Defuse the Bomb

A CSC 102 Project

Team: 11

BOMB DEFUSAL MANUAL

Version 1

The Game

This project is based on the game **Keep Talking and Nobody Explodes**[1], a cooperative bomb defusing party game. As the game designers put it, "You're alone in a room with a bomb. Your friends, the 'Experts', have the manual needed to defuse it. But there's a catch: the Experts can't see the bomb, so everyone will need to talk it out - fast! Put your puzzle-solving and communication skills to the test as you and your friends race to defuse bombs quickly before time runs out!"

Their version is a software game. Our version takes the idea and realizes it as a physical device with buttons, switches, and more! Although our version can be played just like theirs, players can interact with both the bomb and this document at the same time (i.e., players can both defuse the bomb and serve as the "Experts", using this document to help disarm the phases).

The backend of our version of the game is a Raspberry Pi[2] computer that combines a typical computer with the ability to interact with the outside world through sensors. The underlying software is written in Python[3] and is the result of a final group-based project in CSC 102 (The Science of Computing II) in the Computer Science Program at the University of Tampa.

Defusing Bombs

The bomb will "explode" when its countdown reaches 0:00 or when too many strikes have occurred. You defuse the bomb by disarming all of its "phases" before the countdown expires.

Phases

[1]https://keeptalkinggame.com/

[2]https://www.raspberrypi.com/

[3]https://www.python.org/

The bomb has four phases, each of which must be disarmed to defuse the bomb. Instructions for disarming the phases are provided in this document.

Strikes

A mistake in disarming a phase results in a strike. Get too many strikes, and the bomb "explodes".

Information

A different version of the bomb is randomly presented each time it is "booted".

Disarming some phases will require specific information about the bomb. Pay close attention to the "bootup" text on the bomb's screen.

Regarding the Keypad

The correct state of the keypad is based on the bomb's color.

You must first analyze the color code provided. Does this string of characters resemble something? A different number system, perhaps?

Using your knowledge of hexidecimal to decimal conversion, translate the value provided within the code.

Regarding the Button

Eventually, you will come across the button. This button, as you may see, cycles through various colors: red, green, and blue.

Watching with a close eye, prepare yourself to click the button when the highest value color is displayed.

You must be quick, so waste no time. For, if time is wasted, a strike will be the result.

Regarding the Toggles

The toggles may appear overwhelming at first, but the key to defusing them is rather simple.

The last digit in the serial number is a value. This value will provide the much needed information for the location within the hexidecimal code that must be displayed in binary.

To switch a toggle up is to represent a 1, and down a 0. Use this information wisely.

Regarding the Wires

Now we reach the final puzzle: wires. While they may appear rather pleasant, they are in fact the final thing standing between your success or untimely demise.

Using the knowledge attained throughout this experience, cut the wire that equates to the largest value.