Please note: The game is designed to be played in Full HD 1920 x 1080 please set editor scale to full HD

Our game is an arcade, casual game where the player will have to move a platform to catch falling balls. It draws clear influences from games like Pong, and the objective of the game is to score as many points as possible. Players will earn one point for every ball they catch. There will be power ups that will help the player, but there will also be obstacles that the players will have to avoid. For example, there will be a powerup that will enlarge the platform that the player is controlling, allowing the player to easily catch balls. However there's also an obstacle that will disable the player from moving the platform, allowing balls to fall beyond the play zone. If the player fails to catch a ball, they will lose a life, and once they lose 10 lives, the game will end.

The main theme of our game is space, so you can find models from the Space Kit from Kenny Game Assets around the playing area of our game. Animations are entirely particle systems. Every powerup besides the bomb has a particle system wherein sphere meshes are continuously being shot out from the powerup in a small area around the object. The bomb itself has an explosion animation. This explosion is a combination of particle systems. One for is for the emissive core / "fire" of the explosion, one for smoke, and one for trails. We used a 6-sided skybox to generate the space portal effect in the floor. We generated the skybox at this link.

https://tools.wwwtyro.net/space-3d/index.html#animationSpeed=1&fov=80&nebulae=true&pointStars=true&resolution=1024&seed=5iqifn6aq3o0&stars=true&sun=true

Furthermore, many of the UI and audio elements are centered around the space and arcade themesl. For example, the background of the main menu is the image of outer space, and the colors of the text in the UI are also silver, representing the color of the moon and stars. In addition, the theme music of our game is soothing with a bit of arcade-techy vibe to it, which fits into the genre of our game.

The complexity of our game is mostly within how the falling objects spawn. The game starts with a single ball falling down the center of the ring. Everytime an object spawns, the game calculates a new random x and z coordinate to place the next object within certain boundaries. At this point, there are two variables: the location of the previous object and the location of the new object. Our game then computes the distance between these locations and dividies the value by the default speed of the platform. The resulting value is the time it takes for the platform to maneuver from the original location to the new location. We'll call this value time_difference. We increase time_difference by 200 miliseconds to give time for players to react. After time_difference seconds has passed the new object is spawned at the new location.

The result is every powerup and every ball is reachable. You could draw a line growing at the speed of the default platform between every single object without ever letting a single object fall below the play space. It's possible to play perfectly and not let a single ball drop

We have 3 main UI components in our game, a main menu, a pause menu, and a gameover menu. Within our main menu, there are the options of playing the game, a how to play the game option, option button, and quitting the game. Whenever the player clicks the how to play or option button, they will toggle a different menu to appear, and within each of these menus, there will be an option to go back to the main menu. Within the option menu, the player can control the volume, making the game sounds quieter if they want. Next, when the player presses the “esc” key, the pause menu will pop up. There is a slight animation for when the pause menu pops up, slowly dimming the screen when it does. When the pause menu is active, the game will pause, and within it, the player is allowed to resume the game, go back to the main menu, or quit the game. Lastly, in the game over menu, the player will see their score that they achieve during that round of playing, and will be allowed to either restart the game or quit. Besides those 3 main UI components, during the gameplay, the player will also be able to see their current scores and amount of lives they have left, and it will be updated accordingly.

We feel the game is indeed fun. There is an urge to play more and score higher. Although it may be a simple game, there is absolutely a challenge here. The game gets increasingly difficult as time goes on. Every 30 seconds the speed of falling objects increases. Additionally, when the game has been played for a minute and 30 seconds the chances of a shrink or bomb spawning increases. A directional light was placed directly overhead the center of the ring facing almost straight downwards. This is intentional so that players may use the shadows of the falling objects to judge where to place the platform.

The controls of our game are very easy to adapt to as the controls are similar to many similar games. They are simple as players only need to remember the arrow keys and the esc key. Even if the player forgets how to move the platform, there is always the how to play menu in the main menu that will inform the player how to move the platform. Although there are not multiple levels, the longer the player survives, the harder the game will get, as the speed of the ball falling will increase.