Your Project Title

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Figure 1: Add a nice wide figure here and replace this caption.

ABSTRACT

In this game we briefly enter an area and search for a lost usb with unlocking data in it, to open the door to next phase.

KEYWORDS

Three.js, Html, CSS, Git

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1 INTRODUCTION

TODO: Create a 3D character as in virtual games and search for the lost USB in the terrain.

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2 RELATED WORK

This Game is based on the Three.js and Fbxloader.js to load the environment and characters and their fuctionality.

```
Credits: https://threejs.org/ ;
 https://threejs.org/examples/webgl_loader_fbx.html
```

3 METHOD

Our project is inspired by group of individuals who played video games since childhood, and as the quality of graphics for games is reaching new heights along with advancement in technology. The idea is to create a role playing interactive game with high definition graphics. As the course is required to work with webgl we chose start our idea to develop our own game with Three.js framework. Graphics in our game are infinitely similar to graphics in the famous game RE 4. And finally this is still an ongoing project and we intend develop it further more as a full pledged game. It directly takes us into a terrain where the character is trapped and tasked to find the USB. The player is needed to control the character with the joystick provided in the browser, and there is a camera option to change the view of the character from first person perspective, third person perspective and bird view. The views can be toggled by alternatively clicking on the camera button on the screen which is in v4. The player need to maneuver the character around the terrain to find

the USB and after finding it he can pick it up with the hand option provided on the screen when the character is near to the USB.

3.1 Implementation

We planned and divided the work as 4 versions of the game. It is systematically done by loading the character, and later loading the movements for the character and other actions that can be performed by the character, then implementing the obstacle collision so that the character won't pass through objects and then implementing the different angles of the camera from which the terrain can be looked at in-terms of the player. After that asset is loaded to create the environment in which the game is played.

This is the code used to implement joystick controls on the screen.

```
class Preloader{
    constructor(options){
        this.assets = {};
        for(let asset of options.assets){
            this.assets[asset] = { loaded:0, complete:false };
            this.load(asset);
        }
        this.container = options.container;

        if (options.onprogress==undefined){
            this.onprogress = onprogress;
            this.domElement = document.createElement("div");
            this.domElement.style.position = 'absolute';
            this.domElement.style.top = '0';
            this.domElement.style.left = '0';
            this.domElement.style.width = '100%';
            this.domElement.style.height = '100%';
            this.domElement.style.background = '#000';
            this.domElement.style.opacity = '0.7';
            this.domElement.style.display = 'flex';
            this.domElement.style.alignItems = 'center';
            this.domElement.style.justifyContent = 'center';
            this.domElement.style.zIndex = '1111';
            const barBase = document.createElement("div");
            barBase.style.background = '#aaa';
            barBase.style.width = '50%';
            barBase.style.minWidth = '250px';
            barBase.style.borderRadius = '10px';
            barBase.style.height = '15px';
```

This is the code used to load character and environment to the game in the form of assets.

Figure 2: An example image.

3.2 Milestones

Divided the task evenly among the four us, first we set the development environment setup so that we can easily pull and push the code through git. and everybody can work on the same setup on their own devices.

3.2.1 Milestone 1. Everybody discussed and decided on the character to be loaded. It is decided according to story line proposed by Sasank Varanasi.

3.2.2 Milestone 2. Decided on the actions to be performed by the character.

3.2.3 Milestone 3. Decided on the asset to be loaded to create the game environment.

3.2.4 Milestone 4. Decided on the task to be performed by the player and other functionalities like camera view implementations.

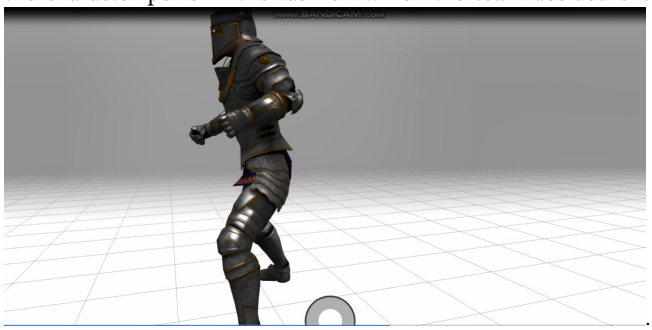
3.3 Challenges

Describe the challenges you faced.

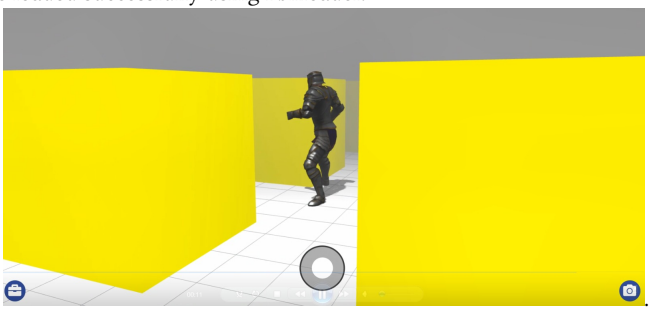
- Challenge 1: We faced challenge while loading the asset
- Challenge 2: We also faced difficulty while pulling code and working and keeping track of the progress eventually got used to it.
- Challenge 2: To deploy the code on github pages. the path is not set correctly it took a while to figure it out.

4 RESULTS

The Graphics for the game are almost same as Resident Evil 4 game, and the character and environment is loaded perfectly and the character perform the task on which the team decided on.



In version1 the character and the materials related to the character are loaded successfully using Fbxloader.



In version2 the the layout is riddled with obstacles to check if the character is going through objects or not and inventory box and camera view options are added as functionality of the game.

In version3 the asset for environment is loaded successfully and integrated with the code with previous versions and the character movement in the environment were implemented in this version.

After finding the Usb the doors are opened which is the task to be completed.

Final result is shown at github pages https://sasank-02023036.github.io/cs460student/finalproject/losttreasure/v4/index.html

5 CONCLUSIONS

The project is kind of mini project, which is done on tight schedule. While working on this project all the team members learned to share the files and push them and also learned about working in the same environment under similar setup's which is very similar to small scale development team in small tech companies. As for the mini project though our intended goal to make the character find the USB is implemented in future we would like to develop more like a full blown world RPG. where the player can experience the immersive gaming.

REFERENCES

Took reference from git hub of instructor and game developer Nicholas Lever https://github.com/NikLever https://threejs.org/