2018 EDITION

GD205

Game Programming II - Prof. Alec McClure

WEEK 2

WEEK 2

Communal Objectives

Let’s figure this out.

Individual Objectives

If not shared before next class, individual evaluations will strictly be based upon the other 3 categories.

REVIEW HOMEWORK

Discussion on **“What is Code?”**

Review vocabulary

I love computers, but they never made any sense to me. And yet, after two decades of jamming information into my code-resistant brain, I've amassed enough knowledge that the computer has revealed itself. Its magic has been stripped away.

A **computer is a clock with benefits**. They all work the same, doing second-grade math, one step at a time: Tick, take a number and put it in box one. Tick, take another number, put it in box two. Tick, *operate* (an operation might be addition or subtraction) on those two numbers and put the resulting number in box one. Tick, check if the result is zero, and if it is, go to some other box and follow a new set of instructions.

You, using a pen and paper, can do anything a computer can; you just can’t do those things billions of times per second.

When you “batch” process a thousand images in Photoshop or sum numbers in Excel, you’re programming, at least a little. When you use computers too much—which is to say a typical amount—they start to change you. I’ve had Photoshop dreams, Visio dreams, spreadsheet dreams, and Web browser dreams. The dreamscape becomes fluid and can be sorted and restructured. I’ve had programming dreams where I move text around the screen.

A programming language is a system for encoding, naming, and organizing algorithms for reuse and application.

The hardest work in programming is getting around things that aren’t computable, in finding ways to break impossible tasks into small, possible components, and then creating the impression that the computer is doing something it actually isn’t, like having a human conversation.

- Unity Background
- Project folder structure
- Scene view / Game view
- Inspector

- 3D basics
- Coordinates -- global vs local
- Vectors
- Cameras
- Polygons, edges, vertices, meshes
- Materials, textures, shaders
- Height maps, bump maps
- Rigid body physics
- Collision detection
- Assets, packages

- Object Model
- Instances
- WebGL Builds

Model your room (or any room) in Unity

Git/Github

```
$ git init
Initialized empty Git repository in /tmp/tmp.IMBYSY7R8Y/.git/
$ cat > README << 'EOF'
> Git is a distributed revision control system.
> EOF
$ git add README
$ git commit
[master (root-commit) e4dcc69] You can edit locally, and push
to any remote.
 1 file changed, 1 insertion(+)
 create mode 100644 README
$ git remote add origin git@github.com:cdown/thats.git
$ git push -u origin master
```

Git/Github Terminology

Repository - Github

Commit - save changes locally

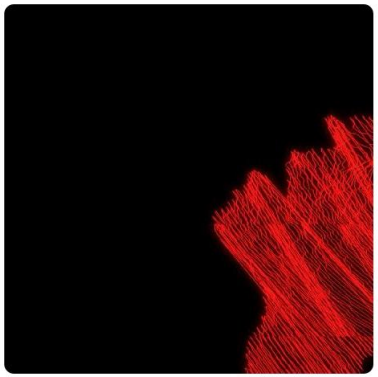
Push - upload committed changes to Github

Pull - upload local files to Github version

Clone - make a local copy of a repository

Search GitHub

Pull requests Issues Gist



Alec McClure

sabotai

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http://www.alecmcclure.com

Joined on Aug 7, 2013

18 Followers **101** Starred **65** Following

Organizations

Contributions | Repositories | Public activity

Edit profile

Find a repository... Search

All Public Private Sources Forks Mirrors New

Hostos-GD205-Spring2016

Updated 9 days ago

Hostos-GD105-Spring2016

Updated 9 days ago

sabotai.github.io

HTML

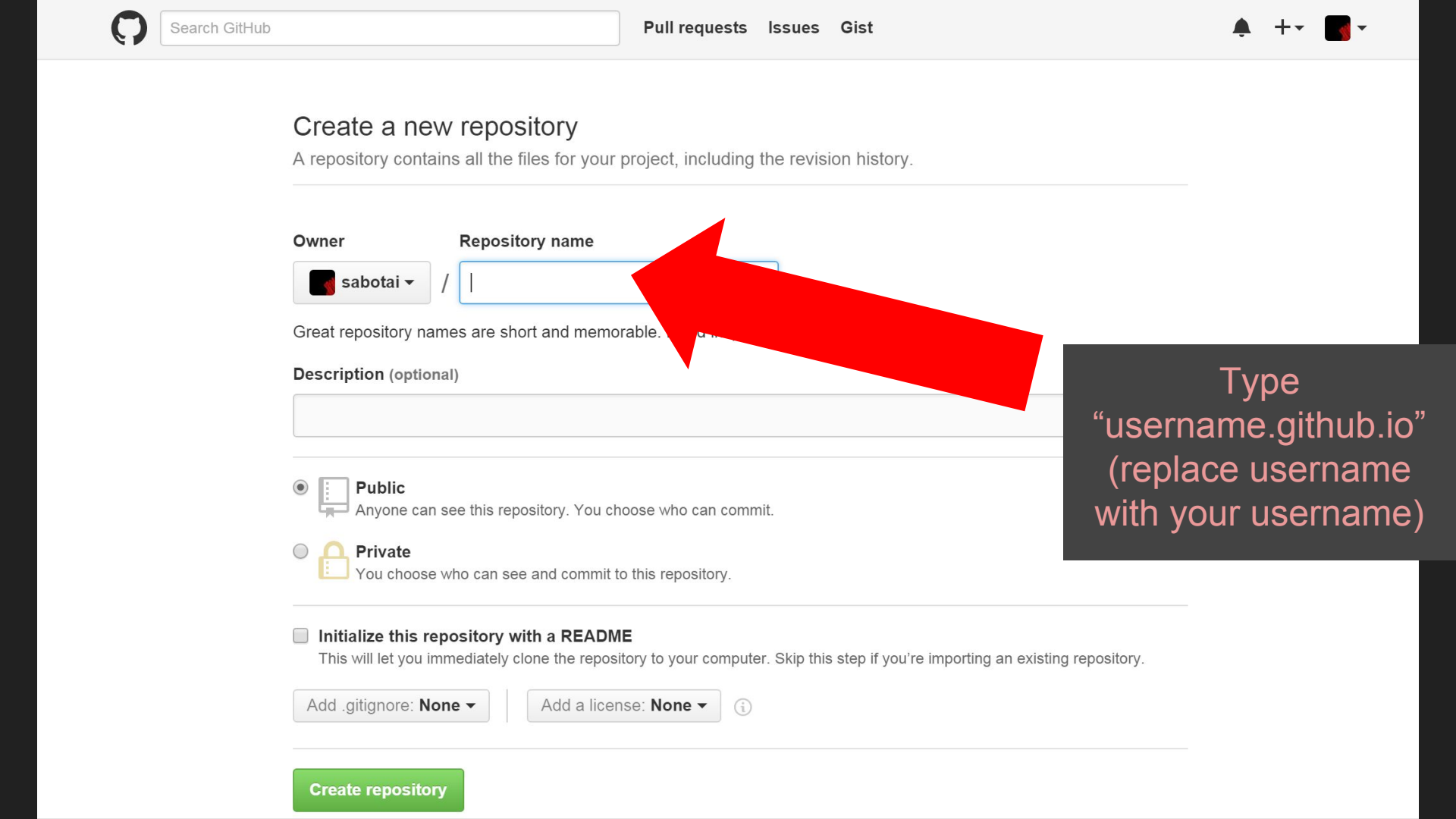
gh hosted site for misc things

Updated 15 days ago

test

0 0

Updated 18 days ago


Search GitHub
Pull requests
Issues
Gist
Create a new repository
A repository contains all the files for your project, including the revision history.
Owner
Repository name
sabotai
/
Great repository names are short and memorable.
Description (optional)
Public
Anyone can see this repository. You choose who can commit.
Private
You choose who can see and commit to this repository.
Initialize this repository with a README
This will let you immediately clone the repository to your computer. Skip this step if you're importing an existing repository.
Add .gitignore: None
Add a license: None
Create repository
Type "username.github.io" (replace username with your username)

You choose who can see and commit to this repository.

Initialize this repository with a README

This will let you immediately clone the repository to your computer. Skip this step if you're importing an existing repository.

Add .gitignore: **None** | Add a license: **None**

.gitignore

Filter ignores…

- SymphonyCMS
- Target3001
- Tasm
- TeX
- Textpattern
- TurboGears2
- Typo3
- Umbraco
- Unity
- UnrealEngine
- VVVV
- VisualStudio

.gitignore
Select Unity

sabotai / sabotai.github.io

Unwatch 1 Star 0 Fork 0

Code Issues 0 Pull requests 0 Wiki Pulse Graphs Settings

gh hosted site for misc things — Edit

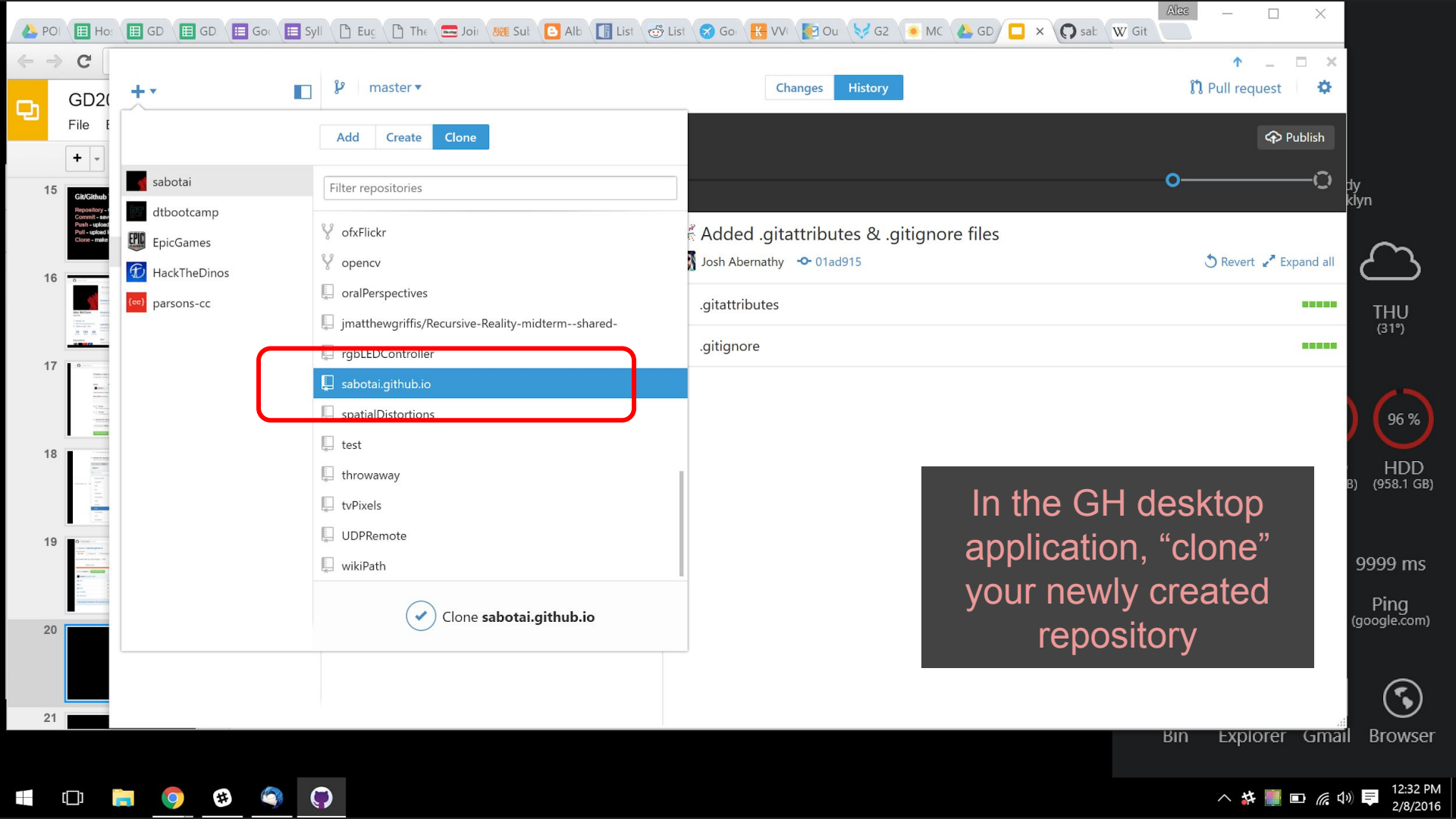
8 commits 1 branch 0 releases 1 contributor

Branch: master New pull request New file Find file HTTPS https://github.com/sabota Download ZIP

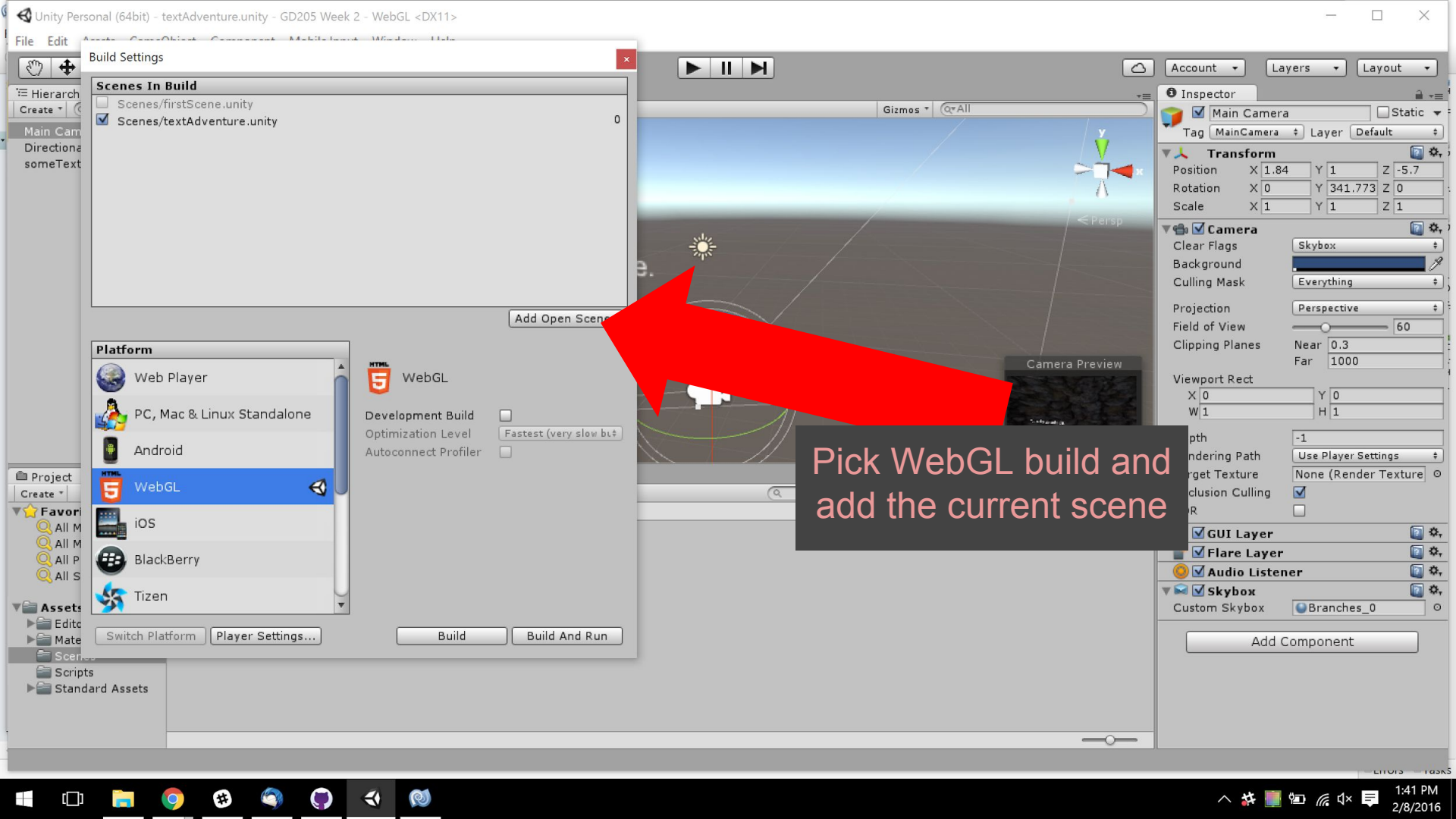
sabotai trying full width Latest commit 9fca3ad 15 days ago

Folly	trying full width	15 days ago
cv	added cv	22 days ago
folly2	added new version of folly	18 days ago
LICENSE	Initial commit	3 months ago
index.html	Create index.html	3 months ago

Help people interested in this repository understand your project by adding a README. Add a README


master
Changes
History
Pull request
Add
Create
Clone
Publish
sabotai
dtbootcamp
EpicGames
HackTheDinos
parsons-cc
Filter repositories
ofxFlickr
opencv
oralPerspectives
jmatthewgriffis/Recursive-Reality-midterm--shared-
rgbLEDController
sabotai.github.io
spatialDistortions
test
throwaway
tvPixels
UDPRemote
wikiPath
Clone sabotai.github.io
Added .gitattributes & .gitignore files
Josh Abernathy
01ad915
Revert
Expand all
.gitattributes
.gitignore
In the GH desktop application, “clone” your newly created repository

1. Add your files to your newly cloned folder
2. Once the changes have been made, return to the GH application
3. “Commit” your changes with a note indicating what those changes were
4. Sync with the server


Unity Personal (64bit) - textAdventure.unity - GD205 Week 2 - WebGL <DX11>
File Edit
Build Settings
Scenes In Build
Scenes/firstScene.unity
Scenes/textAdventure.unity
0
Add Open Scene
Platform
Web Player
PC, Mac & Linux Standalone
Android
WebGL
iOS
BlackBerry
Tizen
WebGL
Development Build
Optimization Level
Fastest (very slow but
Autoconnect Profiler
Switch Platform
Player Settings...
Build
Build And Run
Pick WebGL build and add the current scene
Account
Layers
Layout
Inspector
Main Camera
Static
Tag MainCamera
Layer Default
Transform
Position X 1.84 Y 1 Z -5.7
Rotation X 0 Y 341.773 Z 0
Scale X 1 Y 1 Z 1
Camera
Clear Flags Skybox
Background
Culling Mask Everything
Projection Perspective
Field of View 60
Clipping Planes Near 0.3 Far 1000
Viewport Rect
X 0 Y 0
W 1 H 1
Camera Preview
GUI Layer
Flare Layer
Audio Listener
Skybox
Custom Skybox Branches_0
Add Component
Project
Create
Favorites
Assets
Scripts
Standard Assets
1:41 PM
2/8/2016

CONDITIONALS

what are they?

If ... I go to work

then I will earn money and gain experience

or else I will be broke :(

if (goToWork)

```
{          earnMoney = true;
           gainExperience = true;   }

  else {    broke = true;           }
```

Chess Game of Doom

example

WebGL builds

Push to Github and post link on class blog

-1 folder for the project files, with a build folder inside

HOMEWORK GAME EXERCISE 1 (part 1)

- Create your own chess board style game, complete with text captions, in which a player presses certain keys in order to “navigate” using whole position units. Make sure there are:
  - Positions in which the player cannot move
  - Positions that reset the player’s position
  - 1 winning position (with an additional condition if you want to get ahead)