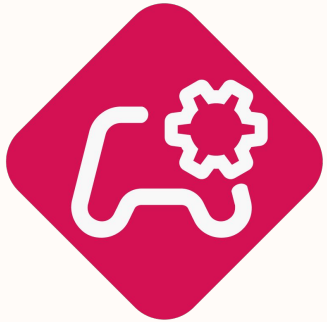
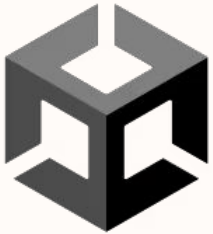


Intro to  Unity®

2D Platformer

acmForge

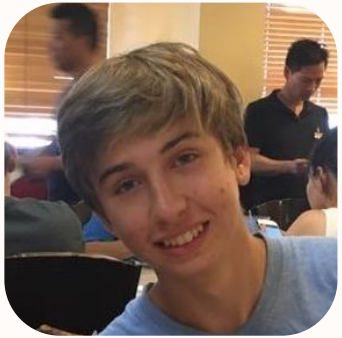
Meet the Squad 😎

Jacob C.

Steph P.

Joseph N.

Logan L.



Angel S.

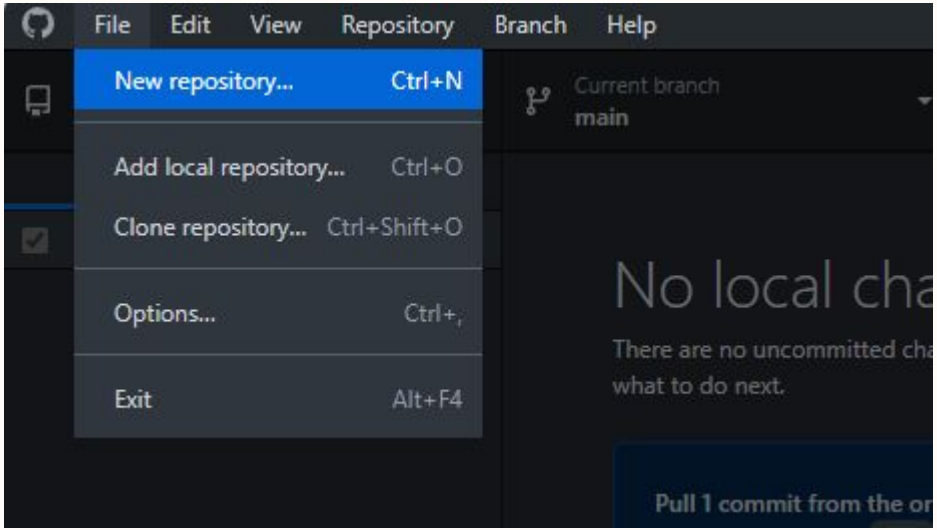
Jordan M.

Setting up a Unity Repo

ACM Blog Tutorial
https://acmcsuf.com/blog/813

Create a New Project

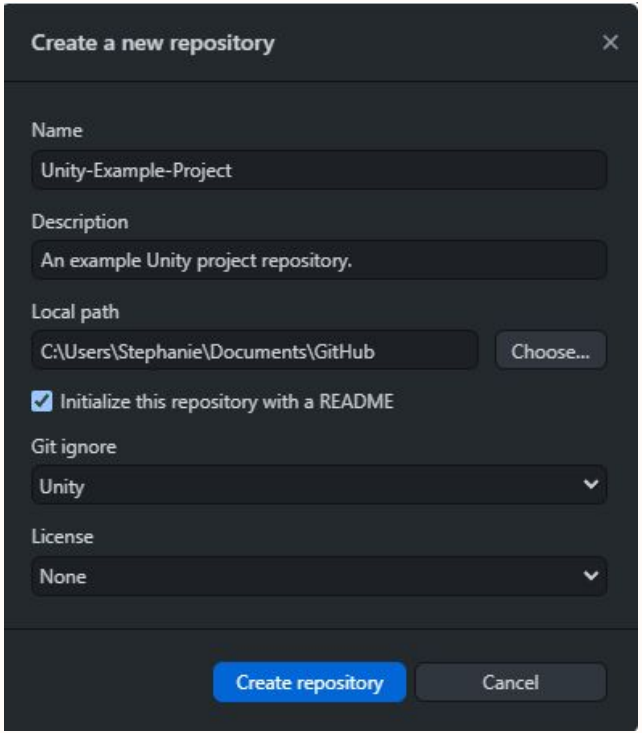
Open **GitHub Desktop** and select **File > New repository**
More detailed tutorial on ACM Blog



Create a New Project

Complete the fields in the pop up menu

Important: select **Unity** under **Git ignore**



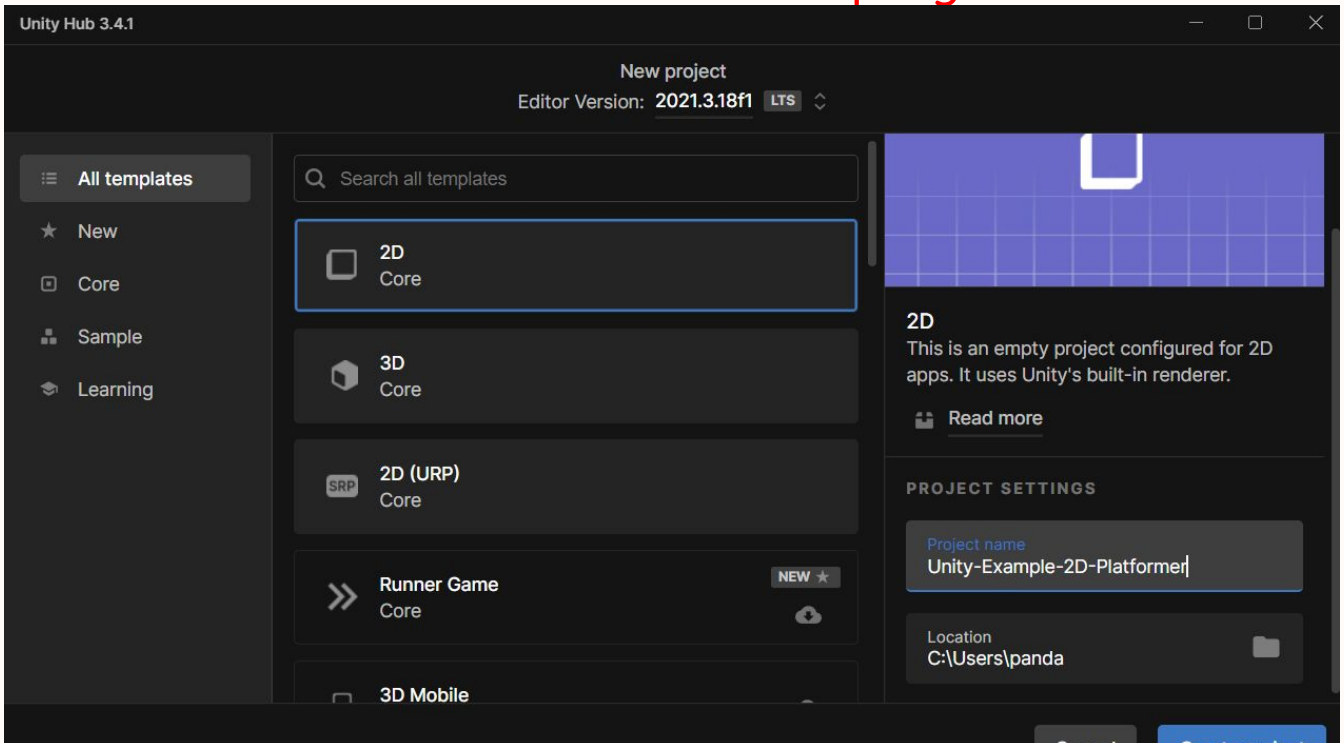
Create New Project in Unity

Open **Unity Hub**, select **New project**

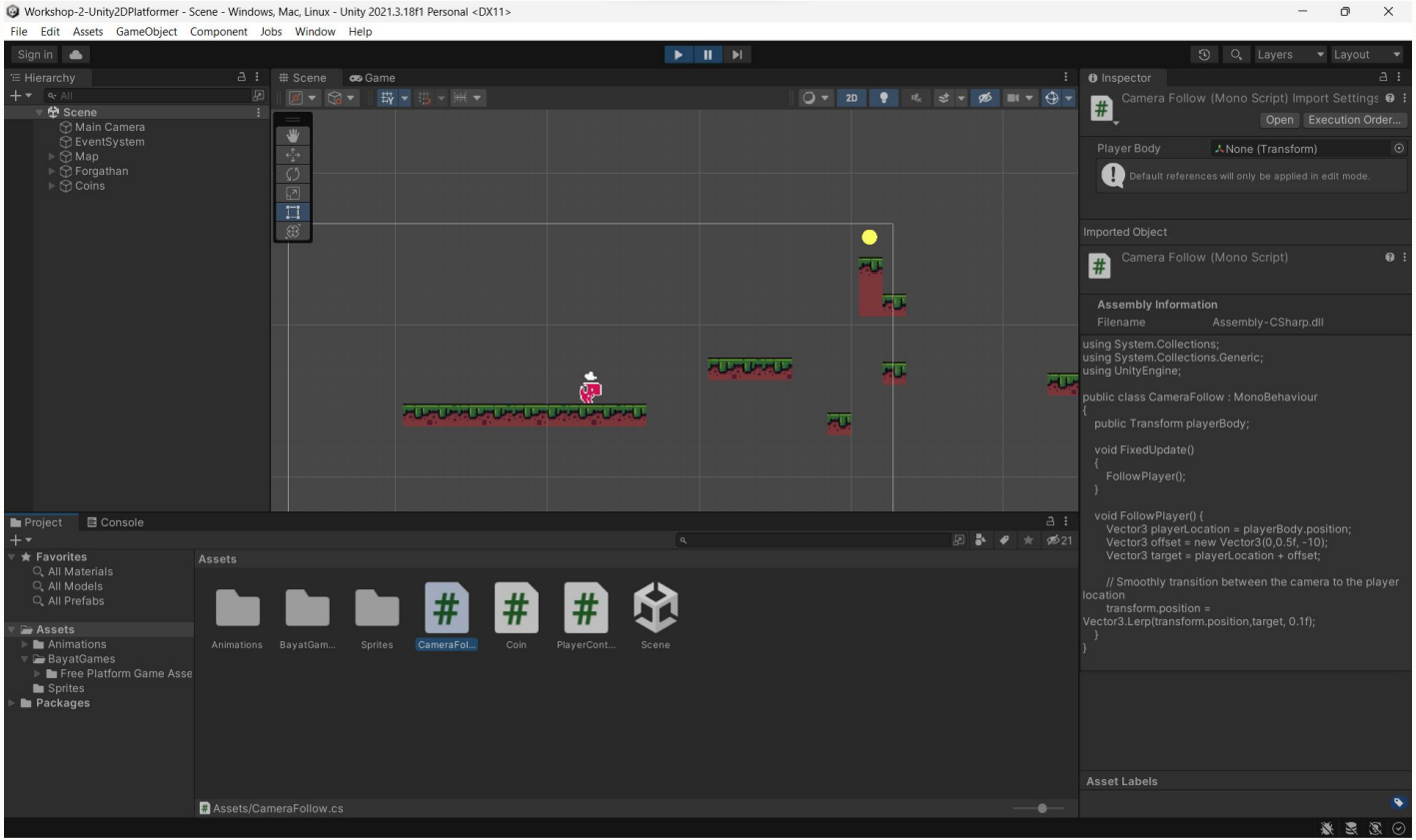
Finalize New Unity Project

Ensure the Editor Version is **2021.3.18f1** for this workshop!

Select the location of the repo you made



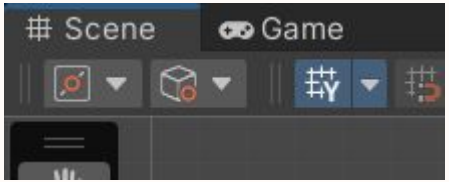
Unity Editor Walkthrough



Scene/Game

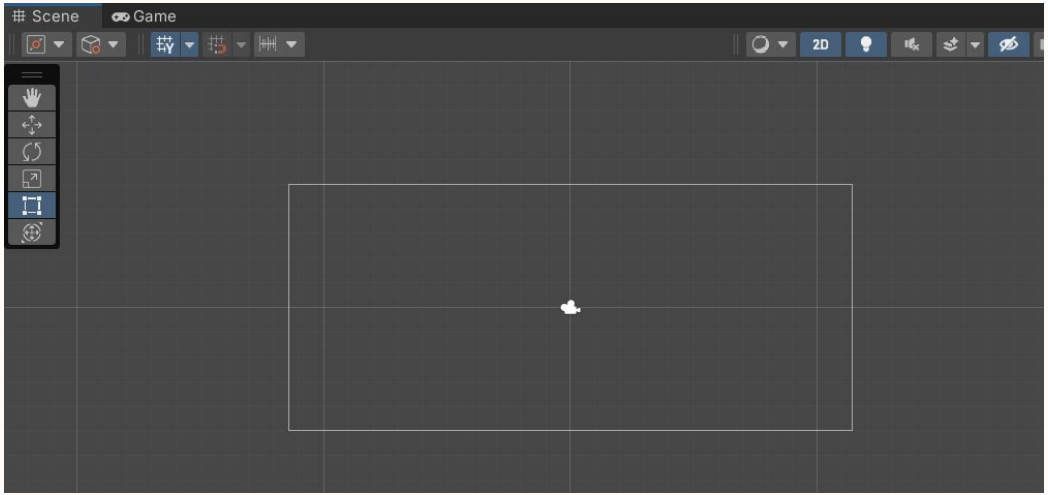
Game

- Shows actual game view (what player will see)



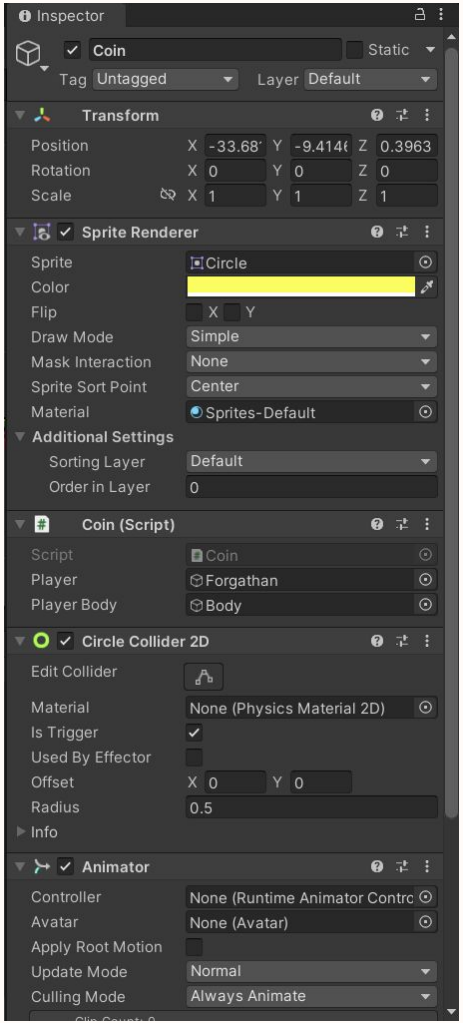
Scene

- Window you will build the game in



Inspector

- Allows you to **view and edit** properties/settings
- Appears when selecting **any object or asset** in Scene view
- Click Main Camera in your hierarchy to see an example



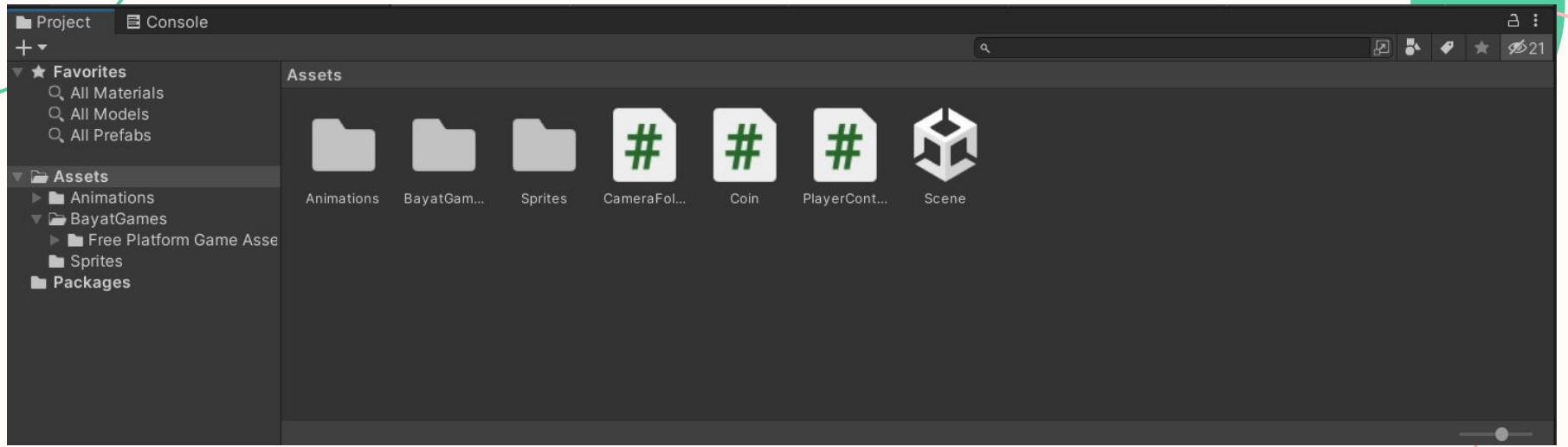
Hierarchy

- Displays every object in a scene
  - Models
  - Cameras
  - Prefabs
- It is used to **sort and group objects together**, as well as to **add/delete objects from a scene**
- **Important to keep organized!**

Project/Console

Project is where you'll find **all the files, assets, sprites**, etc related to your game

Console displays any **errors or warnings** that the Editor catches



Script Editor

- Unity uses Visual Studio 2019/2022 by default
  - You can change it to VSCode
- First opening a C# script after changing to VSCode will show a BUNCH of new files
  - Creates mess of workspace
  - Follow this guide to have VSCode disregard unimportant files

Assets

Go to this google drive link for the **free assets!**

Vector2 vs Vector3

Functionally the same... with a few differences 😏

Boils down to **camera angles** being used in game view!

Vector2

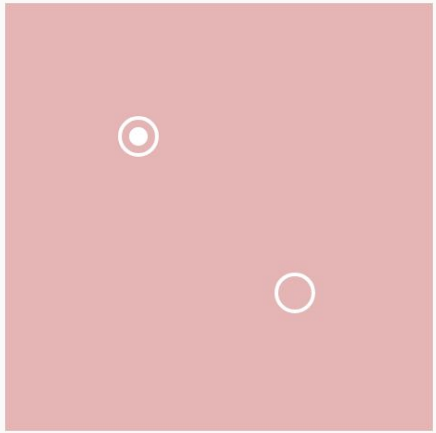
- Usually for **2D**
- Use x/y axis

Vector3

- Usually for **3D**
- x/y/and z axis

Linear Interpolation

- **Smoothly animate from one coordinate to another**
- Example in **FollowPlayer** function in **CameraFollow.cs**
  - Instead of statically attaching camera, we **track, and offset, Forgathan's position in real time**
  - Use linear interpolation to glide the camera, frame by frame, to Forgathan's coords



Notice how the camera just slightly lags behind Forgathan!

Time.deltaTime

Without Using Time.deltaTime
Pseudocode:
Speed = 10
Player.position.x += speed

The player moves 10 pixels every **frame**.

10 fps - your character will move really slow!

2000 fps - your character will move fast!

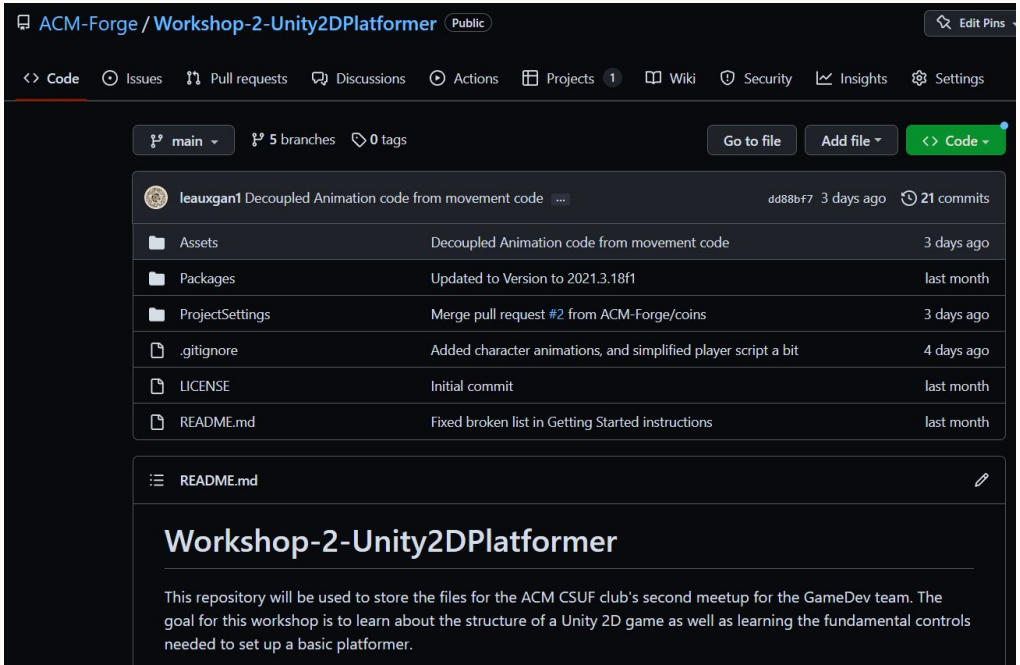
With Using Time.deltaTime
Pseudocode:
Speed = 10
Player.position.x += speed * **Time.deltaTime**

The player moves 10 pixels every **second**.

Character will always move at **consistent speed!**

Follow Along at Home!

https://github.com/ACM-Forge/Workshop-2-Unity2DPlatformer
Or use this link

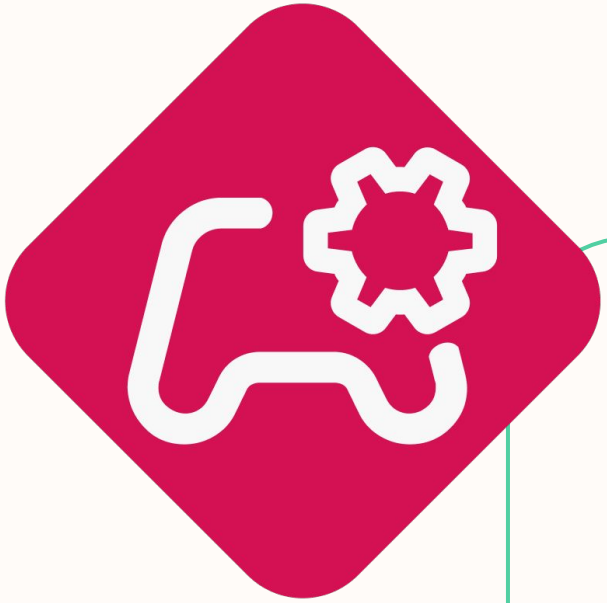


Poll time!

Unity Workshop Part 2

- 2D or 3D?
- What mechanics do you want to learn?
- Genres?

Vote on menti.com
Code: 1587 1412



March Madness: Mini Hackathon + Coding Challenge 1

Right after this workshop
here in CS408!

2-Hour Hackathon

3 themes

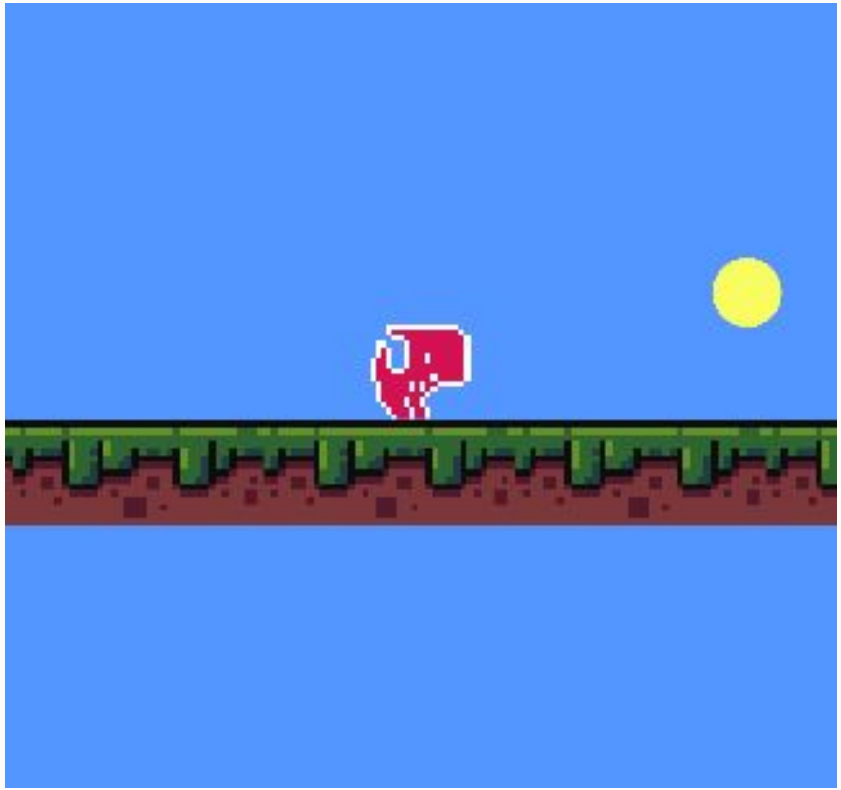
- Productivity
- Visualization
- Monkey

FullyHacks

CSUF's 24-hour hackathon

- For beginners and first-time hackers
- 100% in-person
- April 8th-9th
- **Deadline: April 1st**

Apply @
https://fullyhacks.acmcsuf.com/



Thanks for coming!!