GameMon Documentation

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Hack Reactor HRR21 Towering-Cranes

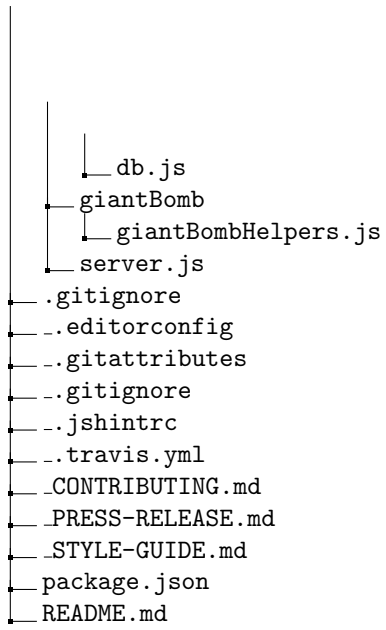
Contents

1 Introduction

Welcome to GameMon! We hope this documentation helps you navigate around the project quickly and efficiently. GameMon is an app for tracking what video games you have in your collection. Users signup and build out a collection based on the thousands of games available in the GiantBomb API.

2 File Structure

```
towering-cranes
├── client
│   ├── assets
│   │   ├── andy.jpg
│   │   ├── eric.jpg
│   │   ├── favicon.ico
│   │   ├── gamemon-collection.png
│   │   ├── gamemon-details.png
│   │   ├── gamemon-search.png
│   │   ├── josephine.jpg
│   │   ├── kevin.jpg
│   │   └── Octocat.png
│   ├── home
│   │   └── home.html
│   ├── main
│   │   ├── gameCollection.js
│   │   ├── main.html
│   │   ├── search.js
│   │   └── selectedGame.js
│   ├── styles
│   │   └── styles.css
│   ├── users
│   │   ├── lock.js
│   │   ├── signin.html
│   │   └── signup.html
│   ├── app.js
│   └── index.html
├── documentation
│   ├── documentation.pdf
│   ├── documentation.tex
│   └── documentation.toc
├── node_modules
└── server
    ├── config
    │   └── keys.js
    └── database
        └── databaseHelpers.js
```



3 Database Schema

TODO: Update this picture

4 Server-Side

Server-side files hold the routes and the helper functions needed for the routing.

4.1 Routes

Database Routes

- '/users'
  - POST - receives a username and password from the client and adds each to the database for a specific user
- '/games'
  - POST - receives a user and a game from the client and adds the game to that user's collection in the database
  - DELETE - receives a game title and a user from the request body and removes the game from the users collection
  - GET - receives a username from the client as a parameter in the url and sends all of that users games back to the client

Giant Bomb API Routes

- '/games/search/keyword/:keyword'

  - GET - receives a keyword from the client as a parameter and returns up to 10 games that match the keyword

- '/games/search/id/:id'
  - GET - receives a game id from the client as a parameter and returns up to 10 games that match the id

4.2 Database Helper Functions

- createUser - receives a user object from the server and either finds a user with that existing name or creates a new user
- addGameToCollection - receives a username and a game object and adds the game to the specified users collection.
- getGamesFromCollection - receives a username from the server and finds/returns all of that users games.
- removeGameFromCollection - receives a username and a game from the server and deletes that game from the specified users collection

4.3 Giant Bomb API Helper Functions

Note: ES6 syntax used here in the request calls

- searchForGames - receives a search term and uses expresss request module to send that request to the Giant Bomb api.
  - Example: To search for all Pokemon games our url in the options object would be the following: 'http://www.giantbomb.com/api/search/?api_key=$YOUR-API-KEY&format=json&query="$pokemon"&resources=game'
- getGameById - receives an id from and uses that id to get the game with the corresponding id form Giant Bomb.
  - Example: To search for metroid prime and list its genres and name based on id do the following: 'http://www.giantbomb.com/api/game/3030-4725/?api_key=$YOUR-API-KEY&format=json&field_list=genres,name'

5 Client-Side

Front-end uses AngularJS with Materialize/Angular-materialize. Materialize/Angular-materialize can be substituted with Bootstrap or any other front-end framework. Angular-materialize is a set of AngularJS directives to use features in Materialize that requires jQuery. It is NOT the same as Angular Material.
Resources:

- AngularJS

- Angular-materialize
- Material Icons
- Materialize CSS

5.1 Home Page

5.2 GameMon

The GameMon page can divided into three large sections: Game Collection, Search, and Modal Window.

5.2.1 Game Collection

The Game Collection holds all the games currently linked to the user's collection in the database. The games can then be sorted title or release date. The view can also be changed between grid and list view. The games also be filtered by title, franchise, platform, and genre.

TODO: -Factory functions get, add, delete -Other functions

The custom filter takes in setFilter(filterOpt) as an input where filterOpt is an array. The first element of filterOpt is the search term to find and the second element is what type of filter term it is, e.g. text, platform, or genre. The filter returns all the objects that will be displayed after filtering. items holds all of the possible objects. The custom filter checks for a match in the respective locations of the all the objects and returns all the matches.

5.2.2 Search

5.2.3 Modal Window

5.3 User Authentication

6 Deployment

Towering-Cranes used DigitalOcean for deployment. The droplet uses a MEAN base image (0.5.0) running on Ubuntu 16.04 with MySQL and several other technologies.

It is best to have ONE team member work on deployment. This removes the need for multiple SSH keys and rule out issues with individual development environments.

Steps to get it running (this will help ensure there are no issues):

1. Create Droplet with 1-Click App: MEAN 0.5.0 on 16.04
    - Smallest droplet size is fine
    - Datacenter is whatever you want – closest to your users is best
    - **Add SSH keys here and now!** Adding them later is a headache
2. After the droplet is created, UPDATE your droplet
    (a) Log in using root user: **ssh://root@YOUR_DROPLET_IP**

- If you set up ssh keys correctly, the server shouldn't ask for your root password
- If you run into problems, use the droplet console via DigitalOcean's dashboard to log in as root and troubleshoot. On the console page, there is also a link to reset root password if necessary

(b) Run the apt-get commands to update

i. **sudo apt-get upgrade**
ii. **sudo apt-get update**

3. Add swapfile (reference)

(a) This is **necessary** because MySQL needs more RAM than the server has been allocated. Npm install might also fail if the swapfile isn't created

(b) Referencing the link above, run the following commands

i. **sudo fallocate -l 4G /swapfile**
ii. **sudo chmod 600 /swapfile**
iii. **sudo mkswap /swapfile**
iv. **sudo swapon /swapfile**
v. **sudo nano /etc/fstab**
vi. **sudo sysctl vm.swappiness=10** (persists until system reboot)
vii. **sudo sysctl vm.vfs_cache_pressure=50** (persists until system reboot)

(c) Install MySQL (reference)

i. Run the following commands referencing the above link as necessary
   A. **sudo apt-get install mysql-server** This will prompt you to create a root password. Write it down!
   B. **sudo mysql_secure_installation**
ii. MySQL should be up and running
iii. Log into the MySQL CLI
   A. **mysql -u root -p** (enter password at prompt)
iv. Create a database named gamemon
   A. **CREATE DATABASE gamemon**

(d) Set environmental variables

i. cd to /etc/
ii. Modify environment file
   A. **nano environment**
iii. Add to environment file
   A. PORT=80
   B. DB_PASSWORD=password_here
   C. GIANTBOMB_API_KEY=key_here

(e) Clone repo (with work tree and git tracking separation) (reference)

i. Navigate to a directory you want to store both the repo and a separate git folder (towering-cranes used root/)

ii. Clone the web app repo
   A. **git clone REPO_LINK_HERE**
   B. cd into the repo folder
   C. **npm install**

iii. Install PM2 for running the web app server in the background
   A. **npm install -g pm2**
   B. **pm2 server/server.js**

iv. Create bare git
   A. **cd ..**
   B. **mkdir SOME_NAME_HERE.git**
   C. **cd SOME_NAME_HERE.git**
   D. **git init –bare**
   E. **cd hooks**
   F. **nano post-receive**

v. Add the following lines to the post-receive file (press Ctrl+X to quit and save)
   A. #!/bin/sh
   B. git –work-tree=PATH_TO_REPO_DIRECTORY –git-dir=PATH_TO_BARE_GIT checkout -f
   C. pm2 stop server
   D. sudo fuser -k 80/tcp
   E. pm2 restart server

vi. chmod +x post-receive

vii. Set up local workspace (best for only one team member to do this)
   A. cd to your local clone of the repo on the server
   B. Add a remote
      - **git remote add live ssh://root@your_droplet_ip/path_to_bare_git**
      - When deploying, **git push live master** should push all the recent changes and restart the PM2 server instance

Occasionally, deploying will cause some features to break unexpectedly. We didnt figure out why this is but it can be solved by sshing into the server and running:

1. **sudo fuser -k 80/tcp (to kill the current server running on port 80)**
2. **pm2 server restart**

7 Documentation

If you haven't noticed already, this document is written using LaTeX, a typesetting system that is great for technical documents.

Steps to start using LaTeX:

1. Download one of the TeX distributions

- For Mac users, go to MacTeX.
- For Windows users, check out MikTeX or TeXLive.
- For Linux users, go to TeXLive

2. Download a viewer with inverse search
    - For Mac users, download Skim PDF Viewer.
    - For Windows users, download Sumatra PDF.
3. Install one of the LaTeX packages in Sublime (LaTeXTools or LaTeXing)
4. Build your .tex document and start using LaTeX!