1. **Research**
   1. Microprocessor
      1. Running Voltage
      2. Current Draw
      3. GPIO
      4. USB
   2. Power
      1. DC-DC converter
      2. Battery
         1. LiPo
         2. Alkaline
         3. Li-ion
   3. CMOS Gates
      1. Use CMOS logic chips
      2. Use transistors
2. **Design**
   1. Software
      1. LCD
         1. Choose SPI vs. I2C
      2. Define Output signals for puzzles
   2. UI
      1. Computer
         1. Choose programming language
         2. Mock-up interface
      2. On-Board
   3. CMOS Gates
      1. Design NAND gate
      2. Design AND gate
      3. Design NOR gate
      4. Design OR gate
      5. Design NOT gate
      6. Design XOR gate
   4. Power
      1. Design DC-DC converter
         1. Order DC-DC converter components
      2. Choose battery that meets specification
         1. Order battery
   5. Mechanical
      1. Choose material
      2. Choose size
   6. Microprocessor
      1. Choose processor
      2. Order processor
      3. Mock-up wiring diagram
3. **Prototype**
   1. Software
      1. Write initial LCD code
      2. Write initial signal output code
   2. CMOS Gates
      1. Prototype NAND gate
      2. Prototype AND gate
      3. Prototype NOR gate
      4. Prototype OR gate
      5. Prototype NOT gate
      6. Prototype XOR gate
   3. Power
      1. Prototype DC-DC converter
         1. Confirm voltage output
         2. Check noise
      2. Check current draw from initial system
         1. Confirm battery choice was correct
         2. If not, redesign battery
   4. Mechanical
      1. 3D print initial ideas
         1. Confirm circuit board will fit in cube
4. **Build**
   1. Software
   2. Finalize CMOS Gates
      1. Build NAND gate
      2. Build AND gate
      3. Build NOR gate
      4. Build OR gate
      5. Build NOT gate
      6. Build XOR gate
   3. Power
      1. Build DC-DC converter
         1. Confirm by powering microcontroller
      2. Let system run till fail to check battery life
   4. Mechanical
      1. Build enclosures out of chosen material
   5. UI
      1. Build computer interface
      2. Build on-board device interface
5. **Test**
   1. Hardware
      1. Durability Testing
         1. Drop Test
         2. Durability Test
      2. Connection Testing
         1. Magnetic Connection Test
         2. Electrical Connection Test
   2. Software
      1. Find Bugs
         1. Use product
         2. Have others use our product
         3. Run test cases
   3. Usability
      1. Conduct usability studies
6. **Redesign**
   1. Hardware
      1. Fix any problems that arise in testing
   2. Software
      1. Fix any problems that arise in testing
7. **Delivery**