Avery Grimshaw
Garret Kitchings
Paul Sakit

CSC 132-002

Final Project Proposal

For our final project, we will use the Raspberry Pi to create a puzzle game that uses nine LEDs attached to the Pi via GPIO, and a Tkinter GUI.

The object of the game is simple: have all nine LEDs turned on at the same time. The LEDs will be controlled using nine corresponding buttons on the Tkinter GUI, which will be displayed on the Raspberry Pi touchscreen. As the buttons are pressed, they will indicate their current state (pressed or unpressed). The GUI will also show the current difficulty level, as well as a reset button that may be used if the player feels they have made too many mistakes. The puzzle will have a simple solution for the first difficulty level, and an obscenely difficult solution for the final difficulty level.

In order to make the game increase in difficulty, we will implement AND and OR gates that work together. As the difficulty level increases, the system of AND and OR gates working in conjuction will increase in complexity. Thus, a correct, unique sequence of button presses may be required in order to solve a puzzle with a higher difficulty. For example, pressing a single button may turn on an LED, but pressing a second button may turn that LED back off.