



ZHUHUI YAP

Software Engineer & Game Developer

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 zhuhuiyap.com

EMPLOYMENT

Churchill Navigation

Software Engineer

Boulder CO, USA
2015-Present

Head-mounted Earthscape Augmented Reality (HEAR)

- ✓ Led research & development for project.
- ✓ Developed based on specifications for potential grant by Israel-United States Binational Industrial Research and Development Foundation (BIRD).
- ✓ Coordinated development and integration with multiple headsets including the HoloLens and custom headsets developed and prototyped by Thales Group (France) and C4 (Israel).

2018-Present
In Development

Head-mounted Earthscape Augmented Reality Display (HEARD)

- ✓ Led development for Universal Windows Platform (UWP) application for HoloLens headset.

2018-Present
In Development

Broadcast Electronics Augmented Reality (BEAR)

- ✓ Developed project from initial concept driven by customers request for an electronics news gathering version to the Augmented Reality System (ARS) software.
- ✓ Constant feature development based on direct contact with customers using the product.
- ✓ Worked with support engineers in resolving urgent critical issues.

2016-Present
Released

Gimbal Earthscape Augmented Reality (GEAR)

- ✓ Developed software in coordination with multiple teams including software, mechanical, and electrical engineers.
- ✓ Developed post processing and image enhancement techniques for live video.

2015-Present
In Development

Augmented Reality Viewer (ARV)

- ✓ Worked with Geographic Information Systems (GIS) data, and databases to develop custom real time generated overlays.

2015-2016
In Development

TECHNICAL SKILLS

Programming Languages

C/C++

Programming Languages (Basic)

Lua, GLSL, HLSL, C#, SQL

Technical Experience

Augmented Reality, Tools & Editor Development, Debugging, Code Documentation, Engine Architecture, Visual Studio

Technical Experience (Basic)

DirectX 9 & 11, OpenGL, Lighting Techniques, Rendering Techniques, Particles, Gameplay, Pathfinding, Genetic Algorithms, Profiling, Unreal Engine 4 (UE4), Revision Control (Git, Mercurial, SVN)

ADDITIONAL SKILLS

Design Experience (Basic)

User Interface (UI), User Experience (UX), Prototyping, Playtesting, Balancing, Concept Development, Design Documentation, Level Design, Combat Systems, Balancing

Additional Experience (Basic)

Project Management, 2D Animation, 3D Modelling, Storyboarding, Photoshop, Flash, After Effects, Maya

EDUCATION

DigiPen Institute of Technology

(B.S.) Computer Science in Real-Time Interactive Simulation with a Minor in Mathematics

Redmond WA, USA

2011-2015

Royal Melbourne Institute of Technology (RMIT)

(TAFE) Advanced Diploma in Multimedia
Foundation Studies in Art & Design

Melbourne, Australia

2007-2008

2006

STUDENT PROJECTS

S.W.A.G.

Tactical Role Playing Game - *Developer*

✓ Developed using Unreal Engine 4.

2015

Remnants

Networked Multiplayer Real-Time Strategy Game - *Gameplay Programmer, Designer, Artist*

- ✓ Engine built from scratch in C++.
- ✓ Implemented gameplay systems and scripted actions in Lua.
- ✓ Participated in code reviews.

2014

Arrow of Dorgan

Casual Game - *Programmer*

- ✓ Developed game for Nintendo Wii in C++.
- ✓ Implemented controller support for Wii Remote.

2014

Clash of Cubes

Multiplayer Fighting Game - *Solo Project*

- ✓ Engine built from scratch in C++.
- ✓ Implemented multiple editors and tools for content generation.
- ✓ Implemented voxels, 3D particle system, deferred rendering, and post processing effects.

2013-2014

Plight of the Penguins

Action Platformer Game - *Lead Designer, Graphics Programmer, Tools Programmer, Animator, Artist*

- ✓ Engine built from scratch in C++.
- ✓ Implemented in-game level editor, graphics system, particle system, and core gameplay elements including destructible terrain and multi-property tilemaps.
- ✓ Conducted weekly playtesting and utilized user feedback for iterative design decisions.

2012-2013