Team RoblUGA

Alpha Presentation

WHAT IS OUR MISSION

RoblUGA serves the University of Georgia as a digital twin of the celebrated North Campus, bringing the UGA experience closer to home on a top Metaverse gaming platform. The virtual campus accommodates university tours, student clubs, meeting new friends, and purchasing college swag, supporting UGA students, alumni, and other fans near and far.

PROJECT OVERVIEW

CONSTRUCT THE CAMPUS
Create a digital twin model

01

BUILD THE GAME
Construct the Roblox North
Campus Area

02

SCRIPTING
Utilize Lua to produce the
game's GUI and interactivity

03

PRODUCE SWAG
Create unique content for users.

04

CONSTRUCT THE CAMPUS

SCHEMATIC DESIGN PHASE

The schematic design phase is when you start developing the basic form of the model.

DESIGN DEVELOPMENT PHASE

This design phase is when you really dig into the details.

CONSTRUCTION DOCUMENTS

The construction documents will fill in all the details and include every element of the design.

# SCHEMATIC DESIGN PHASE

Process

- Source Imagery and Videos from around campus.
- Rough out massing model to determine polycount feasibility.
- Figure out best process for getting final model into Roblox Studio.

Additional Process

Using the iPhone Pro I was able 3D Scan various points around campus. Although easier to accurately capture existing surroundings it created a new set of problems with its high poly-count and poor resolution that required additional work.

DESIGN DEVELOPMENT PHASE
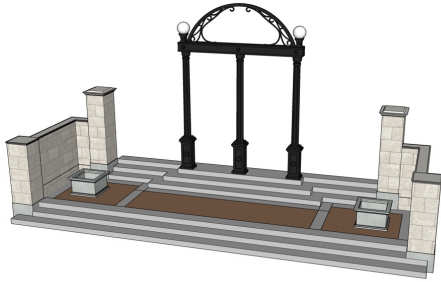
Process

- Review, Revise, and Expand 3D model details.
- Solve for unforeseen issues with the models
- The end of DD phase should include a completed set of sufficiently working 3D models.

Additional Process

Some of the building had to be reduced in quality to comply with the polycount. I had to sacrifice some of the looks of the building in order to meet the 10K limit
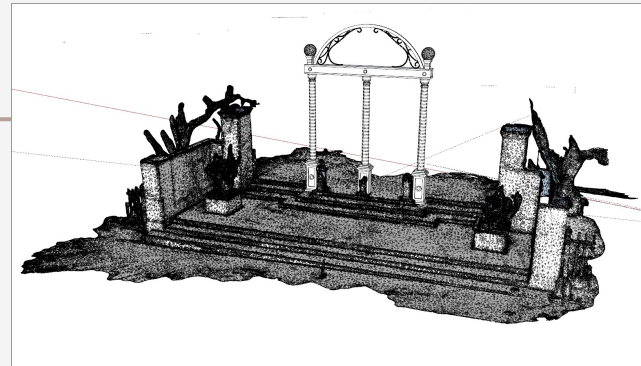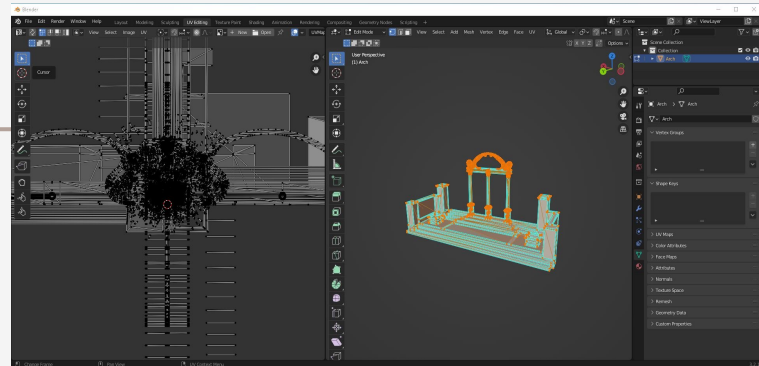
CONSTRUCTION DOCUMENTS

Process

- Provide information in the form of final models and specifications
- 95% Finished with Model
- In-game parameters are finalized

Additional Process

Final model adjustments are required during this phase. I had to develop a process in order to make unforeseen modifications to the model to quickly reload into Roblox.

BUILD THE GAME

IMPORT MODELS

Correctly scaled and geolocated models imported into Roblox.

LANDSCAPE & MATERIALS

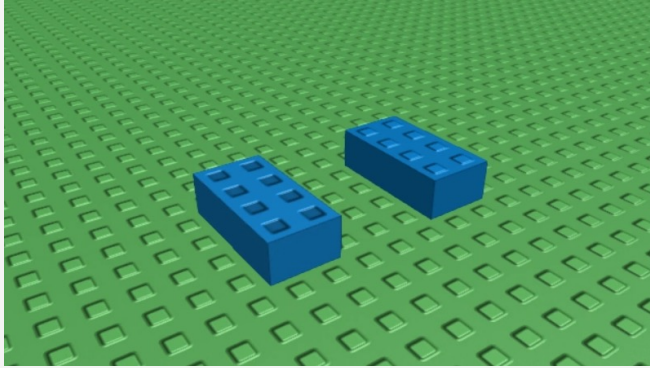Download and create custom trees and shrubs

GUI CREATION

Custom create icons and button in Roblox

IMPORTING MODELS

Process

- All models must be Max 10k Triangles.
- Textures must be baked in Blender
- .12 Meters = 1 Roblox Stud

Additional Process

Roblox restricts imported models to 10K triangles and 1 Texture map. Bringing models into Blender and baking 10 building textures into one big texture was unanticipated, but it ultimately makes for better gameplay.
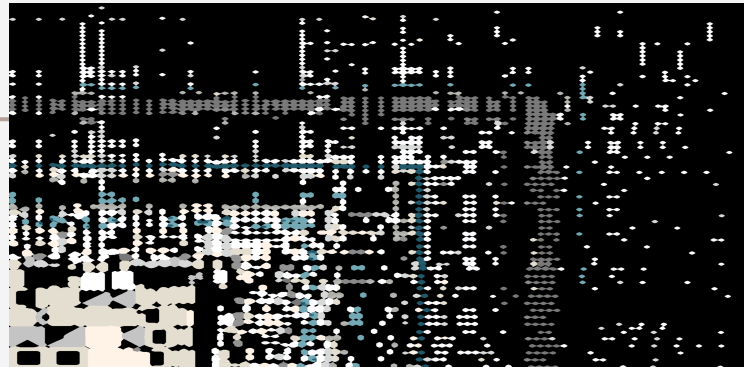
# LANDSCAPE & MATERIALS

Process

- Trees and shrubs must "faked" using multiple .png files
- Only a Diffuse texture is allowed in Roblox so each texture must have its own depth

Additional Process

Be careful using items from the market place. Some Items such as Trees have scripts that make them blow in the wind and this can cause catastrophic results to your game if the code is poorly written.
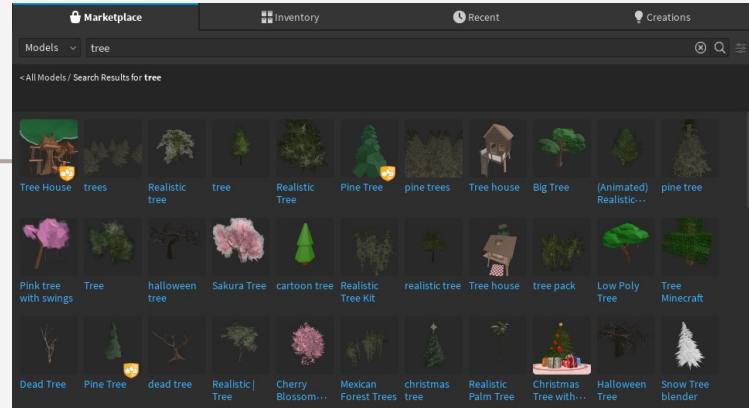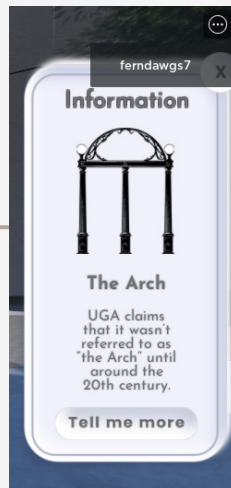
GUI CREATION
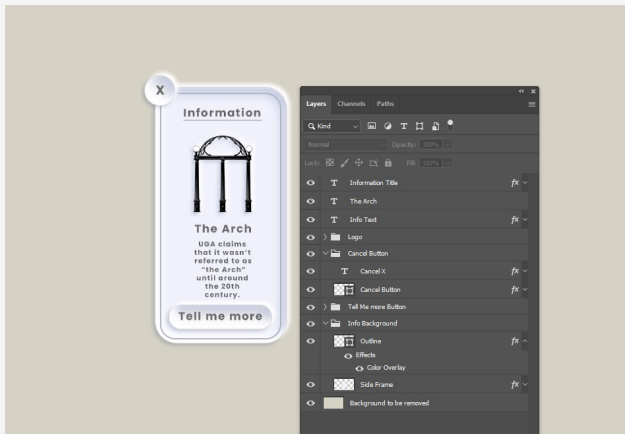
Process

- Pre-design .psd files with desired layout.
- Import .psd files layer by layer
- Re-create layered images in Roblox

Additional Process

Custom fonts are not supported at this time so you must find a custom in-game font.

SCRIPTING

Lua

Roblox employs the Lua scripting language because it is easier for children to learn.

Visual Studio Code

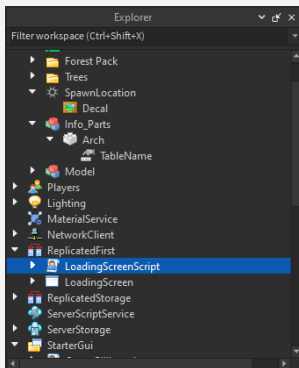Lua can be built and tested in Microsoft Visual Studio

In-Game Studio

The code is simple to understand and can be edited while testing.

SCRIPTING

Process

- Optimize code for reading, not writing
- Many people will need to read it, from the reviewers, to any one else that touches the code
- You can put scripts in various containers in the Explorer.
- If you put a script under a Part, Roblox will run the code in the script when the part is loaded into the game.

CREATE SWAG

Free

Create custom content to give away to new players in order to entice them to visit.

Paid Tier

Free content can be upgraded to include desired premium variations.
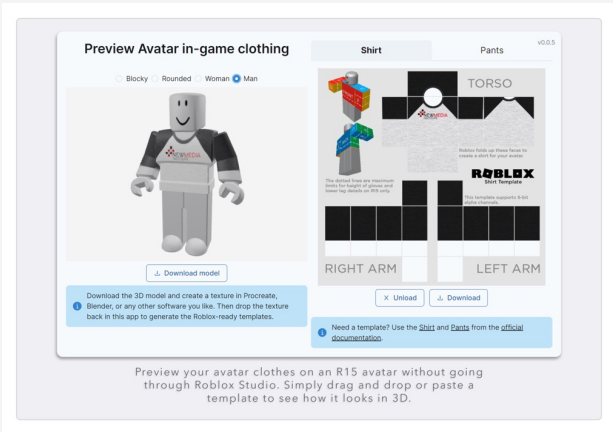
Outside Sales

Stakeholders can set up virtual shops to sell customized products from their store.

CUSTOM SWAG

Process

- Use templates to create clothing
- 3D model anything
- Use Free content

Additional Process

Customize your Avatar with UGA inventory collected along the way.

THANKS

Does anyone have any questions?

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