Eric Michael Sean
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SENIOR SOFTWARE ENGINEER

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Employment History

Senior Software Engineer, Roblox, San Mateo

July 2019 — March 2023

Gameplay Engineer, Munkyfun, San Francisco

February 2017 — February 2019

CS241 (Intro to C) TA, University of Illinois Champaign Urbana

August 2015 — December 2016

Intern, Sandia National Labs Center for Cyber Defenders

July 2012 — September 2012

July 2011 — September 2011

Education

Bachelor of Science - Mathematics and Computer Science , University of Illinois Urbana Champaign, Champaign

August 2013 — December 2016

Skills

C#, C, C++, Lua, Java, Objective C, Git, Unity, Python, DirectX, OpenGL

Project Experience

Roblox Game Engine

- One man front-end team in charge of the client side integration of payment providers including Apple, Google Play, Microsoft (UWP/Xbox), Amazon. Work involved end to end, from platform API integration to UI/UX flow to communicating with backend to confirm payments.
- Refactored existing economy systems to achieve modularity, separating logic for each payment provider, resulting in enhanced flexibility and streamlined processes.
- Designed a developer-facing API to prompt users to purchase Roblox's premium subscription, focusing on ensuring user safety while providing developers with reliable payment confirmation.
- Implemented a modern, React-style virtual payment flow, enhancing the user experience, facilitating smooth transactions, and allowing for uniquely tailored UI per different critera required.
- Successfully resolved multiple exploits related to the virtual payment flow, ensuring a more secure environment for Roblox users.
- Played a pivotal role on the first original team that innovated in-game 3D immersive virtual advertisements. This involved everything from how the developers implemented the billboards, to determing the visibility from users, along with designing a load balance system to insure minimal impact on the developer's performance.

Genies (Virtual Avatar Social Platform)
- Lead engineer for designing structure of the client social platform.
- Designed asset pipeline to manage and compress accessible content Client/Server design/development to support real time chat interactions.
- Developed client resource management systems to handle load/unloading of high resolution assets.

The Truth Comes Out (Mobile Party Game)
- Managed a small team of gameplay engineers and artists to achieve project completion.
- Full stack design and development for asynchronous gameplay including a leader board system.
- Designed game to be scalable to handle up to 100,000 concurrent players.

League of War: VR Arena (Table Top/Strategy)
- Developed systems to interface with the PlayStation API.
- Setup stereoscopic rendering and the head/hand tracking interface.
- Designed auto-saving system and general feature development.

Psych (Mobile Party Game)
- Designed feature development and bug-fixing including client and server work.

League of War: Mercenaries (Mobile/Strategy)
- Solved several long lasting deep underlying issues with resource management.
- Designed system to create UI unit tests that help model player behavior and validate the multitude of tutorials.
- Implemented anti-cheat prevention and detection systems.

Personal C++ Game Engine
- Designed basic rendering flow to handle variable rendering APIs such as OpenGL and DirectX.
- Utilized QT.
- Recreated the Unity component system.

Mechmania - 24-hour Game AI hackathon
- Designed new unique games that highlight complex player decisions.
- Focused heavily on giving competitors the correct view and interaction with the game.
- Developed multiplayer support allowing easy test matches through a lobby system along with a match recording system to determine validity of winners.