

Red Challenge



Challenge By:
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You look around and see that this dojo entrance is decorated in black. It is unlike any of the colorful dojos that you have journeyed through in the past.



As if appearing from nowhere, a ninja flips and lands before you. He stares at you for a long moment before speaking.



Ninja:

“You’ve come a long way ninja. That door behind me is the entrance to the final dojo.”



Ninja:
“Only those who have proven
themselves truly worthy are allowed to
enter the sacred door.”



Ninja:

“I am the protector of this door and
challenge all who wish to enter.”



Ninja:
“Are you here to challenge me?”



You nod your head and stand your ground, unphased by his attempts of intimidation.



Ninja:
“Remember that you are allowed to use [learn.unity](https://learn.unity.com) and [Google](https://www.google.com) if you get stuck.
What would a ninja be without his weapons?”



Ninja:
“Now... Let’s begin.”



RED CHALLENGE

To enter the sacred door, you must remake my game in the Unity game engine. I will let you play my game as much as you want so you can study it, but I will not let you see my project or my code.

I will provide a Unity Package file that contains the assets for the game. You must use the contents of the package, your coding skills, and your knowledge of the Unity game engine to create a remake.

Are you ready?

Read all pages before you begin!

STEP 1: PLAY THE GAME

I challenge you to remake my game

CAT & MOUSE

Click the link below to play Cat & Mouse. Remember to study the game as you play and learn everything you can about it.

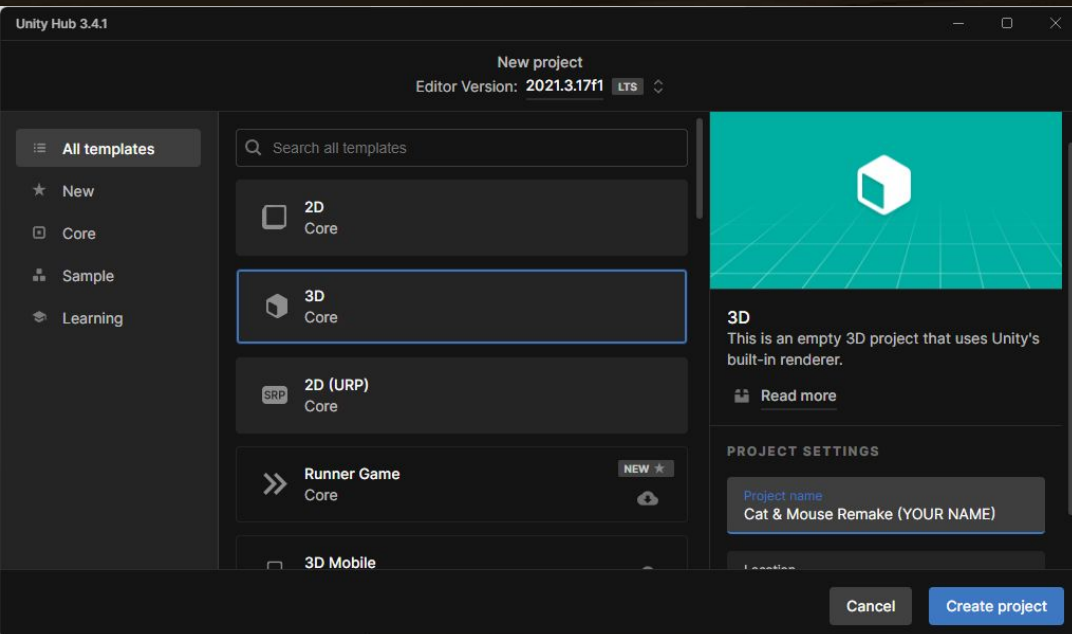
<https://the-t-v1rus.github.io/NinjaChallenges/Build/index>

STEP 2: SET UP YOUR PROJECT

Now that you've seen and played the game that you need to remake, it's time to prepare your project.

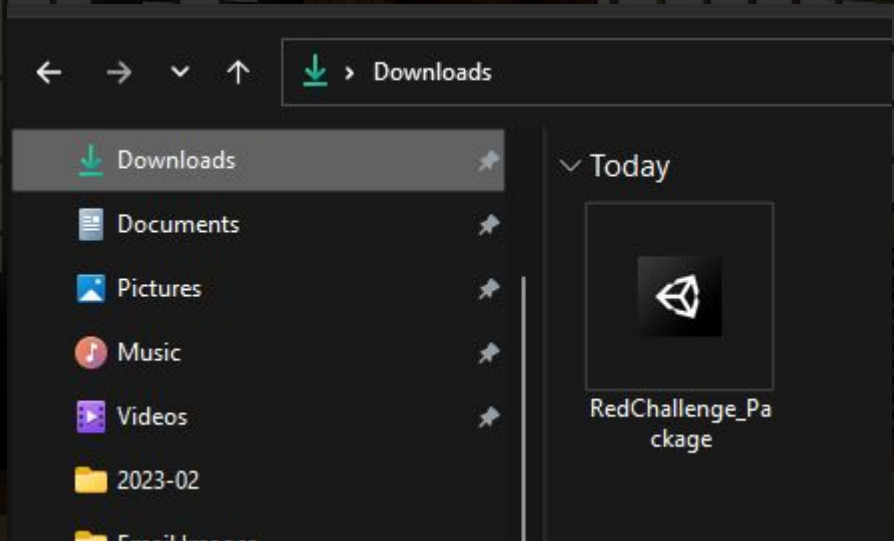
- 1) Create a new 3D game project in Unity called:
"Cat & Mouse Remake"

Be sure to include your name in the title as well.

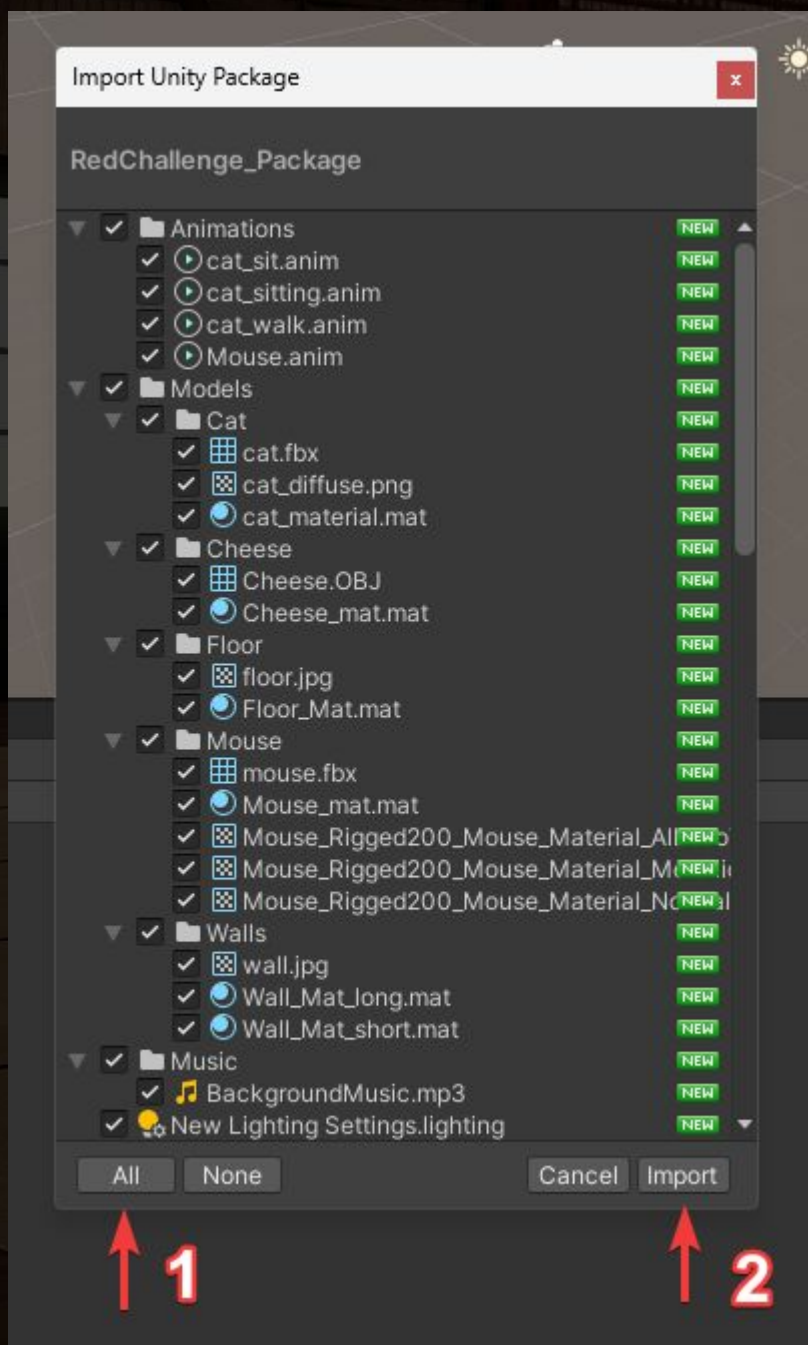


2) Click the link below to download the red challenge unity package

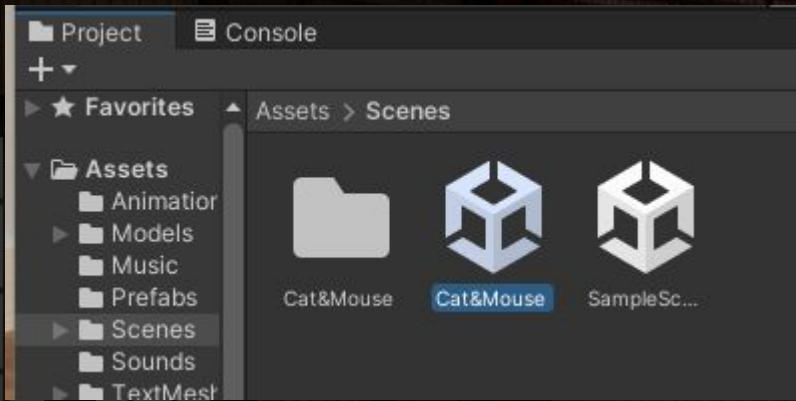
[Red Challenge Package Download](#)



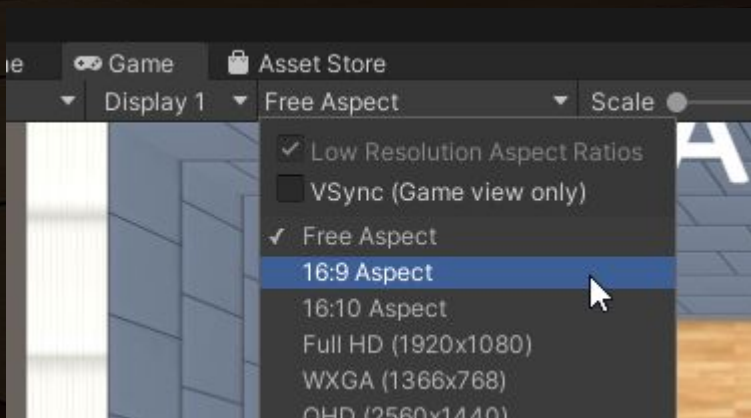
- 3) Drag and drop the package into your new project. Be sure to select ALL before clicking import



- 4) After it finishes importing all of the files, open the “Scenes” folder and double click the “Cat&Mouse” scene to open it.



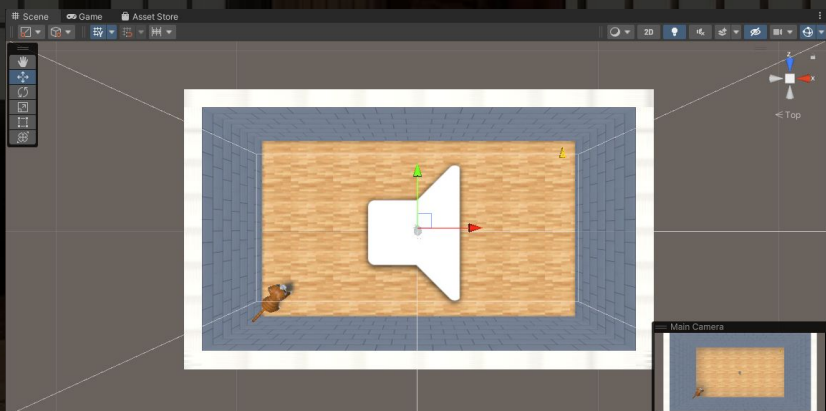
- 5) Go to the “GAME” tab and change the aspect ratio to 16:9



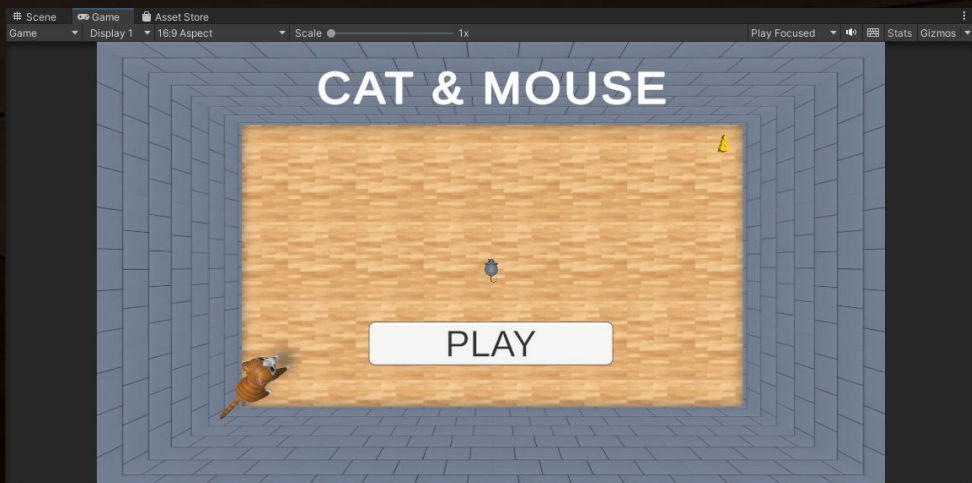
- 6) Switch to the “Scene” tab then double click the “Main Camera” camera. Zoom in using the mouse scroll wheel if needed.

You should see something like this

SCENE TAB



GAME TAB



STEP 3: TITLE SCREEN FIXES

Start the game in Unity and compare it to the finished playable game. You should see three differences in total.

1. The mouse should be animated
2. The cat should be sitting
3. The cheese should be spinning

Fix these things before moving on.

HINTS:

The mouse and cat animations are already provided for you

The cheese needs an animation or a script to make it spin

STEP 4: START BUTTON

Upon pressing the start button, a few things happen:

1. The “Start” object in the canvas becomes **disabled**
2. The “Play” object in the canvas becomes **enabled**
3. The camera’s “field of view” slowly lowers from 60 to 45
4. The mouse starts facing and following the cursor on screen

Make these things happen when pressing the start button before moving on.

HINTS:

Making the mouse follow the cursor might be a bit difficult. Try using `plane.raycast`

<https://docs.unity3d.com/ScriptReference/Plane.Raycast.html>

STEP 5: BASIC GAMEPLAY

While playing the game, we need a few basic things to happen.

1. The Mouse object collides with the walls
2. The mouse can collect the cheese by colliding with it. When colliding with it, a few things happen
 - a. The prefab “CheeseParticles” is created at the location of the cheese
 - b. The “Chomp” sound is played
 - c. The “CheeseTextNumber” increases in the “Play” game object
 - d. The Cheese object jumps to a new random location within the level

Make these things happen before moving on.

STEP 5: ADVANCED GAMEPLAY

In Cat & Mouse, touching the cat ends the game. Before we make the cat chase the mouse, let's start with the basics.

1. When the mouse touches the cat:
 - a. The eat sound plays
 - b. The music stops
 - c. It creates the MouseParticles prefab at the location of the mouse
 - d. The mouse object is destroyed
 - e. After 1 second, the "GameOver" object is enabled

Make these things happen when the mouse touches the cat before moving on

STEP 6: CAT CHASE LOGIC

We need to make the cat chase the cheese, but not at the very start of the game.

1. After collecting the first cheese:
 - a. The cat meow sound needs to play
 - b. The cat needs to looking at and moving towards the mouse object

HINT

This will be VERY similar to the code of the mouse following the cursor

STEP 7: CAT CHASE ANIMATIONS

The cat looks a bit strange at the moment as it chases the mouse. We need to update the animations.

1. When the cat starts chasing the mouse, it should switch to the walking animation
2. When the cat catches the mouse, it should change back to the sitting animation

HINT

You will need to update the cats animation controller. It needs some parameters and extra animations.

STEP 8: GAME OVER SCREEN

There are just a few things we need to make work on the game over screen

1. Show the correct amount of cheese that was eaten
2. Make the restart button restart the scene when it is clicked

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