can be used one of the actors can manage the monitoring site at the university.

3.3. Aktiviti Diagram

Has a purpose to describe the grooves in the college monitoring application when started, a picture of the activity diagram can be seen in the picture below.



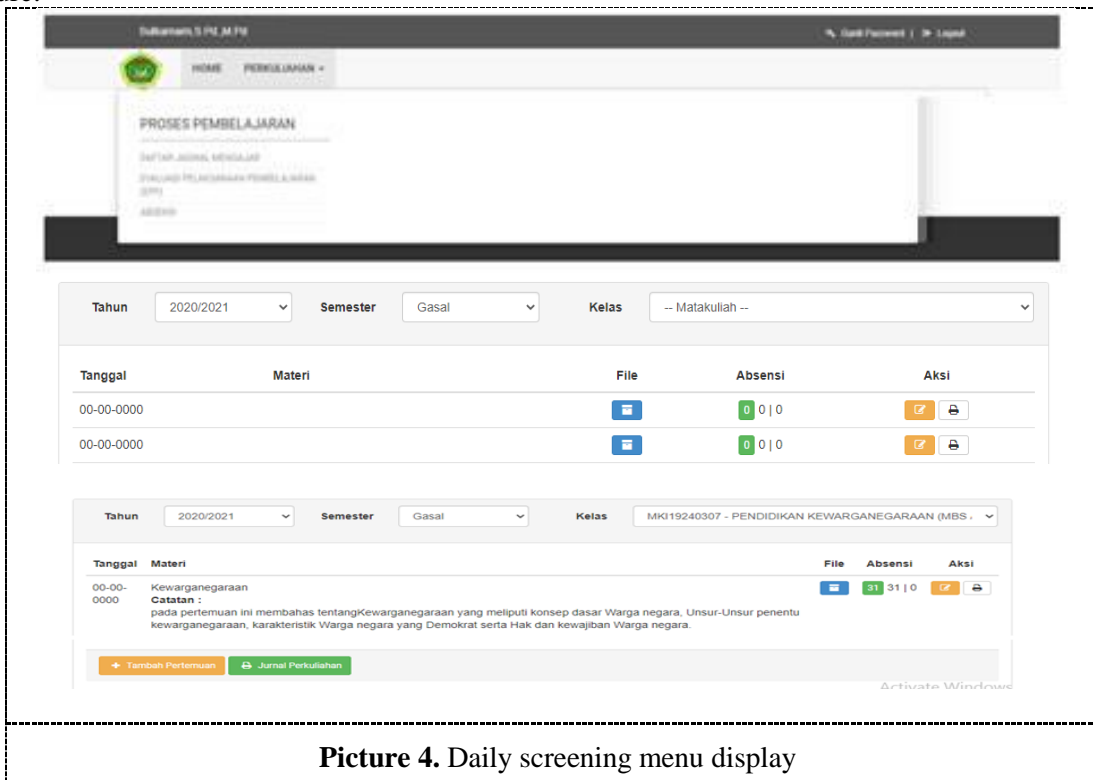
Picture 3. Activity Diagram

Pictur 3 shows that each actor or user has his own activity in the daily monitoring app. Where the activities were first conducted by college professors, then the activities of professors were conducted by the SPMPs so that the performance of the professors could be studied and studied by the ka. Prodi and GPMF.

After the modeling stage of the system will be designed, it goes to the next stage which is the designed interface where:

3.4. Rancangan user interface

The design of the user interface is done by sketching the web's advance pages, such as the following picture:



Picture 4. Daily screening menu display

Picture 4 paints a layout of the monitoring school's stuffing stuffing that the lecturer will fill out when teaching. Professors select academic year menus, semesters and classes that are taught. In order to fill out, the lecturer clicked the menu of the adding buttons or printed the monitoring sheet on the lower left

4. Coclusion

Based on results and research discussions, it can be drawn to the conclusion that the web based lecture monitoring app was designed later for the lecturer, ka. Prodi, GPMF and SPMPS can see the material reports, the teaching method and the number of students present at each meeting where the report is adapted to the reporting format used by the prodi chairman. Each professor will be able to fill out the company's monitoring through web-based applications and the prodi chairman and GPMF can instantly monitor the activity of teachers at all times without having to request or monitor the live lecturer when teaching. This design can make more patent time and will no longer require large amounts of paper. Furthermore, the study focuses solely on the system designs depicted in modeling and temple CMS.

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6. References

- [1] Design, monitoring and Evaluation Guide Book, Mercycorps, tahun 2003, tertulis Monitoring In simple terms, Monitoring
- [2] Sugiyono, Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R&D. (Bandung: Alfabeta, 2010), p. 407
- [3] Jogiyanto HM, "Analisa dan disain sistem informasi " Penerbit Andi offset, yogyakarta, 1989
- [4] M. Susanti, "Perancangan Sistem Informasi Akademik Berbasis Web pada SMK Pasar Minggu Jakarta," vol. III, No. 1, pp. 100–200, 2018
- [5] P. Kesehatan, K. Jakarta, A. Ramdhani, and C. Kintan, "Sistem Informasi Akademik Sistem Informasi Akademik," no. 021, pp. 1–2, 2018.
- [6] S. Sabharwal, P. Kaur, and R. Sibal, "Empirical and Theoretical Validation of a Use case Diagram Complexity Metric," *Int. J. Inf. Technol. Comput. Sci.*, vol. 9, no. 11, pp. 35–47, 2017.
- [7] H. husein Batubara, "Penggunaan Google Form sebagai Alat Penilaian Kinerja Dosen di prodi PGMI UNISKA Muhammad Arsyad Al-Banjari," *Univ. Islam kalimantan*, vol. 8 Nomor 1, no. Google Form sebagai media penilaian kinerja dosen dan respon mahasiswa terhadap penggunaannya, 2016
- [8] Imam Safi'i, "Perancangan Sistem Informasi Jurnal Perkuliahan Sebagai Upaya Monitoring dan Evaluasi Proses Pembelajaran (Studi Kasus : Prodi Teknik Industri Fakultas Teknik Universitas Kadiri)," *JATI UNIK*, 2017, Vol.1, No.1, pp 1-10
- [9] Rahmat.Rima Irmayani, Prasetyo Wibowo Yunanto, "Perancangan Dan Pengembangan Aplikasi Sistem Informasi Monitoring Perkuliahan Dan Kehadiran Mahasiswa Berbasis Web", *Jurnal Pinter*, VOL. 1 NO. 1 JUNI 2017, pp 39-50.
- [10] Priyanto W. 2003. Sistem Informasi Monitoring Perkuliahan Berbasis Web Di STMIK Sinar Nusantara Surakarta", *Jurnal TIKomSiN*, ISSN : 2338-4018 pp.52-59

