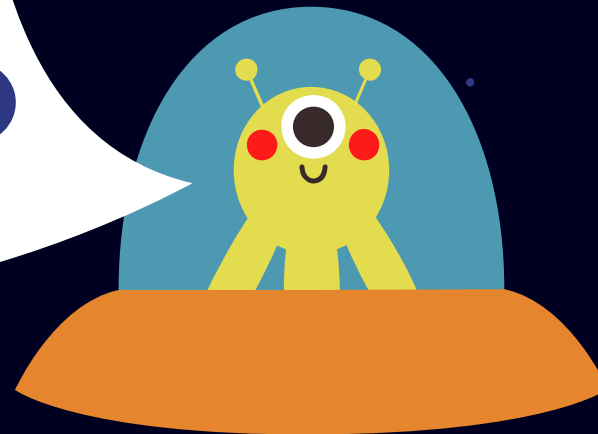


# Escape Room In spaceship

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# Project Index

## Escape Room In spaceship

### 1. Brief description

Escape room in spaceship  
Using three.js computer graphic

### 2. Key features

Collision detection, many events  
Spaceship design like among us

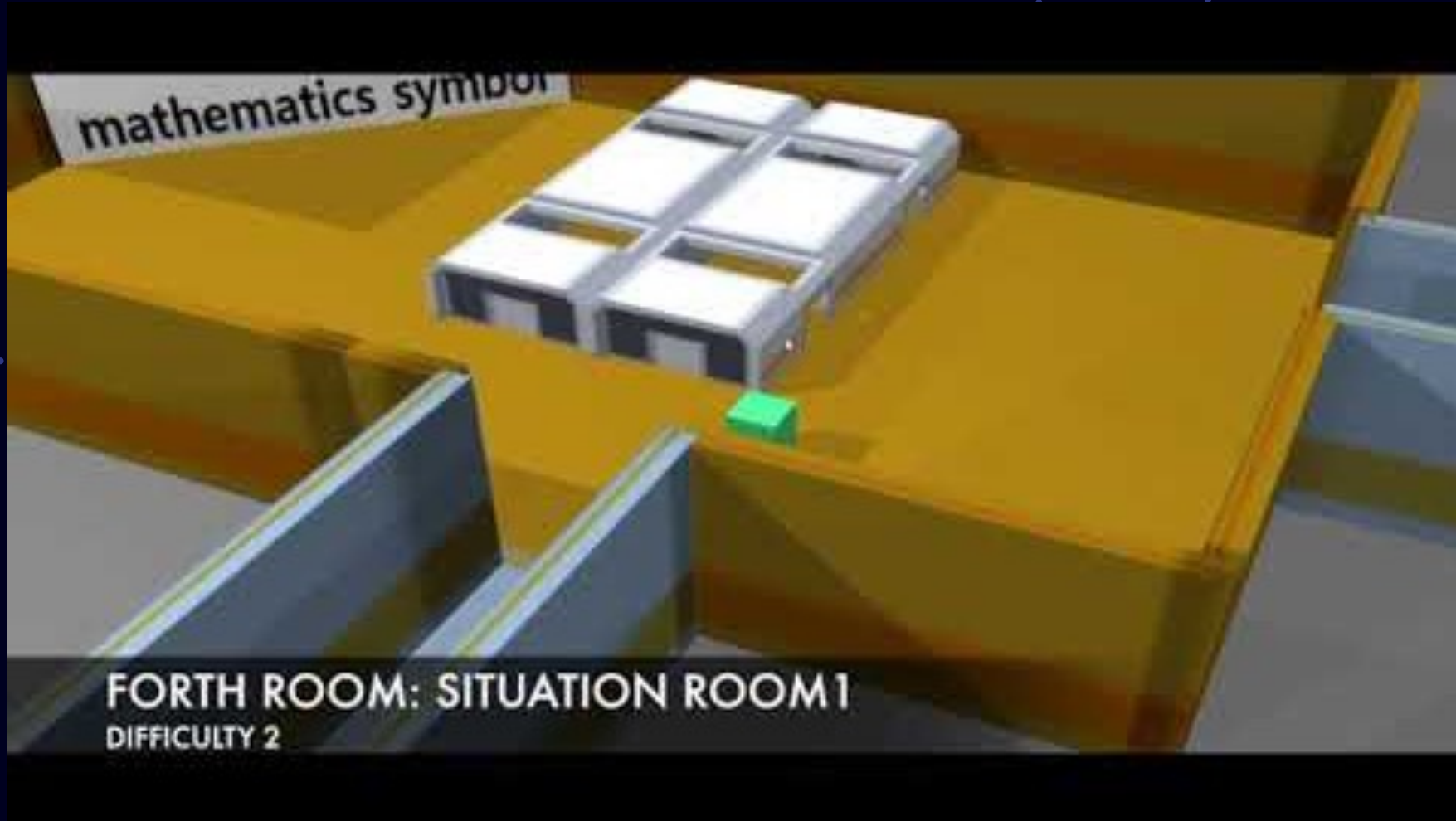
### 3. Details

Camera, lighting, event  
Collision detection

### 4. Division

Role division, e-mail  
informaiton

# DEMO VIDEO



# Escape Room In spaceship

- Room Escape game, which was recently created by referring to the famous game among us
- Mystery game that finds how to escape a room



## 2. Key features

### 1. Spaceship map

- A large map inspired by among us spaceship
- Trying to design similar r real map

### 2. Problem and Clues

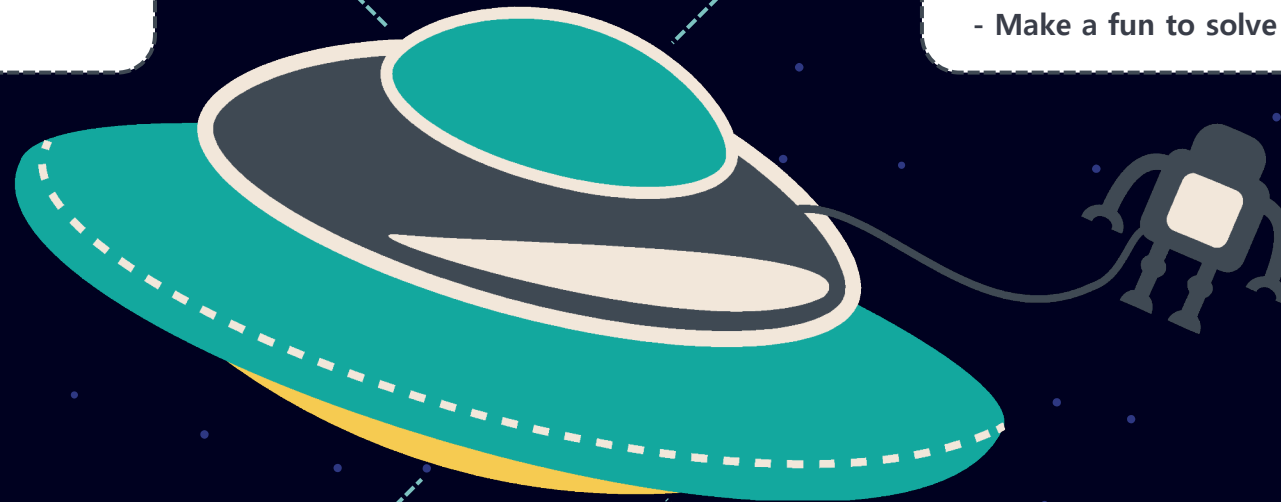
- Creative problem to escape the room
- Make a fun to solve the problem

### 3. Many events

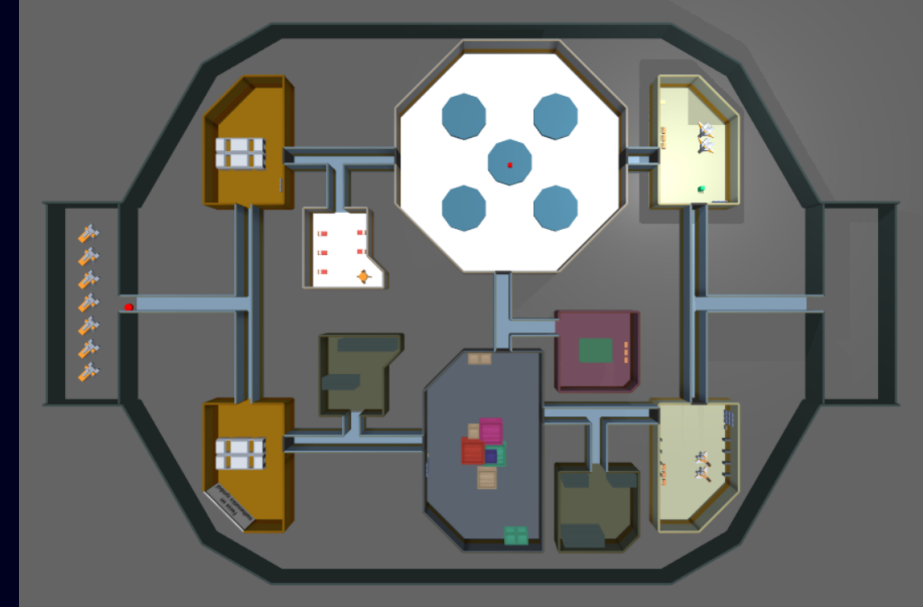
- To give clues to user
- Go other rooms using the answer

### 4. Design & Interface

- Try to design well using Lighting, object
- Camera angle and how to move



### 3. Details - map

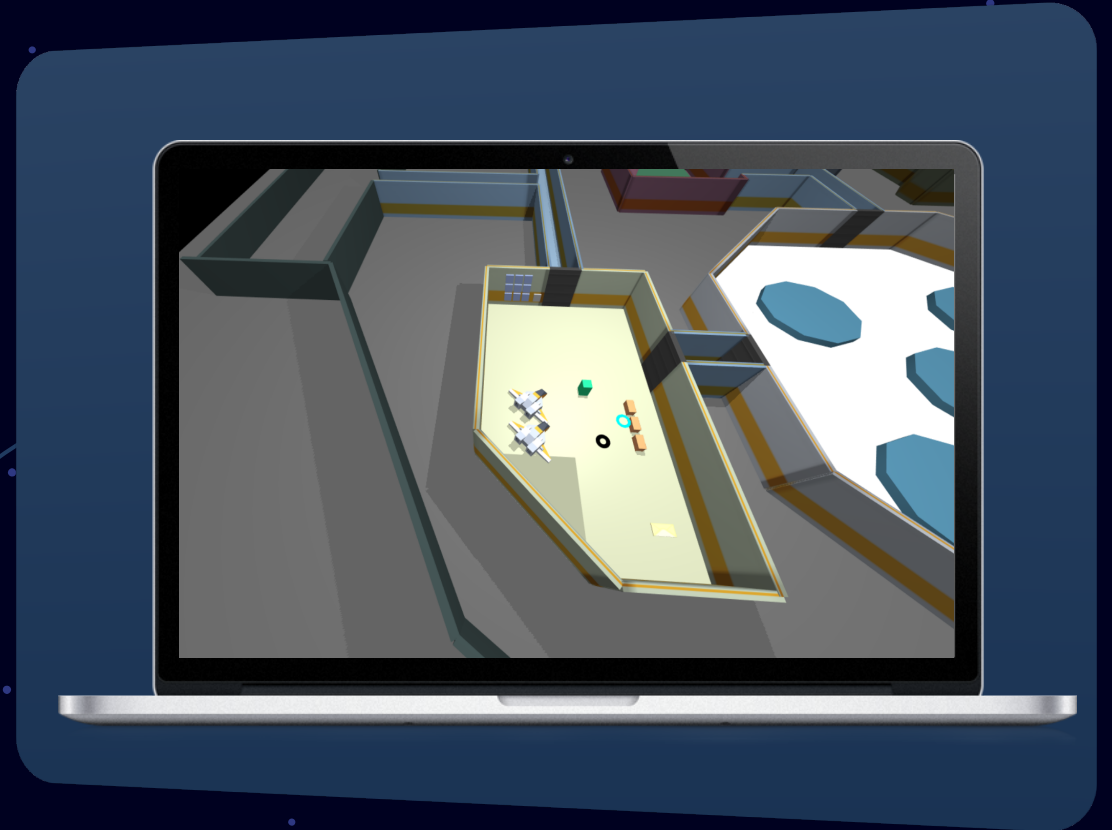


- Similar to real among us map
- Using obj files to design the map

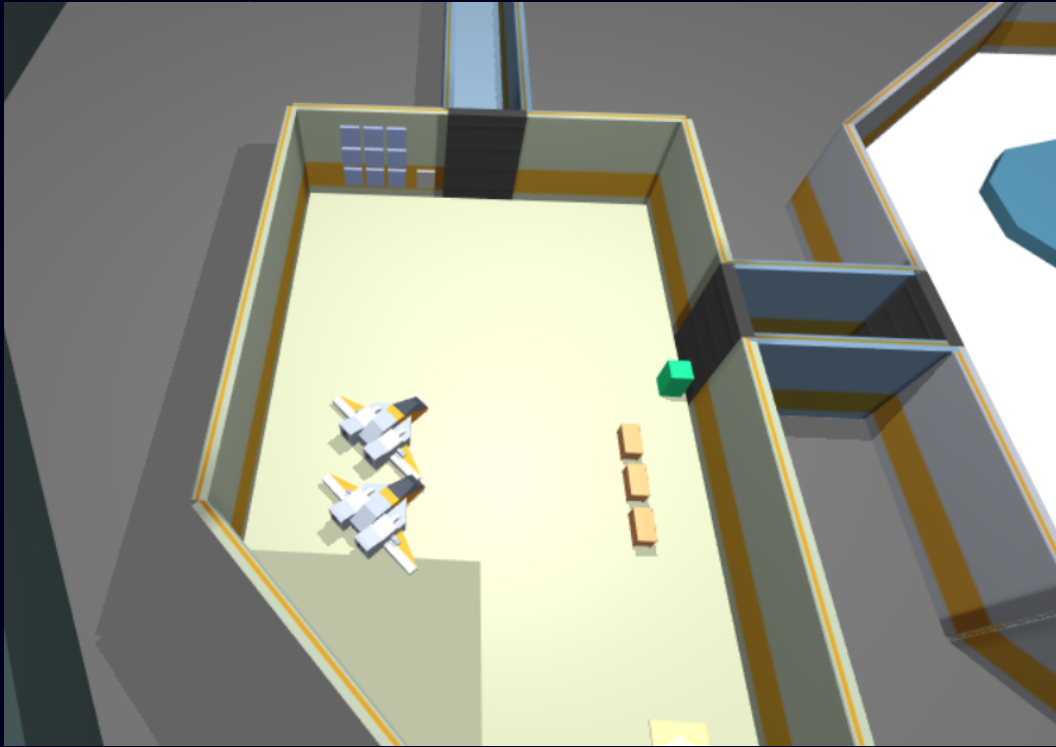
# 3. Details - moving

## Indicator & move

1. Click the right mouse where you want it to go (floor)
2. Recognize the coordinates of the floor
3. Move the distance from the current location to the corresponding coordinates at a constant speed



### 3. Details – moving

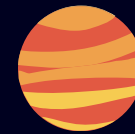
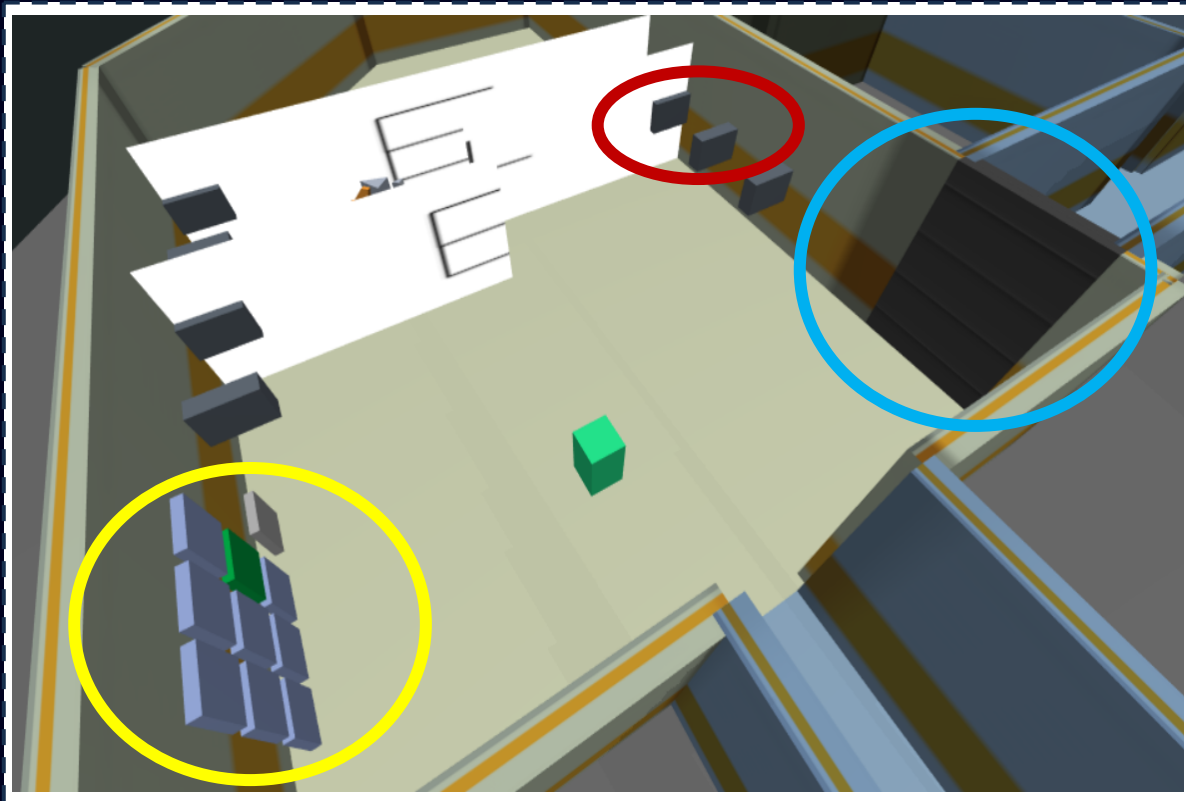


## Collision Detection

1. When the main character and the object collide, the object is on the list.
2. Calculate the object and character width from each center to collision point
3. If collision point is reached, stop the movement



### 3. Details – events



#### Click Objects

Click secret object in the room  
And get the clues



#### Click Number pad

If you get the clues, click the pad.  
If answer is correct, change to  
green



#### Click Door

When your answer is correct,  
click door and move down .



# 1. Click Object

If object in intersects[0].object, show the plane Geometry

```
if(intersects[0].object == problem2_1) {  
  if(problem2click_1 == false) {  
    var problem2_1_Texture = new THREE.ImageUtils.loadTexture('crate0/6_right.jpg');  
    var problem2_1_Material = new THREE.MeshBasicMaterial({map: problem2_1_Texture, side:THREE.DoubleSide});  
    var problem2_1_Geometry = new THREE.PlaneGeometry(5,2,10);  
    problem2_1_runner = new THREE.Mesh(problem2_1_Geometry, problem2_1_Material);  
    problem2_1_runner.position.set(17.5 + 6 * (Math.pow(2,1/2))-30, 1, 22+15);  
    problem2_1_runner.rotation.y = Math.PI;  
  
    scene.add(problem2_1_runner);  
    problem2click_1 = true;  
  } else if(problem2click_1 == true) {  
    scene.remove(problem2_1_runner);  
    problem2click_1 = false;  
  }  
}
```



## 2. Click Number pad

Give number to each pad and if pad is clicked, the number is recognized. If Qanswer is correct, doorState is changed.

```
function controlBoardNDoor(obj){  
  console.log(obj.id);  
  //first board  
  if(obj.id>=252 && obj.id<261){//first board object  
    if(!clickedAnswers.includes(obj.id - 251)){  
      obj.material.color = new THREE.Color(0x00a141);  
      clickedAnswers.push(obj.id-251);  
    }  
  }  
}  
  
var doorState = {  
  door1 : false,  
  door2 : false,  
  door3 : false,  
  door4 : false  
}  
  
var QAnswer = {  
  Q1 : [6,4],  
  Q2 : [5,8,4,6],  
  Q3 : [1,9,2],  
  Q4 : [8,0,1]  
}
```

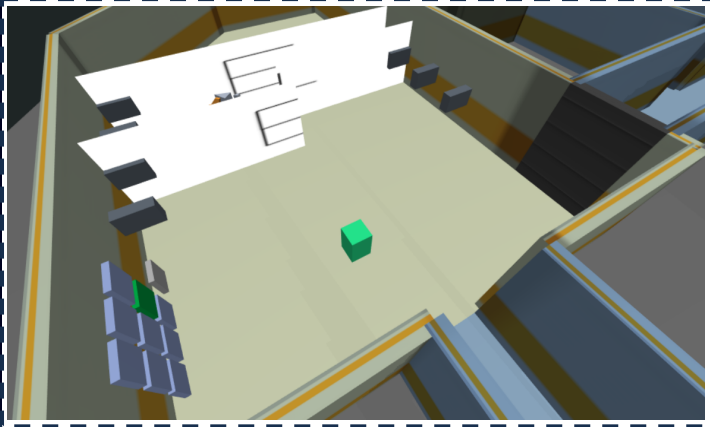


### 3. Click Door

If answer is correct(open is true), the door y coordinate is changed

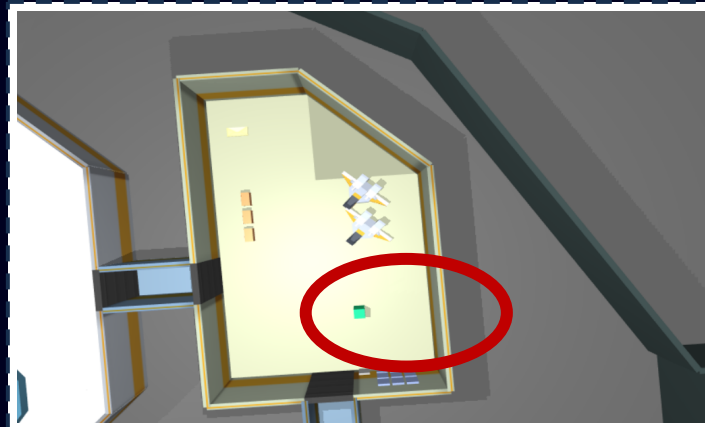
```
function openDoor(){  
  if(movingObjects == null){  
    return;  
  }  
  
  if(open){  
    movingObjects.position.y -= 0.2;  
    if (movingObjects.position.y <=-5){  
      deleteCollisionPoints(movingObjects);  
      createCollsionPoints();  
      movingObjects = null;;  
      open = false;  
      isMoving = false;  
      return;  
    }  
  }  
}
```

### 3. Details – others<sup>★</sup>



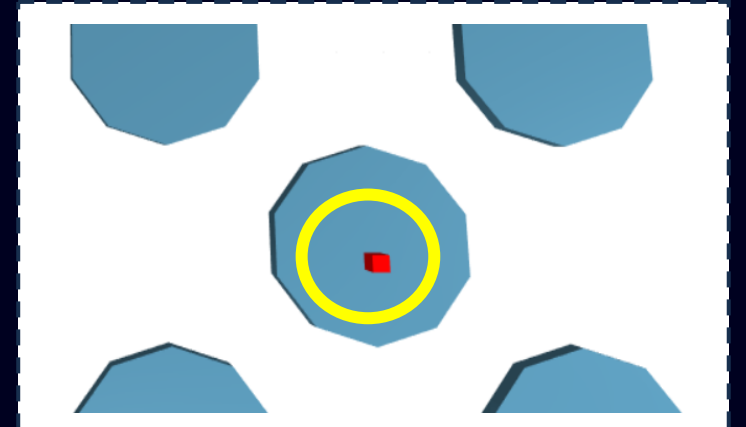
#### Camera

The main character's point of view



#### Lighting and shadow

The light is positioned on the center of room and you can see the shadow



#### Ending button

If you click this button, The game is finished

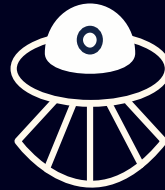
## 4. Division



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- Number pad and door event
- Merge codes
- Finding escape problem



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- Clue event
- Presentation
- Finding escape problem



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- Map design
- Making PPT
- Finding escape problem

The background is a dark blue space filled with white stars of various sizes. Several stylized planets are visible: a large orange planet with a red ring in the top left, a blue planet with white clouds in the bottom left, and a large orange planet with white rings in the top right. A small blue rocket with an orange flame is flying in the upper left. A yellow alien with two antennae and red eyes is peeking over an orange horizon line in the bottom right. A large white speech bubble is centered on the left side.

Thank you

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