Embedded Gate Project

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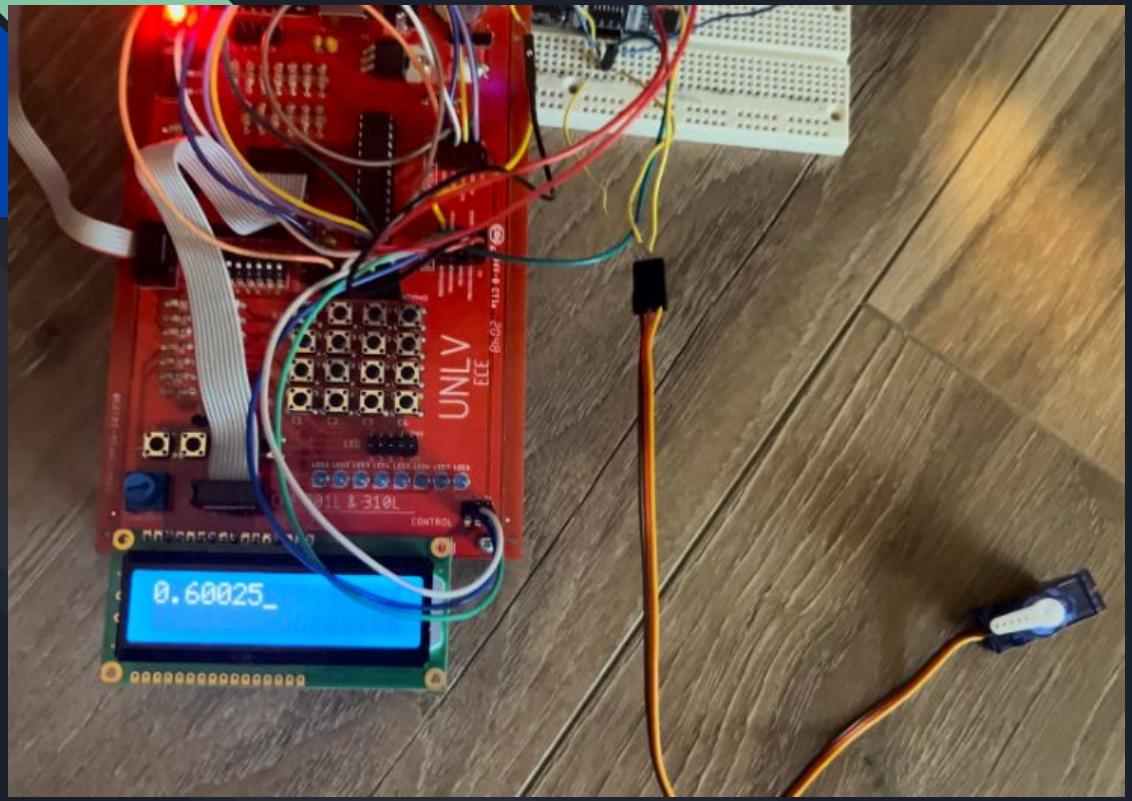


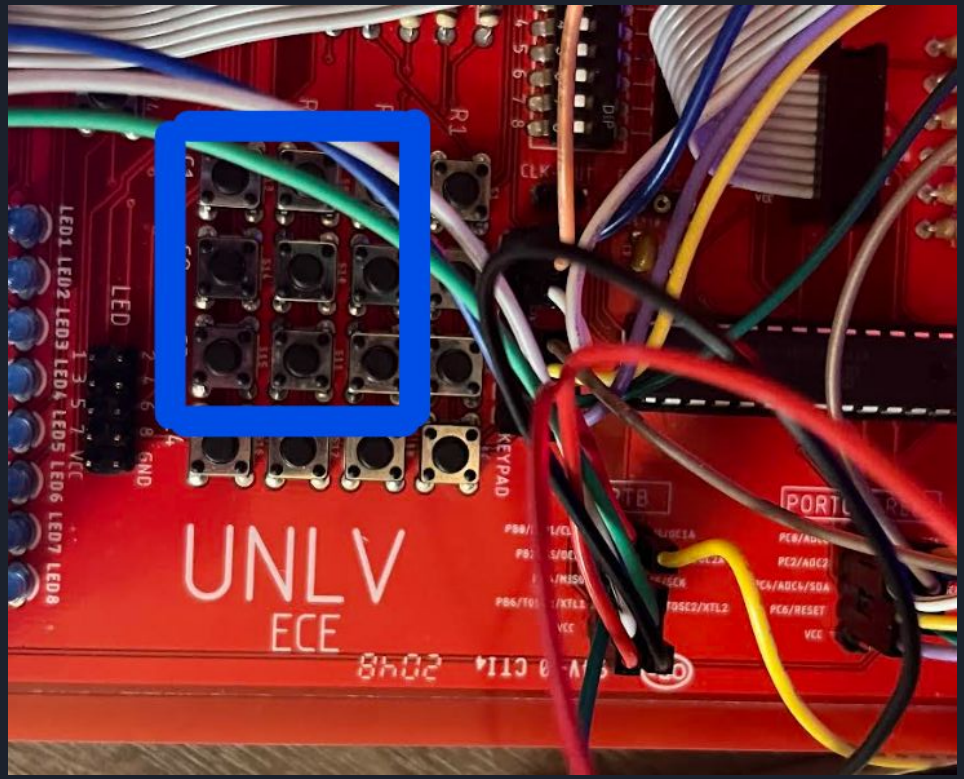
Keypad

- Keypad is represented by a 3x3 due to pin limitations to wire pushbuttons
- [1, 2, 3]

  [4, 5, 6]

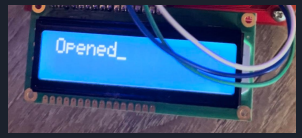
  [7, 8, 9]

- The columns and rows are compared to the bitmasking set manually by our code to correctly be interlocked with basic keypads' digits generally laid out from
- The LCD will display the users' inputs and if it is correct, it will let the user know as well if it is incorrect

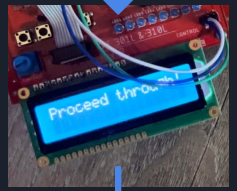


LCD

- The LCD will display the users' inputs and if it is correct, it will let the user know as well if it is incorrect
- An incorrect passcode will reset for the user to enter again
- A correct passcode will trigger a sequence of events to open the gate and will display the state of the motor/gate moving



Two scenarios:



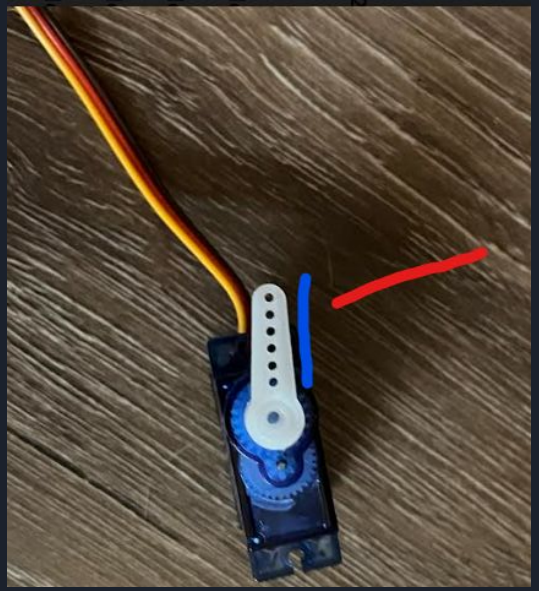
Too close, gate stays closed, continues displaying distance to proximity sensor

Servo-Motor

- Can only go 90 degrees maximum
- Represents the gate or the motor opening the gate as two states: opening & closing through these pictures

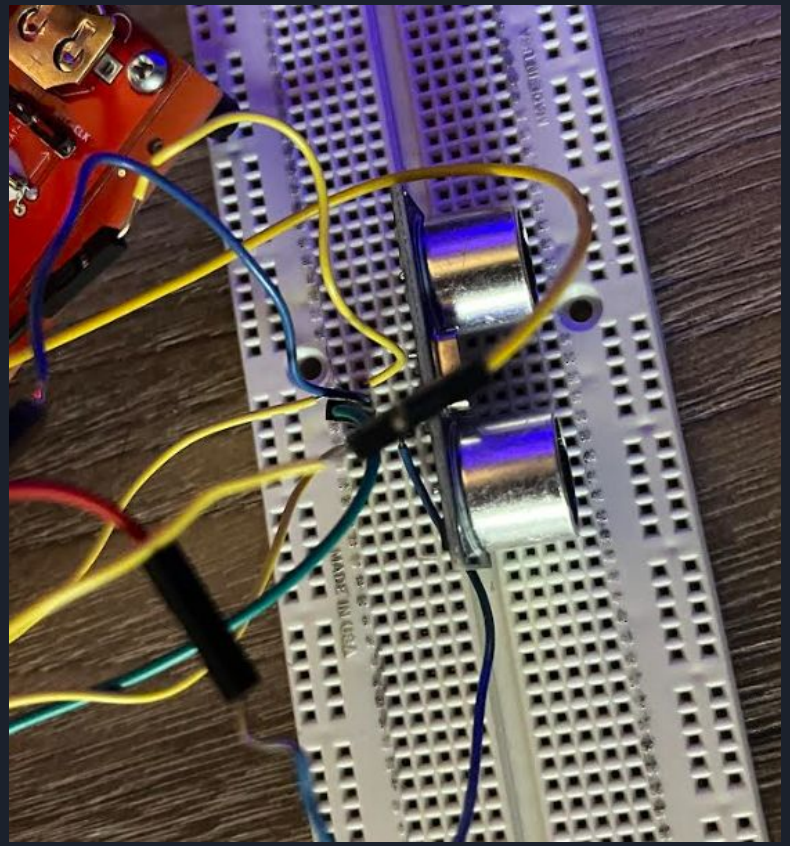
Gate is opened when the propeller is perpendicular to the wires angled

Gate is closed when motor is angled horizontally to the wires



Proximity Sensor

- Triggers every 10 us
- Proximity Sensor detects the number of inches an obstacle is to the proximity sensor
- The number of inches read when the correct passcode is entered will be displayed onto the LCD and if it is less than two inches away from the sensor, it is too close for the gate to open but if not, the gate will automatically open



Video Demonstration