Tyler Martin

Software Developer

Email: tyler@tylermartin.net
Phone: 801-369-4724
Portfolio: tylermartin.net
LinkedIn: linkedin.com/in/tylerjaymartin
GitHub: github.com/laxcat

Summary

- 10+ years UI and interactive motion development for font-end, mobile and game engines in the client-based creative marketing and digital product industries
- Strong creative skills, work well with artists and designers to implement immersive, detail oriented creative experiences
- 10+ years iOS and general mobile development, specializing in native Apple frameworks, especially UIKit and Core Animation
- 10+ years of full-stack, Flash, and generalist creative web developer skills
- 10 years 3D programming, general game-dev, low-level graphics API implementation
- Strong generalist engineering skills, software design patterns, 3D math (linear algebra, vector/matrix math, quaternions), object-oriented design, algorithms, data structures
- Worked with clients such as Toyota, Nike, National Geographic, Nickelodeon, Google, HBO, PayPal, Nokia, Nintendo, adidas, Old Spice and more
- Client-dependent career demonstrates strong problem-solving, troubleshooting and communication skills
- Proven as self-motivated, self-managing team player with strong work ethic from career as contractor
- Lifelong love of learning, developing, and improving technical skills

Skills

- Expert with C++, C, JavaScript (native, ES Modules), CSS, WebGL, shaders (GLSL, HLSL, Cg, MSL, ShaderLab), Python, Objective-C, Swift
- Proficient with Three.js, Rive, WebAssembly (WASM), CMake, Xcode, BGFX, GLFW, OpenGL, OpenAL, Metal, Flash, AS3, React, React Boilerplate, Procreate, Blender, Illustrator, Photoshop, Sketch, Unreal Engine (UE5)
- Shipped projects for platforms: iOS, Web, Apple TV, macOS, Android, Windows, Windows Phone

Experience

04/2010 – Present
Company: Tyler Martin Software Development
Software Developer
- Built a custom physically based renderer prototype intended to power in-dash systems for an internal design team at Toyota as a potential backup for their more experimental efforts
- Utilized my strong math skills to engineer a custom 3D camera for playful interactive ski resort maps using Three.js
- Capitalized on my broad generalist programming skill set to create a custom back-end API integrating Stripe payment system
- Created custom animated shaders for multiple platforms and shader languages (desktop Unity, iOS Metal) and fine-tuned 3D motion for an unreleased installation project for Tokyo 2020
- Integrated a physics engine into multiple mobile platforms to make a fun interactive simulation for Starbucks

- Integrated OpenGL into native iOS UIKit, created custom 3D animations and effects, designed and implemented a 2D fluid simulation, wrote custom shaders and optimized sluggish UI code to prioritize a smooth experience for Nickelodeon's primary iOS app
- Engineered the front and back-end of a working prototype of a multi-player online poker game
- Built custom-made, engaging interactive prototypes and final products for mobile and web using Swift, JavaScript, CSS, OpenGL, C/C++, Objective-C, Python, Java and others for clients such as Nike, National Geographic, Google, HBO, PayPal and Nokia

04/2010 – Present
Company: Ultramegatronic
Game Developer
- Released solo-developed Flipominos, a procedurally generated puzzle game for Apple TV, iPhone and iPad in 2016 that features a custom-developed algorithm that progressively scales the difficulty
- Released solo-developed game Envelop, an action-puzzle game for iPhone in 2012
- Built a custom game engine for Apple platforms using Objective-C, OpenGL, custom shaders (GLSL) and OpenAL to facilitate Envelop and early prototypes
- Progressively improved custom engine for Flipominos by porting it to C/C++ to target multiple platforms with one code base (CMake, GLFW), wrote a physically based renderer with custom shaders (BGFX, GLSL), engineered a memory manager, and designed and implemented a GLTF loader
- Ported a subset of the Chipmunk 2D physics engine to the Playdate handheld and created a playable prototype with procedurally generated levels using the C API; developed a companion tool desktop app to visualize and develop the procedural level creation
- Created a legible, playable solitaire game for the Arduboy using Arduino flavored C++, a particular challenge with the device's 1-bit 128x64 screen

09/2019 – 04/2020
Company: Impossible Bureau
Lead Software Developer
- Made stunning 3D visualizations as early prototype work for Mya Lynn's What Is Missing project, including integrated run-time design tools
- Integrated custom WebAssembly/WebGL pipeline into React project, including server-side compiling of WebAssembly
- Loaded and programmatically animated GLTF 3D models with a custom-made Three.js + React stack
- Taught and advocated the benefits of broad programming knowledge and gave general team leadership to small team of mostly junior web developers

02/2007 – 04/2010
Company: Struck
Software Developer
- Contributed to the design concept, engineered the image processing code and solved the creative programming challenges for LEGO Photo, LEGO's first iPhone app, which received millions of downloads in the early days of the AppStore
- Developed the interactive programming, animated, and engineered back-ends for many successful marketing campaigns, apps and websites for clients such as Nintendo, adidas and Old Spice

Education

Graduated: 2004
Brigham Young University
Bachelor of Arts, Visual Arts