

Interactive Aquarium

Procedural Graphics Final
Project 2025



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INTRODUCTION

Have you ever wanted to be like Darla from *Finding Nemo*? Gavin and Becca did! Inspired by the following projects, we are embarking on an endeavor to create an interactive virtual aquarium.

- [WebGL Aquarium](#) □
- [Virtual Aquarium](#) □

We aim to create a beautiful and interactive underwater scene filled with fish and aquatic environment elements.



Goal Steps for Fish

1

Make Goldfish (Geometry, Colors)

2

Simple animation: follow a curve!

3

Add interactivity: follow food (potential for Time/lifespan), etc.

4

Improve animation(s)

5

More fish types!



Goal Steps for Environment

1

L-System Plants!

2

Animation for plants (movement in water)

3

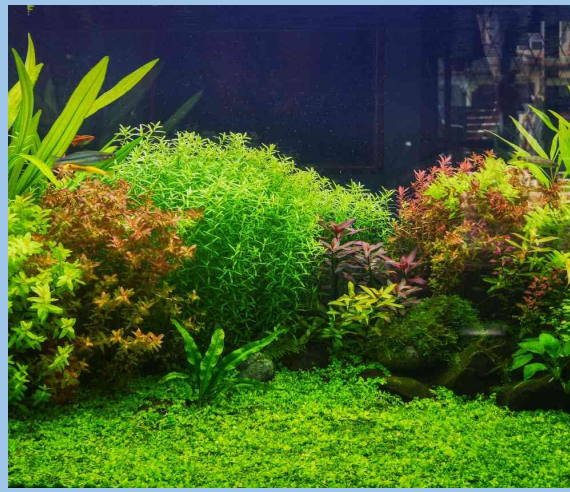
Terrain map sand

4

Water(?) -> Decide if doing blue scene with sky map or tank

5

Multiple tanks? Tank interactivity (choosing what is in the tank?)



Roles



Gavin

◦ ◻ Sears Fish ◻ ◦

◻ Pipeline

- ◻ Procedural fish generation
- ◻ Fish interactivity



Becca W.

◦.⌘ Water Son ◦.⌘

◻ Pipeline

- ◻ Procedural plant/tank environment generation
- ◻ Frontend GUI and other fun stuff to make more game-like

Design Pipeline

1

Procedural generation of assets – typescript

2

Rendering of assets using a webgl rendering pipeline –
also typescript

3

Yeah, you know what's goin on



Timeline

11/3 - 9 Week 0: Planning/Pipeline + Beginning Goldfish/Plant geometry & coloring

11/10 - 16 Week 1: Finalize Geometry/Coloring & Simple Animation

11/17 - 23 Week 2: Interactivity + More Animations for Fish, Tank Environment

11/23 -30 Week 3: Continuation of Week 2

12/1 - 7 Week 4: Polishing and any extras!

12/8 Assignment Due

