

## ***ABSTRACT***

*Radio frequency identification (RFID) is a security system that uses radio waves, this technology uses three types of devices, namely tags, readers and antennas. One application of the use of RFID is in technology-based libraries. the use of RFID is needed to improve the efficiency of borrowing books, especially the self loan services available in this technology library.*

*In this final project the author will use an RFID system to borrow books at the Telkom University library using the self loan method. This method aims to make it easier for students to borrow books by way of tagging Student Identity Cards and Books that they want to borrow on RFID machines by doing it themselves, this method is expected to streamline time if many students borrow books simultaneously.*

*This system works by reading Student Signs that have been taped by students, as well as books that are taped to be borrowed by students will be read by the system. The data that is successfully read will be stored in Arduino which is connected to the database in the Telkom University library so that the student has successfully borrowed the book.*

*In the testing of this final project, the results of all the feature functions that have been designed on the device are running well and as expected. The device successfully detected Student Identity Cards and several books that I had borrowed from the Telkom University open library.*

*Keywords: Radio frequency identification (RFID), Self loan, Reader, Arduino*