

Mark H Carolan - software designer and developer

Location: 8 Balmoral Ave, Bundall, QLD, Australia
Mobile: 0404 392 882
Email: mark@quitesensible.com
Web: <http://quitesensible.com>
LinkedIn: <https://www.linkedin.com/in/markhenryc>
Updated: 13 December 2019



PROFILE

I specialise in developing highly interactive software products for education, entertainment, promotion, work safety and training on desktop, mobile and VR. I can communicate clearly with management and stakeholders, assist with budgeting, mentor junior developers and coordinate artists.

VR - which may be pure CGI, 360 video, or a mixture of both - is powerful and immersive and offers superior user retention, but does require practical industry knowledge to render it a comfortable experience.

I can work efficiently on-site or remotely. Most of my work involves seeing a product through from inception to deployment.

Examples of my work are available upon request.

In summary

Generalist software designer and developer, specialising in

- Real-time interactive 3D
- Virtual Reality
- Educational games and work training software
- Directing of complete production pipeline
- General mobile and desktop software development

SKILLS / EXPERIENCE

- Multi-platform software development (Windows, OS X, Android, iOS, Oculus)
- Real-time 2D and 3D graphics, sound effects and spatial audio
- Unity 3D game and simulation development for desktop, mobile and VR
- Proficient in C#, C++, ANSI C and Lua
- Broad experience in developing reusable software frameworks and development tools
- Experience in performant network communications (TCP & UDP Sockets, HTTP, REST etc)
- Documentation and technical writing
- Technology evaluation for new product development
- Game development: in particular, casual games and gamification of educational material

Mark H Carolan - software designer and developer

WORK HISTORY

BUSY At Work

October 2018 - end September 2019

Position Held: Unity VR developer

- Designed and developed a series of VR educational games for Oculus Go
- Created basic artwork and animations with Blender
- Coordinated specialist artists for custom biped animations and facial expressions
- Worked to a small time-frame and tiny budget

Product: [VApprentice](#)

VRLearn/Panedia

January 2016 – August 2018

Position Held: Designer and developer of VR safety training products for clients including Qantas, BodyCare and Gold Coast University Hospital. Worked with back-end developer for scoring, logging and stats (such as heat-mapping of user head movements).

Product suite included VR app for Oculus Go (also available on Rift and Windows MR) and companion mobile Android app for logging in, course management (supervisor, teacher and pupil modes), live statistics and remote control and synchronisation for group training.

Products: [VRLearn](#), [PlayVR](#)

4D Pipeline

February 2013 - January 2016

Position Held: Senior developer in consultancy specialising in interactive 3D, real-time ray-tracing software and VR. Produced Oculus Rift VR car simulator for a US manufacturer, released at the 2015 Detroit Motor Show. Worked with FlexNet for upgrading licensing system in high-end software.

Products: [various](#), subject to NDAs but I am authorised to show examples privately.

FenceKit

February 2003 - December 2012

Moved from Canberra to help restart the family aluminium importing business. Developed machinery for weldless fabrication of fence panels (licensed patented tech from North Queensland inventor). Ran general business, designed custom extrusion profiles using IntelliCAD.

During this period, I created iOS apps in my own time, released in the App Store, including a 3D animation matching-game, an iOS game developed with a Cognitive Scientist based on the Stroop Test, and a wavelet-based monophonic instrument note-reading trainer (see end of CV).

Mark H Carolan - software designer and developer

QuiteSensible (sole trader)

February 2002 – December 2003

Position Held: Self-employed software developer and consultant specialising in 2D and 3D interactive graphics. Developed Powerbullet Presenter, an animation tool for creating Flash-compatible web productions (Windows, C++).

Products: Powerbullet Presenter (see end of CV)

Knight Frank Price Waterhouse

March 2000 – January 2002

Position Held: Contracted as specialist 3D and inter-process communication developer for a new embassy property management system for the Department of Finance and Administration (Java, Oracle PL/SQL, Perl).

Product: ePremisys (internal application)

Early work

Includes web client connection tools for start-up Amicus (Mac, Windows, C++), in-house game development tool for Brilliant Digital Entertainment (C++, MFC, SQL), voice announcement system for NSW State Rail for Open Access (ANSI C), multimedia educational development system for Big Animated Digital (Director, C). More information available on request.

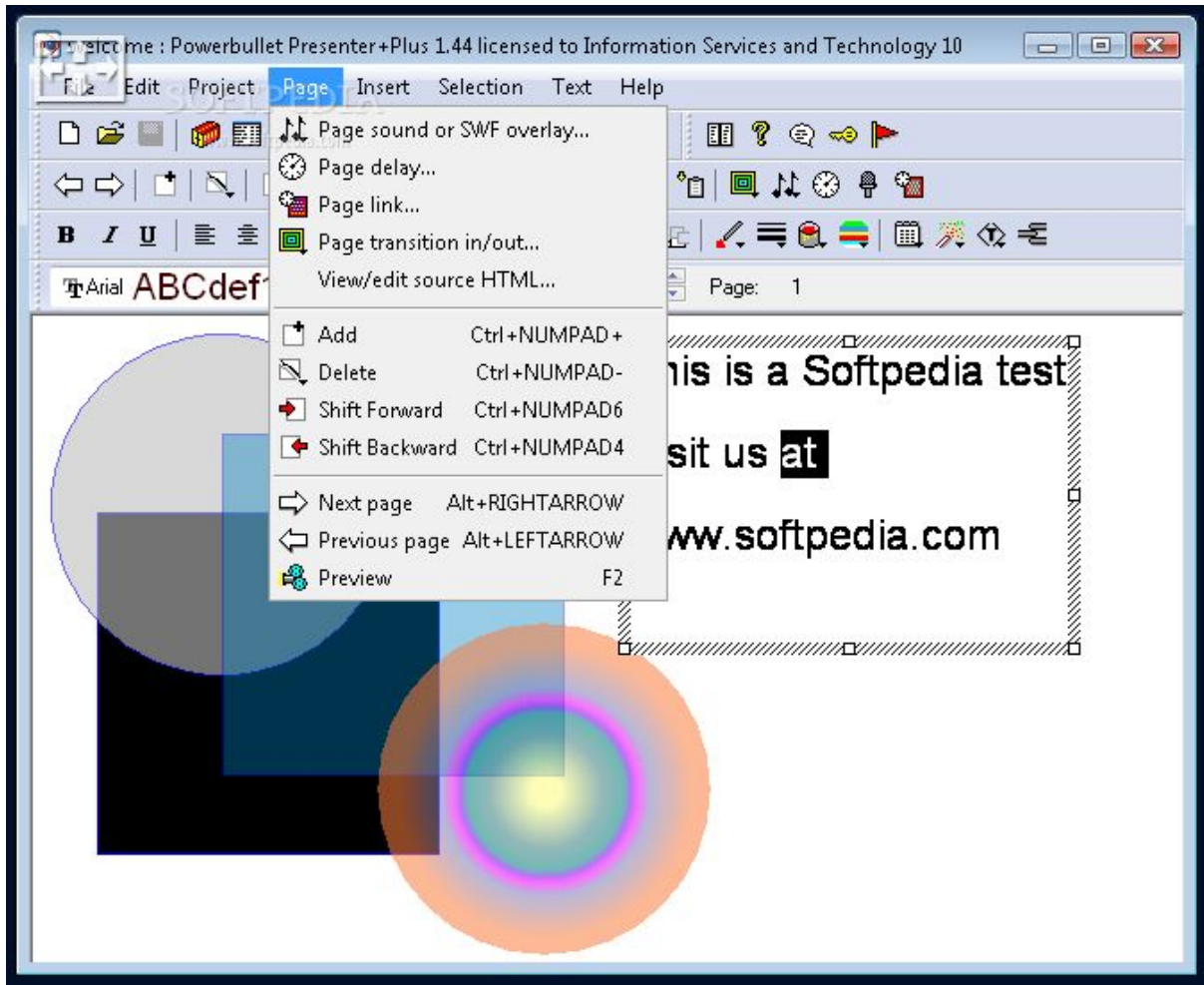
Prior to software development, I ran a consumer audio importing, distribution and servicing business and was owner/operator of a digital audio post-production studio in the Sydney CBD.

Following pages: some examples and links of older self-developer products. I can provide specific information on products developed for clients on request.

Mark H Carolan - software designer and developer

Powerbullet Presenter

This product is no longer supported and the domain has been sold, but is provided as an example of a product that was designed, built and maintained by one person. It was created as a prototype, but I did not have sufficient resources to bring it to a AAA commercial standard. An example review on the product is at [MakeUseOf](#). Here is a link on a Powerpoint-focused site, [FPPT](#). Here's a review in [SoftPedia](#).



Powerbullet Presenter screenshot from SoftPedia.

Next: some snippets from listings of other apps from way back. These are from [148apps.com](#).



App Detail » Stroople

Published by: Mark Carolan

iPhone App - Designed for iPhone, compatible with iPad

Price: FREE!

Current Version: 1.0

Released: December 12, 2010

Share This:



App Description

Get that anterior cingulate gyrus pulsing in your brain when you play Stroople. Inspired by probably the most famous psychology experiment ever, the Stroop Test, Stroople keeps ramping up the challenge. Go on, inhibit the impulse to keep on tapping and see how high you, your family and friends can score. Improve your Stroople skills and lower your error count to unlock bonus levels.

Designed by Dr. Greg Hooper, this interpretation of "the Stroop" takes advantage of the iPhone's multimedia capabilities to add a bit of fun to the exercise. Match the words to the color and keep an eye out for incorrect spelling!

Currently available in English, Spanish, French and German. More to come.

Stroople was created with Corona and released on the iTunes Store. It was an animated 2D game based on the Stroop Test. It was my first complete product written in Lua.



App Detail » CubeMotion

Published by: Mark Carolan

iPhone App - Designed for iPhone, compatible with iPad

Price: FREE!

Current Version: 1.0

Released: March 11, 2010



Share This:



App Description

Match the animated cubes. A virtually infinite range of animation patterns is available. Try to solve the animation puzzle in the shortest possible time. Using the Challenge feature, you can offer a competitor the chance to beat your time on the same sequence. Improve visual recognition skills by learning to take in the image patterns without focusing on specific items. Two graphics modes are available to cover a range of iPhone and iPod Touch devices.

CubeMotion was created as an exercise in learning Unity 3D and was released in the iTunes Store. It did not do particularly well and had a distinctive "programmer's art" appearance.



App Detail » NoteTeacher

Published by: Mark Carolan

iPhone App - Designed for iPhone, compatible with iPad

Price: FREE!

Current Version: 1.11

Released: February 25, 2013



Share This:



What's New

Minor cosmetic change: adjusted OK input threshold controller position in config panel for 4" display.

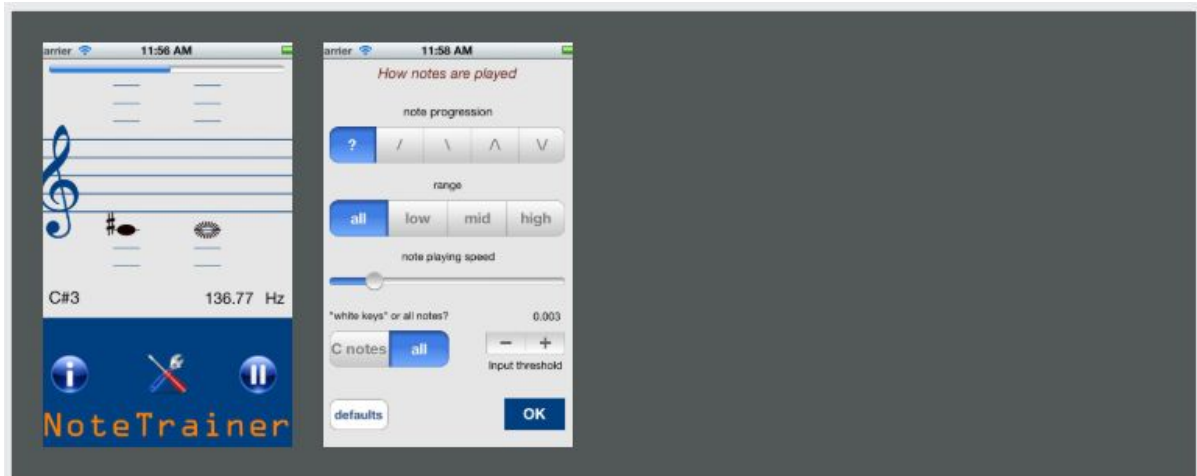
App Description

NoteTeacher reads notes played by monophonic instruments, including voice, and displays the note in musical notation. It can also play sequences of notes which you try to match by playing them. It presents an interactive way of learning or practicing music sight-reading. FREE until the end of October 2013.

NoteTeacher was written in Objective C. It was released in the iTunes Store. I originally created it as a tool to help me brush up on my sight reading. I used a Wavelet algorithm as I found the Fourier Transform did not perform reliably on an old iPhone 3GS, my current phone at the time. The FFT seemed to be fine in returning the note - making it suitable as a tuner - but not the correct octave, which was required to display the note on the staff.

It rated quite well at the time, as phones back then struggled to provide the horsepower for real-time note reading on instruments such as guitars (which it was mainly intended for). The guitar does not produce a steady note (which is what makes it interesting), and a little knowledge of this helps in smoothing the input to produce a logical note on the staff.

Mark H Carolan - software designer and developer



Author's description

An app to help you learn (or brush up on your) sight-reading skills. Follow the notes being played and get scored on your accuracy. Intended for 6-string guitar or voice, but should work with any monophonic input.

Close ^

I later renamed it NoteTrainer as another product called NoteTeacher (with different functionality) was released around the same time.