Project Summary: Chevrons – Group 12

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On Point is a timing/coordination game created in python using the Pygame open-source libraries. Project gameplay involves matching the direction and color of incoming projectiles, then hitting the spacebar at the right time to block said projectile. The game features a scoring system and leaderboard for tracking progress. All of the sprites are all drawn using coordinates, no images were used. We conquered many challenges along the way, and we're more than content with the result.

Python is an object-oriented programming language created in the 1980s by Guido van Rossum. The language emphasizes simplicity and readability which stands out among other object-oriented languages such as Java or the various versions of C. As a result, its grammar and syntax are much easier to read. The language itself is fairly small and lighter weight but compensates by providing a large and flexible default library for extended functionality. This design choice allows for a staggering amount of future growth and powerful user experience.

Pygame is a library for python that can be downloaded and used to make games in python. It adds new methods and classes that make it easier to make games. Some examples of these methods are, creating application windows, drawing shapes, displaying images, and playing sounds. This library allowed us to create our project with much less difficulty as opposed to coding it from scratch.

Over the past two weeks, we encountered many difficulties in the development of our project. One of these challenges was drawing the player character and the projectiles. We had to plot out the points of the chevron shape on a whiteboard before writing any code to make sure we got it right the first time, though of course, we didn't. Another problem we encountered was implementing the shield. Since gameplay involves timing, getting this important mechanic correct was an important part of our design. Finally, one of the most intimidating obstacles that we encountered was programming the leaderboard and score tracking system. The concept was to write user input names after the player "lost" the game and save them to an external file. The game would then read the text file, find the top 10 players and display them in a list. We expected this to be challenging but when trying to sort the players from the text file we encountered some huge logical hurdles. In the end, the system works exactly as intended, and it was worth every second.

Overall, we think our project is a success. We learned a new programming language from scratch, completed all of Dr. Fisher's programming challenges, and brainstormed and designed a game and plotted defined goals. Finally, we implemented all of the proposed game mechanics and added even more after user feedback. We had a lot of fun tackling this challenge and you enjoy the results as much as we do.