

# Abstract

The RFID (Radio Frequency Identification) presence system at Telkom University is a service system that aims to improve efficiency in the process of recording student attendance. Currently, this system is not optimal because many problems are still found in it. One of them is that student presences are sometimes not recorded in the system.

In this final project, the author first create structured documentations (activity diagrams) and detailed system specifications based on direct observations. These results then be formalized into formal models using particular temporal logic. Furthermore, the authors use formal methods to verify the safety and liveness specifications based on the established model.

This final project provides an example of the translation from activity diagrams into the formal models for an RFID presence system. Moreover, the author shows that formal method can be used for the verification of RFID presence system at Telkom University.

**Keywords:** formal method, RFID, activity diagram, formal model