David Knopp

Gameplay & AI Programming | Tools | Tech Art

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Work Experience

Very Very Spaceship – *Senior Engineer* ——————— *July 2017 - August 2024*

MASSIVE – (Unity, PC)
- Implemented server authoritative multiplayer with client-side prediction using Photon Fusion
- Created a versatile character controller, supporting varied movement abilities and object interaction
- Worked closely with artists to integrate animation features
- Implemented and iterated many gameplay features including ziplines, in-game events, leaderboards, a gameplay attribute system, fishing, and many others

Pokémon Go – (Unity, Mobile)
- Researched and developed avatar customization techniques using vector displacement mapping to support varying body shapes and sizes
- Streamlined artist workflows with Maya tools for deformation-resistant clothing textures and runtime body deformation previews
- Implemented prototypes showcasing the target look and feel for updating avatar customization, which was used to get the production green-lit

TRANSFORMERS: Heavy Metal – (Unity, Mobile)
- Implemented many client-side features including combat, multiplayer raids, animation tooling & support, UI, and AR combiner battles
- Developed map features including mesh generation, dynamic fog-of-war, and shader effects
- Created a library for strongly-typed gameplay messaging
- Mentored client engineers, advocating code quality with frequent code reviews

We Are Jake – (Unity, PC/Mixer)
- Developed most core systems and gameplay features, including match mechanics, avatar customization, and destructible buildings
- Created an active ragdoll character controller with procedural animation
- Integrated Microsoft's Mixer API, enabling up to 40 players to participate in live-streamed games through their web browser with very low latency

E-Line Media – *Engineer* ——————— *May 2015 - July 2017*

Beyond Blue – (Unity, PC/Consoles)
- Worked closely with the art team to design and implement custom fog and lighting effects to stylistically mimic underwater environments
- Implemented a utility AI system, enabling designers to create believable behaviors quickly
- Created various development tools including an in-game debug console

Never Alone: Ki Edition – (Unity, Mobile)
- Implemented a user interface tailored for mobile, supporting both touch and gamepad inputs
- Maintained and extended the localization workflow, supporting 17 languages

Education

DigiPen Institute of Technology ——————— *August 2011 - April 2015*
BSCS in Real-Time Interactive Simulation
- 3.79 cumulative GPA