PlayPal Report

Demo - [PlayPal Demo](https://youtu.be/P0FZHnIRnD8)

Problem - I wanted to solve the problem of when I end up bored of all the games I have in my steam library. And I don’t feel compelled to purchase anything from the steam store.

Solution - My solution was an app that allowed you to filter along pretty much anything you could think of to find a game that would bring you enjoyment. Adding in a little extra support with content recommendation so that you might find a new game that is similar to ones you have played.

Final Software Design/ Technical Stack:  
React.js - Front End

Python Flask - Back End

IGDB API - API we retrieve all of the games and data from

SKLearn - Utilize their machine learning tools for our recommendation algorithm

Git - Version management  
PostgreSQL - Storing persistent data

3 Layered Architecture

Client - Server - Data

How this Design Differs From My Original Version?

Opted for React as it is just much faster for rendering and I wanted to make sure my front end could handle display of the amount of game elements I wanted

I shifted from utilizing a PyTorch model to a content recommendation algorithm.

* To train a deep learning model to a decent level of function would require a TON of data. tens to maybe hundreds of thousands of data points required.
* There aren’t really any datasets that could have served this purpose so for me to pay for or gather this data myself was just infeasible for the scope and timeline of the project
* The algorithm works better than I was expecting even the original PyTorch model to work

My Front End mock up wasn’t the same as my final front end UI

Functionality

Filtration

* Users can apply filters along Genre, Theme, Release Date, Rating, Game Engine, Platforms, Game Mode, Player Perspective, Age Ratings and Language

Recommendation

* Can have a list of 100 game cards provided to them to sift through with some basic information that can either spark them to do more research or move on

Interaction with Games

* Can like or dislike games and have that used to alter the games they see in the future and have more similar / personalized recommendations made

Results

I ended up with an application that I myself can and will use when I am bored and want to find a new game to play. It provides a good user experience and had a lot of care put into the functionality that was implemented. The app is not feature dense but the features that are present are of high quality.

Reflections

There are many improvements I have identified that I can make to various things such as

* Implementing a recommended games page where users can view the games they have interacted with and either delete the interactions or change the type of interaction
* Adding more features to the recommendation algorithm to allow more depth of profile creation and comparison
* Altering the algorithm to not just recommend similar games but randomly choose x amount of relatively non similar games so that the users taste pallette can be challenged
* Improving user authentication to be more industry standard and implementing general profile management
* Adding more to the home page so that the app looks like a polished industry standard web application