404 MEMORY NOT FOUND

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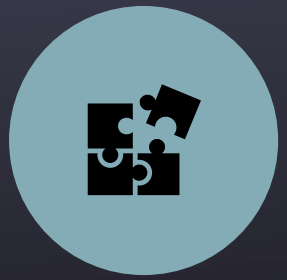
WHAT IS 404 MEMORY NOT FOUND ?

3 DIMENSIONAL

FIRST PERSON

CLOSED WORLD



PUZZLE

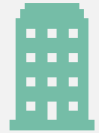
STORY OF THE GAME

404 Memory Not Found takes place in Hacettepe University Computer Engineering Department.

The player is stuck inside the building and they have lost their memories.

In order to regain their memories and to get out of the building they have to collect certain objects.

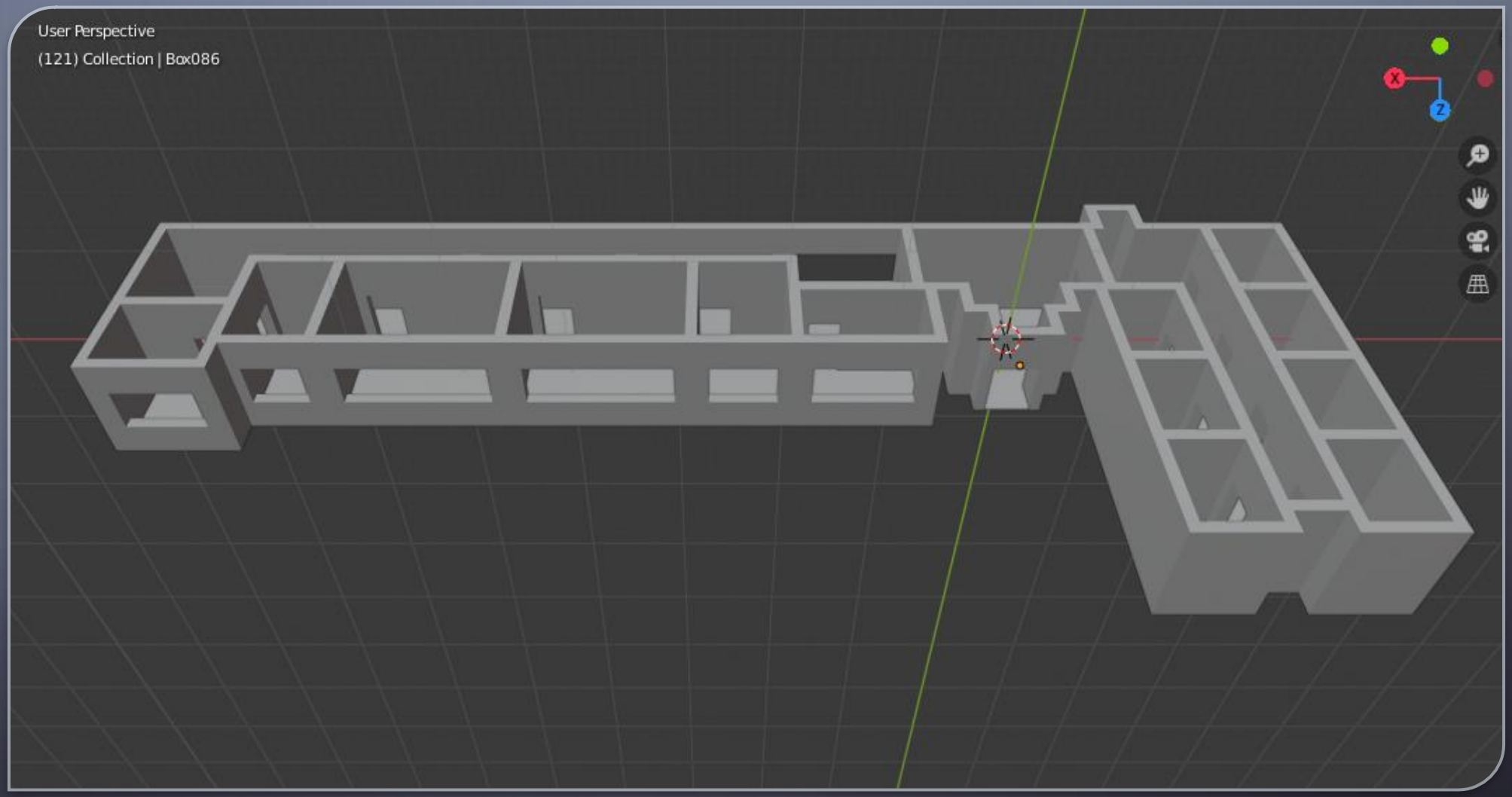
To move forward in the game, the player has to collect the memory items.

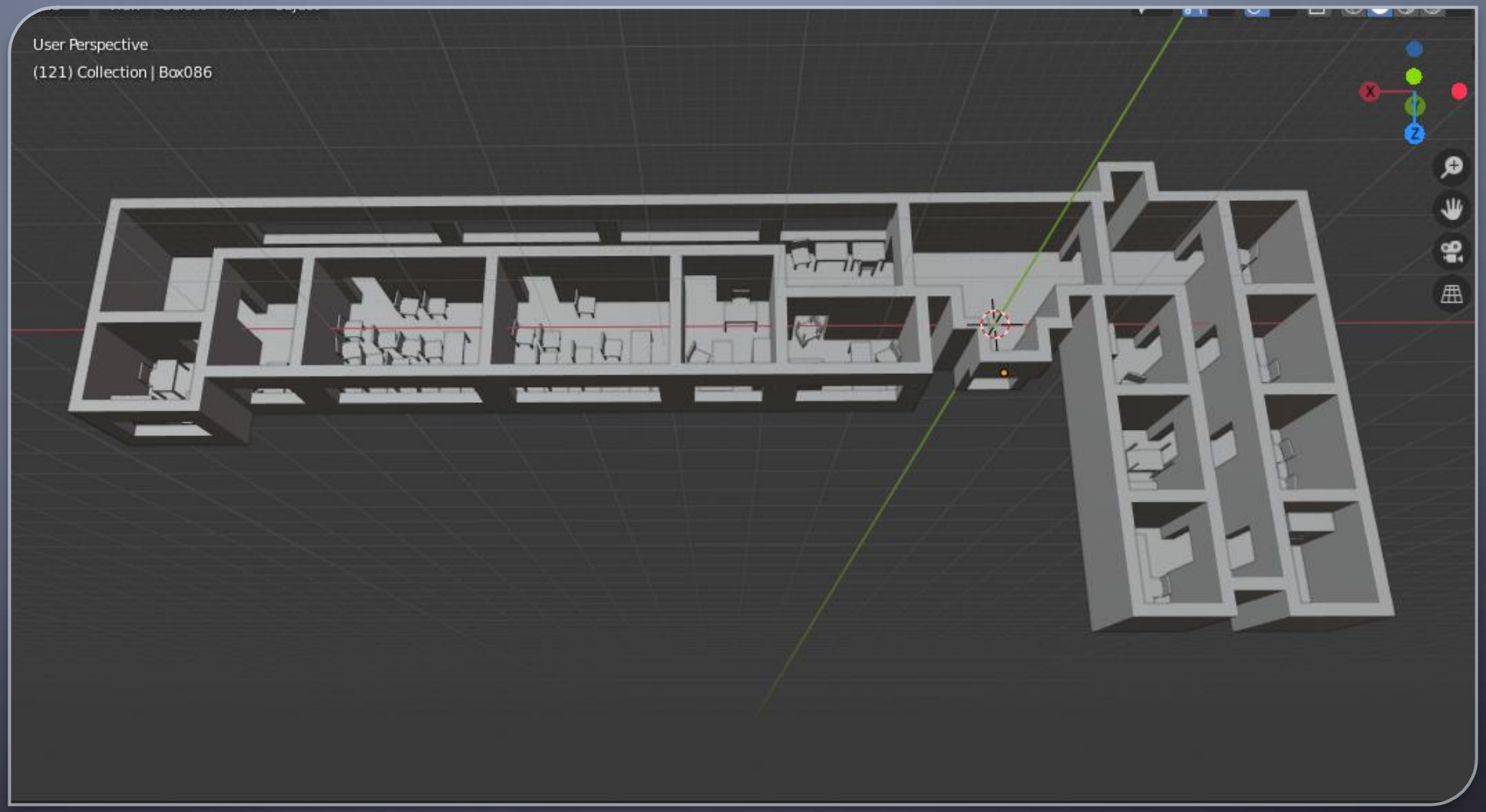


After each item, the building opens up another part of the building.

MAP AND OBJECTS

- We designed the map of the building based on our department's first floor.
- The map is designed with 3D MAX program.
- The other objects were created with Blender program.
- To convert the object files into .smf files 3D Object Converter was used.
- There is a hidden easter egg object in the game.


User Perspective
(121) Collection | Box086
X
Z


User Perspective
(121) Collection | Box086
X
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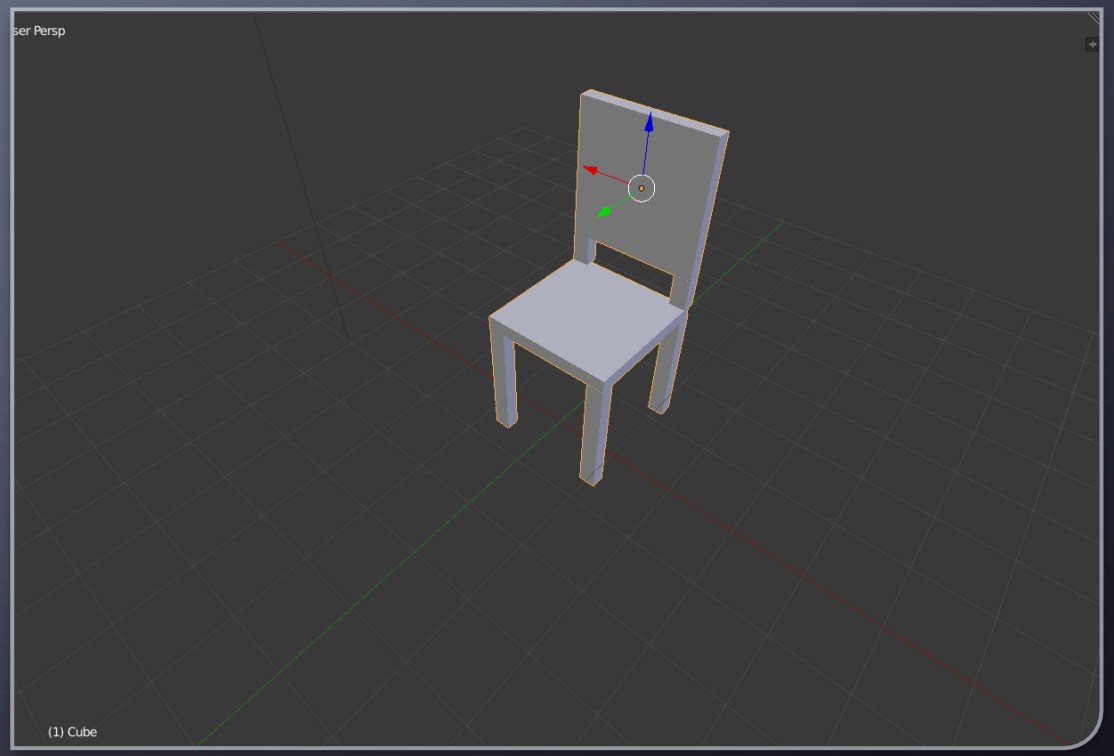
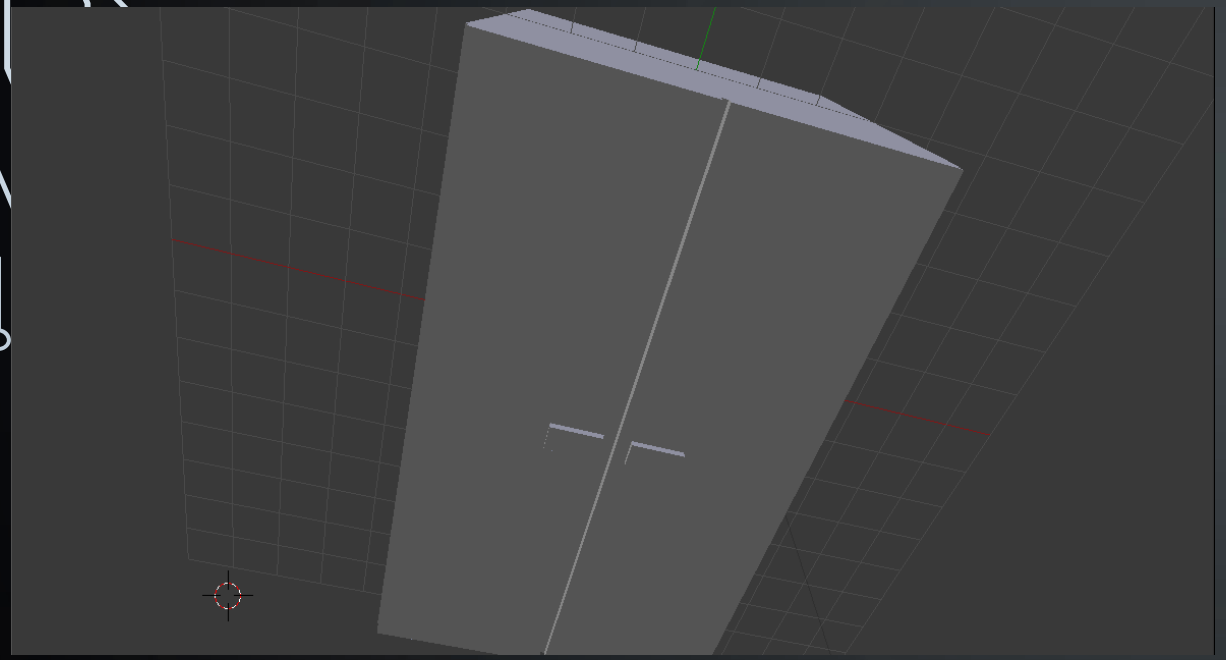
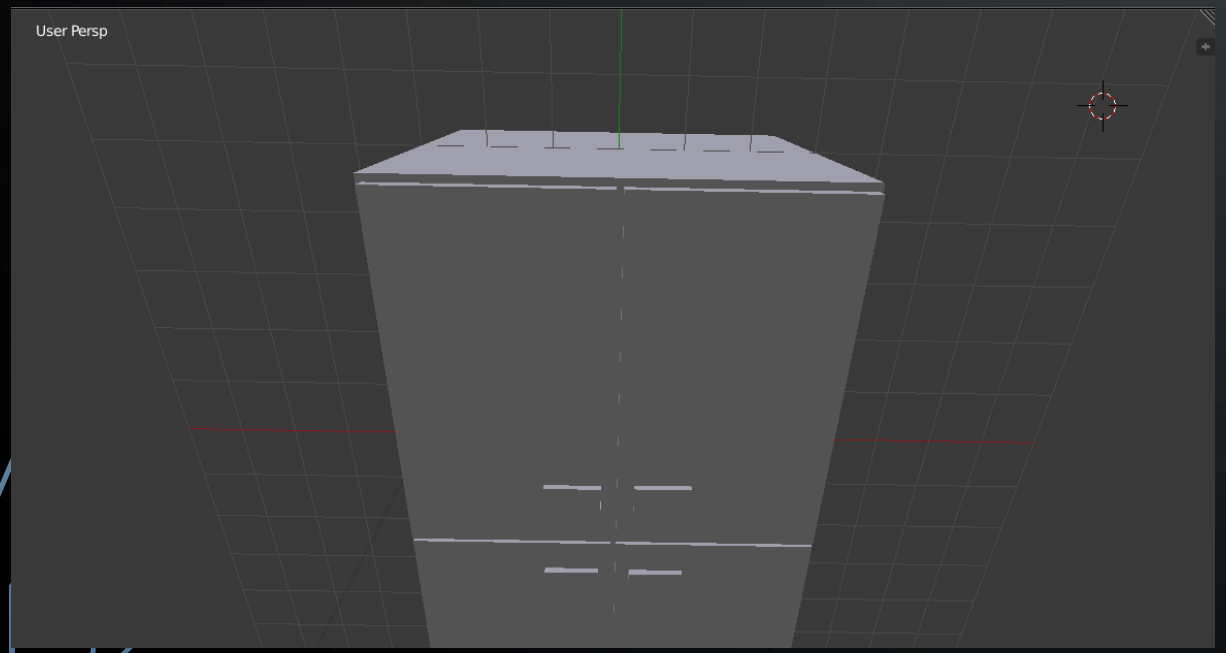
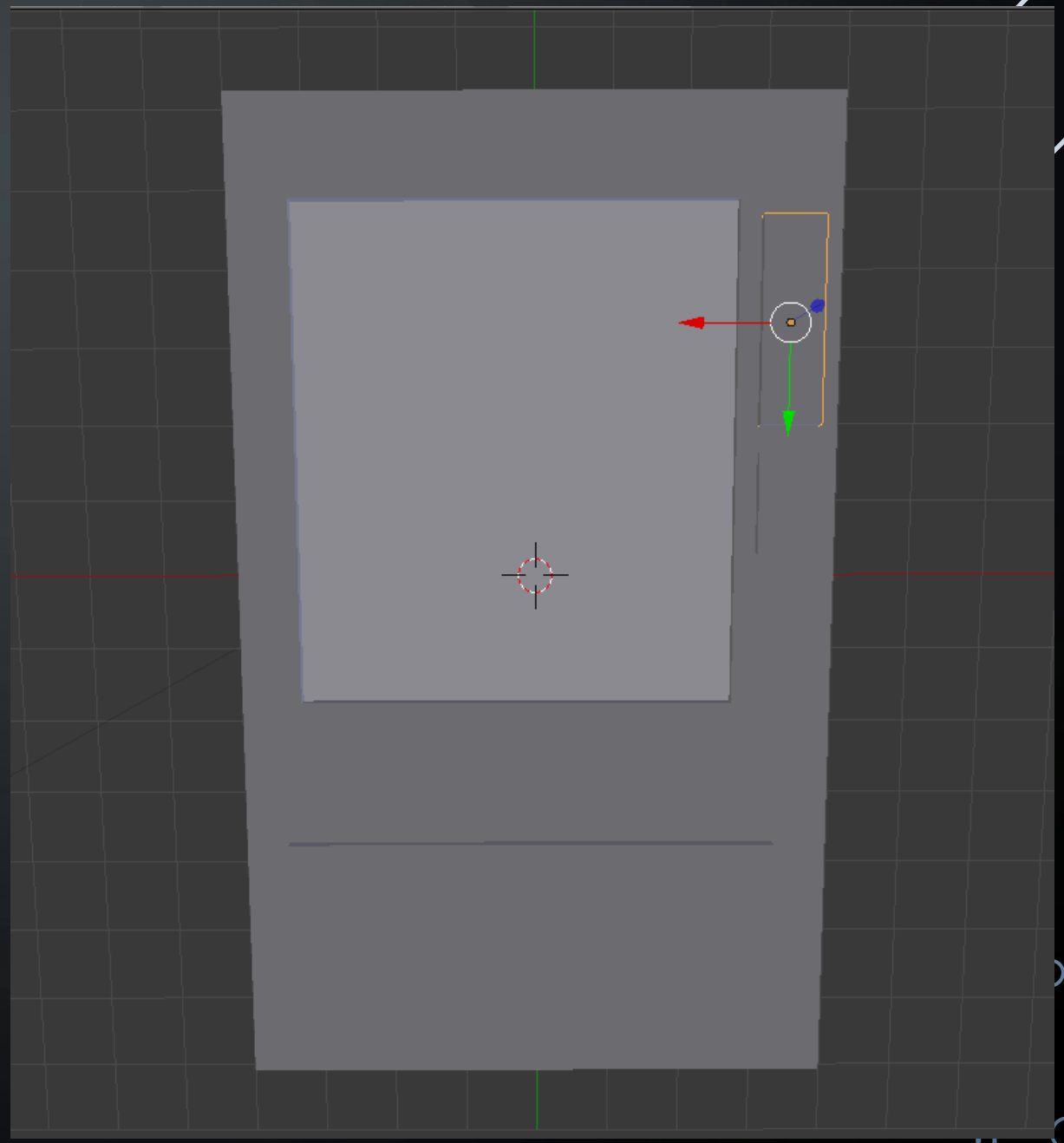
MOVABLE OBJECTS

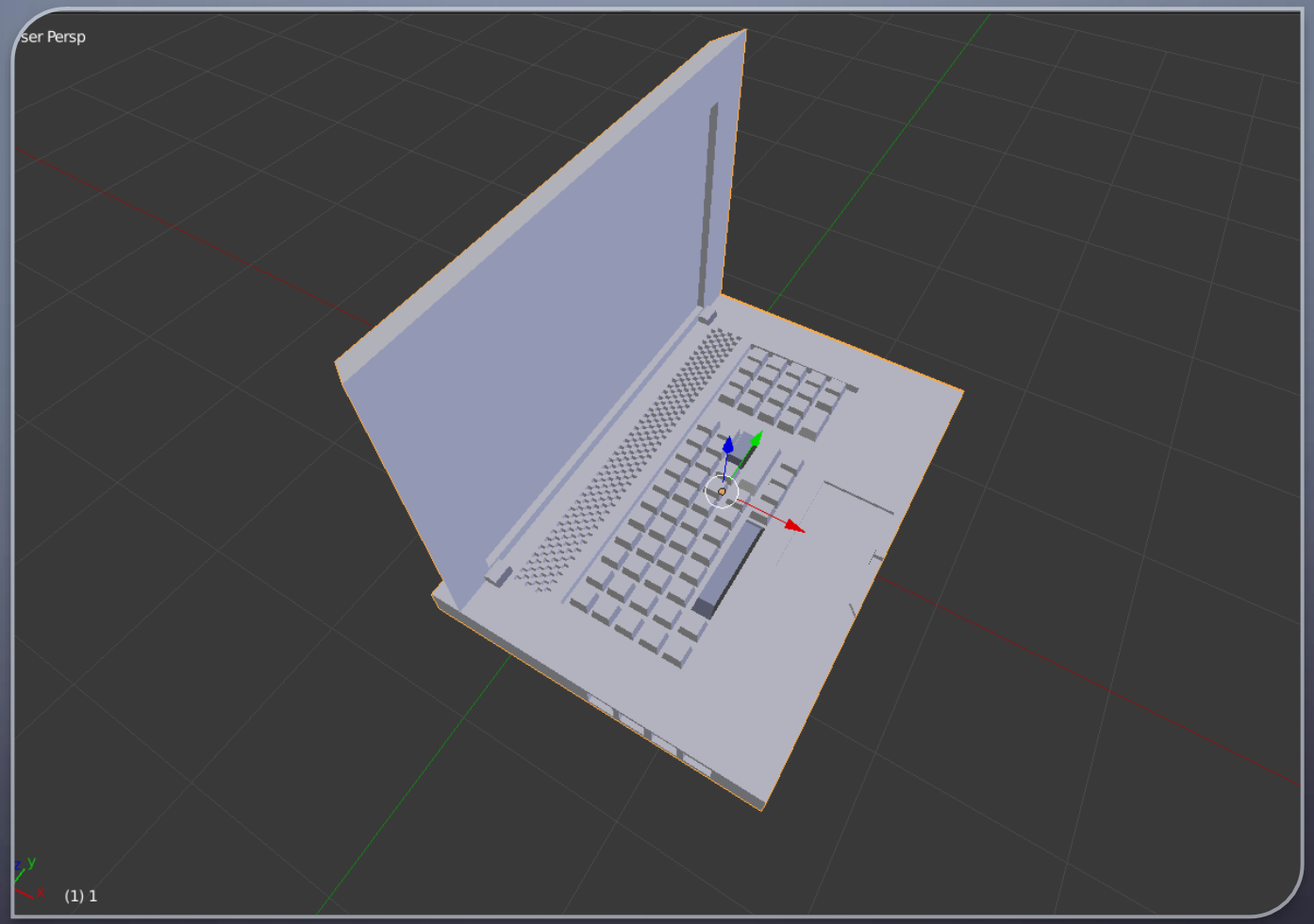


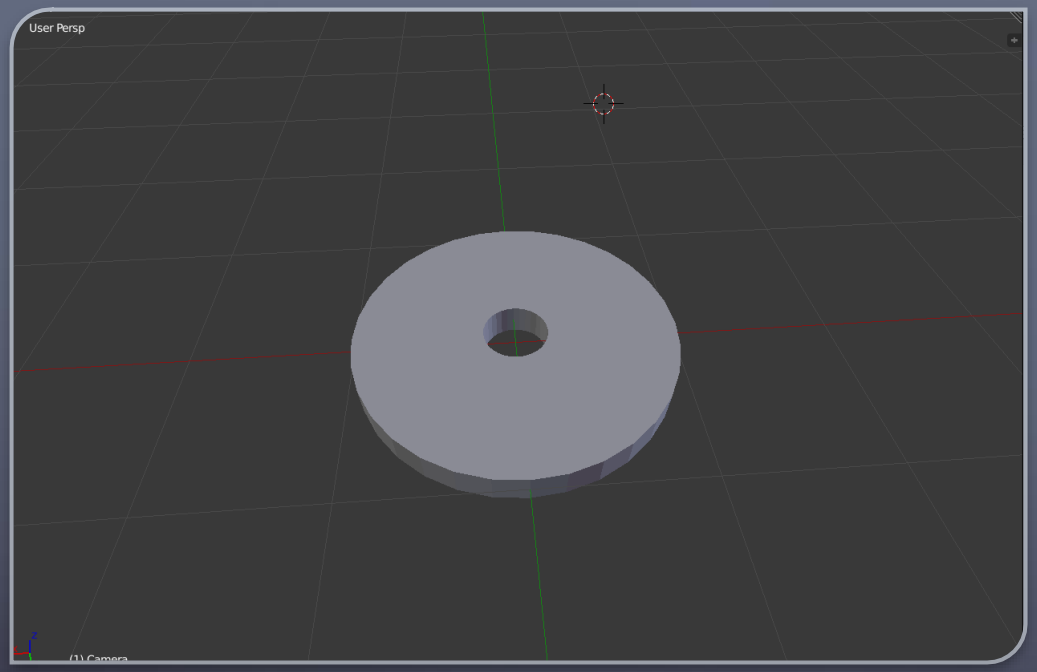


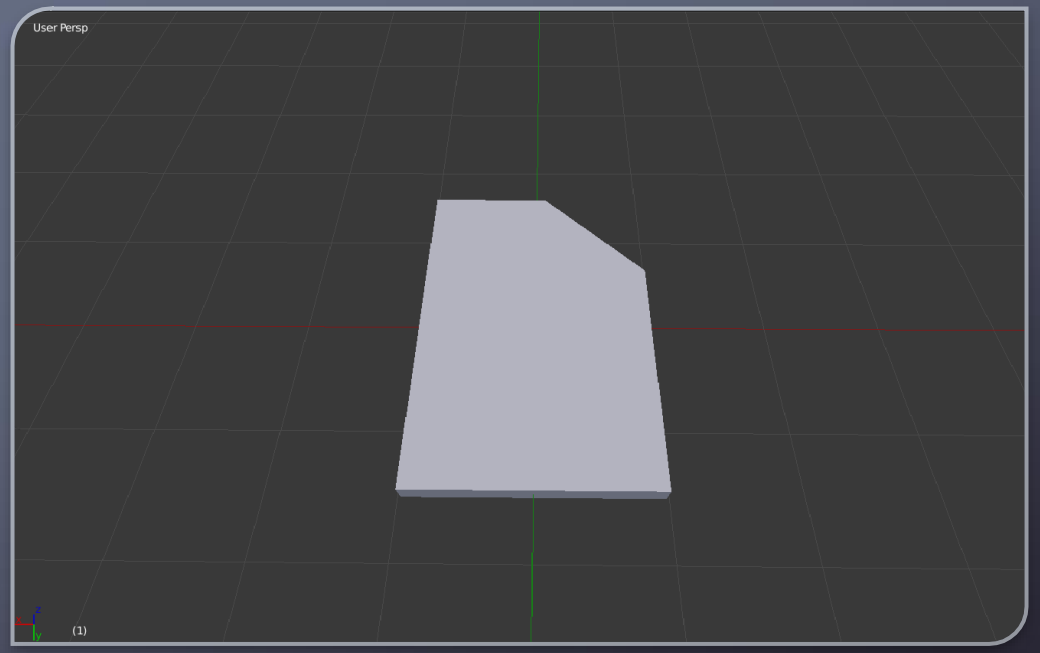

User Persp



COLLECTIBLE ITEMS




User Persp
(1) Camera


User Persp
(1)

GAME MECHANISM

CAMERA

LIGHT

OBJECT INTERACTIONS

CAMERA

404 Memory Not Found is designed as a ‘first person view’ game.

To move the character on the XZ axis we use WASD buttons. Shift key changes the speed of the player. Also we use the mouse input to change the camera’s angle. We learned about the Mouse input from assignment 4 and 5.

LIGHT

To hold the lamp we use F button and this button also teleports the light into our hand.

While the button is pressed if we push down on + and – keys then the light's intensity changes accordingly.

OBJECT INTERACTIONS

To interract with the objects, after geting close to the item E button is used. After pressing the E button, with the left and right arrow keys object can be rotated.

Collectible items always rotate around itselfs and when the player gets on the same coordinate as the item then object is collected and the game opens up a new part of the map.

OBJECT PICKING

```
Object Picking

initialize holditem false

if E button pressed

      if in the range of chair

            set holditem to !holditem

            set chair's coordinates final position calculated in
render

      else if in the range of vending machine

            set holditem to !holditem

            set vending machine's coordinates final position
calculated in render

      else if in the range of table

            set holditem to !holditem

            set table's coordinates final position calculated in
render

      else if in the range of cabinet

            set holditem to !holditem

            set cabinet's coordinates final position calculated
in render
```

CAMERA SPEED CHANGE

```
Camera Speed Change

initialize run false

initialize speed to 0.2

if shift button pressed

      set run to !run

      set speed to 1

function movement(speed)

      calculate normal

      calculate new up vector

      calculate eye and at position according to forward vector
and speed

      apply eye, at and up positions to modelViewMatrix

function movement(speed)

      calculate normal

      calculate new up vector

      calculate eye and at position according to forward vector
and speed

      apply eye, at and up positions to modelViewMatrix
```

SOME EXTRA FEATURES

Background music

Sound effects

Adding texture to the objects with webgl

The game ends in 10 minutes. If the player can't get out in the time frame, game finishes and closes itself.

REFERENCES AND LIBRARIES USED

- Jquery library for reading object model files.
- Angel's MV is used to implement the camera.
- http://learnwebgl.brown37.net/07_cameras/camera_linear_motion.html was used to help with the camera movement as well.