Forza Cubizon 4

Game Summary:
The concept of the game is to complete all the levels without falling off the plane or colliding the cube with the obstacles.

Core Mechanics:
- Constant force pushes the cube forward at high speed
- Player can navigate the cube left and right
- Level restarts if cube falls of the plane
- Level restarts if cube collides with object
- Next level is loaded after successfully reaching the end of the current level

Gameplay:
The player embodies a cube. The cube accelerates and reaches constant high speed. The player can navigate the cube left or right in order to avoid obstacles. If the player collides with any of the obstacles or falls off the plane the level restarts. Reaching the end of the level successfully loads the next level. Each level is longer than the level before it and obstacles are more challenging to avoid.

Music:
The music style is building up high pace soundtrack in order for the player to focus and adapt to the dynamic changes of the environment.

Art Style: The art style of the game is very minimal. The background is completely white and the plane is a subtle shade of gray, creating minimal yet futuristic effect. The cube is bright red which pops up as it is the most important element in the game. The obstacles are dark gray which are noticeable enough for the player to avoid them. The draw distance is limited in order to make the level more unpredictable as you are not able to see too far ahead.
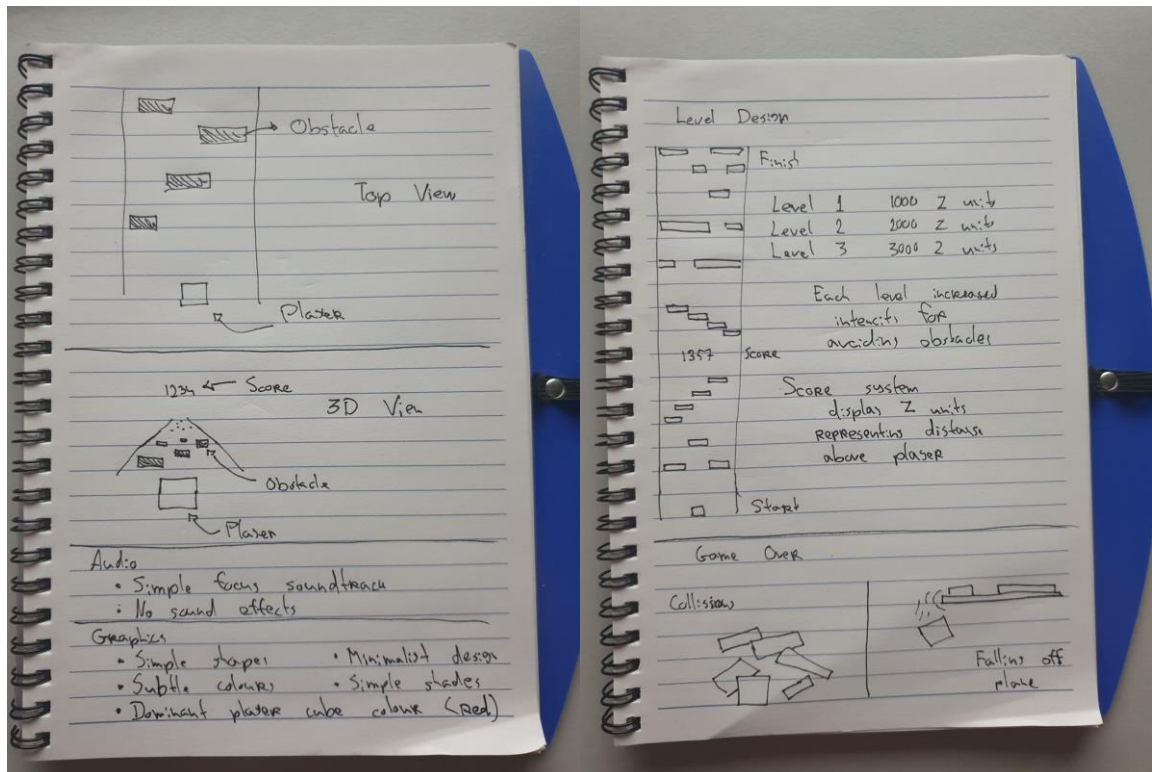
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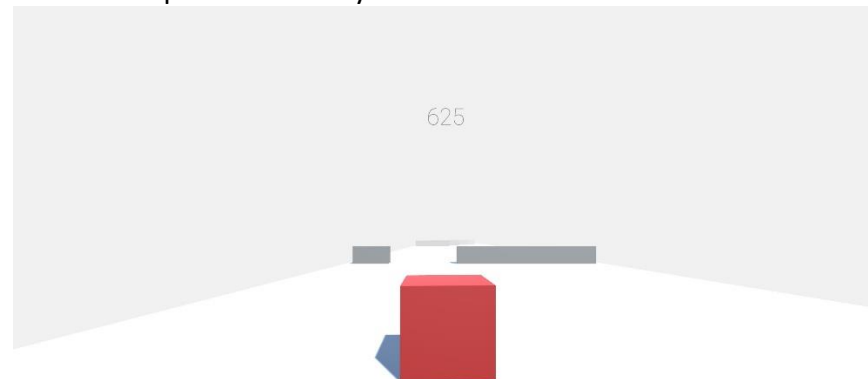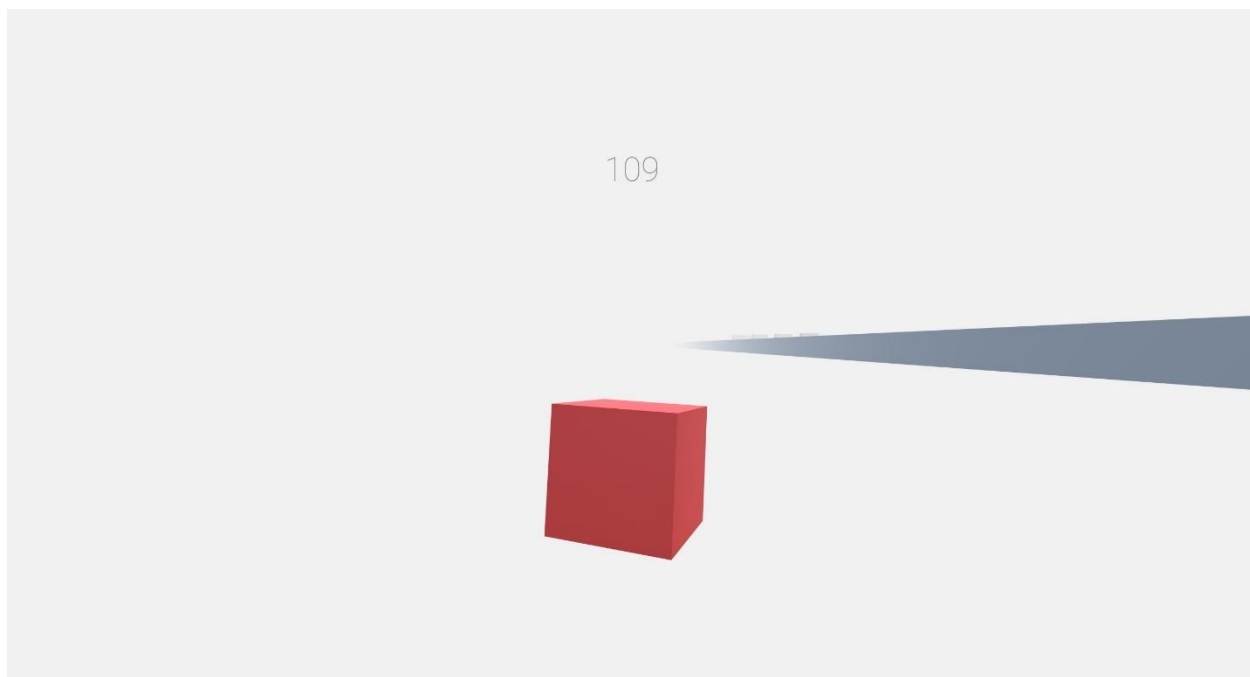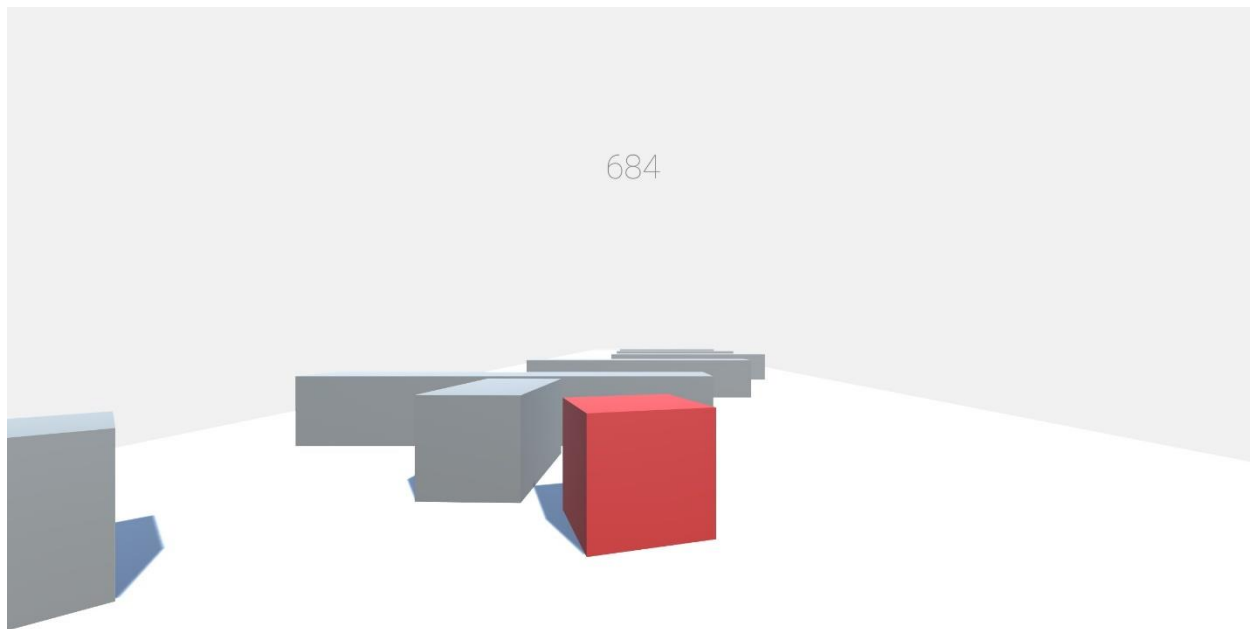
Scope Check

Part 1: Visualization and Implementation

Visualization

1. Environment
   a. Red Cube operated by a player
   b. Gray stationary obstacles.
   c. Surface with edges
   d. Starting Point
   e. Finish line

2. Input and Outcome

    a. Movement
        i. Player has no control over the speed of the cube
        ii. Player cannot slow down the cube
        iii. Player is able to move the cube left and right using the left and right arrows on a keyboard
    b. Collision
        i. Level restarts upon user colliding the cube with an obstacle, prompting the player not to collide with obstacles in order to achieve the objective
    c. Falling off plain
        i. Level restarts upon user falling off the edge of the plain, prompting the player not to fall off the edges in order to achieve the objective
    d. Level progression and winning
        i. The player can progress through levels and win the game only if the end of the level is reached without the player colliding or falling of the edges.

Implementation

1. The code I am going to work with is from a tutorial made by Brackeys.

2. Foundation Coding Questions
   a. How to implement movement for the cube? How to apply a constant speed and input for the player to navigate left and right?
   b. How to implement collision and falling off edges detection and restarting levels?
   c. How to trigger next level when player reaches end of current level?

3. Visual and Audio Assets
   a. Home menu and end menu soundtrack
   b. In-game soundtrack
   c. Red Cube (Unity Generated)
   d. Gray Cube (Unity Generated)
   e. Gray Plane (Unity Generated)
   f. Score overlay that keeps track of the distance
   g. Play, restart and quit buttons UI functionality for menus.

Part 2: Scale, Challenges and Resources

Scale

Game Parts
- 3 levels
- Continues cube speed
- Obstacles in the environment
- Falling over plain

Challenges

- "I'm only able to do quality work if I am getting paid, so half assing this project is a serious concern."

Useful questions:
- "How can I find a tutorial that is simple enough to follow and understand?"
- "How can I organize the code and assets in a way that does not redundant or implemented badly?"
- "Do I have to do that much to pass this unit?"

Resources

The tutorial in all consists of 9 videos 10-15min each. Watching the video to understand the scope and then implementing it would take 20-30 min for each video. Coding should not take more than two days to complete, and I would put more focus on the level design which would the majority of the time spent as blocks have to be aligned and play tested.

Tower Defence tutorial I have followed and implemented:
https://www.youtube.com/watch?v=beuoNuK2tbk

The tutorial I am going to follow for the assignment:
https://www.youtube.com/watch?v=IlKaB1etrik

Part 3: Reality Check

Assessment

1. I am confident in my ability that I can follow this basic tutorial and finish the game in time.