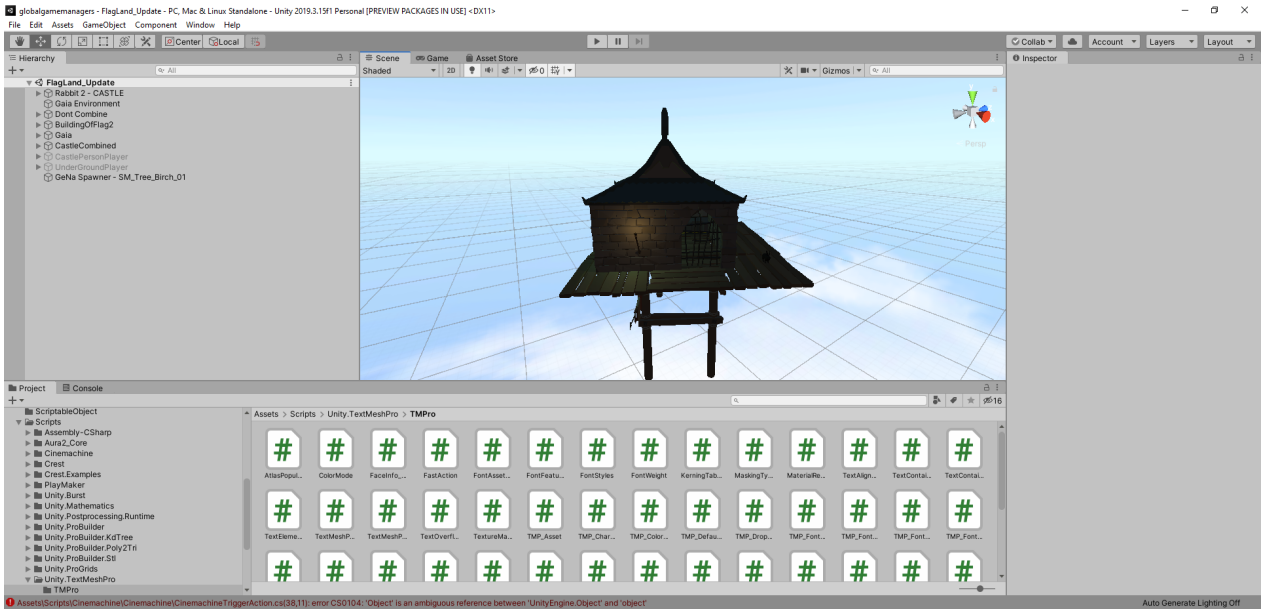
Follow The White Rabbit - Datamining

Solution

When watching the trailer, we can see the part that is "accidentally leaked" into the game here.

Also, if we use UtinyRipper and drag the whole game folder into the game in it, we get a globalgamemanagers file that we can actually open it Unity (2019.3.15f1 is the version I used and it may take *a while*).
Looking at the scenes, we find a scene called "FlagLand_Update" that looks exactly like that hidden prison in the video:



Now, we have to figure out how to actually load the scene into the game. Therefore, I opened `FollowWhiteRabbit/FollowWhiteRabbit_Data/Managed/Assembly-CSharp.dll` in dnSpy that decompiles and lets us edit code.
We find a class called `PartialFlag2`:

```
using System;
using TMPro;
using UnityEngine;

// Token: 0x02000048 RID: 72
public class PartialFlag2 : MonoBehaviour
{
    // Token: 0x060000DD RID: 221 RVA: 0x000250A8 File Offset: 0x000232A8
    private void Start()
    {
        this.flagProbablyHardToGetStatically();
        TextMeshPro component = base.GetComponent<TextMeshPro>();
        string text = "aof\\`drfe`dbbjQ|st|vg";
        int num = 0;
        for (int i = 0; i < text.Length; i++)
        {
            TextMeshPro textMeshPro = component;
            textMeshPro.text += ((char)((int)text[i] ^ num)).ToString();
            num++;
        }
    }

    // Token: 0x060000DE RID: 222 RVA: 0x00006DB0 File Offset: 0x00004FB0
    private void flagProbablyHardToGetStatically()
    {
        base.GetComponent<TextMeshPro>().text = "";
    }
```

```
    // Token: 0x060000DF RID: 223 RVA: 0x000067D1 File Offset: 0x000049D1
    private void Update()
    {
    }
}
```

So, this is probably some part of the flag:

```
$ python
>>> s = "aof\\`drfe`dbbjQ|st|vg"
>>> for i in range(len(s)):
...     print(chr(ord(s[i]) ^ i), end="")
...     if i == len(s) - 1:
...         print()
...
and_datamining_scenes
>>>
```

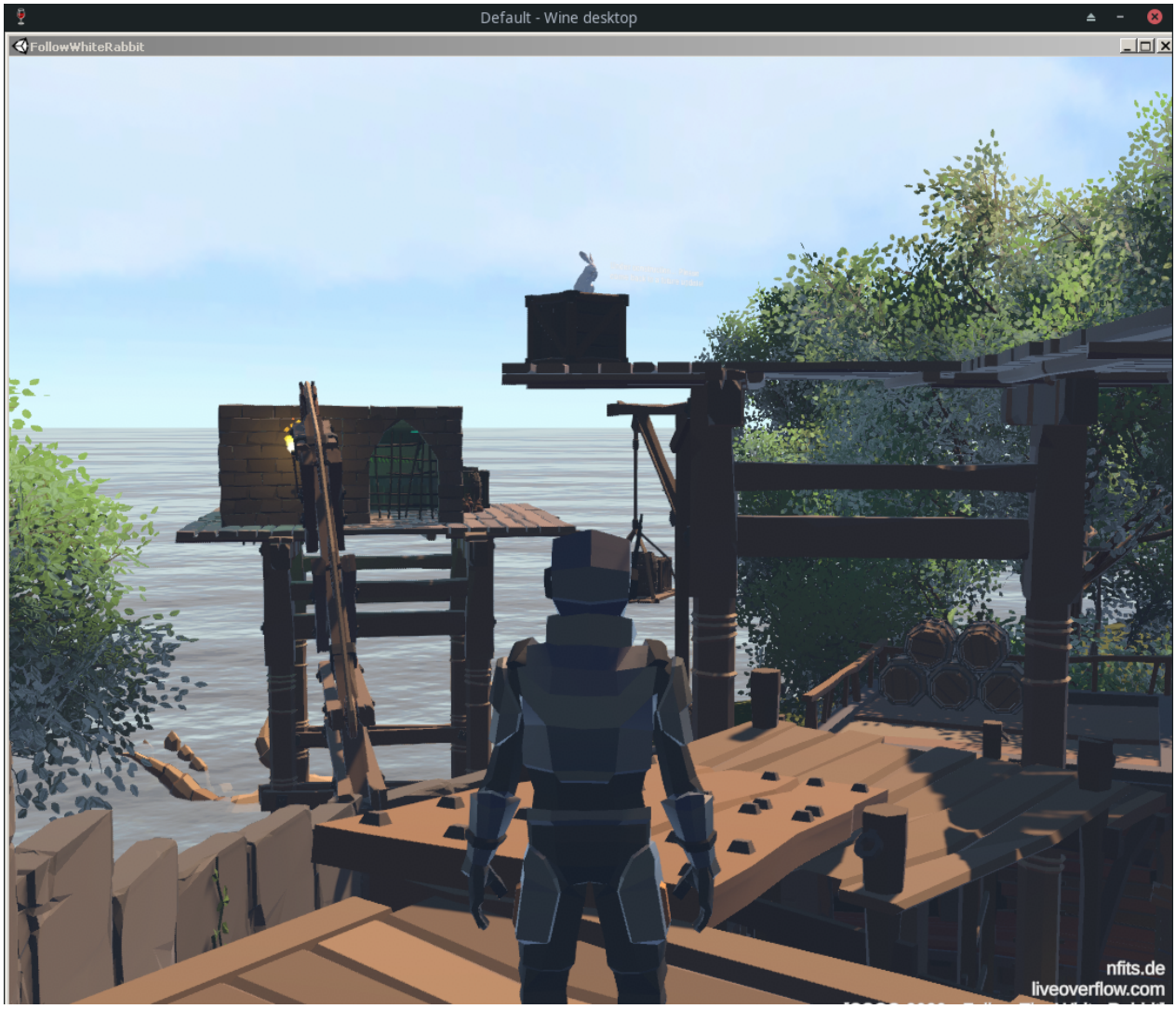
Going back to trying to get `FlagLand_Update` into the game, I found the `SceneLoader` class. This article explains how to add a scene to the game and I edited the `SceneLoader` function accordingly:

```
...
    private void Start()
    {
        base.StartCoroutine(this.LoadYourAsyncScene());
        SceneManager.LoadScene("FlagLand_Update", LoadSceneMode.Additive);
    }
...
```

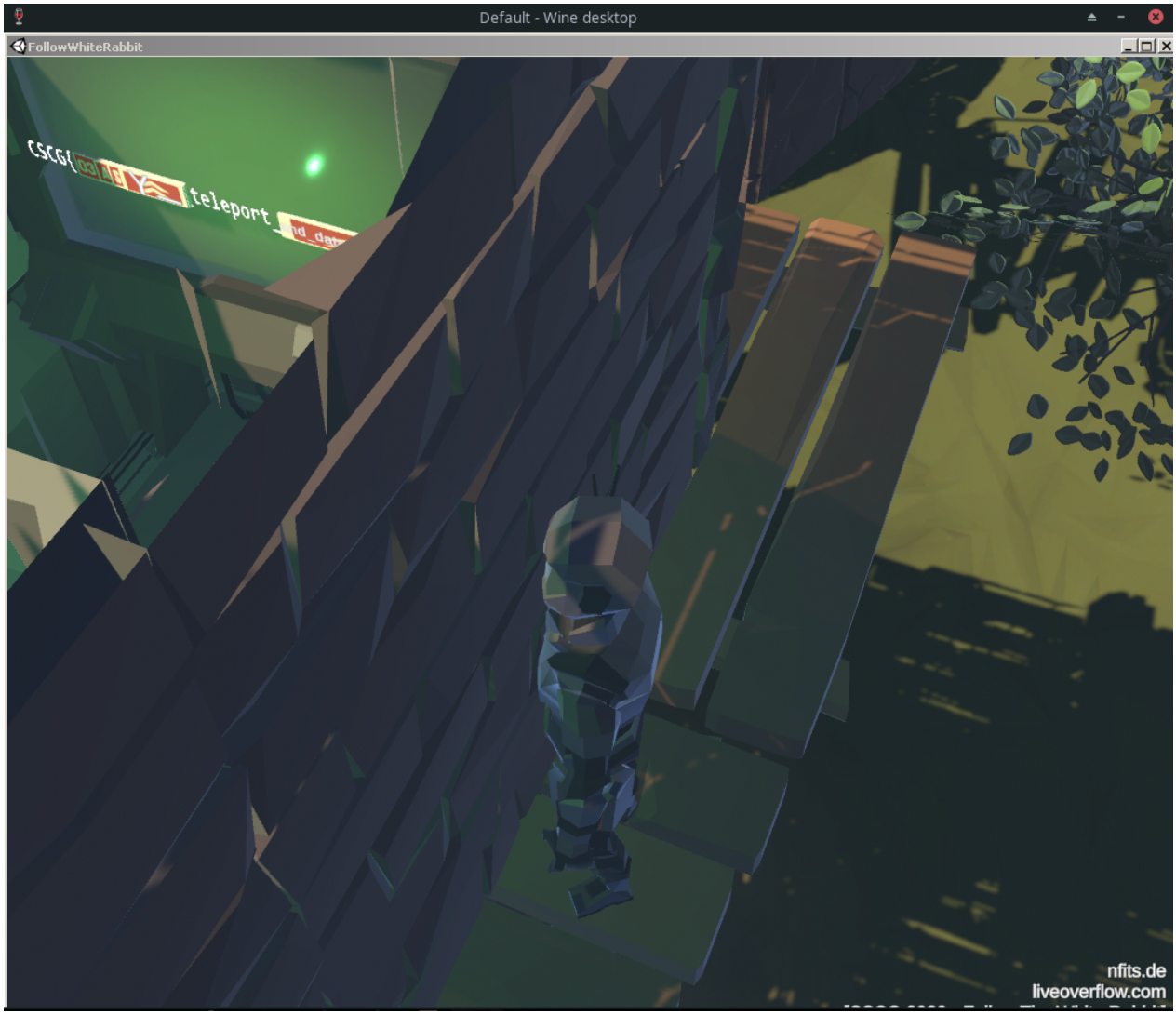
This loads the update into the game, we are however unable to get into the prison due to the door being blocked. Looking for different options, I tried to disable a GameObject.
The roof has the name `PolygonSamurai_Mat_02` (we can view it in the unity editor), so perhaps by disabling it we can look inside and see the flag.
Here is described how we can find a GameObject by name and here how we can disable it.
For some reason, it didn't work if I put it directly after loading the function, so I picked a different function where I can put the code that disables the roof. I picked the `showText` class that prints the "under construction" text, so I was sure that it was being used at least once.

```
public class ShowText : MonoBehaviour
{
    // Token: 0x0600024A RID: 586
    private void Start()
    {
        this.text = base.GetComponent<TMP_Text>();
        GameObject.Find("PolygonSamurai_Mat_02").SetActive(false);
    }
...
```

If we now load into the game:



And look inside to get the flag:



Note: We can bypass the first door by jumping over the wall when sprinting and jumping from higher to lower ground. To get to the prison, I jumped on the long thingy that goes into the direction of the prison (may need some tries) and from there we can jump to the prison.

Flag: `CSCG{03ASY_teleport_and_datamining_scenes}`

Mitigation

Unity assets files can be encrypted, it is noted however that a user determined to extract assets, will most likely be able to. More information can be found here: https://docs.unity3d.com/540/Documentation/Manual/protectingcontent.html