Luis Garcia Remes - Game Engineer

(801) 367-9091 | luisagarciaremes@hotmail.com | Portfolio |GitHub

SKILLS

LANGUAGES
- C#
- C++
- Java
- LUA
- Objective C
- Python

ENGINES
- Unity
- Unreal Engine 4
- MonoGame

PLATFORMS
- Windows
- iOS
- Android

TOOLS
- Jira
- Git
- Perforce
- Photoshop
- Maya
- Visual Studio
- Arduino IDE
- Machinations.io

OTHER
- Fluent in Spanish
- 3D Math & Physics
- Level Design
- Systems Design
- Game Design
- Paper Prototyping
- Communication Skills
- Electrical Engineering

WORK EXPERIENCE

Dyad Labs | *Salt Lake City* | *Microbiology Lab Tech II* | JUNE 2015 - AUGUST 2019 & OCTOBER 2020 - PRESENT

- Worked in a small team to test various types of nutraceutical products for foodborne pathogens to ensure health and safety standards. Responsible for creating and evaluating new testing procedures to improve the accuracy and turnaround time of results.

The GApp Lab Center for Medical Innovation | *Salt Lake City, U of U Hospital* | *Designer & Lead Engineer* | MAY 2019 - MAY 2020

Breath Easy *(An endless runner therapy game developed in Unity for iOS designed to help spinal cord injury patients through the process of decannulation by providing entertaining and relaxing gameplay coupled with a spirometer controller that gathers and analyzes biometric data.)*

- Developed a prototype controller using Arduino and an electronic flow meter to register controls using a player's breath and a prototype head tracking controller using OpenCV plus Unity and a webcam.
- Worked with health care providers to design and implement 2 of 3 game modes including a mode to calibrate game difficulty based on a patient's data received from the spirometer peripheral.
- Wrote an Objective C script to allow Unity to communicate with a 3rd party iOS SDK to utilize a Bluetooth spirometer as an input peripheral and read patient biometric data.
- Implemented UI systems using Unity's Canvas and back end data systems with tools to allow health care providers and patients to export biometric data.

Going Home Toolkit *(A point and click adventure research game developed in Unity for Android designed to help health care providers find and help at-risk geriatric patients recovering from surgery and provide patients with the resources to properly recover and maintain their health.)*

- Implemented UI systems using Unity's Canvas system and back end data systems with tools to allow researchers to export patient data.
- Designed and programmed various point and click gameplay features.
- Integrated 411 database to provided patients with tools and local resources to properly maintain their health after surgery.

GAMES/PROJECTS

Strange Creatures *(A co-op physics puzzle game.)* | *Gameplay/UI/AI Engineer* | *Unreal Engine 4, C++* | SEPTEMBER 2019 - MAY 2020

- Worked with the design team to implement mechanics for 2 of the 4 playable characters and various physics puzzle objects.
- Developed and designed UI systems using Unreal UMG.
- Designed and created AI for collectible lab rat NPCs using Unreal's navmesh, behavior tree, and AI perception systems.
- Implemented various systems such as save, SFX, audio settings, and local multiplayer.

Ready?Set.Haiya!!! *(An alt ctrl fighting rhythm game.)* | *Lead Hardware Engineer* | *Unity, C#* | JAN 2019 - MARCH 2020

- Designed and created a punching bag alternative controller using Arduino and homemade pressure sensors.
- Implemented an input script to interface between Arduino and Unity.
- Created the prototype UI systems and local leader board UI for the final release using Unity's Canvas tools.

Custom Engine Tools and Systems *(C++ engine systems and tools.)* | *Engineer* | SEPTEMBER 2019 - DECEMBER 2019

- Implemented a 2D collision system utilizing AABB box and circle collision detection.
- Created asset builders to load various types of assets from LUA files and write them to binary files.
- Created a tool to export Maya files as custom LUA files.
- Developed a basic asteroids gameplay demo using the custom engine and tools.

Custom 2D Engine *(2D C++ engine.)* | *Engineer* | SEPTEMBER 2018 - MAY 2019

- Implemented a heap manager memory allocator.
- Developed utility classes (strings, vectors, matrices, and smart pointers).
- Integrated GLib for basic 2D Graphics.
- Created a basic 2D collision utilizing AABB box collision detection along with a 2D physics system.
- Implemented basic SIMD float calculations for custom matrix class.

EDUCATION

The University of Utah, Salt Lake City | *Masters of Arts & Engineering, Game Engineering Emphasis.* | AUGUST 2018 - MAY 2020

The University of Utah, Salt Lake City | *Bachelors of Science, Applied Physics, Astronomy Minor.* | AUGUST 2011 - MAY 2015