

Developer Diary For MAD-3 (Space Runner 3D)

02-11-2020 – 20-11-2020

Read the Design Document of Space Runner 3D started research on assets and endless runner implementations. Researched and Discussed Multiplayer Functionality with the designer. Discussed the 3d Design aspects of the game with the designer. Changed the design of the space gameplay by discussing with the designer like instead of moving the ship into only three lanes the ship now could move anywhere in the skybox.

21-11-2020

Project setup and Started the development of the game with the development of the ship with the help of cubes. Experimented with different player ship movements by adding the movement script to the ship by doing internet research [\[1\]](#) and at this point, there is a white ship made of cubes which can move left, right, down, and up with the delegated keys.

27-11-2020

Researched [\[2\]](#) Creating Asteroids and Created basis asteroid models and applied script which creates hundreds of asteroids in a grid that are rotating randomly.

29/11/2020

Discussed with the Designer to add trail renderer and Researched [\[3\]](#) trail renderer and created trail at the back of both wings and experimented with its different settings that leaves the trail of two colours yellow and red as the player ship moves and researched [\[4\]](#) how to make the camera follow the player could be done by making the camera a child object of the player but decided to have sway effect [\[5\]](#)[\[6\]](#) and did through the script. Searched the asset store for free particle system effects for player explosion and imported “particle dissolve shader by moonflower carnivore” [\[7\]](#) as this pack contains some cool realistic explosion effects and then applied the explosion effect upon collision with asteroids.

30/12/2020 – 04/12/2020

Searched for coin asset to add the “science coins” as specified by the designer and imported the old coin asset [\[8\]](#) and then applied texture to the coin and saved in the prefabs and then created the script similar to the asteroids one to randomly spawn the “science coins”. Tired to detect the collision [\[9\]](#) working with the is trigger box checked in but did not get that working, then added the score and distance UI texts to the game dashboard and implemented the calculation of distance in a script that is working with the speed, have written the script for high score and score display but still need some work to be implemented.

07/12/2020

Searched for skybox [\[10\]](#) and applied the skybox on the level changed the asteroids from sphere one to 3d model one [\[11\]](#) and searched for materials and applied spaceship kind of material [\[12\]](#) on the

player spaceship. Fixed the score by adding an event manager to make a bridge for talking to the score script and the game object of score that add 10 science score to the score as player ship collides with a coin/science object as specified by the designer.

08/12/2020

Imported skybox pack from asset store [\[13\]](#) As designer mentioned in the design doc to change the background to show the level change so discussed with the designer by contacting him on teams to have score determine the high scores instead of distance because a player could wander around the free spaces of the skybox and that way his distance would be increasing as compared to the one who is dodging the asteroids and collecting the coins so implemented the skybox changes with the score as the player achieves 100 scores the skybox changes form level 1 skybox to next level skybox and the speed of the player increased to indicate the level change and to increase the difficulty and when the player achieves 250 scores by collecting coins/science points then skybox is changed again and speed of the player increases to increase the difficulty as mention in the design doc. Designed and implemented the splash screen scene as mentioned by the designer and the background of the splash screen scene is created with canva [\[14\]](#) and then the fade script is applied to it. Created the MainMenu scene and set of buttons for MainMenu and implemented the functionality of the play button that loads the level. Buttons Text are created using [\[15\]](#) TestMeshPro. Changed the score scripts and implemented scoring in another way so that it could be accessed easily in the future.

10/12/2020

Thought about how to implement a slowdown pickup so first searched for the pickup assets from the asset store and found a potion pack [\[16\]](#) decided to use green potion for slowing down the player speed and then implemented the slowdown potion by randomly generating the prefab thorough slowpotionmanager script and slowpotionpickup script and then thought that there should be messages displayed to the user so researched [\[17\]](#)[\[18\]](#) about it and added functions to display messages on the screen to let the player know when slowdown pickup id activated and deactivated.

11/12/2020

Thought that there should be messages displayed to the user about progression to other level and added functions to display messages on the screen to let the player know that he/she progressed to another level. Added main menu instructions button and text of instructions and added explosion [\[19\]](#) sound to the player that plays when playership collides with an asteroid. Added sound for the coins [\[20\]](#) which when collected plays a sound that depends on player speed so e.g if the speed is fast like in level 2 then it will play short and quick. Added background Sci-Fi music [\[21\]](#) to the game as specified in the design document by the designer.

12/12/2020

As specified in the game design document added options button on the game dashboard shows the two sliders for adjusting music and effects volume. And added a pause button that pauses the game and a tick sign resume button that resumes the game and added the functionality of the instructions panel, back button, options button, and added last scores in the scores panel of the main menu

13/12/2020

Discussed with the designer by contacting him through teams and we decided to not put sound to the player ship engine sound as it would no be suitable with background music and will be messy

and limited the pickups to coins and potions the quantity of spawned potions could be increased through the script and researched on adding the multiplayer as specified by the designer in the design document about implementing split-screen for multiplayer so discussed with him that split-screen will put more pressure on the machine and will be difficult for two players to play at the same time on the same device so decide to let the 1st player play the game and then let 2nd player play the game whoever gets more science/score points wins so an appropriate message appears on the screen. So, implemented it by getting player names as input and saving them to player prefs, and accessing them. 1st player 1 will be able to play it by pressing the start button and then player 2 will be able to play it using the start button on the player 2 ready screen. And added a game over panel on which win, and loss condition messages are displayed same procedure done with the single-player mode so player inputs his/her name which is stored in player prefs and accessed at the game over panel to display name with result messages. Was stuck at the score which was not resetting as I was loading the game scene for player 2 it was taking the player 1 score to the player 2 game scene so researched about it [22][23] fixed that by making the score variable public and setting it to 0 in the awake method of player movement script of multiplayer 2 scene. And tested the game now my game is completed at this stage I will make a test plan for it and provide the results

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