Nicholas Maresco

Anderson Vanegas

EC450

Final Project: *Proposal and Description*

**Description:**

We aim to create a numberpad-controlled door-locking system. The user will be interfacing with a LCD screen prompting the user to enter a password. When the correct number combination is inputted, the microcontroller will then send a high signal to either a separate microcontroller or a RF receiver circuit. Ideally the receiver circuit will trigger a DC motor to pull and push a door lock. Either additional mechanical mechanisms will need to implemented or an H-Bridge may be necessary the push and pull motions to change the motor polarity. If the wrong input is entered, the LCD screen will prompt the user to reenter the correct password, and no signal will be sent. There will also be a red and green LED to indicate if the password was correct or incorrect.

**Materials and Components:**

* 1 Pin RF Sender
* 1Pin RF Receiver
* 7 Pin Number Pad
* 16 Pin LCD Screen (4 Pin Mode)
* Gear Mechanism or HBridge
* DC Motor
* 3V battery /power supply
* LEDS -green/red