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6.111 Project Abstract
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## Abstract

Radio Frequency Identification (RFID) tags are quickly becoming an integral part of commerce, identification, surveillance, and other areas involving tracking of items and people.

The stated goal of this project is the successful design and implementation of an RFID reader for the RIFD tags in the MIT ID cards, based on the 6.111 Xilinx FPGA labkit. The basic system will send information to and indicate that it has received information from an RFID tag.

The reader will consist of two main parts: a transceiver and a decoder. The transceiver will send a signal out to any RFID tags in range, using the Electronic Product Code (EPC) protocol, and receive the reply from the tags. The decoder will then extract the information encoded in the radio frequency signal.

The information collected from the cards will be compared against a test access list, which will light an LED if there is a match. With further development, the system will graphically display the information it has received. Finally, if there is time, and if resources permit, the system will be expanded to be able to write to RFID tags.