



OpenSim Marketplace

Ryan Wickett (Lead)

Ryan Smith (Scrum Master)

Jonas Wojtas

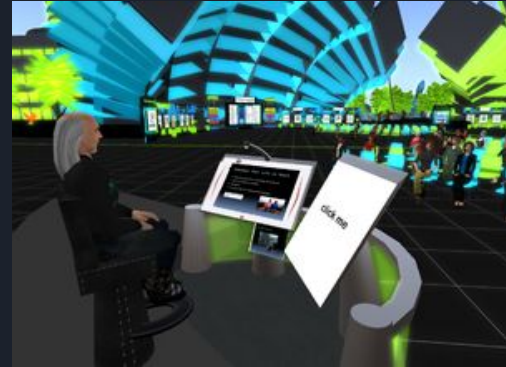
Jordan Williams

Kenneth Figuerado (Client)

Naval Undersea Warfare Center

Abstract

- NUWC's Virtual Worlds division works with 3D simulator OpenSim
 - Create virtual scenes and collaborative environments for educational or training purposes
- Current workflow is inefficient for asset transfer (models, scripts, textures, avatar components, etc.)
 - Requires in-world requests between online users
- Central web repository (i.e., a marketplace) would greatly increase efficiency in the workplace when working with assets





Abstract

- Purpose:
 - A marketplace to allow users to easily find and share OpenSim assets
 - To have all available assets in single easy to access place/database
- Scope:
 - The Marketplace will be accessed through a web page application (traditional browser or within OpenSim)
 - Users should be able to:
 - Login to the Marketplace
 - Search for assets
 - Upload new assets they made
 - Download assets others have made



MVP

OpenSim Account Integration

Direct interaction with a user's OpenSim account and inventory

We developed:

- An enforced login screen for users, and authentication based on user cookies
- A logout button, which redirects back to login screen

Asset Upload/Download

Upload / download via interaction with the OpenSim Client and Marketplace

A user can:

- Add an asset to their client inventory
- Upload an asset to the marketplace via web browser
- Download a public asset to their inventory

Asset Searchability

Search for an asset by a given field

A user can:

- Search for assets through:
 - Name
 - Type
- Sort through search results by:
 - Date uploaded
 - Date accessed



Why & How we achieved MVP

- MVP Justification:

- Each function specified in the requirements has had basic implementation/functionality that fulfills the said requirements
 - Assets can be searched, uploaded, and downloaded to and from the database
 - The Marketplace is secure through use of authentication / login and logout
 - All features accessed via a Web Page interface

- MVP Next Step :

- Each requirement has a basic framework from which we can iterate and improve it.
- A greater understanding has been reached for what we want each function to do

Demo





Tools

Scrum & Source Control



Jira



Git



Gitlab

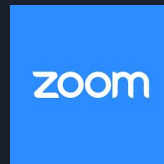
Communication & Organization



Discord



Miro

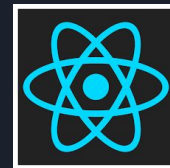


Zoom

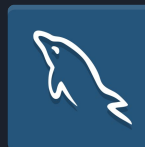
Technology



NodeJS



React



MySQL



Approach

- Ease of use
 - Clear visual design that allows for readability and intuitive use (colors, layout, etc.)
 - Searching using different fields as well as organization of search results
 - Intuitive flow between components / pages that ensure the user knows where they are and how to get to where they want go
- Reliability
 - Modularity that isolates and contains bugs with in the code
 - Proper error checking and verification that ensures the user isn't using the software in a way unintended



Approach

- Ease of integration
 - Minimize the amount of work NUWC needs to integrate this into their OpenSim infrastructure
 - Only a single new field required in the OpenSim database's assets table
 - Code readability for maintenance / update purposes
- Backend architecture
 - Models mirroring table structures allow easy manipulation of database
 - Routes are structured categorically by function

Questions

