

SEAN T. MCBETH

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SUMMARY

20 years of experience developing projects on desktop, Web, and mobile, covering Virtual and Augmented Reality, games, simulation, abstract data visualization, audio synthesis and processing, computer vision, P2P networking, Internet-of-Things, hardware prototyping, embedded systems, GIS, and relational database systems. I maintain several open-source projects and am the lead organizer for a local tech meetup.

RECENT EXPERIENCE

DIPLOMATIC LANGUAGE SERVICES (HEAD OF IMMERSIVE SOFTWARE)

07/2019 – 04/2023

As the Head of Immersive Software, I manage and develop projects that improve the teaching and learning experience for DLS' existing one-on-one and small-class foreign language instruction services.

DLS VR – Web-based virtual reality application for students and teachers to meet virtually and practice foreign language and cultural learning skills. Users are represented by a synthetic avatar and communicate via voice chat. Curriculum developers create language training activities through a set of online editing tools. TypeScript, C#, SQL, ASP.NET, PostgreSQL, Three.js.

DELOITTE CONSULTING (SENIOR IMMERSIVE ENGINEER)

10/2017 – 06/2019

Exelon AR Tower – iOS augmented reality application showing video overlays atop large posters. Unity3D, Vuforia, C#.

Deloitte University Hub – iOS augmented reality application demonstrating IoT use cases of AR tech. Unity3D, Vuforia, C#.

Hitachi IoT – Award-winning MS HoloLens application for demonstrating IoT use cases of AR tech. Unity3D, Vuforia, C#.

DCIL.Core – Framework for building Immersive Applications supporting wide variety of hardware modalities. Unity3D, C#.

USPS CES Demo – Live-video, green-screening “photo booth” application. Unity3D, Vuforia, C#.

FREELANCE SOFTWARE ENGINEER

01/2012 – 10/2017

Sparkstone (2017) – Gear VR application for teaching multiplication tables to children. Unity3D, C#.

LiveStocked (2017) – Bluetooth-compatible RFID reader for tracking cattle on cattle farms. Microcontroller, C++, JavaScript.

Synthality (2017) – HTC Vive tour of South Philadelphia real estate. Unity3D, C#.

Edison Electric Institute (2017) – HTC Vive demo advocating for “Smart City technology”. Unity3D, C#.

Podium (2017) – WebRTC-based desktop sharing platform. Electron, Ember, Node.js, JavaScript.

Haptic Glove (2017) – Bluetooth glove device sensing hand and finger position, with vibrating motor feedback. Microcontroller, C++.

AR Business Card Prototype (2017) – Android AR app displaying brochure information atop business card. Unity3D, Vuforia, C#.

Dancing Rhythm Game Prototype (2017) – HTC Vive rhythm game with beat-matching of energetic techno music. Unity3D, C#.

Plume (2017) – WebRTC-based Virtual Reality teleconferencing application. Primrose VR, JavaScript.

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. Primrose VR, JavaScript.

Sibley Hospital (2016) – Microsoft HoloLens application testing user-configurable, private spaces data in shared spaces. Unity3D, C#.

Security Blank-It (2016) – Computer Vision application for electronic medical record security in doctor's offices. OpenCV, C#.

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 Web applications, beating Mozilla's *A-Frame* to market by nearly a year, and Facebook's *React VR* by nearly two. Primrose provides a 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.

TALKS

[CALICO Immersive Realities SIG](#) (02/2023) – Designing proficiency-oriented virtual reality scenarios for foreign language training.

[Air University: LREC Symposium](#) (10/2022) – Designing proficiency-oriented virtual reality scenarios for foreign language training.

Virtual Worlds Forum (04/2021) – Using WebXR to create environments for foreign language instruction.

[UMD MAVRIC Conference 2019](#) (09/2019) – Accessibility for immersive applications

[CDK: VR vs AR: Which Tech Will Win the Battle?](#) (05/2019) – State of the Augmented Reality market.

[UMD MAVRIC Conference 2018](#) (10/2018) -- My experience at the [Fallingwater Immersive Design Residency](#).

[DCACM SIGGRAPH – Exploring WebVR](#) (11/2017) – The history and current state of VR on the Web.

[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.

[NOVA VR](#) (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.

EDUCATION

SHIPPENSBURG UNIVERSITY OF PENNSYLVANIA

2002 – 2005

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

Complete work history and references available upon request.