Parts to create (not in order):

Functional design diagram

Pinout

User manual

Software diagram

Circuit diagrams

Bill of materials

This document shall outline the design and function of the Rainbow Six: Siege defuser device replica.

Features:

Software:

State machine for mode management and input handling

Random number generator for code creation

LCD driver

7-segment display driver

Real-time counter

“Audio drive” PWM for speaker output

Hardware:

Input:

Power switch

Arm switch

Lid switch

Two “deactivate” pulse buttons

10-key number pad

Output:

7-segment LCD for timer readout

LCD for system information

Buzzer

Status LEDs?

Operation:

See state machine flow chart

Use case (useful for determining states):

Setup, standby, deploy, countdown, disarm, terminate.