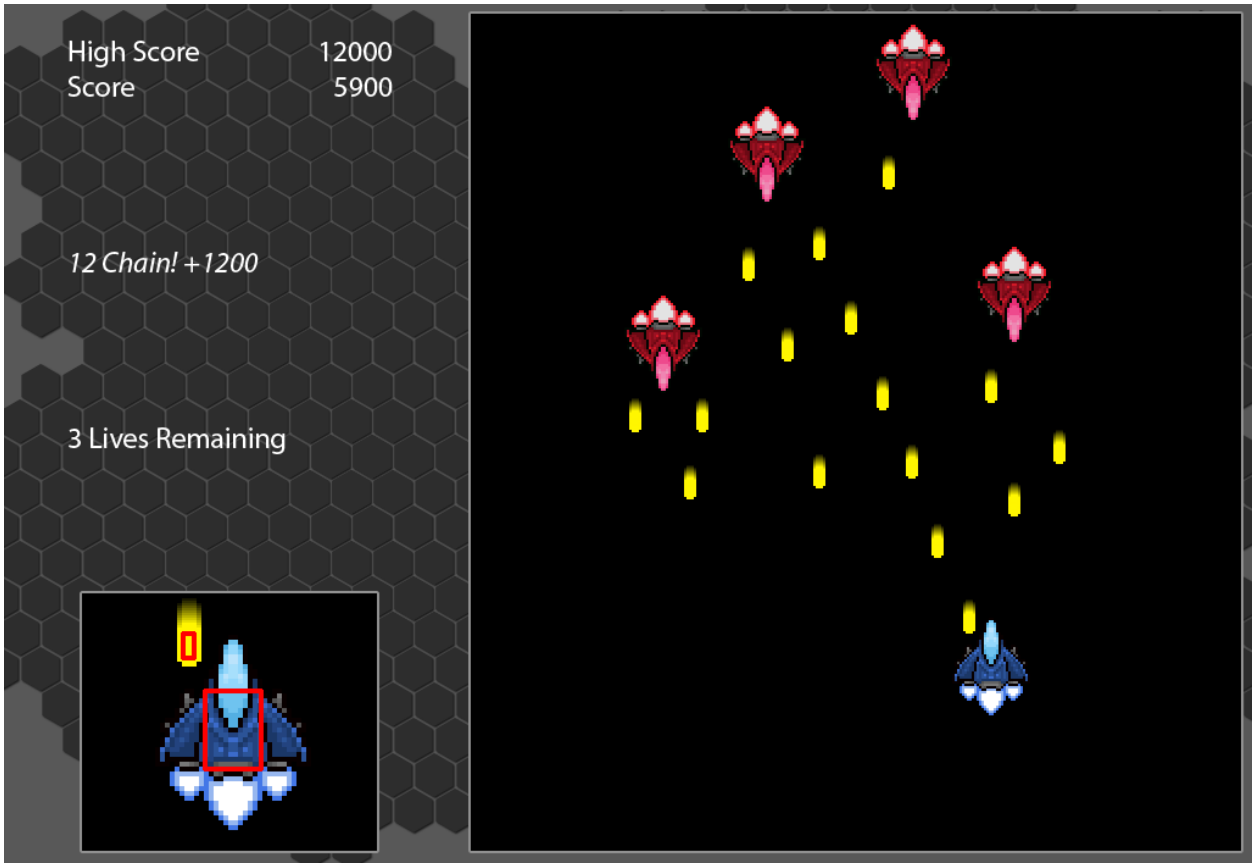
We will create a top-down vertically scrolling shoot-em-up game similar to classic arcade games like Aero-Fighters or Raiden.



Labels will display the player's current score and the highest score that has been recorded so far, the score increase from the player's last kill, the current combo chain status, and the remaining number of lives. The main playfield on the right displays a large view of the battlefield, which is where the player will be looking most of the time. In the bottom left, there is a zoomed in view with the hit boxes visible to allow the player to weave accurately between tight bullet patterns.

The hero object is controlled with the keyboard arrows, and can move in all 8 directions, and can shoot by pressing the z key. The player can hold down the shift key to slow the speed of their movement to enable more precise weaving.

The hero object, the enemy ships, and the fired bullets will all consist of two primitives each: A rectangle that will be texture mapped with the pixel artwork, and a smaller rectangle that we will use as a collision object. These will move together. The ships will also have flame particle effects from their tails as a continuous pre-defined animation.

The hero object can never move out of the bounds of the larger view. The small view will scroll around to follow the hero object at all times, and will remain centered on the hero.

The hero object can shoot bullets that will collide with enemy ships, and the enemy ships can return fire. If a ship and a bullet collide, the ship either takes damage or is destroyed. The game continues until a boss is reached at the end of the level and defeated, or the player runs out of lives.

There will be a difficulty selection at the beginning of the game that will adjust the size of the player hit box. At the easiest level, the user will have a very small hit box, and enemy bullets travel at a slower speed. At the hardest level, the heroes hit box be fill most of the hero's graphic, and enemy bullets will have a faster velocity.

The small view will dynamically zoom in and out based on the distance from the player to the nearest bullet. As a player gets close to an enemy bullet, the view will zoom in, in order to allow the player to precisely weave through a tight pattern of bullets. As the threat passes, the window will zoom back out to its maximum distance. Depending on time, we may have bullets slow down while this is happening as well.

The game will have a sound effect for bullet fire as well as a sound effect for an explosion. We may have background music as well.

The game will pause when the user clicks the mouse anywhere inside the window, and will resume on the next click. A menu along the top of the window will expose the ability to restart the game and display a high score table. The high scores are loaded from a file on launch and saved back out when modified.