

BENJAMIN WINN www.winindustries.com | benjamintaylorwinn@gmail.com | (503) 201-3482
3D / AR / VR / MR / XR Developer: Unity3D/Hololens/MagicLeap/Mac/PC/iOS/Android, Maya, Modo, C4D, C#

EXPERIENCE

Meta (Formerly Facebook Reality Labs)

July 2020 – Present 2022

AR/VR Product Design Prototyper

- Developed interactive user experience feature prototypes on representative AR/VR hardware.
- Worked daily with designers, stakeholders, and cross-functional partners to define product needs.
- Presented learnings and product recommendations collected from user testing and research prototypes.
- Utilized and extended internal development tools for responsive interfaces and interactive AR/VR systems.

Beckman Coulter (Contracted via Sunrise Systems)

April 2020 – July 2020

AR eLearning Developer

- Developed step-by-step 3D AR user walkthroughs for executing repairs on specific medical devices.
- Created and animated 3D models of large medical devices with hundreds of removable or repairable parts.

Intel Sports - Pathfinding (Contracted via Artech in 2018, hired July 2019)

September 2018 - March 2020

Research Prototype Engineer & Unity VR/AR Developer

- Developed immersive experiences of Intel's TrueView volumetric content for AR, VR, and mobile devices.
- Created sanitization protocol & tools to simulate representative point-cloud sequences for external sharing.
- Developed color-correction tools for point cloud sequences using application of Z-order search algorithms.
- Co-developed 6DOF implementations of VOLA compressed point cloud sequences with playback features.
- Ingested skeletal data from internal studio teams to drive experience enhancement research prototypes.
- Prototyped social engagement features and interactions within networked VR experiences.

Winindustries

December 2017 - 2019

Freelance Interactive Developer & 3D Designer

- Created Hololens photogrammetric live dance experience for Pacific Northwest Ballet 'Pointe to the Stars.'
- Developed Oculus Go interactive 360 video portal & branding experiences for AT&T with Platform VR.
- Updated interactive features and 3D models for Hinge Digital's Converse mobile AR experience.
- Acted as 3D/Unity/AR/VR consultant for Panogs, Vulcan Productions, Generator3 and Lindsay Digital.

Vizwerks

March 2012 - November 2017

3D Developer & Unity3D Programmer

- Developed interactive 2D & 3D retail applications for iOS, Android, PC, Mac, Hololens, and Raspberry Pi.
- Maintained Node.js servers on Amazon AWS EC2 instances for social media integration in applications.
- Created optimized 3D assets with Photoshop, Maya, Modo, C4D, and Zbrush.

EDUCATION

Portland State University

Graduated 2016

Masters of Science, Systems Science & Theory

- Awarded Graduate Certificate in Computer Simulation & Modeling

The Art Institute of Portland

Graduated 2013 | Graduated 2014

Bachelor of Science, Visual & Game Programming | Bachelor of Arts, Game Art & Design

- Two-term Code Team Lead for 'Game Production Team,' the ultimate course for game design students. Oversaw four programmers to create a multiplayer team-based space arena game with planetary physics.

PAST PROJECT SAMPLES

3D Replay - Interactive Sports

2019-2020

tinyurl.com/3DReplay

Developed a prototype experience to playback real recorded human movement that drove digital 3D visuals.

- Users could anchor their camera to an individual, object, or predefined position intuitively to see any angle.
- Timeline controls and slow-mo effects made it easy to never miss a moment of the action in great detail.
- Timeline was seamlessly tied to video that could be swapped to instantly to compare against the 3D version.

Synthetic Point Cloud Generation & Post-Processing Tools

2019-2020

<https://tinyurl.com/SyntheticPointClouds> | <https://tinyurl.com/PointCloudRecolor>

Created a suite of tools to handle common issues faced by research team's point cloud sequence experiences.

- Synthetic Point Cloud Generator that received animated meshes as an input, and batch created frame sequences of evenly distributed point cloud representations, based on points per area or per input mesh.
- Post-Processing Tools created to receive input point-cloud sequence and output user-defined sequences free of discoloration and artifacts with the help of intuitive UI and modified Z-order sort techniques.

Cheers - Social VR Multi User Prototype

2018

<https://tinyurl.com/IntelSocialVR>

Assisted upgrading a networked multi-player VR prototype to include physics games and player customization.

- Integrated instance-persistent physics objects that were tracked across the multiplayer network, allowing the later development of user interactions including: spawning objects over the network, playing physics games (darts), and tracking custom object behaviors (how full a pourable container remained).
- Added real-time player customization and 3D VR 'hand' imposters to the user's controller representations.

Pacific Northwest Ballet Immersive Holograms & Video-Photogrammetric Experiences

2018

<https://www.thestranger.com/events/25962956/pointe-to-the-stars> | <https://vimeo.com/273940328>

Contracted Lindsay as the sole developer/programmer to integrate video photogrammetric capture from Microsoft to create three user experiences for a Pacific Northwest Ballet premier event.

- One 'Human' and one 'table' scale experiences using Microsoft Holograms headsets. Two digitally-captured dancers perform a choreographed routine to composed music, while simulated flower petals swirl around them. Included tutorials to ease transitions between users and facilitators at the event.
- A Windows Surface version preview for those waiting to experience the performance on Holograms.

Prototype Holograms & AR Footwear Experiences

2016, 2017

<https://tinyurl.com/HologramFootwear> | <https://tinyurl.com/MobileARFootwear>

Developed two experiences for the 'Harden' shoe lines to showcase early product prototypes.

- Harden V2: iPad Augmented Reality experience where a prototype shoe could be viewed from all angles in 3D by adjusting the iPad's screen around a logo anchor, with infographics and video.
- Harden V3: Hologram immersive Mixed Reality experience where a prototype shoe is viewed as a 3D hologram in real world space, inter-actable with gestural controls for rotation and color customization.

Both experiences were shown in conferences and one-on-one with key stakeholders to introduce the products.

Adidas Gearcase (Unity Interactive Retail Installation)

2014

<https://tinyurl.com/Gearcase>

Assisted on development of a Gearcase experience for Adidas - a product case and screen combined into one, using a translucent material to overlay video in-front of a physical product presentation. Tasks included:

- Design and creation of backend/management controls allowing special access to a power-management interface, setting specifications for sleep/wake cycles, and update controls.
- Programmed a system of automatic update deployments via USB, such that new seasonal product launches could be accompanied by a USB sent to specific stores, requiring only that managers plug in the USB in order to update the Gearcase's onboard executable file with new experiences for new shoe lines.
- Development of season-specific user interface interaction, as well as video advertisement triggers.

PROJECTS CONTINUED

Dischord - Global Game Jam 2018 Collaboration

2018

<https://globalgamejam.org/2018/games/dischord> | <https://tinyurl.com/Dischord-GameJam>

Co-programmer and game designer on a 4 person team - along with a composer and 3D artist - to create a VR and Desktop 'musical battle game.' The experience involves strumming strings on a magical harp to create shapes in the air in tune with music, in order to counter the shapes and sounds created by an opponent.

- Constructed core game logic and scoring mechanics, as well as projectile interaction and state machines.
- Application of inverse-kinematics skeleton and animations for enemy AI character and desktop player.
- Integration of sound effects and layering, additive, reactive background musical compositions tied to score.

Converse AR Experience Update for Hinge Digital

2018

<https://hellohinge.com/projects/converse-augmented-reality-meeting-app/>

Made updates to Hinge Digital's Converse AR experience for iOS. These included: new scene lighting, new shoe styles, menu and UI adjustments, new textures and materials, and migration to new iOS versions.

Footwear Wall Planner Application

2017

<https://tinyurl.com/FootwearWall>

Solo-developed a retail fixture planning suite for iOS, Android, PC, and Mac. Users choose between wall styles, and assign product to each slots, demarcated through color and symbol coding as well as serial numbers.

Database of footwear was imported each season from a spreadsheet. Final plans could be saved/loaded later, as well as the contents of which saved and tabulated for costs and other bookkeeping. Drag-and-drop features were later added.

Adidas Runbase Boston Marathon Interactive Wall

2015-2016

<https://tinyurl.com/AdidasRunbase>

An interactive touch-screen installation for the Adidas Runbase Boston Marathon store. Tasks included:

- Generating an infinite scrolling wall of names from past runners sourced from a CSV database, with pop-up search tools to bring up information of said runners based on country/state of origin, name, date run, etc, with functionality to record messages for individual runners.
- Creation of scrolling & updating calendar pulling from an Eventbrite server curated by Adidas, as well as social media wall populated by live twitter content via a twitter crawler.
- Hotfixes, tweaks, and new features as requested by Adidas periodically.

SONNET - 3rd Person RPG Project (Preproduction Only)

2017-2018

[Sample materials available upon request \(3D, music, and concept art files\)](#)

Worked with team of enthusiast concept artists, composers, 3D modelers to create a game concept in a virtual cybernetic world where game-play mechanics intertwine with real-time dynamic music.

- Worked as the team's project manager, coordinating all other members, assigning and monitoring tasks.
- Worked in tandem with concept artists to create several of the games characters & reusable assets in 3D.

PROFESSIONAL REFERENCES

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