EMT2410 – NYCCT Spring 2020
Final

Components:

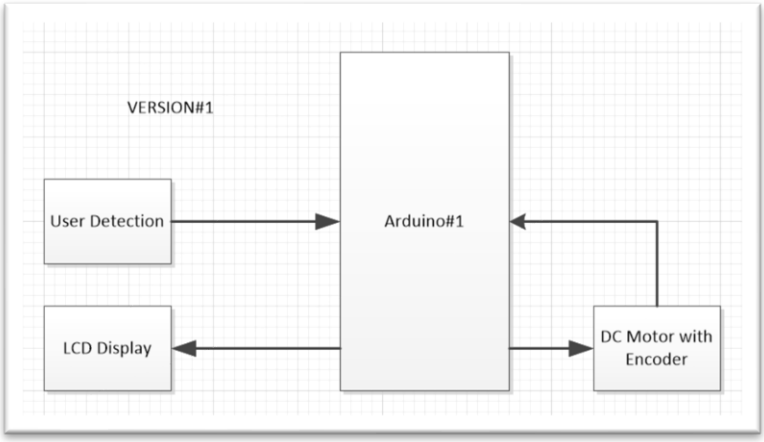
PC with internet.

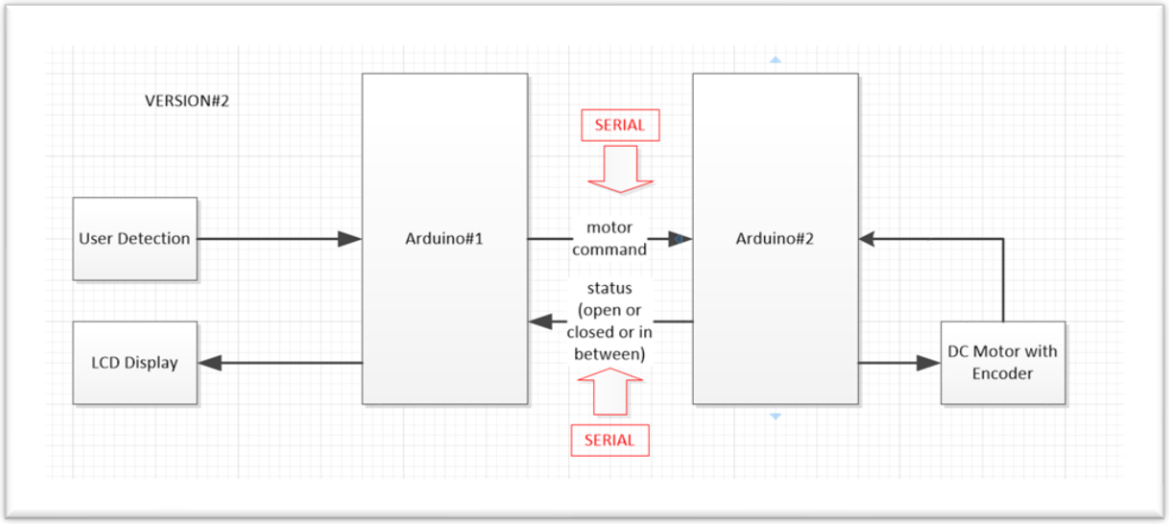
Simulation Components

- DC motor with Encoder
- LCD 16 x 2
- 2 Arduino Uno boards
- User detection:
  - Ultrasonic Sensor OR PIR Sensor

Project:

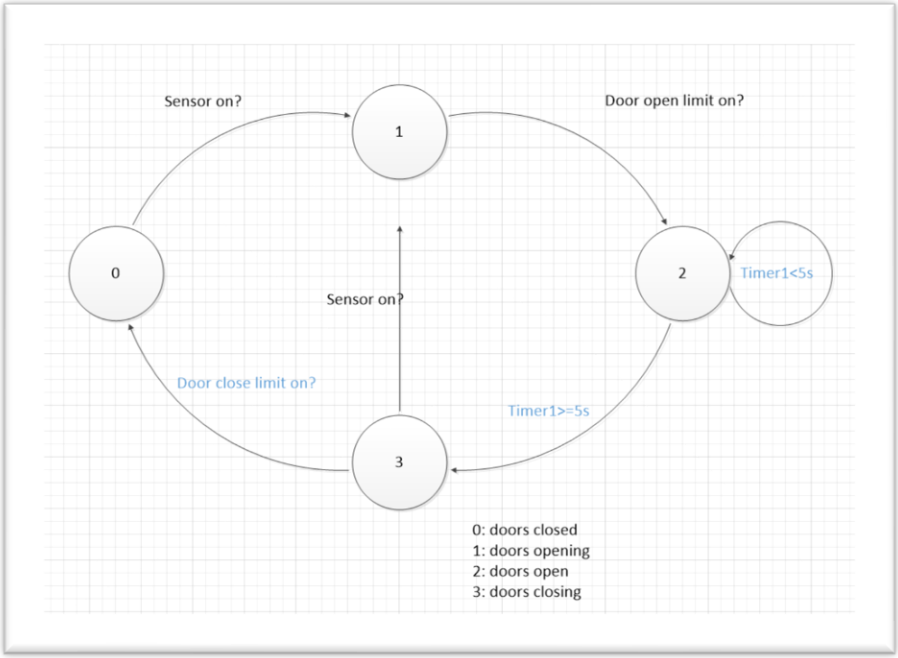
Design, connect, program and simulate an automated door system. System will detect user, open doors, wait for 5 seconds, and close again (if no user is detected). There will be a display that will be used to display sensor and door status. Version 1 maximum grade will 90 and version 2 maximum grade will be 100.





Requirements

1. Research and document information, including connections, necessary to interface with:
    a. LCD Display
    b. Motor
    c. Encoder
    d. Motion or Distance Sensor
2. Build and document electrical connections for your system.
3. Write the program using FSM as learned in class. Use Door State as follows:



4. Provide source code with comments. **Program must use timers**. Format code properly and write it using helper functions for clarity.

5. Present Demo to instructor as part of submission and record a video and submit as part of your submission.

Deliverables:

Report on items 1 through 4

Source Code

Video