

Project Title:	Bullet Hell	
Group Members:	Lewis Cook	Jakarta International School Jakarta, Indonesia
	Jan Lin	American Heritage School Plantation, Florida
	Daniel Olis	Ridgeview High School Orange Park, Florida
	Wesley Wang	Cupertino High School Cupertino, California

In the early 1950's the first video games were invented. They reached mainstream popularity in the 1970's with the appearance of games such as Pong, Pac-Man, and Space Invaders. Games then began to evolve over time, with new genres, better graphics, and greater user interaction. However, the games of today require new consoles with greater data storage and processing capability. Also, they are difficult for someone new to gaming to play due to their complex mechanics and controls. This project aims to create a fun game that is less technologically demanding and is friendly towards the less experienced gamer.

Bullet Hell is a video-game subgenre where the player must dodge projectiles thrown at them by various enemies. After all the user's lives are lost the game is over. Compared to games currently on the market, there are few of its kind, giving the subgenre a relative novelty. Due to its simplicity in game objective and mechanics, the game can be easily learned, even by those unfamiliar with videogames, but hard to master.

Python was used to implement this project. Python is an open source programming language that allows for efficient audio and visual rendering. Pygame, a set of Python modules designed for game creation, was also used.

Users can click the start button in the menu and select a difficulty to initiate gameplay. Using the keyboard, the user controls the movement of their playable character. Enemies are

automatically spawned at the top of the screen. By pressing the spacebar, the player can fire bullets that destroy enemies upon collision. If the player is hit by an enemy bullet they lose one of three lives and temporarily gain invincibility so they can recover. The game finishes when the user loses all lives, then gives the user a score based on performance. The game then compares, and ranks the user's score among other local scores.