

Project 2 Report
ECE-218: Embedded Microcontroller Projects
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Objectives

The objective of this project is to add functionality to the existing smart home system by adding an gated entryway that can be opened or closed with an entered code passcode. The system should allow a user to operate a servo, which will rotate 90 degrees to simulate a raisable barrier, and maintain the raised position for long enough for a car to pass through. Ultimately, the user will get three attempts at the code before being locked out of the system and an LCD will provide this information, and the required updates to the user. The uart terminal output will allow the user to view the current set password in case it is forgotten and the alarm deactivation function will also be shifted to terminal as the keypad is repurposed. The other functions of the system (entryway light, gas detection, temperature detection, and the alarm function) will all remain fully operational.