IAN MCGRATH

208-569-6810   ian.d.mcgrath92415@gmail.com   www.portfolio.com   linkedin   github   San Leandro, CA

SKILLS: React, Redux, Ruby, Rails, JavaScript, Three Js, SQL, HTML, CSS, AWS S3, MongoDB

PROJECTS:

ARTCOAG   *Ruby on Rails, ReactJS, Redux, AWS S3, JBuilder*   live | github
Upload artworks, like and comment on other users' artworks; "ArtCoagulation" an ArtStation clone.
- Built a screen size-agnostic index page using CSS media queries to neatly align thumbnails and maximize screen space.
- Ensured performant comment tree structure by building relations between the page, its immediate comments, and recursive child comments. Only two queries are required to serve any page's data.

MACHBLITZ   JavaScript, three.js, Webpacker   live | github
Get behind the wheel of the fastest racing machines in the galaxy!
- Leveraged three.js to quickly import and render within the canvas viewport 3D assets created Blender.
- Solved gimbal lock rotation problems inherent in Euler angle rotations by learning about and leveraging quaternions so that rotations were fluid and more naturally manipulated in 3D space.
- Created separate mesh objects for environment colliders to keep frame time down as using the high-poly mesh from the rendered entities resulted in poor performance.

HOTSPOT   *JavaScript, ReactJS, Redux, MongoDB*   live | github
Find new events popping nearby or join groups with a regular event schedule.
- Collaborated with the engineering team to quickly put together multiple CRUD features.
- Designed Mongo queries to return maps of keyable objects rather than arrays resulting in instant look-up time within query results and easier manipulation in the server app code.

EXPERIENCE:

Unreal Engine 4 Developer
Institute for Modeling, Collaboration, & Innovation (IMCI) at University of Idaho   June 2018 – Feb 2020
- Lead Unreal Engine application development and collaborated with biomedical researchers to create an educational protein manipulator set in virtual reality.
- Implemented new controller interface schemes to overcome intuition and nausea barriers in virtual reality so that users not familiar with virtual movement could productively move around and manipulate objects within the environment.
- Utilized cinematic systems in Unreal Engine to smooth virtual reality related camera shake and movement to demo the application live at SIGGRAPH Asia 2019.

EDUCATION:

University of Idaho - *BS Virtual Technologies & Design, 2015 - 2019*
AppAcademy - Full-stack engineering using Ruby, Ruby on Rails, Javascript, React, Redux, Mongo - 2021