Defuse the Bomb

A CSC 102 Project

Team: LMB

# BOMB DEFUSAL

# MANUAL

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# **LEBOMB**

# The Game

This project is based on the game **Keep Talking and Nobody Explodes**, 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 computer that combines a typical computer with the ability to interact with the outside world through sensors. The underlying software is written in Python 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 its "phases" before the countdown expires. Successfully defusing one of the functions (toggles, button, wires, keypad) the timer will increase by 15 seconds. Each phase has a different amount of allotted time. The Cavs phase has 5 minutes, the Heat phase has 4 minutes, and the Lakers phase has 3 minutes. The final phase has a minute and 30 seconds to solve.

Defuse the Bomb | A CSC 102 ProjectIntroduction

## **Strikes**

A mistake in disarming a phase results in a strike. Get too many strikes, and the bomb "explodes". Each time you get a strike the countdown will decrease by 15 seconds so be careful.

## **Information**

This bomb is a general trivia game based around the goat LeBron James! To defuse the bomb, you must defuse each of the components all themed around LeBron. There are four different phases based on the teams that LeBron was on chronologically. The order is shown below:

1. Cleveland Cavaliers (Cavs)

2. Miami Heat (Heat)

3. Los Angeles Lakers (Lakers)

4. Final phase

For the final phase you are given a letter for each function completed (toggles, wires, button, keypad) which is a scrambled version of the solution. The letters are shown on the screen, but you must unscramble them. More information for the final phase is shown within the "Regarding the keypad" page.

It is possible to win without this manual if you want to challenge yourself, but the manual will help you understand what to do properly.

Try not to blow it up!

# Regarding the Toggles

Similar to the wires, the toggles each have a correct state based on trivia about the goat LeBron James. Each of the questions will give you a statistic from the team that LeBron was on. In order to defuse the toggles phase, you must state if the correct answer is **over** or **under** the number shown.

**OVER = UP**

**UNDER = DOWN**

Trivia is stated below:

## CAVS PHASE:

| Career Points with Cavs Over/Under 24,000? | Career Assists with Cavs Over/Under 6,000? | Career Rebounds with Cavs Over/Under 6,000? | Career Blocks/Steals with Cavs Over/Under 2,000? |
|---|---|---|---|

## HEAT PHASE:

| Career Points with Heat Over/Under 8,000? | Career Assists with Heat Over/Under 2,000? | Career Rebounds with Heat Over/Under 2,000? | Career Blocks/Steals with Heat Over/Under 700? |
|---|---|---|---|

## LAKERS PHASE:

| Career Points with Lakers Over/Under 11,000? | Career Assists with Lakers Over/Under 3,000? | Career Rebounds with Lakers Over/Under 3,000? | Career Blocks/Steals with Lakers Over/Under 500? |
|---|---|---|---|

# Regarding the Button

Fun fact: LeBron has made the second most free throws in the NBA with 8,649 (as of 5/2/2025).

To defuse the button, you must time your own "free throw" properly. The button will mostly be **red** which means you will miss the free throw. To make the free throw you must release the button when it changes to **green**. Be careful though because the button may become **blue** to mess with you!

For each phase the button will stay green for less time! The time is shown below:

## CAVS PHASE:

700 milliseconds

## HEAT PHASE:

500 milliseconds

## LAKERS PHASE:

300 milliseconds

Tip: hold the button down and release when the button at the right time instead of pressing!

# Regarding the Keypad

For the keypad there will be a question about the goat LeBron James separate from each phase below. The difference between the keypad and the other functions is there is a final phase that only the keypad needs to be solved. The questions are shown below:

## CAVS PHASE:

What Year Did LeBron Average 28.4 pts, 7.6 rebs, and 7.2 asts?

## HEAT PHASE:

What Year Did LeBron Average 27.1 pts, 6.9 rebs, and 6.3 asts?

## LAKERS PHASE:

What Year Did LeBron Average 26.2 pts, 9.9 rebs, and 8.3 asts?

## FINAL PHASE:

What nickname, often stylized as a single word, does LeBron James use to reference both his humble beginnings and his connection to his Ohio hometown?

Hint: You only need one digit per letter — no need to press the key multiple times (e.g., "B" = 2, not 22).

# Regarding the Wires

Similar to the toggles, the wires each have a correct state based on trivia about the goat LeBron James. For the wires there will be a question for each phase. The user must convert the number of the answers into binary and plug the wires in accordingly.

**0 = OUT**

**1 = IN**

Trivia is stated below:

## CAVS PHASE:

| How old was LeBron when he was drafted into the NBA? |
| --- |

## HEAT PHASE:

| How many championships did LeBron win with Miami Heat? |
| --- |

## LAKERS PHASE:

| How many seasons has LeBron averaged over 25 points? |
| --- |