

Final Game Design Document: Star Streaker

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CPSC 4377: Advanced Game Programming

1. Premise

Star Streaker is a top-down, vertical-scrolling, space shooter with an arcade, or retro, theme. In this game, the player controls a transporter spaceship, the “Star Streaker,” which is tasked with transporting vital goods to various human colonies throughout the galaxy. The goal for this game is to give a throwback feel to the player, in which they are thrust back to the arcade times, while still having a level-driven “story” or path to follow as the game goes on. The player will have a score counter which will be saved and recorded to display for future gameplays, and should include a high-score record.

2. Level Design

The game is a play-until-you-die type, but still consists of levels. The levels contain various obstacles for the player including physical objects such as asteroids and debris, as well as space pirates that are out to hijack the player’s valuable transport goods. The enemy space pirates will vary in design; some will be simple strafing ships that risk colliding with the player, while others may shoot at the player periodically.

The game will consist of two or more “regular” levels, in which the player simply makes their way to the transport location/colony; however, the game will also contain a final “boss” level, in which the player is confronted by the captain of the space pirates and must defeat him and his massive spaceship to beat the game. The final level will only consist of the boss though; no enemies will come out.

In addition to the obstacles and enemies, there may also be helpful items for the player to obtain in each level, such as health packs, bombs, etc. All level data will be stored in XML files to be parsed and constructed accordingly.

3. Mechanics

As for mechanics in the game, these should remain very simple. The player will of course be able to maneuver their spaceship left and right using the A and D keys, respectively. The player’s controls also consist of a shooting mechanism in which the mouse, or spacebar, is used to fire single plasma bullets straight ahead (toward the top of the screen). The player’s ship will animate per their movement (tilting left or right).

When the player's bullets collide with enemy spaceships or other obstacles, it depletes their health by a specified magnitude; when one of these obstacles or enemies' internal "health" depletes completely, they will automatically destruct and increment the player's score.

As stated previously, there should be additional interactable objects such as health packs and bombs. These items will activate upon collision with the player (i.e. increasing the player's health, or destroying all nearby enemies).

4. Media Integration

There will be various forms of media integrated in **Star Streaker**, such as background music, graphics, and sound effects. The background music should be an upbeat, 8-bit style looping audio track, which will be used across all levels. The graphics will include sprites for the player and their animation, the enemy ships, asteroids, debris, and items. There should be a sound effect for the enemy/player spaceship exploding, for asteroids and/or debris being destroyed, and for getting items (health packs and bombs). The graphics should also include a plain black fill for the background.

5. Timeline

Week 1	Week 2	Week 3	Week 4	Week 5
Obtain rich media assets, create level XML files, and implement Game XML parsing.	Implement Component hierarchy and necessary components, including behaviors.	Implement Player movement controls, animation, and shooting.	Integrate sound effects with mechanics.	Test each level, including boss level, and finish documentation.