

# Sean T. McBeth

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Accomplished software engineer with over 15 years of professional experience developing VR and AR projects for desktop, web, and mobile. Well versed in technical team management, simulation, data visualization, computer vision, IoT, hardware prototyping, and database systems.

## EXPERIENCE

### **Deloitte Consulting (Senior Immersive Engineer, Deloitte Digital)**

10/2017 – 05/2019

Supervise software development and provide hands on development to satisfy project requirements from concept to deployment. Present demos to clients, mentor junior developers, and generate internal projects to improve capability and internal processes.

**AR IoT Troubleshooting** – Constructed app to demonstrate IoT use cases of AR, for Microsoft HoloLens, Android, and iOS. Incorporates Keyword Recognition, animated troubleshooting workflow, and database integration with Case Management Systems. Recognized for best-in-class User Experience, becoming Deloitte’s go-to demo for AR and IoT topics. Delivered to 4 clients.

**DCIL.Core** – Designed and built framework for building VR/AR apps supporting a wide variety of hardware modalities, standardizing development practices and reducing development costs by 51%. Estimated product value at \$20M.

**Open Source GIS and VR demo POC** – Developed a VR flight sim that generates terrain from publicly-available elevation and satellite imagery.

**Exelon AR Tower** – Built an iOS AR app that displays video overlays atop large posters. This project was presented to thousands of conference attendees at Exelon Innovation Expo 2019.

**USPS CES Demo** – Built a live video green-screening “photo booth” app with AR-enabled props.

### **Primrose VR (Owner), [www.primrosevr.com](http://www.primrosevr.com)**

07/2015 - 10/2017

Primrose VR was an open Source, JavaScript framework for developing VR Web apps. The first such framework of its kind, it beat Mozilla’s *A-Frame* to market by nearly a year and Facebook’s *React VR* by nearly two. Primrose provided an object-oriented API for creating progressively enhanced 3D WebGL apps that support everything from standard 2D-desktop systems through smartphone-based VR to room-scale VR experiences with devices like the Oculus Rift and HTC Vive. It featured a live-programming environment where users could create and edit VR experiences from within and view these changes live. Primrose can be found on several real estate websites delivering VR tours of properties for sale and is used by electrical engineers to test user-input prototypes.

### **Freelance Software Engineer**

01/2012 - 10/2017

**Sparkstone** (2017) - Developed a Gear VR app using Unity3D and C# that teaches multiplication tables to children.

**LiveStocked** (2017) - Built a Bluetooth-compatible RFID reader for tracking cattle on cattle farms using a Microcontroller, C++, and JavaScript.

**Synthality** (2017) - Contributed to the development of a HTC Vive real estate tour app using C# and Unity3D.

**Edison Electric Institute** (2017) - Lead a team of three and provided hands on programming to create a HTC Vive demo advocating for “Smart City technology” using Unity3D and C#.

**Podium** (2017) - Built a WebRTC-based desktop sharing platform using Electron, Ember, Node.js, and JavaScript. Managed and mentored one junior developer.

**Haptic Glove** (2017) - Constructed a Bluetooth glove device with a Microcontroller and C++ that senses hand and finger position and provides vibration feedback.

**Dancing Rhythm Game Prototype** (2017) – Directly managed a team of four in the development of a HTC Vive rhythm game that challenges you to match the beats of energetic techno music. The project was created using Unity3D and C# and completed in one month.

**Plume** (2017) - Designed and produced a WebRTC-based VR teleconferencing app using Primrose VR and JavaScript.

**VR Arcade** (2016) - Devised and built a pop-up installation for playing VR games, the first of its kind on the East Coast.

**Legend3D/REX** (2016) - Built a WebVR based, 360-degree real estate tour app using Primrose VR and JavaScript.

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**Sibley Hospital** (2016) - Created a Microsoft HoloLens app using Unity3D and C# that tests user-configurable, private data in shared spaces.

**Security Blank-It** (2016) - Built a computer vision application to insure the security of electronic records in doctor's offices using OpenCV and C#.

**Reiker, Inc.** (2012-2015) - Managed a remote team of three to five over five years to develop a GPS data logging and analysis portal for DOT standards-compliant road signage using ASP.NET and C#.

## PRESENTATIONS AND TALKS

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

DCACM SIGGRAPH (11/2017) - *Exploring WebVR*: The history and current state of VR on the Web.

[DCVR](#) (06/2017) - *The Future of Augmented Reality*: 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) - Participated in a panel discussing the current state and future of Virtual and Augmented Reality.

[AR In Action](#) (01/2017) - Contributed to two panel discussions on haptics and content development.

[VR/AR With the Best](#) (12/2016) - Webinar and 1-on-1 Q&A sessions on using Primrose VR 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) - Conducted a seminar on getting started with WebVR with Primrose VR.

[2nd Annual DCVR Innovation Panel](#) (04/2016) - Participated in a panel discussion on the current state and future of VR.

[DevDiner.com](#) (02/2016) - *Sean McBeth on Primrose and WebVR development*, an Interview on learning VR programming.

## EDUCATION

B.Sc. Computer Science, *cum laude*, 2005, Shippensburg University, Shippensburg, Pennsylvania

- Upsilon Pi Epsilon (President)
- Association for Computing Machinery (President)
- Programming Team (Vice President)