

Angel Campos

Senior Software Engineer

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Technical Skills

- Language Experience: C#, Python, C++, Java, Objective-C, Typescript, SQL
- Toolchain Experience: Unity, .Net, Git, Bash, Shell Scripting, Docker, AWS, Azure, Firebase, NUnit, MSTest
- Platform Experience: Windows, Linux, OSX, Android, iOS, VR/AR
- Self-taught in computer science fundamentals, 3D math, design patterns, OOP, and SOLID principles.

Education

The Art Institute of California - Los Angeles

2003-2007

- BA in Game Design & Development

Career Experience

Mooncast Online

Senior Engineer – *Contract*

May 2024 – Present

- Ground-up development in C# of core gameplay systems such as player controls, character animations, equipment management, harvesting, combat, and fishing.
- Researched, and evaluated different Motion Matching libraries in order to implement dynamic character animations without the use of Mecanim state machines.
- Addressed multiplayer latency issues by using spline-based interpolation to resolve character animations, world positions, and testing multiplayer features with local server instances running in Docker.
- Scripted a custom Maya tool panel in Python to enable our animator to export MoCap takes in Biovision Hierarchy (BVH) format to use with our Motion Matching system.
- Prototyped, iterated, and finalized the control mechanics, and line tension physics for the game's fishing system.
- Wrote custom editor tools in C# to read and write level environment data into compact binary files to achieve optimal loading times.

Gala Games

Senior Game Engineer – *Full-Time, Mirandus MMO Team*

Oct 2022 – Apr 2024

- Responsible for end-to-end implementations in C# of harvesting, looting, and crafting systems based on game design docs.
- Learned, maintained, and improved the character Motion Matching system in order to improve character animation performance.
- Became proficient with Docker to debug and improve multiplayer features such as loot drops, character animations, hit detection, world positions, and player orientation.
- Wrote tools in C# to help eliminate large amounts of asset redundancies within the project that were causing content errors.
- Optimized the asset bundle build process in order to improve the content integration pipeline and greatly reduce client file size.
- Built asset automation and validation tools in order to help the art team integrate their work, and detect issues early.

InContext Solutions

Senior Software Engineer I – *Full-Time, ShopperMX VR Team*

Feb 2021 – Aug 2022

- Implemented user-friendly UI/UX features, interaction controls, and spatial navigation tools in C# for ShopperMX VR experience.
- Wrote automated interaction tests in C# using a library called Game Driver to test all user-facing features at runtime.
- Continuously profiled VR application to address CPU and GPU bottlenecks to ensure consistent framerate of 75-90 fps.
- Maintained and extended Photon multiplayer features such as navigation, interactions, emotes, and sound triggers.
- Routinely took on MySQL database management tasks such as creating and maintaining tables for new client research campaigns, grooming data for ongoing clients, and writing queries to support new ShopperMX features.

Sphero, Inc.

Software Engineer, SDK – *Full-Time, SDK Team, Sphero EDU Team*

Sep 2017 – Dec 2020

- Maintained and extended multi-language SDK written in C++, featuring C#, Java, Objective-C, and TypeScript wrappers used in Sphero applications to program control robots via bluetooth.
- Developed, released and maintained the open-source public Python SDK to enable users to program and extend functionality of the RVR treaded robot. The public SDK is still available on [GitHub](https://github.com).
- Supported warehouse staff by developing a custom application, written in Objective-C, capable of mass firmware upgrades for incoming inventory. The app was used to save staff time from manually updating units one at a time.
- Proactively participated in company product pitches, and prototyping efforts to research and iterate on new product ideas.
- Improved performance of Sphero applications to increase adoption of Sphero products in schools since they tend to use lower-end tablets and chromebooks in classrooms.

Vertebrae, Inc.

Senior Unity Engineer, SDK – *Contract, SDK Team*

Aug 2016 – Aug 2017

- Co-Authored Unity SDK in C# and C++ to download and display sponsored 3D content into AR/VR experiences at runtime.
- Continuously wrote unit tests to ensure API reliability.
- Implemented solution in C++ for pre-loading 360-degree spherical videos in a background thread without impacting main experience running on main Unity thread.
- Developed a custom video player which featured client-side spherical gaze tracking in order to gather metrics used to track user content engagement.
- Worked with the backend team to specify SQL table schemas and queries to compile ad campaign metrics from live deployments.
- Built various VR experiences showcasing Vertebrae tech for trade shows and client meetings to attract new business.

Space Inch LLC

Unity Engineer – *Contract, Engineering Team*

Apr 2015 – Apr 2016

- Worked with globally distributed team to develop Infinite Skater mobile game in Unity using C#, and Objective-C.
- Developed custom level generation tools in order for level designers to put together sequences of obstacles, and level events.
- Customized game materials and shaders in order to achieve a consistent look and feel of the game.
- Worked closely with the animator to ensure all sequences and character animations functioned smoothly in-game and were true to the source material authored in Maya.
- Profiled, identified, and addressed performance issues on target devices of different generations to ensure consistent performance.
- Added firebase analytics to monitor player engagement with the game's features, and identify areas where difficulty needed to be adjusted.

Twistory, Inc.

Unity Engineer – *Contract, Game Engineering Team*

Dec 2013 – Mar 2015

- Led game design and development of infinite runner title Ouch! Couch using Unity, C#, Java, and Objective-C which launched on Android, iOS, and Fire TV.
- Prototyped, and iterated touch control mechanics and exposed interface in order for game designers to tune "game feel".
- Developed logic to assemble modular 2D physics ragdolls from sprite sheets in order to easily randomize their variations in game.
- Built an infinitely scrolling obstacle generation system that used object pooling in order to optimize memory usage, and make it easy to test difficulty in the Unity editor.
- Implemented a simple programmatic tween-based UI system to augment retro game style.
- Implemented a sound editing pipeline to handle all sound effects, and music transitions, making it easier for the sound designer to test and update sounds, and volume levels.

Cie Games

Unity Developer – *Full-Time, Racing Rival Team*

Oct 2011 – Jul 2013

- Implemented environment events, camera controls, and vehicle animation logic for Racing Rivals mobile title in Unity with C#.
- Implemented car body, and wheel modification features enabling players to customize their car with purchased assets.
- Assisted with environment assembly, and cutscene production.

Flash Developer – *Full-Time, Car Town Team*

Oct 2007 – Oct 2011

- Continuously added features to a social flash game called Car Town, written in Actionscript3, and deployed on Facebook.
- Wrote a tool to export 3D car models, wheels, and body kits in 8 isometric angles in order to assemble them into sprite sheets.
- Wrote logic to integrate exported sprite sheets into an in-game process which produced 2D images of modular customized cars appearing throughout the game.
- Pitched, prototyped, and developed a casino-like level where players spent tokens on pseudo-chance-based games to win mystery boxes, and car cosmetics.
- Led prototyping and implementation of cross-promotional NASCAR racing minigame featuring reaction based controls, and daily reward incentives.

References Available Upon Request