Defuse the Bomb

A CSC 102 Project

Team: <Atomic Bomb>

GitHub: < [GitHub Link](#) >

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?

For our bomb, we created many unique features. For our button, we implemented a unique feature to hold and release the button when the first even number in our serial number was in the seconds on our timer. This was unlike the other bombs because it had them look for not only the first number in the serial number but the first EVEN number. Next, we added a cool feature for the keypad. We had a riddle appear on the bombs screen, which then meant that the person had to solve the riddle and type in the answer on the keypad. For the wires, we displayed on the screen key words that was chosen from 'coal', 'snow', 'plum', iron', and/or 'sky'. Based on those keywords, it told you what wires to keep plugged in. Lastly, for our toggles, we put a little trick in the serial number for it to read as having capitalized letters before the serial number which would tell the person which toggles to flip up. And for other features, we implemented a strike/error noise, correct/ding noise, loser/winner images displayed at the end of the defusal along with the corresponding finishing noise effect.

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 had more time to work on the bomb, we would implement many new things. We would have sped up the timer when the strikes were really low and doubled it from when only one strike was left. We also would have added a ticking sound in the background when only a few minutes left on the timer. To make the bomb better and more interesting, we would have added more colors to the button so that it is more difficult to decode and more colorful to look at. We would have also added GUIs that pop up on the screen when a phase is defused to make it evident that the user has solved one part while also having fun graphics. To increase the project's broader impact, it would be interesting to have the bomb speak to you and tell you the game's instructions. It would come with a manual to explain the phases, but we believe the bomb could be strongly marketed as a game if a talking feature was implemented.

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?

Throughout this course, we learned many things working on this project that related to the Computer Science curriculum, such as coding, problem-solving, and the raspberry pie. This experience was very beneficial to us because it required us to use our problem-solving and creativity skills to implement new features to the bomb, and it allowed us to develop a better understanding of code because we had to comprehend what was given to us and write our own code based off of that. We learned many things that will benefit us in the future, but one of the most important ones was working together as a team when coding. Team skills are hard to come by, and the computer science field is full of them. This project allowed us to build off of each other as a team while growing our knowledge of the code and the raspberry pie's hardware.