# Your Project Title

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**Figure 1: one of nyan cat theme.**

## ABSTRACT

In Final Project of CS460, I have created 3D Nyan cat which is able to switch to various theme.

## KEYWORDS

WebGL, Visualization, 3D Nyancat, ThreeJS

## 1 INTRODUCTION

Nyan Cat is the one of the famous meme on the internet. I love Nyan Cat too. There is already 3D Nyan Cat from old project. but on the old project there is only one Nyan Cat which is original

version. On this project, I am going to make many of 3D Nyan Cats theme and movable Nyan Cat which user can move by keyborad.

## 2 RELATED WORK

Background: wallpaper [1]
Framework: Three.js [2]
Reference: Previous Nyan Cat [3]

## 3 METHOD

First mainly, I brought the Nyan Cat Object3D from previous project. And I use the methods which I learned in course. First, the project used the nyan.js file to create the character by using Three.js.(like hw7). Second, the project used the DirectionalLight, AmbientLight and PerspectiveCamera like hw5. Last, it used the keydown to Nyan Cat movable(from hw4).

### 3.1 Implementation

I implemented this project mainly by creating the charactor from the js and change the theme by on Aninmate code. Hence, user could change theme as user's favor.

```
Nyan = function(x, y, z) {

//umbtheme
```

```
body=new THREE.Object3D();
body.position.x=-10.5;
body.position.y=9;
bodytheme(0x222222, 0xffcc99, 0xff99ff);
//FEET
feet=new THREE.Object3D();
feet.position.x=-12.5;
feet.position.y=-6;
feettheme(0x222222, 0x666666);

            .
            .
            .

cs = new THREE.Object3D();
cs.position.x=-10.5;
cs.position.y=9;

this.head = new THREE.Group();
this.head.position.x = x;
this.head.position.y = y;
this.head.position.z = z;


};

Nyan.prototype.show = function(scene) {

this.head.add( body );
this.head.add( feet );
this.head.add( face );
this.head.add( tail );
this.head.add( rainbow);
this.head.add( rainChunk );

scene.add(this.head);
}
Nyan.prototype.onAnimate = function() {
if ( this.theme == 'UMB') {
bodytheme(0x2630ff, 0x000582, 0x787eff);
feettheme(0x2630ff, 0x000582);
facetheme(0x2630ff, 0x000582);
tailtheme(0x2630ff, 0x000582);
          .
          .
this.head.remove(usa);
this.head.remove(cs);
}
else if (this.theme == 'Original') {
bodytheme(0x222222, 0xffcc99, 0xff99ff);
facetheme(0x222222, 0x666666);
.
.
this.head.remove(cs);

}
else if (this.theme == 'Santa') {
```

```
bodytheme(0x008000, 0xe42217, 0x008000);
facetheme(0x008000, 0xe42217);
.
.
this.head.remove(umbtheme);
this.head.add(santa);
this.head.remove(usa);
this.head.remove(cs);
}
else if (this.theme == 'USA') {
bodytheme(0x222222, 0x000582, 0x000582);
.
.
this.head.remove(umbtheme);
this.head.remove(santa);
this.head.remove(cs);
this.head.add(usa);
}
else if (this.theme == "CS460") {

.
.
this.head.remove(umbtheme);
this.head.remove(santa);
this.head.add(cs);
this.head.remove(usa);

}
else if (this.theme == 'Invisible') {
this.head.remove( body );
this.head.remove( feet );
this.head.remove( face );
this.head.remove( tail );
this.head.remove(umbtheme);
this.head.remove(santa);
this.head.remove(usa);
this.head.remove(cs);
}
}
https://namhoy24.github.io/cs460student/final_project/cat.html
```

## 3.2 Milestones

*3.2.1 Milestone 1.* Select the theme that will be used for projects

*3.2.2 Milestone 2.* Make the 3D Object by following design

*3.2.3 Milestone 3.* Added to scene and make a list which is able to change anytime

## 3.3 Challenges

Describe the challenges you faced.

- Challenge 1: I made the 5 Themes and which are all the 3D Objects which is able to movable. Hence, making the theme take a lot of time. Since ,all the nyan cat designs are pixel.
- Challenge 2: Color changing by every theme, and needed to back to original object with same moving.

**Figure 5: UMB.**

## 4 RESULTS



**Figure 2: Santa.**



**Figure 3: CS460**



**Figure 4: Original.**

## 5 CONCLUSIONS

It was great opportunity which I could arrange and apply my learning from cs460.

## REFERENCES

[1] 2019. wallpaper. (2019).
[2] Ricardo Cabello et al. 2010. Three.js. *URL: https://github. com/mrdoob/three.js* (2010).
[3] cwacht. 2012. Previous Nyan Cat. (2012).