ANACONDA : THE SNAKE GAME

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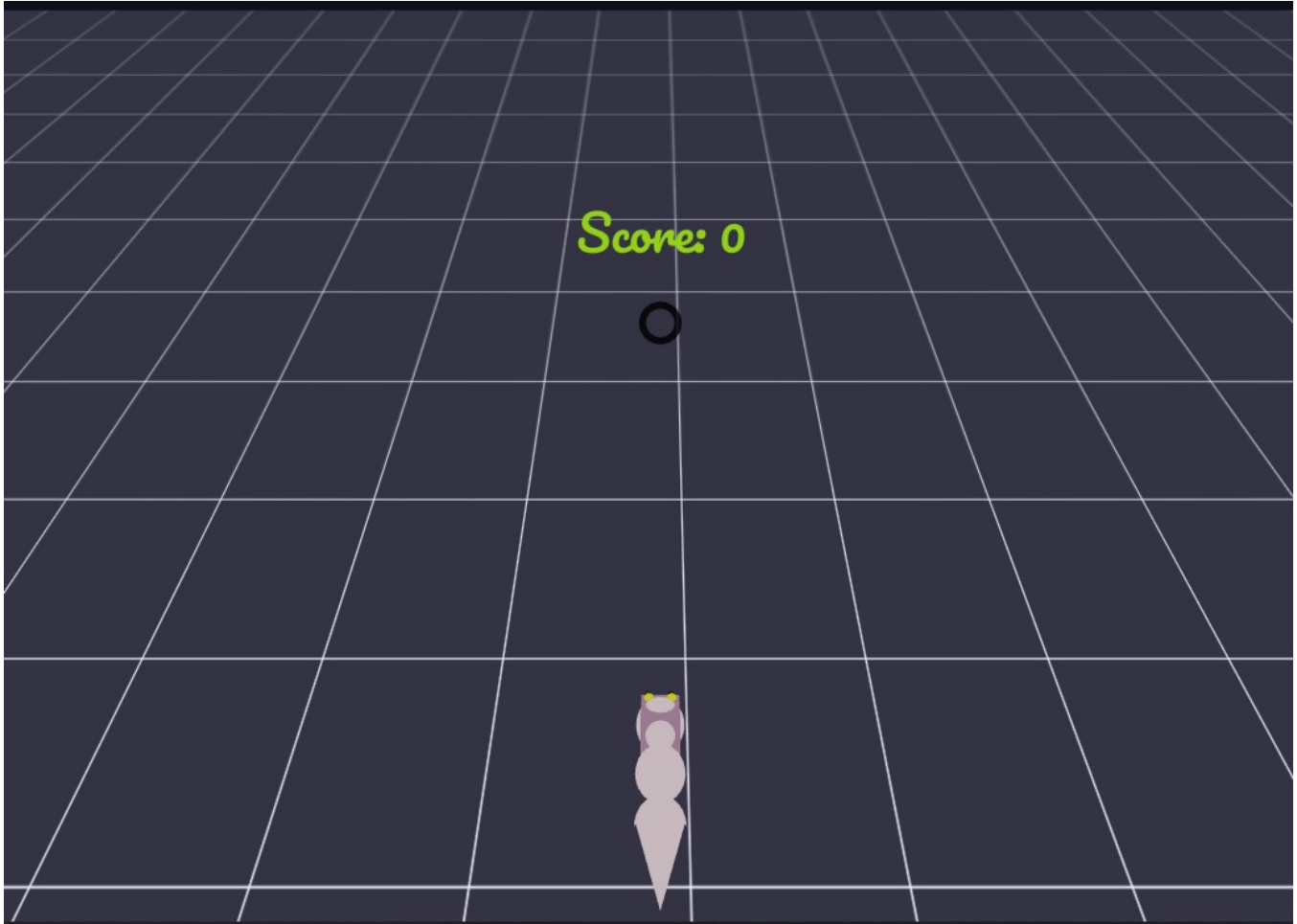
Figure 1: Our Snake grown in our farm

ABSTRACT

In this project our main objective is to create a normal 2D snake game into a 3D game.

KEYWORDS

threeJS, HatchXR, HTML

1 INTRODUCTION

Everyones Dream in Childhood is to make the snake as bigger as they can and see what happens. To work on childhood fun and recreating it was a challenge to me for maintaining its standard and fun at the same time.

2 RELATED WORK

three.js [?]. HTML [?]

3 METHOD

This involves in recreating by VanillaJS and HTML.

3.1 Implementation

We used a 2 dimensional Snake game code and then we went HatchXR, and created the snake head and other body parts and later imported threeJS code of the snake for actions. And by joining both of them created this Anaconda.

```
function getDisplacedPosition(position, displacement) {
    return {
        'x': position.x + displacement.x,
        'y': position.y + displacement.y,
        'z': position.z + displacement.z
    }
}

function intersectOnXZProjection(position1, position2) {
  return position1.x === position2.x && position1.z === position2.z;
}

function distance(point1, point2) {
    var dx = point1.x - point2.x;
    var dy = point1.y - point2.y;
    var dz = point1.z - point2.z;

    return Math.sqrt(dx*dx + dy*dy + dz*dz);
}
```

3.2 Milestones

We created a snake not only with the head moments but also included eye moments too. This includes a separate eyes and eye balls also which makes this special. And also the snake game can be played in different terrains just by changing it in the settings.

3.2.1 Milestone 1. Our team worked together in designing the Body of the snake in HatchXR.

3.2.2 Milestone 2. We finally able to combine the code with the snake. This involved lot of modifications to the base code but finally made it to work.

3.3 Challenges

Our main challenge is choosing the platform on which based we could design it.

- Challenge 1: The snake does not use to stop and respond to the command because there are 2 different platforms joined together.
- Challenge 2: creating the snake, the body of snake and kinematics of the snake area and also aligning them with to the camera.

4 RESULTS

We finally get the prototype of the snake game to work. and still working n the obstacles and other fun features, and difficulties. 2.
Or you could add tables (see Table 1 - maybe with some timings?).
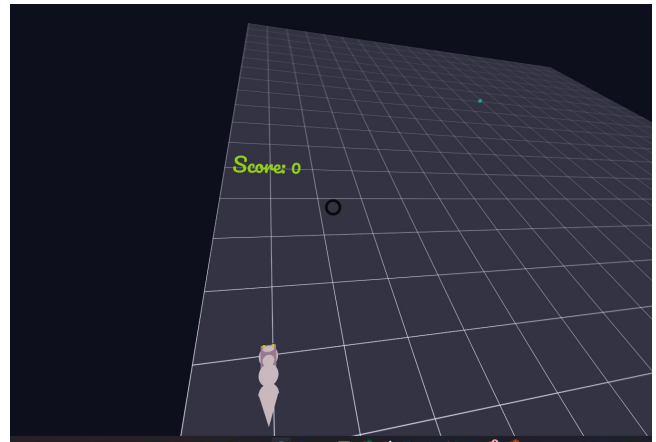

Figure 2: Anaconda

Table 1: Some example table

Device	Performance
iPhone	40 FPS
Android	40 FPS
Macbook	40 FPS

5 CONCLUSIONS

We successfully designed the snake and also made it to work in the 3 Dimensional view with user friendly camera moments which we can change with respect to user taste.

REFERENCES

https://github.com/Soupaul/Snake-Game

https://kmui2.github.io/3D-Snake