

Defuse the Bomb

A CSC 102 Project

Team: Jits

Github: <https://github.com/marcpatterson19/CSC-102-Final>

Team individualization

What did you tweak to the design provided by your instructor that makes it different from the other teams? In other words, what did you do to make your version of the “bomb” unique?

In our bomb, we tweaked many of the puzzles of the basic bomb. For the wires and toggles, we changed the value to be a random value in hex that the diffuser needs to convert to binary to find the wires input value. Along those lines, the toggles value is the wires value divided by 2 and rounded down. For the button, we made the change that if you press the button before defusing all other components of the bomb, you will immediately fail. However, if you press it after everything else, it will defuse the bomb. For the keypad, we used both a rotation cypher and a riddle to make it uniquely difficult. We also added a victory and defeat screen, along with sound effects for the bomb while running and when it blows up.

Future development plans

If you were to continue working on this project, what would you do? Where could you go from here to make it better, more interesting, more fun? What could be done to increase the project’s broader impact (e.g., to make it marketable)?

If we were to continue working on the project, it might be nice to add more puzzles, both within the code and physically with the bomb design. Also, possibly making the puzzles very difficult with less hints could also benefit this project. Turning it into a full fledged game could help make it more marketable, with a working story, added gameplay elements, multiplayer functionality, and so on.

Lessons learned

What did you learn by working on the project throughout the course? In your opinion, did it relate to *The Science of Computing* curriculum (and, if so, how)? How was the experience beneficial to problem solving in general? What did you learn that will benefit you in future courses in the Computer Science curriculum?

By working on this project, the importance of object-oriented programming has become very clear. What was learned throughout this course does relate to the *Science of Computing* curriculum, with things like object-oriented programming setting foundations for further CSC classes like architecture and data structures. This project is very beneficial to problem solving,

as there are many issues and minor fixes to run into throughout the project that require fixing. Another problem to solve was working within a group and divvying up the work in a way to get the project done in time. All of what was mentioned before will be beneficial in future CSC courses, but one thing in particular is time management and not underestimating the work that will go into a project.