

SEAN T. MCBETH

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SUMMARY

Over 20 years of experience developing projects in virtual and augmented reality, games, simulation, abstract data visualization, audio synthesis and processing, computer vision, peer-to-peer networking, desktop, Web, mobile, hardware prototyping, embedded systems, reporting, GIS, and relational database systems. I maintain several open source projects, am an organizer or co-organizer for three local tech meetups, and participate in the W3C Community Group for WebVR standardization.

RECENT EXPERIENCE

FREELANCING

06/2017 – PRESENT

LiveStocked (present). Bluetooth LE-compatible RFID reader for tracking cattle on cattle farms. Based on Adafruit Feather M0.

NOTIONTHEORY (LEAD VR ENGINEER)

05/2016 – 06/2017

Coordinated and executed design and implementation of immersive applications for clients and marketing demos.

Edison Electric Institute (2017) - HTC Vive application, simulating advances in “Smart City technology”. Designed concept. Developed 24-hour day/night cycle, full electric power grid, and full traffic simulation, all in sequence with the day cycle. Built with Unity3D.

Demo: Augmented Reality Business Card prototype (2017) – Recognizing business cards and displaying additional information from an internal database, in an AR view through main smartphone camera. Built with Unity3D and Vuforia.

Demo: Dancing Rhythm Game prototype (2017) – VR rhythm game where users match predefined body poses to beat of energetic techno music. Developed beat-matching algorithm, scoring system, VR-native song selection interface. Built with Unity3D.

VR Arcade (2016) – Pop-up installation for playing virtual reality games, first on the East Coast. HTC Vive games and refreshments.

Legend3D/REX (2016) – WebVR, 360-degree real estate tour application. Built with Primrose VR.

Sibley Hospital (2016) – Microsoft HoloLens application, testing feasibility of displaying user-configurable data in shared spaces. Presented as “configurable hospital chapel”, before seeking HIPAA compliant access to EMR data feeds. Built with Unity3D.

PRIMROSE VR (OWNER) [HTTPS://WWW.PRIMROSEVR.COM/](https://www.primrosevr.com/)

07/2015 – PRESENT

Primrose VR was the first JavaScript framework for developing virtual reality applications, beating Mozilla’s A-Frame to market by nearly a year, and Facebook’s React VR by nearly two. Primrose provides VR desktop metaphor and an object-oriented API for creating progressively enhanced 3D WebGL applications that support everything from standard 2D, keyboard and mouse interactions through smartphone, orientation sensor-based “Google Cardboard” VR, to full room-scale VR with devices like the Oculus Rift, HTC Vive, and Windows Mixed Reality Headset. Primrose is free, open source software, released under the GPLv3.

RIEKER, INC. (SENIOR DEVELOPER)

09/2012 – 07/2015

Technical lead for software projects at industry-leading manufacturer of orientation sensors. Managed SDLC, software and database development, systems integration, deployments, employee interviews and technical reviews.

CARS - GPS data logging and analysis portal for DOT standards-compliant road signage, reducing analysis work from 4-hour-long, manual, mathematically complex, human-error-prone process to 2-minute-long visual confirmation process. Dash-mounted tablet application written in C#. Analysis and report generating Web application built with APS.NET and Google Maps.

PISCEAS.net – Custom ERP system for production-line management.

PERSONAL PROJECTS

Haptic Glove - <https://github.com/capnmidnight/HapticGlove> - Bluetooth LE glove device that senses hand position and finger pose, with vibrating motors feedback.

Marigold - <https://capnmidnight.github.io/marigold-build/> - Development environment for JavaScript Single-Page Applications.

Plume - <https://github.com/capnmidnight/plume> - WebRTC/WebVR teleconferencing application.

Pliny - <https://github.com/capnmidnight/pliny> - JavaScript documentation system.

TALKS

[DCVR - The Future of Augmented Reality](#) (06/2017) – Getting Started with Augmented Reality Programming.

[The Creative Bar: Episode 16](#) (05/2017) – Interview on entrepreneurship and DIY project motivation.

[Lean+Agile DC](#) (05/2017) – Rapid Application Development for VR.

[NOVA National Society of Collegiate Scholars'](#) (04/2017) – How Virtual Reality is Changing the Workplace.

[NOVAVR](#) (02/2017) – Panel on the current state and future of Virtual and Augmented Reality.

[AR In Action](#) (01/2017) – Two panels on haptics and content development.

[VR/AR With the Best](#) (12/2016) – Webinar and 1-on-1 Q&A sessions on using Primrose to build VR applications.

[The Virtual Reality Observer](#) (09/2016) – Interview on the future of VR.

[Stratford University](#) (09/2016) – Essentials of Virtual Reality.

[CodePen DC](#) (07/2016) – The Emerging WebVR API And How Developers Can Get Started.

[DCVR Breakout Session #5](#) (05/2016) – Seminar on getting started with WebVR through Primrose.

[2nd Annual DCVR Innovation Panel](#) (04/2016) – Panel on current state and future of VR.

[Sean McBeth on Primrose and WebVR development](#) (02/2016) – Interview on learning VR programming.

[DC Entrepreneur: Episode 2](#) (11/2015) – Interview on entrepreneurship.

WORK HISTORY

Highland Fundraising Solutions (2014 – 2016) – Chief Technology Officer

Security Blank-It (2016) – Contract Developer

BuLogics (05/2011 – 01/2012) – Senior Developer

HomeNet Automotive (12/2010 – 03/2011) – Senior Developer

XL Group, Inc (11/2009 – 11/2010) – Senior Developer

Global Data Consultants, LLC (02/2007 – 11/2009) – Senior Developer

GeoDecisions (05/2005 – 01/2007) – Junior Developer

EDUCATION

SHIPPENSBURG UNIVERSITY OF PENNSYLVANIA 2002 – 2005

B.Sc. Computer Science, *cum laude* – Upsilon Pi Epsilon (President), ACM (President), Programming Team (Vice President)