

ABSTRACT

At this time, the existence of a laboratory is needed by students for various needs and activities on campus. Completeness of tools in the laboratory has become mandatory for the university to fulfill it as supporting students to be creative. However, due to the limited operating hours and employment, the laboratory is difficult to monitor on an ongoing basis, it is often the students to borrow the laboratory tools without the knowledge of the laboratory staff so that these conditions will make many negative impacts to the laboratory because it is difficult to control and sometimes there are some students who directly borrow while in the room with the ignorance of the laboratory staff.

The information system created in this final project is a website and SMS Gateway that processes laboratory tools inventory data supported by Radio Frequency Identification (RFID) monitoring system. The inventory data that displayed on this website is up-to-date either manually or automatically. For manual data updates, data is entered by the laboratory admin or by the laboratory supervisor in question. As for automatic data updates, the data obtained from RFID monitoring system that detects tools that are in and out of the laboratory.

This created information system can display the history of in-and-out tools based on the data received from the RFID monitoring system. And then, the data will be captured and accumulated to inventory data so that the inventory data that displayed remains up-to-date. To receive the data and then display it on the website page, this information system takes 0 seconds. In addition, this information system is also equipped with an SMS Gateway service that sends notification SMS to the admin when there is a tool that came out (borrowed) or entered (returned). This information system requires an average delivery delay less than 9.75 seconds to perform SMS sending process from when tools detected by monitoring system until SMS successfully received by admin.

Keyword: Laboratory tools inventory, website, monitoring, RFID, SMS Gateway.