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Javascript Individual Game Assignment

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Introduction
For my Javascript game, I decided to go with a typing game. I call it Word Invasion. The goal of this game is to defend your city from an alien invasion where they are throwing down asteroids from the sky. You, the player, must defend the city by typing out words that match the words on the asteroids. You can launch a missile that will destroy the asteroid when there is a match.

How to Play
1. Press the enter key to begin the game
2. Start typing in the textbox that matches the word on the asteroid falling from the sky
3. Press the enter key to launch a missile and destroy the asteroid
4. Prevent the other asteroids from hitting the ground, or you'll lose health and end the game.
5. Keep racking up points and make a new high score!

Game Rules
1. Try to accumulate as many points as possible by shooting down as many asteroids as you can.
2. You gain points by destroying an asteroid. You get 10 points for each letter in the asteroid you destroy.
3. You have to get an exact word match. You'll notice this when the entire word on the asteroid is colored green. You press the enter key to launch a missile that will approach the asteroid and destroy it.
4. When the asteroid hits the ground, you take damage and lose your health in the game
5. You reach the "game over" screen when you run out of health.

Struggles and Issues
Since this was the first game that I've made in a long time, I had trouble mapping out the concepts on paper onto actual code. Finding a good method to create a game the OOP way was more difficult than I thought. What I did was create a Game class that would hold the entire game itself.

I also needed a global state that would hold the health, score, entities, etc… so that it would be easier to manage data in the game. I called it the GameState class. This game state class was responsible for holding all the objects rendered on the screen (I would refer to these objects as entities).

In the game loop, I would repeatedly update and draw onto the canvas 60 times a second (the normal fps of games). Every entity on screen would update themselves and draw their own sprites onto the screen

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The Entity class was a base class that I used to create all of my other game objects such as the words and asteroids, the players, and the word spawner. This base class had knowledge of the game state, and its coordinates, and had methods called "update()," and "draw()" that would update itself and draw itself to the screen.

All in all, these objects worked together to make a fun little game.