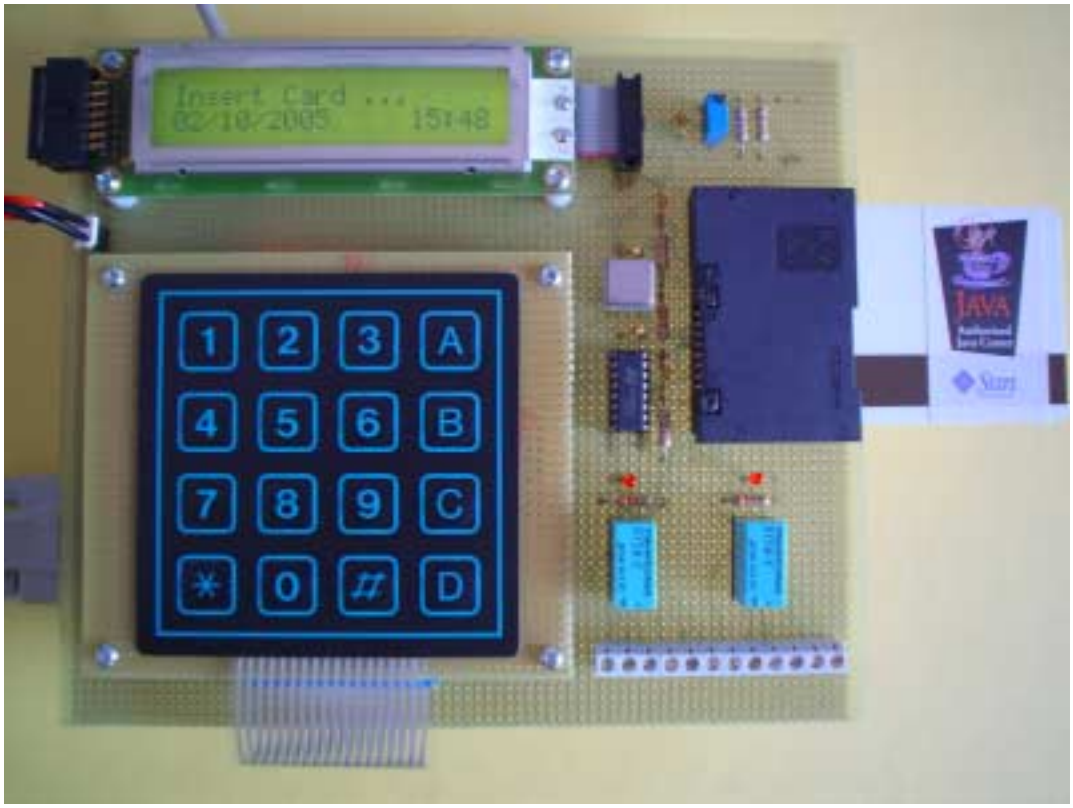
THE CHECKPOINT CHARLIE

Project Number: AR1753

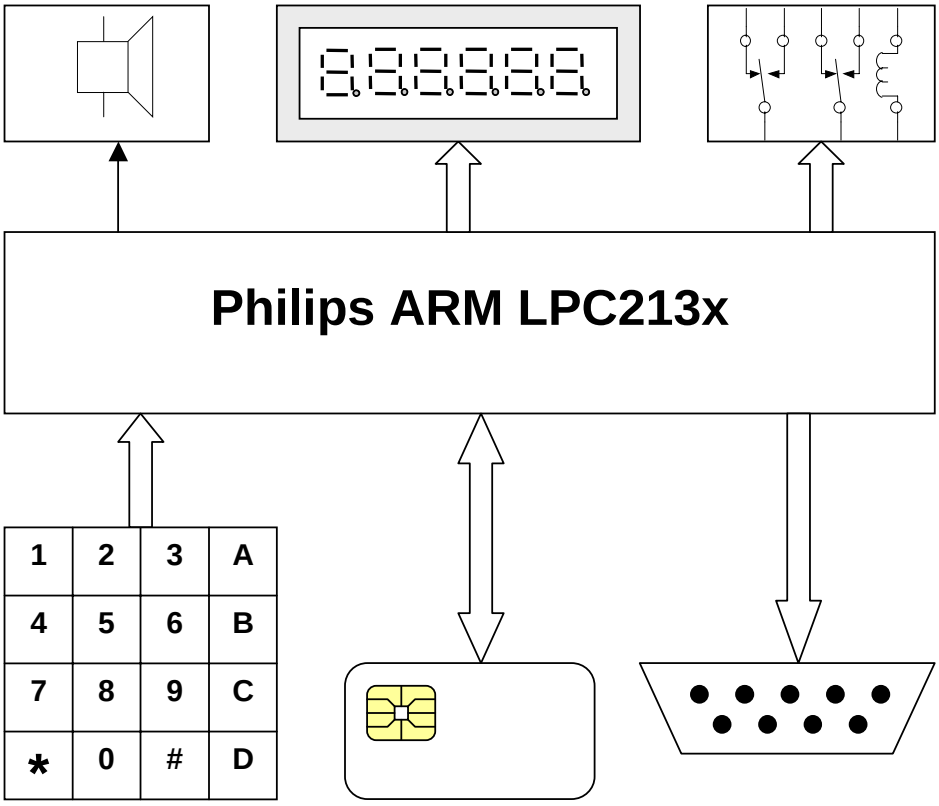
ABSTRACT

In today's complex and ever changing world, the need for security is paramount. This is especially true when securing access to restricted areas, to ensure that only previously qualified people can gain entry. The following application demonstrates this necessary security in the form of an access control terminal utilizing powerful user authentication by means of a Java Card™ smart card, instead of the old magnetic stripe card technology (commonly used in older access terminals). It performs a challenge-response scheme using a symmetric cryptographic algorithm (Triple DES) with keys up to 192 bits long. In addition, the terminal keeps track of all activity, which can be transmitted remotely upon request through the RS232 interface. The project is built around a Keil MCB2130 demonstration board, and includes all the necessary external resources required to work as an access control terminal.

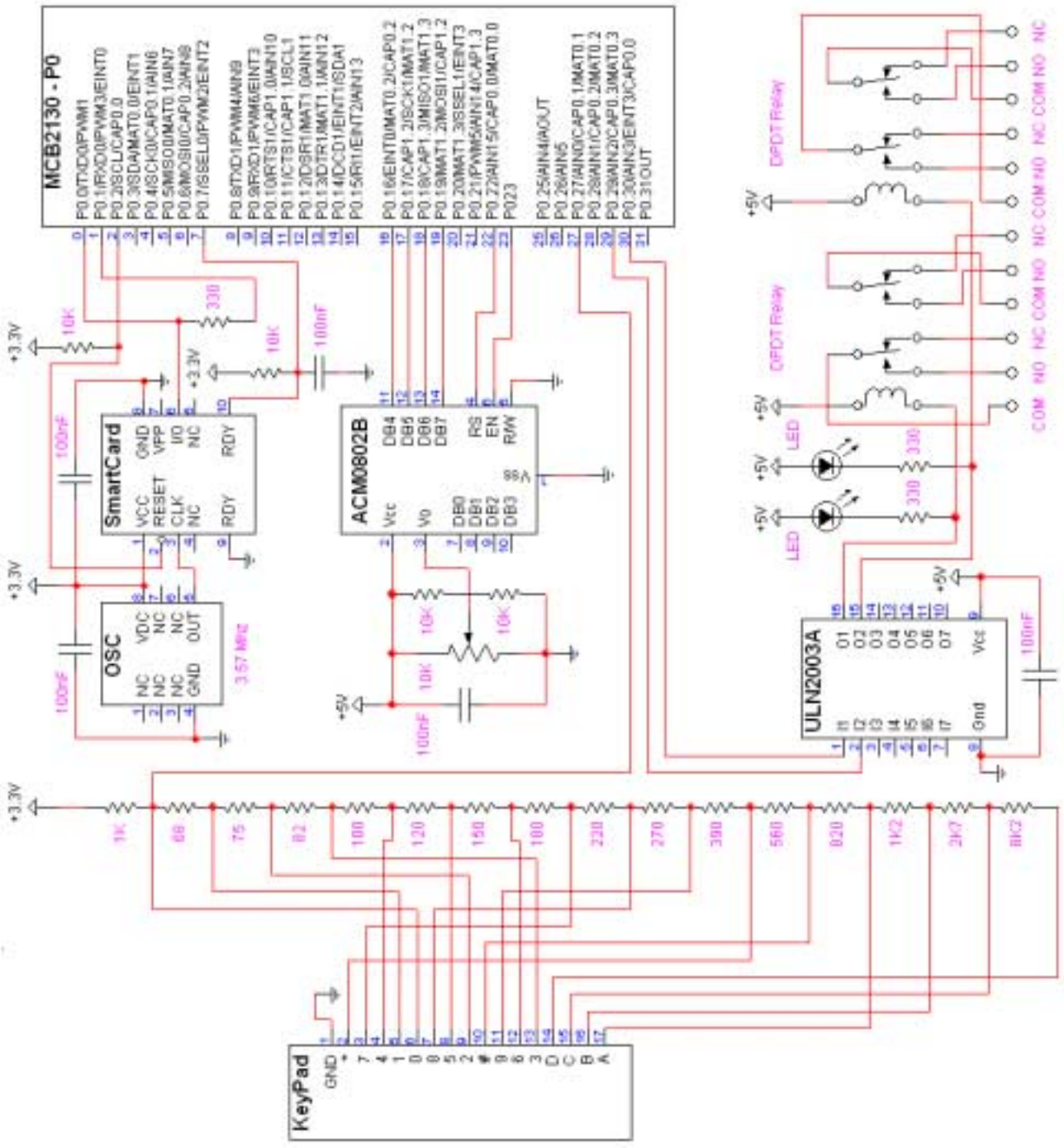


BLOCK DIAGRAM

The hardware block diagram is below:



SCHEMATIC BASED ON THE KEIL MCB2130 BOARD



SCHEMATIC AS A STANDALONE BOARD BASED ON THE ARM LPC2138