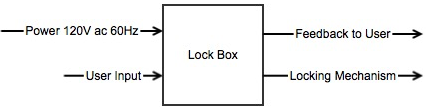
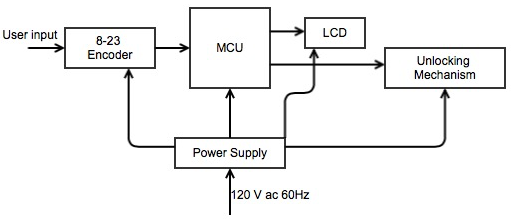
Lock Box: Level 0

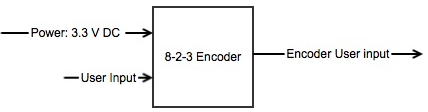


|  |  |
| --- | --- |
| Module | Lock Box |
| Input | User input via NES (Nintendo controller)  Power: 120 AC rms, 60Hz |
| Outputs | User feedback via LCD  Digital signal to Solenoid style lock |
| Functionality | Use the NES controller to input an unlocking combination. |

Lock Box: Level 1

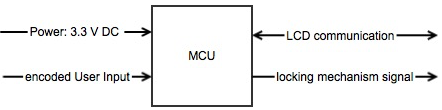


Encoder: Level 0



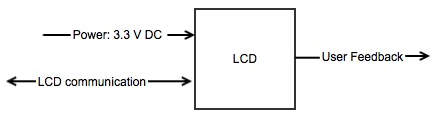
|  |  |
| --- | --- |
| Module | Encoder |
| Input | User input via NES (Nintendo controller). 8 bits were only one signal may be on at any given time.  Power: 3.3 V DC |
| Outputs | Encoder User Input. 3bit signal. |
| Functionality | This encoder will take an 8 input signal and encode it to a 3 bit signal. Which will be feed into the MCU |

MCU: Level 0



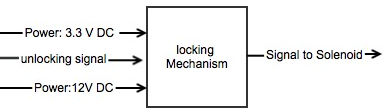
|  |  |
| --- | --- |
| Module | Microcontroller |
| Input | Encoded User Input from Encoder 3 bits  Power: 3.3 V DC  LCD communication via I2C |
| Outputs | LCD communication via I2C  Signal to Unlock/Lock, digital signal 3.3 V or 0V |
| Functionality | The MCU control the operation of the entire system. |

LCD: Level 0



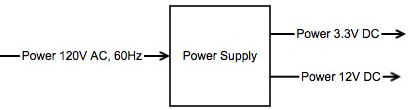
|  |  |
| --- | --- |
| Module | LCD |
| Input | LCD communication via I2C  Power: 3.3 V DC |
| Outputs | LCD communication via I2C  User feedback (text) |
| Functionality | The MCU control the operation of the entire system. |

Locking Mechanism: Level 0



|  |  |
| --- | --- |
| Module | Lock Mechanism |
| Input | Unlock signal from MCU, digital signal 3.3V or 0V  Power: 12V DC  Power: 3.3 V DC |
| Outputs | Unlock signal to Solenoid, the input signal turns ON/OFF a transistor which in turn allows current to flow through the Solenoid |
| Functionality | The Locking mechanism takes a low current signal for from the MCU and puts out a high current signal to the Solenoid |

Power Supply: Level 0



|  |  |
| --- | --- |
| Module | Power Supply |
| Input | Power: 120V AC, 60 Hz |
| Outputs | Power: 3.3V DC  Power: 12V DC |
| Functionality | This module will supply power to the all the modules of Lock Box |