Android Based Thesis Mentoring System Using Google Firebase

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Received: 14th September 2018/ Revised: 18th October 2018/ Accepted: 26th October 2018


Abstract - This research aimed to build a platform to carry out the thesis mentoring process which was periodic, real-time, systemized, and well-integrated in Ciputra University in Surabaya. The researcher used Google Firebase technology provided by Google and built it on an Android-based platform. The method used was the Systems Development Life Cycle (SDLC) model. It was divided into six stages of the process: requirement analysis, system design, implementation, system testing, system deployment, and system maintenance. Data collection methods used were observation and interviews conducted to the final project coordinator in the study program. The results show that system has six main features including progress overview of thesis, chat room, guidance schedule, guidance book, important date, and announcement. Moreover, the thesis mentoring system is easy to use and consists of easy-to-understand menus. After going through the process of analysis, this system is very helpful in scheduling guidance, monitoring the progress of student thesis work, and managing announcement and important date.

Keywords: android, thesis mentoring system, Google Firebase

I. INTRODUCTION

Doing the final project or thesis is one of the preconditions for the students to complete their studies for the bachelor degree. The final year students who do the final project experience a setback in the process or overtime. This case is also experienced by final year students at Ciputra University in Surabaya, especially for Informatics Engineering study program and Information Systems study program of Creative Industry Faculty in Technopreneurship 3 course related to the final student project. Based on the observations and a short discussion with the chairperson in charge of the final project in the study program, several things become the subject matter in the process of the student’s final assignment. First, there is the difficulty of coordination between the supervisors and their students in determining the guidance schedule. Many factors support this. The supervisors do not always remind the students of the guidance schedule. Then, the students do not always put their guidance schedule into the calendar, so they forget it.

Second, there is also the difficulty of the supervisor in supervising and tracking the progress of the thesis writing. In general, students have been directed and told the steps that must be done by their supervisors. However, the students cannot do it coherently or at all. Third, one supervisor can handle several students. Thus, the supervisor may forget the last update of many students such as what stage they are, how far the progress is, and how much the students are prepared to go to the final exam.

Guidance has the meaning as a guide in how to do something. Meanwhile, the online can be interpreted as a state that is using the network or connected in one network. A device is connected with other devices so that they can communicate with each other. Thus, online guidance can be interpreted as instructions in how to do something that is connected in one network so they can communicate with each other.

Tileng and Wahyudi (2016, 2017) showed the use of Information and Communications Technology (ICT) in the world of education can be widely accepted and the availability of online platforms (e-learning) allows students to work effectively even remotely. Moreover, the importance of online guidance is supported by previous research by applying the concept of online guide to the web-based student final project. There are those who build it using pure PHP framework and server hosting (Muhamad, 2014; Sastypratiwi & Dwiyani, 2016), and CodeIgniter as the PHP support framework combined with the use of Google Calendar (Rosari, 2016).

Android is an operating system with an open source. Google releases its code under the Apache License. Open source code and licensing licenses on Android allow software to be freely modified and distributed by device makers, wireless operators, and application developers. The utilization of the Android platform has been widely used in the community to solve existing problems, including the use of presence systems (Chawhan, Girhale, & Mankar, 2013) with mobile-based barcode (Fadlil, Firdausy, & Hermawan, 2008) and QR code (Tresnani & Munir, 2012). The other...