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**Tyler Small**

**github.com/vxlk**

**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](https://github.com/NVIDIAGameWorks/Falcor)

**SKILLS**

**Languages** C++ 98 / C++11 C#

HLSL/GLSL

Arm Assembly Javascript/React

**API**

DirectX 11*/12*

[the Unity engine](https://github.com/NVIDIAGameWorks/Falcor)

* 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

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

* B.S. Computer Science

# Experience

GPA : 3.1

**OS**

**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)

Windows

Ubuntu

**Collaboration**

Git

Azure DevOps