Mark H Carolan – Senior Software Developer.   Mobile: 0404 392 882

PROFILE SUMMARY

- Senior lead C# programmer (also C++, C, Objective-C, Lua)
- 10+ years Unity 3D experience
- Successfully delivered multiple highly interactive 2D and 3D products for
  - education
  - entertainment
  - product promotion
  - work safety and training

Extensive experience leading technical development, managing teams, mentoring, and establishing production workflow standards to deliver complex, high-profile interactive VR and media projects on time and within budget.

KEY SKILLS SUMMARY

- Multi-platform software development (Windows, OS X, Android, iOS, Oculus, Unity).
- Proficient in C#, C++, ANSI C and Lua. Some experience in Assembly, Pascal, Smalltalk, Lingo, Python, Erlang, JavaScript/TypeScript, and various niche languages.
- Extensive experience with real-time 2D and 3D graphics, audio effects and spatial audio solution development.
- Advanced knowledge of Unity 3D game and simulation development for desktop, mobile and VR applications, including extending Unity with custom tools.
- Broad experience in developing reusable software frameworks and development tools.
- Experience in high performance network communications using TCP & UDP Sockets, HTTP, REST etc.
- Game development (personal projects) and (professionally) casual games and gamification of educational material for mobile (iOS, Android), VR (Unity, Oculus, Win MR), web and desktop (Win, Mac) delivery.
- Documentation and technical writing, mentoring of junior developers, assisting as a communication bridge between tech and business.
- Project management and coordination using SCM tech and tools including native Git, Subversion, Jira, Pivotal Tracker, GitHub and Bitbucket.
- Many years of experience working with remote, onsite, local, and international teams as technical team lead, senior developer, solo developer, or dev manager on time-sensitive projects.

RECENT EXAMPLE ACHIEVEMENTS

- Designed and developed the acclaimed VApprentice for Busy At Work which used virtual reality on Oculus Go to enable teenagers to experience work tasks in trades prior to choosing career paths.
- Designed and developed VRLearn client and Play VR for Panedia – VR safety training products using 360˚ video including user experience (UI, navigation, interactions) and integration with back-end LMS.
- Team lead: development of interactive Oculus Rift VR product launch experience for Chevrolet and Dassault 3D Experience used at the Detroit Motor show.

- Lead developer on STEM learning tools for zSpace holographic educational platform. See: https://www.4dpipeline.com.

WORK HISTORY

RCAD: Brisbane QLD February 2021 – May 2022
Role: Lead Unity developer. Product: RCAD
Responsible for:

- General R&D into tech directions, recommendations on design & develop strategies.
- Analysing and documenting legacy code.
- Developing middleware for multiplayer functionality, connection to AWS, analysis, and reporting tools (heatmaps etc.).
- WebGL versions of real-time 3D applications (BabylonJS).
- Win64 tools for managing AWS database queries and reporting.
- XR navigation functionality and live mode switching (XR, desktop).
- Desktop tools for model decimation (using Simplygon SDK).
- In-app tools for generating complete web-ready linked 360 panorama packages taken from architectural walk-throughs (for use in commercial real estate listings).
- Recording tools for generating cinematic replays of walk-throughs and player analysis.
- Custom cloud-based installer and updater.

2020:
Worked on some side projects while spending most of the year sorting out complex family business issues (as Estate executor, director of various inter-connected companies and director of Trustee company).

BUSY At Work: Southport QLD   October 2018 - end September 2019
Role: Lead Unity C# VR developer. Product: VApprentice
Responsible for:

- Application design and development of a series of VR educational games with supporting game framework - for Oculus Go delivery.
- Creating basic artwork and animations with Blender.
- Managing contract 3D artists and animators.
- Managing art pipeline and custom components for biped animations and facial expressions.
- Design and build extensible framework for multi-themed VR games.

VRLearn/Panedia: Southport QLD January 2016 – August 2018
Role: Lead Unity C# VR developer. Products: VRLearn, PlayVR
Responsible for:

- Development of VRLearn client applications and user experience (UI, navigation, interaction models). Product suite included VR app for Gear VR and Oculus Go (also available on Rift and Windows MR) and a companion mobile Android app for logging in, course management (supervisor, teacher and pupil modes), live statistics and remote control and synchronization for group training.

- Using VRLearn to create VR safety training products for clients including Qantas, BodyCare and Gold Coast University Hospital, including integration with back-end Learning Management System for scoring, logging, and VR user interaction statistics.

4D Pipeline (Remote - USA, Germany, Singapore): February 2013 - January 2016
Role: Senior lead developer C#, C++. Products: Multiple - see 4D Pipeline
Responsible for:

- Custom application development for interactive 3D, real-time ray-tracing software and VR experiences at a specialist 3D agency contracting to industry ISVs and design and marketing agencies on multiple projects, as either team lead or solo developer. Clients included: Chevrolet, Dassault Systèmes, zSpace, Unity 3D, Nemetschek (ArchiCAD).
- Prototype configurator Unity editor extension (later released as Unity Forma).
- Interactive ray tracer for ArchiCAD (using NVIDIA iRay).
- VR car simulator for Chevrolet (Detroit Motor Show 2015).
- zSpace educational STEM activities for US market.

CONTACT INFO

Mobile: 0404 392 882
Email: mark@quitesensible.com

Web: http://quitesensible.com
LinkedIn: https://linkedin.com/in/markhenryc
GitHub: https://github.com/markhenryc

Postal Address:
Mark H Carolan
8 Balmoral Ave, Bundall
QLD 4217 Australia