travSIM

travSIM PTY LTD
Reg No: 2017/005900/07

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travSIM coding challenge

Overview

- travSIM wants to hire at least 4 developers
    - Front-end (React.js)
    - Back-end (PHP, Python & MariaDB)
    - Full stack (React, React Native, PHP, Python & MariaDB)
    - Mobile (React Native)
- Each challenge should take a maximum of 6 hours
- Full stack developers should choose 2 coding challenges of their choice (one back-end & one front-end coding challenge)
- Back-end developers should do both back-end coding challenges
- Front-end developers should do both front-end coding challenges
- After completing each coding challenge, the source code should be made available via GitHub
- Do not use third-party CSS frameworks.
- Limit the number of dependencies to an absolute minimum
- You may use any framework or programming language of your choice
- Include a README file with among other things the following information
    - Setup instructions
    - Factors you considered when determining the technical & architectural choices
    - What would you do differently if you were allocated more time?
- Coding challenges will be assessed based on the following criteria
    - Code quality (readability, innovation, naming & comments)
    - Documentation
    - User experience & responsiveness (front-end)

Back-end coding challenge 1

Write a basic RESTful API that serves two endpoints

- getAvailable (GET request):
    - will parse through the data file : goods.json, and return what's still in stock under the price limit (20 as default)
- setLimit (POST request)
    - setLimit will give the parameter limit in the body of the request, once received the price limit value is changed to the new one
- Query data from the database with pagination

Back-end coding challenge 2

- A hallway has 100 bulbs with a switch for each one on the wall

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- If a person walks through the hallway, they switch off every 2nd bulb (namely #2, #4, #6, #8... etc)
- If a second person walks through the hallway, they switch off every 3rd bulb (namely #3, #6, #9, #12... etc)
- If a third person walks through the hallway, they switch off every 4th bulb (namely #4, #8, #12, #16... etc).
- Following this pattern, create a function that calculates how many bulbs in the hallway will be lit after N people walk through it.
- You can use the language you prefer to solve this problem.

Front-end coding challenge 2

Create a web app with the functionalities outlined below using the following movie API http://www.omdbapi.com/

1) Search for movies
2) Add movies to list
3) View the list of added movies
4) Navigate between search and movie list

Front-end coding challenge 2

- Use the provided screens as a reference & components to render the app
- Develop a Home & Category page using React
- Create components for each part of the page (i.e header, content, footer e.t.c)

1. **Home Page**

   This will be your landing screen.
   You will need to display a list of **Categories** based on the JSON data, each category must have a link to that certain category.

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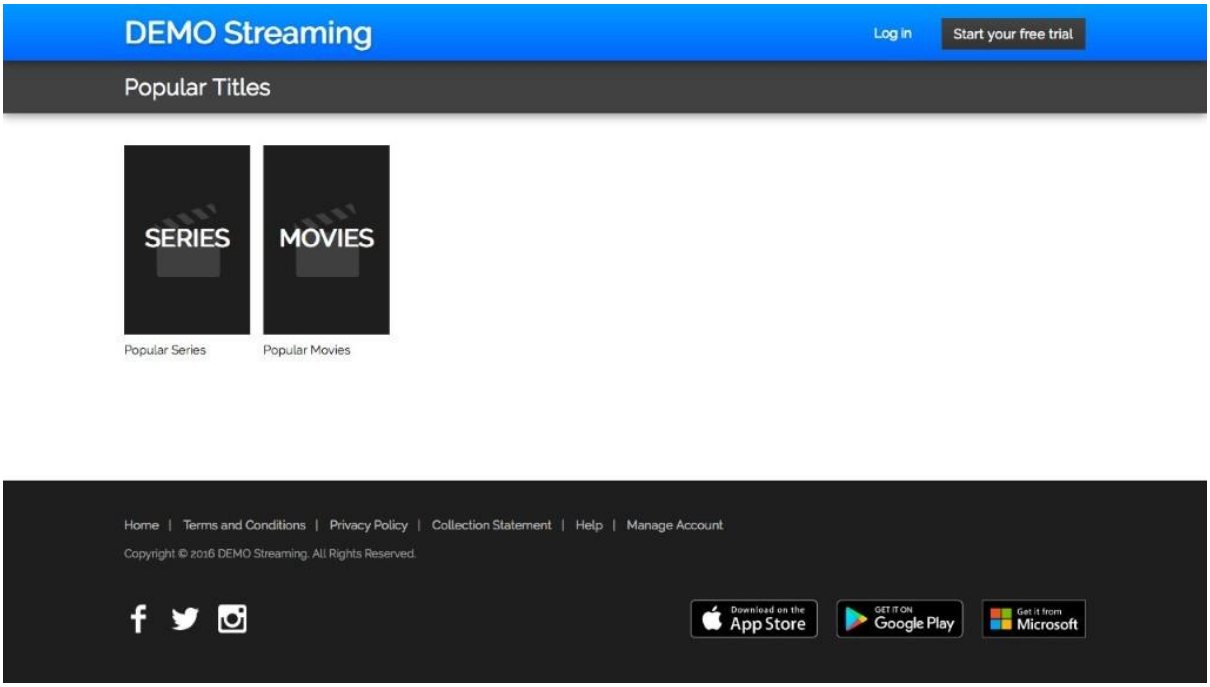
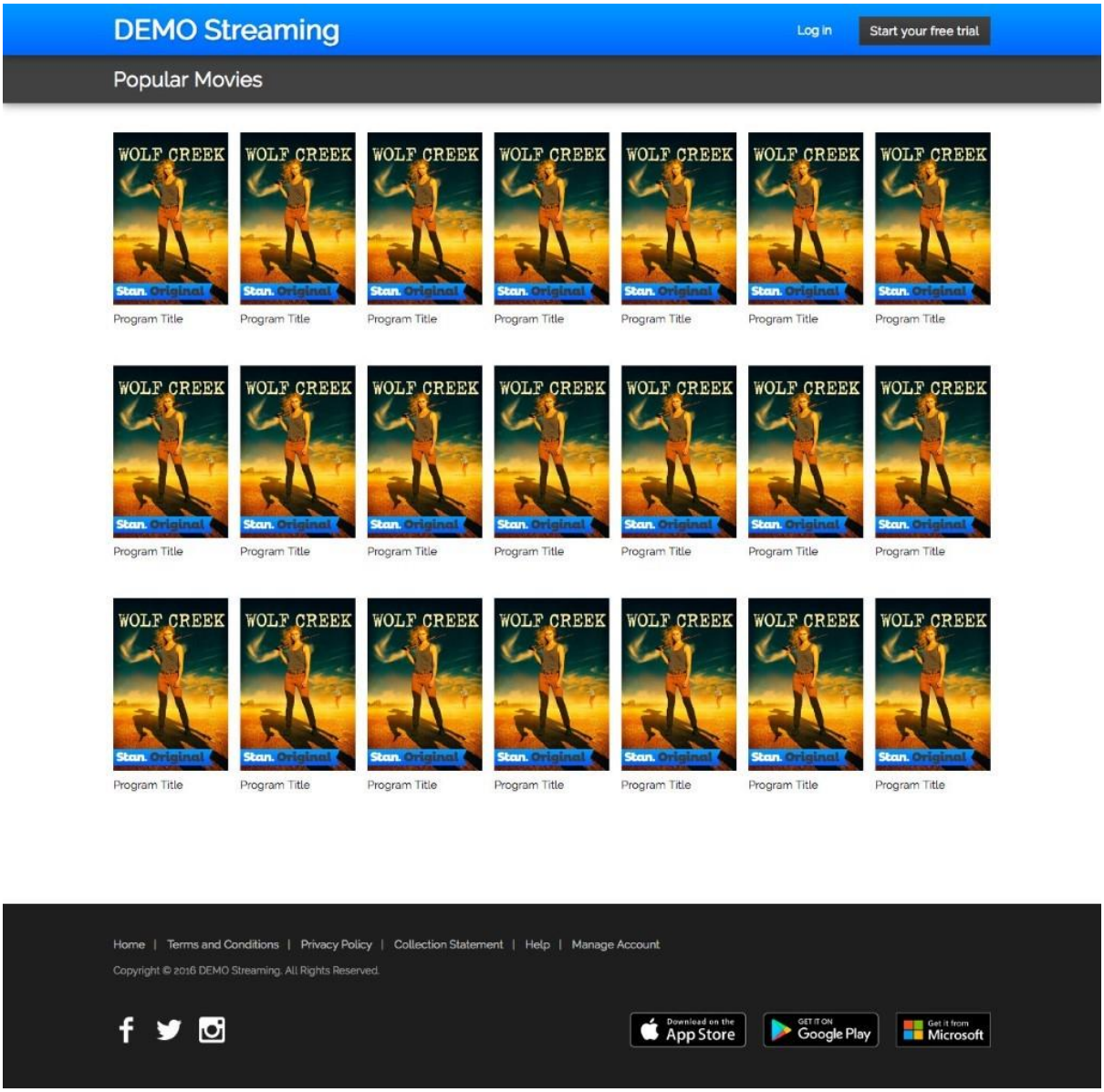


2. **Category Pages**
   For each category page you will need to fetch that category feed from the JSON sample file, for example for Movies, you must filter out for movies, then:
   Display the first 21 entries
   Where the entry has a **releaseYear** attribute value >= 2010
   Sorted by the **title** attribute value in ascending alphanumeric order. Example page:



3. **You will also need to handle the loading and error states of fetching the JSON feed**:

- "Loading" state

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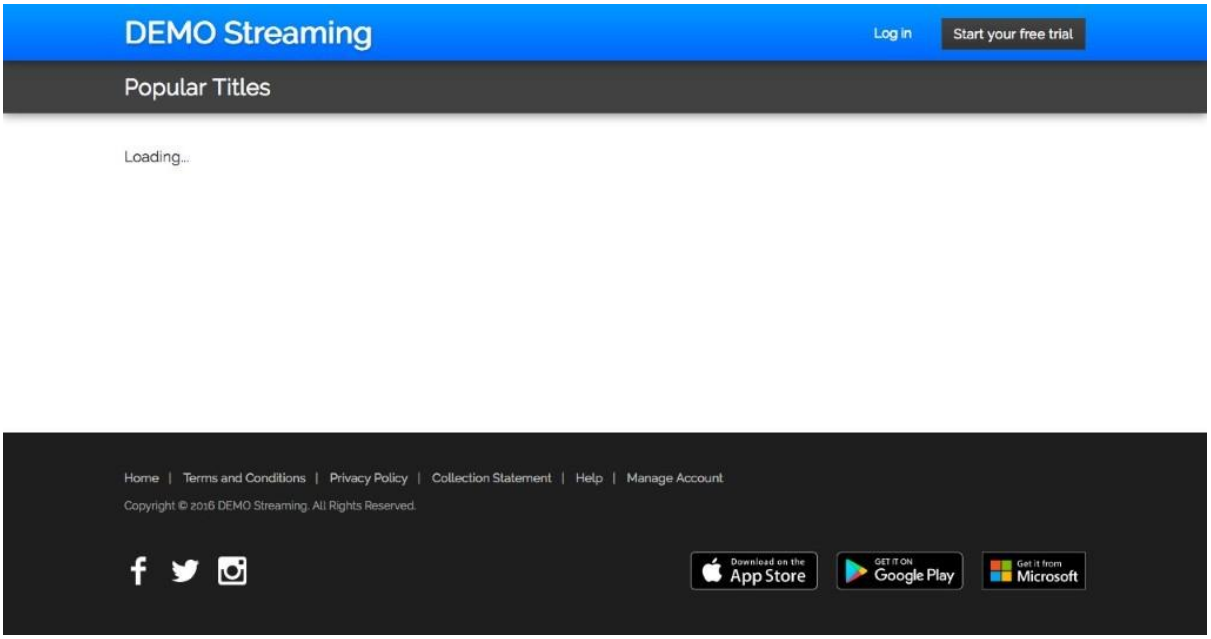

- "Error" state