# CS 3451: Computer Graphics

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## Lecture 2

## Javascript, Typescript, Dev Tools, A0

# From Last classes slides …

# Setting up for Development

- Git and Github Desktop
  - https://mac.github.com or https://windows.github.com
  - Log into github.com, create an account if you don't have one, doesn't need to be personally identifying (we'll get you to submit it)

- Install nvm, use it to install Node
  - Mac/linux (https://github.com/nvm-sh/nvm), Windows (https://github.com/coreybutler/nvm-windows)
  - node (https://nodejs.org)  and npm (https://npmjs.org)

- (optional, will use global ones today in demos) Typescript + rollup
  - http://www.typescriptlang.org/#Download
  - *npm install –g typescript*
  - *npm install –g rollup*

# GITHUB.COM, not GITHUB.GATECH.EDU

- Install an editor with Typescript language service extension
  - I'm currently using Visual Studio Code (works on many platforms)
    - https://code.visualstudio.com
  - Also: Visual Studio, WebStorm, Atom, Sublime Text, Eclipse all have some level of support
- Check out the Typescript samples
  - https://github.com/Microsoft/TypeScriptSamples
- Clone ex1 from class repository
  - https://github.com/cs3451-f21/ex1

# This class

- Web browsers and Javascript
  - Servers,  Pages, and Javascript
  - Event-based, single threaded control flow
  - Scopes, Modules, and Bundlers
- Typescript and Javascript
- Canvas and requestAnimationFrame
- npm, package.json
- Vite and rollup (and servers)
- Ex1 and A0

# Web browsers and Javascript

- Servers, Pages, and Javascript
  - demos/p1.html

# Web browsers and Javascript

- Event-based, single threaded control flow
  - demos/p2.html

# Web browsers and Javascript

- Scopes and Modules
  - demos/p3.html and demos/p4.html

# Web browsers and Javascript

- Bundlers
  - webpack, browserify, gulp, rollup, etc.
  - We are using rollup ([https://rollupjs.org](https://rollupjs.org))

- demos/p5.html

- create bundle.js from p4's js files
  - rollup p4-1.js --file bundle.js
  - rollup p4-1.js --file bundle.js  --format iife

# Typescript and Javascript

- demos/p6.html

# Canvas and requestAnimationFrame

- demos/p6.html

# npm, package.json

- Let's look at ex1 (and a0)

# Vite (rollup and servers)

- Vite ([https://vitejs.dev/](https://vitejs.dev/))
  - uses rollup internally
  - includes a dev server that does dynamic hot-module replacement
  - can build standalone static site
  - supports Typescript

# Ex1 and A0

- Bit of a code walk-through