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Faculty of Engineering
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Programming Studio Course

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Project 3: Augmented Reality

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Group no: 11

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Abstract

3D gaming is interactive computer entertainment that is graphically presented in the three dimensions of height, width and depth; the addition of depth to 2D gaming enabled the exploration of virtual worlds with more realistic representation.
We have created a game that has been designed by targeting an aim in an area of increasing popularity which is 3D gaming. In this way, we have gained a lot of experience from the technology as well as the benefits of using different program.

Description of The Project

This project includes 3D gaming with using Unity Game Engine. Our project is useful for Game Area. Project has a single Login Page which includes start game button. When you click start game button, program opens the first level of our game. If all the levels are completed, program opens an end page which includes credits to game builders.
The game has 7 C# scripts.

1. Movement

Key bindings for player movement and velocity of the player.

2. Menu

Loading the menu scene.

3. NextLevel

Incrementing the build index of active scene.

4. PlayerCollision

Determining if the player hits the obstacle. If yes, reset the game.

5. EndTrigger

Ending the game and completing the level.

6. Follower

Set the position of the camera to follow the player.

7. GameManager

Brain of the code to game over and restart.

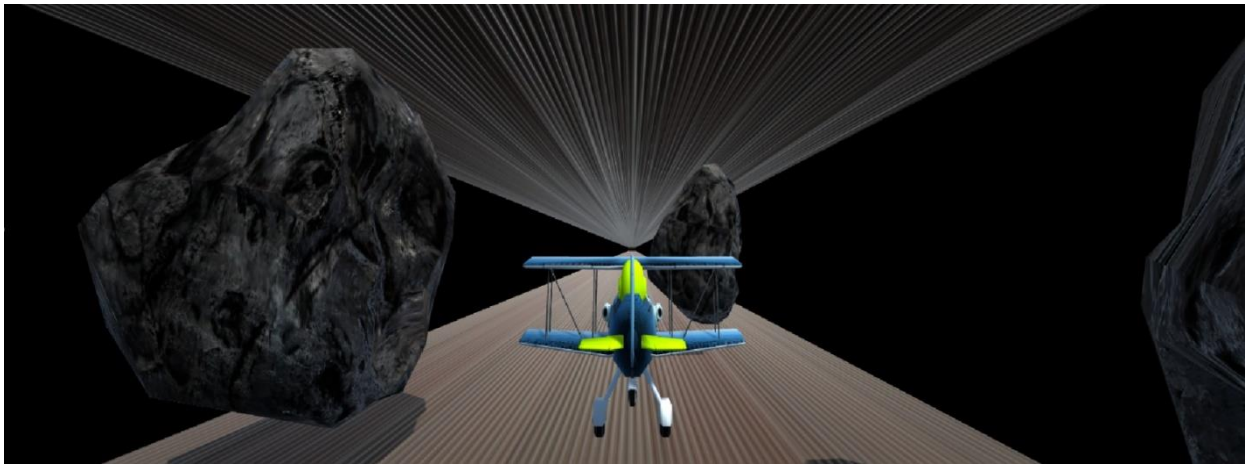
Our Solution

As a start, our aim was determining the goal of the game. After determination, we have decided our components. Such as plane as a player and asteroids as obstacles. Then, we started to work on player movement with respect to keyboard buttons. After that, we set the camera position to follow the player. Next step was creating a canvas to show our main menu. After creation, we have tried to deal with collision of the objects. Then, we put end trigger which determines whether the level is completed or not. If yes, we have uploaded the new level. After that we have created 3 levels and we set the position of player and obstacles. Lastly, we have created another canvas to display credits.

Visual Representation of The Game

Game opens with welcome page. When you click start button, you are entering the first level of the game.

Example of one of the levels in our game is seen below picture.



Lastly, our ending page can be seen from below picture.

Contribution of The Project

Teamwork was necessary for that project, so we learned that dividing the project part separately to the group member was better especially the development of the game. If we look at another benefit of this project, we learned how to use Unity Game Engine that we didn't know it before. All in all, team and time management are one of the most important outcomes for us. Learning a new technology that is popular today, also contributed to our carrier path.

References

Tools: Unity Game Engine