Tyler Small

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Selected Projects

Twitch Game Integration (C++/C#/CLR)

- Game engine plugin that allows a developer to set keywords that have actions in a game, the plugin then scans a Twitch.tv channel's IRC chat room for those keywords and performs the keyword's action in game.
- Ported to Unreal Engine and Unity
- Written in C++ but has bindings for C# using Windows CLR (C++/CLI)
- Works on Linux and Windows using Socket and WinSock libraries respectively

Artemis - Multiplayer First-Person Shooter (C#)

- Worked with multiple other developers to develop the game from scratch using the Unity engine
- Implemented multi-player using Photon for Unity to track player positional data
- Developed hit registration that is tracked by the server and Artificially Intelligent bots that chase the player for a single-player mode

Slingo - Video/Voice chat in a mobile app (Javascript / React-Native)

- Contracted by the Greenville free health clinic to build a mobile application to help with off-site translation for patients
- Used an iterative design process to build an application with our client via weekly meetings
- Azure DevOps to plan sprints, assign user stories, and apply story points
- Git used for version control
- Sketch prototyping tool used to prototype UI to our client during development

VxEngine - 3D/2D Game Engine (C++)

- Developing a multi-pipeline rendering engine (dx12/OpenGL/SDL) using modern C++
- Audio Engine developed using the JUCE framework
- Supports loading of 3D objects and images, playing sound files, camera translation, parallax scrolling for 2D games, loading shaders, and hit registration

EDUCATION

Clemson University **Jan 2016 – Aug 2019**

- B.S. Computer Science GPA : 3.1

Experience

Clemson Capstone – Team Leader **Jan 2019 – May 2019**

(4 Team Members - Create a VOIP mobile app for the Greenville Free Health Clinic)

- Planned sprints and did requirements gathering with our client using agile methodologies and practices
- Used React-Native to create a cross platform UI
- Implemented a real-time scheduler into the application - much like Google Calendar
- Used AWS and Docker to create a server that stores and retrieves user data - interfaced to our mobile application

Clemson CPSC 4820/6820 **Aug 2018 – Jan 2018**

(3 Team Members - Create a 3D multi-player game using Unity)

- Developed A.I. framework for single-player mode
- Implemented 3D Networked multi-player using Photon
- Implemented a new technology to interface a real time online chat room to variables within the game (speed of character movement for example)

SKILLS

Languages

C++ 98 / C++11
C#
HLSL/GLSL
Arm Assembly
Javascript/React

API

DirectX 11/12
SDL 2.0
OpenGL 4.5
WinSock/Socket
ImGUI/Qt/JUCE
Windows (Familiar)

Dev Tools

Visual Studio 15/17/19
Pix
GPUView
Unreal Engine
Unity
Cmake
Linux Makefile

Math Skills

Linear Algebra
3D Math
Discrete Math

OS

Windows
Ubuntu

Collaboration

Git
Azure DevOps