

ABSTRACT

Faculty of Applied Science Universitas Telkom is a place for students to doing some research and practice activities that is not far from laboratory usage. Unfortunately, in this time the loans system of laboratory still using a simple way, where the borrower must request a mail to the Laboran and ask a signature for loans of laboratory, moreover we should take a key from admin's room and turn it back when the loans is over. This is made loaning takes more time and some problems appear, like loss of loan recap and laboratory's key.

To resolve all of this issue, we will be created a new system for laboratory loan which is using a website that integrated with Near Field Communication (NFC) and android application. Android application is used to view all of available schedule on laboratory and request for loans, then this request will be process through website system for approving. NFC is used for key to open the laboratory.

The results of functionality testing show, all functions are running as they should. The resulting website has been integrated with the Google Firebase realtime database, authentication, and Cloud Firestore platforms. The average delay obtained when monitoring data is 0.77 seconds from two different devices simultaneously. The accuracy of the data when monitoring results in 100% data accuracy. For performance testing, the website gets a value of 94, where the value is already quite good.

Keyword: website system, NFC, android application, approving, loans