

Defuse the Bomb  
A CSC 102 Project

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**BOMB DEFUSAL  
MANUAL**

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Version 1

Verification Code: <enter your code>

# The Game

This project is based on the game **Keep Talking and Nobody Explodes**<sup>1</sup>, 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<sup>2</sup> computer that combines a typical computer with the ability to interact with the outside world through sensors. The underlying software is written in Python<sup>3</sup> 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

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<sup>1</sup> <https://keeptalkinggame.com/>

<sup>2</sup> <https://www.raspberrypi.com/>

<sup>3</sup> <https://www.python.org/>

Welcome to the party. The bomb has 4 different stages to it that all can cause a good range of difficulty for you. Each stage is listed in this document to perhaps help you crack the code and defuse the bomb. The bomb will be defused only if you are able to solve all 4 stages before the time is up. You are given 600 seconds or 10 minutes to try and solve the bomb.

We tried to be a bit forgiving since we do only give you 5 strikes before the bomb detonates early. Every mishap that happens while attempting to defuse the bomb will result in 1 strike. You start off with 5 possible strikes. Each strike will remove 1 from the counter at the bottom right of the GUI. And when it hits 0, let's just say that you're in trouble. The Strikes don't just act as a counter, but after 3 strikes the bomb will decide that you guys need a little bit of a kick to get it solved. There are multiple options for what the bomb will choose to do to make your lives harder to try and defuse the bomb. Below are the options we gave the bomb:

1. The bomb takes a good sip of some coffee and increases the speed the timer ticks. Wish my brain worked the same way.
2. The bomb hits its funny bone and the timer loses 60 seconds. Everyone knows how it feels.
3. The bomb thinks you need some help so the riddle for the keypad gets changed. Might be a bit helpful especially if you think you're about to solve it.
4. The bomb gets a bit bored of you guys so you get to listen to some entertainment while you work. Hopefully it's not too distracting.



## Regarding the Toggles

The Toggles are on the top left of the bomb. If you are looking at it the right way at least. If you try to just randomly flip them to solve it, good luck as every wrong switch will cause a loss of time and a strike. Unfortunately, the value for the toggles will not be given to you. However, the value of the wires will be given to you. The value of the toggles will be half as much trouble to figure out, and half the value of the wires target, rounded down. Again, don't mess it up if you don't want a strike.

## Regarding the Button

The button is a very important item. It shouldn't be used unless it's your last option. If you click it prematurely, you will surely fail. The button will be red throughout, only changing colors to blue whenever you get a strike before resetting back to the red. You may be thinking that the color matters but it surely doesn't. No matter what color it is, it is dangerous to click. Don't be deceived into clicking it until you know that there is nothing else to do.

## Regarding the Keypad

The Keypad is simple. The numbers 2-9 have 3 to 4 letters that they represent from A-Z. The number 1 represents a space bar. The number 0 is not used as a letter or value with the keypad, however can be used to reset the keypad without costing a strike. The hashtag and asterisk have no letter value attached to them and are instead used to cycle through the possible keypad options.

There are 12 riddle options you can try to solve and you only need to complete 1 in order to defuse the bomb. However, the hint will need to be deciphered in order to find out what the riddle may be and so you can solve it and stop the bomb from detonating. Below is a brief example of how it would work.

Code: Dov pz fvby nvha?

Hint: The Man on the Lakers; 7

Deciphered: Who is your goat?

Answer: LeBron James

Keypad: 532766152637

You must put the letters in the right order. Every number that is out of place or wrong will be counted as a strike against you. Go ahead and try to find your way out of this one and make sure you don't mess up.



## Regarding the Wires

The wires and the toggles are inextricably connected. If you know the value of the wires, you know the value of the toggles. The wires' value will be given to you, but it may be deceiving. It may look like a normal number at first, but it could also be a letter. If that doesn't help you figure out what the value is, it may be a different base. Remember, the toggles value is half of the wires', but don't forget to convert them to binary in order to defuse them correctly.