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Space Explorer Game

Title: Space Explorer

Goal of Project:

We will be implementing a game in which you try to fly a rocket ship as high into the sky as possible. As the rocket flies, the user must avoid obstacles by moving side to side. Each time the rocket hits an obstacle, it loses a life. The rocket has a limited quantity of fuel that diminishes over time. Once the lives or fuel runs out, the game is over. The distance traveled is the user's score. The rocket can pick up items such as a fuel resupply, speed boost, etc. by passing over the items. This project was inspired by the intro CS assignment "Lunar Lander" and the flash game "Into Space 2".

Implementations:

1) A space ship that responds to commands from the arrow keys to move side to side on the x axis.
2) As the spaceship "flies" its fuel decreases.
3) The program keeps track of the distance traveled in a single session.
4) During the game, the players fuel level, lives and distance are constantly displayed.
5) Upon dying a display shows your score, your all time best score, and a button to play again.
6) The background of the space ship game updates frequently to create the illusion of flying through space.
7) The space ship can "collide" with fuel tanks to replenish its fuel level.
8) The space ship needs to avoid colliding with asteroids. If the spaceship fails to avoid the asteroid then the ship loses one of its several lives.
9) The space ship can gain lives by colliding with hearts that appear throughout its journey.
10) Additional items such as speed boost, temporary laser to shoot asteroids, temporary bubble, shrink, etc. can be picked up by the rocket to give a positive or negative boost.

Design Pattern: MVC

- M: The actual game with objects with the grid of the obstacles, ship etc. (all the actual information)
- V: User interface of the game

- C: Coordinates the model and view - facilitates their interactions

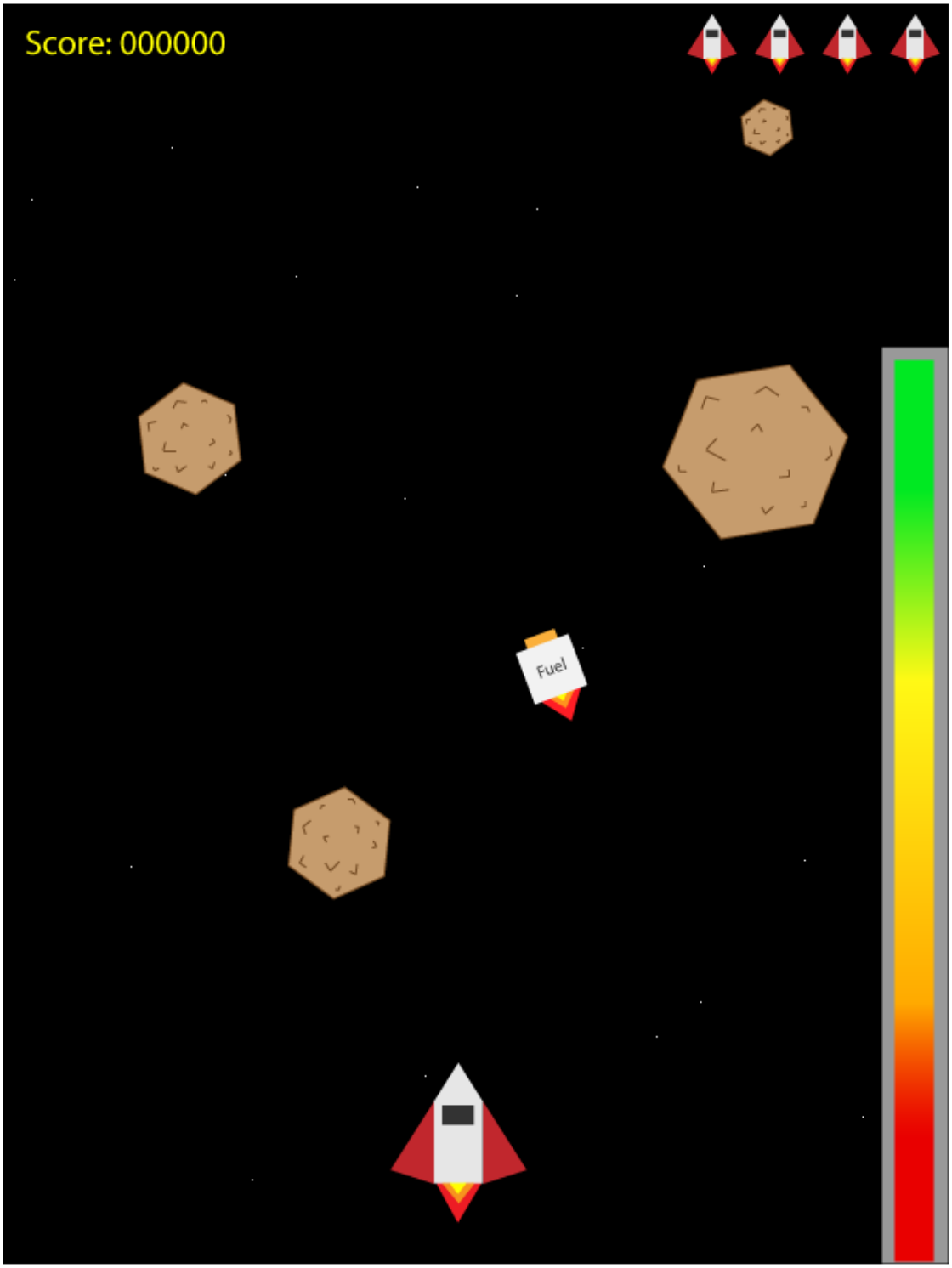
Division of Labor:

As we work on each part of the project, we will divide more specific tasks. For now, here is a broad breakdown of our focuses:

- Hannah Barnstone: Director of quality assurance
    - Test code
    - Make sure different pieces of the code are compatible
    - Make sure everything is up to par
- Ethan Cassel-Mace: Model Coordinator
    - Keep track of what model tasks and classes need to be implemented
    - Work with Quinn to coordinate interaction between model and controller
- Quinn Mayville: Controller Overseer
    -Link the model and the view together
    - Work with Ethan to coordinate interaction between model and controller
    - Work with Michael to coordinate interaction between view and controller
- Michael Vue: Director of GUI
    - Ensure responsive interface
    - Design intuitive UI and UX
    - Work alongside team to implement changes that may occur

Sketch of GUI:
Title Screen

Gameplay



End Screen