ESE-205: Lock Box

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Description

Our project is used like a combination lock but the difference is what is inside. We put magnets in the dial and set 10 hall effect sensors around it. With 10 different inputs, Arduino can read number 0 to number 9.
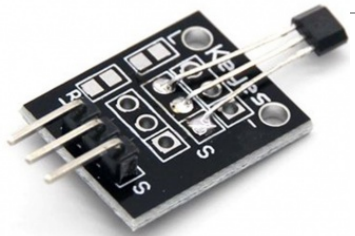
Function

There is a resettable 4 digit code that the user can unlock the box with. There is an 8 digit backup code that can be entered to change the 4 digit code. The user selects an action with a button: a single press to unlock, hold to reset the code. Two LEDs are used to indicate the state.
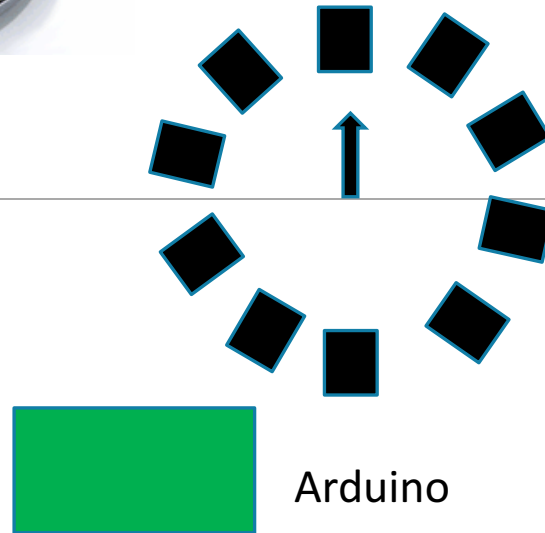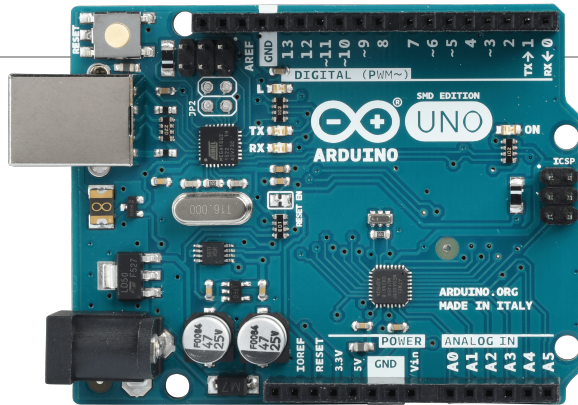
Magnetic field sensor (Hall Effect Sensor)

Arduino

Magnet

Hall effect sensor

Budget

LEDs ($0)
3-D printing ($0)
Solid state relay ($1.59+$4.99)
Magnets X 55 ($2.99+$2.99)
Push-Pull solenoid ($9.95+$9.16)
Hall Effect sensors X 13(2.38$ for each+$8.14)
Buttons ($0.35)
Arduino UNO ($0)
Total: $71.1