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ARYEH MISCHEL

Full stack Developer & XR Specialist

ABOUT ME

Full-stack developer with a focus on VR and immersive technologies. Experienced in developing native applications in Unity and full-stack web development using Node.js, Express, and Vue.js. Currently working on completing my web app "WebXR-Viewer", a Vue-based platform for managing and sharing immersive content. Seeking a full-time role as a full-stack web developer.

SKILLS

Languages: JavaScript, C#, SQL, Python, HTML/CSS

Frontend: Vue, Vite, Syncfusion, Web Workers, Local Storage, Indexeddb, Figma, Webflow

Backend: Node.js, Express, ASP.NET Core, .Net Mono, MVC, OAuth2.0

Database: MS SQL, MySQL, Stored Procedures, Relational Database Design, Backup & Restores, Roles & Permissions

AWS: EC2, S3, Lambda, CloudWatch, RDS, ECS/ECR, VPC   **DevOps:** Docker, Git, Jira

Unity Game Development: Unity 3D, URP, Popular VR Libraries & Frameworks (XR Interaction Toolkit, Oculus Integration, SteamVR, autohands, hurricane, and more), Unity Particle Systems, ShaderGraph, 3D Lighting, Unity Profiler, playerPrefs, ProBuilder

WebXR: ThreeJS, A-Frame, WebXR Layer's API, WebGL/GLSL, unity-webxr-export, Compressed GPU texture formats, ARM astc-encoder, Khronos ktx-tools

EMPLOYMENT HISTORY

Founder / Head Coach
Knights Corner Chess

Feb 2024 - Present

- Established and runs a scholastic chess program.
- Handles LLC filings, billing, community outreach, liability insurance, and all other aspects of the business.
- Runs individual coaching, group lessons, after school clubs, and tournaments.

Chess Coach
Diplomat Chess

Feb 2023 - Present

- Private coaching, Group Lessons, After schools clubs, Weekend Tournaments.

CONSULTANT UNITY 3D/VR DEVELOPER
Beam Imagination

2021 - 2022

- Applied knowledge of proprioception to design and implement an immersive weapon interaction system.
- Used Unity's Springs, Hinges, and Physics to create realistic movement of gun parts (e.g., slide, hammer, revolver drum, safety).
- Developed hand interaction systems tailored to the physical limitations of Oculus Quest controllers, ensuring smooth and immersive gun handling.
- Edited 3D Models in blender (seperated weapon parts), allowing for realistic interactions.

CONSULTANT UNITY 3D/VR DEVELOPER
Hooldus Connect / FATBARS LLC

Sep 2020 - Nov 2021

- Developed a VR game in Unity similar to Beat Saber - an MVP that helped secure the company initial funding.
- Managed the entire project lifecycle, including software architecture, code implementation, UI/UX design, lighting, audio and more.
- Built core gameplay mechanics using the XR Interaction Toolkit and the "EZ Slice" component.
- Developed a scalable data pipeline utilizing PlayerPrefs and the .Net Mail API to support flexible testing/demoing (later integrated into firebase)

PROJECTS

XR-VIEWER 🔗 aryehmischel.com/xr-viewer.html   2024-present

• Building an immersive web app for managing, viewing and sharing immersive content.
• This will be the first application of its kind and will enable artist, developers and hobbyist to easily share their content with a much broader audience.
• **Frontend:** Vue.js, vite, Three.js, Syncfusion ui, WebXR API's.
• **Backend:** Developed using Node.js, Express, and hosted on AWS.
• **Database:** MySQL database in AWS RDBS
• **Authentication & Sessions:** Passport.js for Oauth2.0, Express Sessions with MySQL for session store.
• Media is procesed and transformed into VR-ready assets in AWS ECS.
• Media is stored in AWS S3 and delivered via AWS CloudFront CDN.
• **Local Storage/indexedd:** supports storing and syncing media locally to improve load times.

PORTFOLIO WEBSITE 🔗 aryehmischel.com   2024

• Designed & created a responsive and interactive portfolio website with Figma and Webflow
• Added 2D & 3D animations with CSS animations and Three.js.
• Used Media queries and custom breakpoints to insure a responsive design.
• Assets stored in S3 and delivered through CloudFront CDN

360-VIEWER 🔗 bit.ly/41miu49   2024

• Developed a user-friendly website for viewing 360-image using A-Frame, JavaScript, and jQuery.
• Added support for multi-image uploads with Dropzone.js.
• Implemented Web Workers for "multi-threaded" image processing.
• Improved performance on CPU-limited devices (VR & Mobile) by converting images to bitmaps in Web Workers, enabling efficient GPU memory uploads.

VOLUNTEERING

• Volunteer Chess intructor for at risk youths with **succeed2gether**.

INTEREST

• I am passionate about VR and the future applications of immersive technologies.
• I am especially interested in the rapidly evolving field of 3D Scanning/3D Capture.
• My other passion is chess, I really enjoy both playing and teaching the game.