myFlix web app

Development process

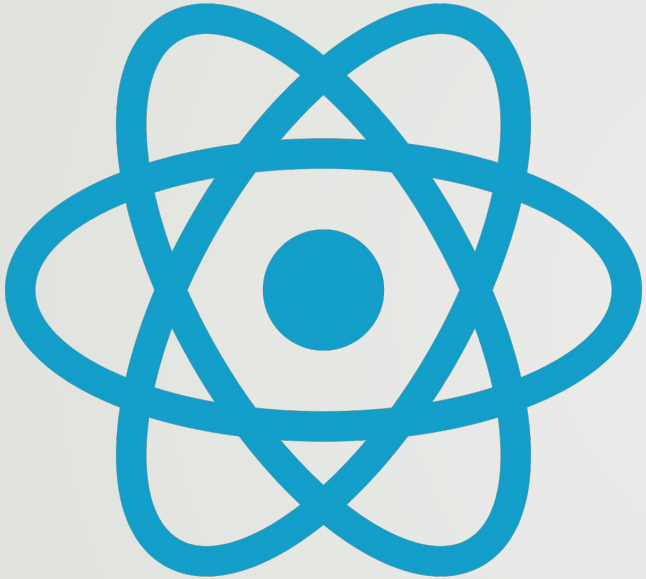
```
<NavigationBar/>
<SignupView/>
<LoginView/>
<MainView/>
<MovieCard/>
<MovieView/>
<ProfileView/>
```

August	2023

TABLE OF CONTENTS

TABLE OF CONTENTS

01



Deciding which framework or library is the most suitable for the project needs

Skills used

Research
Analytical thinking

WHY WAS THIS STEP IMPORTANT

Choosing the right framework requires consideration, because it determines how an entire app will be built. It is therefore important to start on the right basis and give it a good thought at first.

Choosing which library to use can be less crucial since it won't affect the structure of the app, but it is still good practice to think about this at the beginning to have some directions / ideas that can be adapted along the way.

WHAT WAS THE GOAL

Exploring the different factors to be considered for choosing the right framework / library at the start of a project, then analyzing the different possibilities, selecting the best one for myFlix and explaining the reasons behind it.

CHALLENGES OR SPECIAL POINTS OF CONSIDERATION

To practice my analytical skills, I first analyzed, for three different real-life company scenarios developing a web app, whether a library or framework would be the most suitable for their needs, and explained why. For each scenario, I proposed a specific library or framework to be used between React, Angular and Vue.js, and detailed what features of the selected choice would be useful.

I then explained and justified why React was the best tool for the myFlix project, highlighting some of its key features.

02

Setting up the React development environment

Skills used

Research
Problem solving

WHY WAS THIS STEP IMPORTANT

Organizing the coding environment for efficient and well-oriented work from the beginning is a key to ensure a smooth workflow and limit avoidable time loss due to inefficient project initialization.

WHAT WAS THE GOAL

Ensuring the project is properly ready to be worked on and developed, with all the necessary components and tools installed (CLI / Terminal / Shell, Node.js and Node package managers, Github repository, code editors, Parcel built-tool and other dependencies).

CHALLENGES OR SPECIAL POINTS OF CONSIDERATION

At first, I had a compatibility problem with my Node.js version. I was not able to initialize my package.json file, and so it was not possible to install Parcel built-tool as well. I eventually found out, after several researches on Github, that the problem was related to my version management nvm (Node Version Manager), which I then updated to resolve my compatibility issues and launched the installation of Parcel.

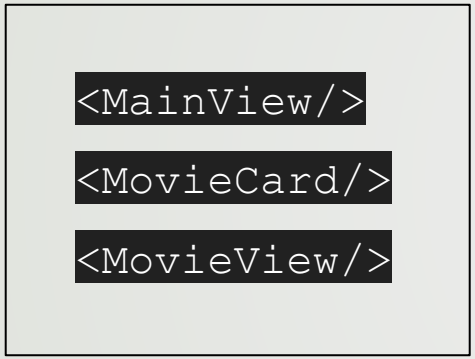
```
C:\Documents\myFlix>

    npm init

    npm install -g parcel

    parcel src/index.html
```

03



Implementing the first views, components and key functionalities

Skills used

Research
Problem solving
Code writing
Debugging

WHY WAS THIS STEP IMPORTANT

Implementing and rendering the basic first views / UI structure of the web app was important at this point to start giving a form to the product, and pave the way to add future improvements and build more specific coding logics over the next steps.

WHAT WAS THE GOAL

Creating the three main React components that would form the web app using JSX and movies mock data (later to be replaced by real data fetched from an API).

FIRST RENDERED VIEW

myFlix

localhost:1234

Title: Gladiator
Description: A former Roman General sets out to exact vengeance against the corrupt emperor who murdered his family and sent him into slavery.
Genre: Adventure
Director: Ridley Scott

Back

FIRST RENDERED VIEW

myFlix

localhost:1234

Title: The Shawshank Redemption
Description: Two imprisoned men bond over a number of years, finding solace and eventual redemption through acts of common decency.
Genre: Drama
Director: Frank Darabont

Back

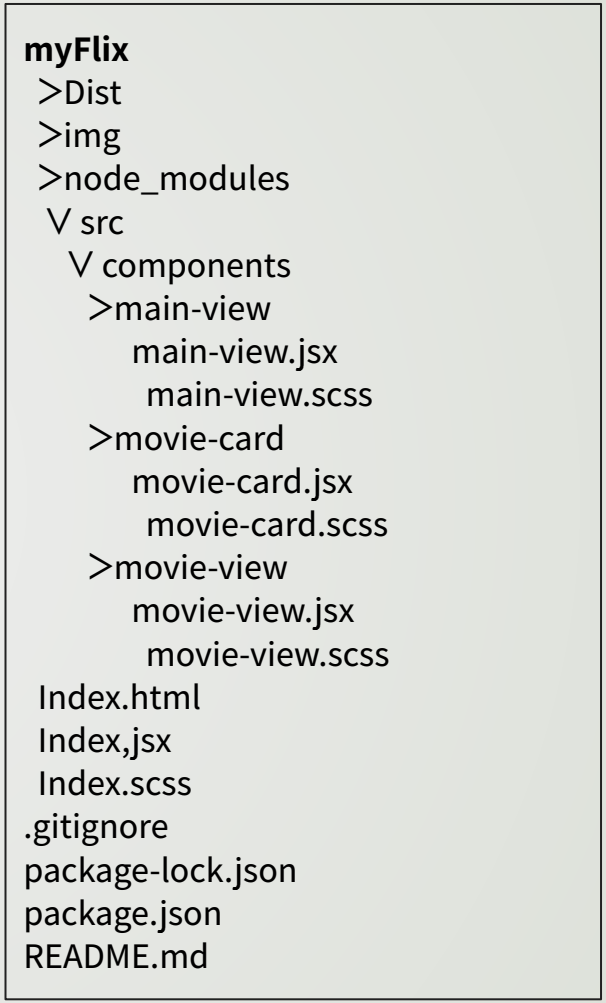
CHALLENGES OR SPECIAL POINTS OF CONSIDERATION

I was in my first experimentations with the use of React state, props and event handling. It was therefore a good challenge to understand the mechanics behind these principles at first, but I was able to find several solutions by myself to assimilate everything and eventually deliver the all expected requirements. Some of the solutions I used to succeed in this step:

- Doing several researches on various platforms (Stack Overflow, Github…)
- Reading the official React documentation
- Analyzing other codes / projects using React to understand their logics
- Carrying out multiple tests locally to understand what works well and what does not work well, and adapt my codes consequently

DECISIONS MADE

As more files and components were created in this step, I had to organize the location and structure of each newly created folders and files of the project, ensuring a coherent directory set up following React industry standard.



04

Fetching real data from my API and render it in the components

Skills used

Research
Problem solving
Code writing
Debugging

WHY WAS THIS STEP IMPORTANT

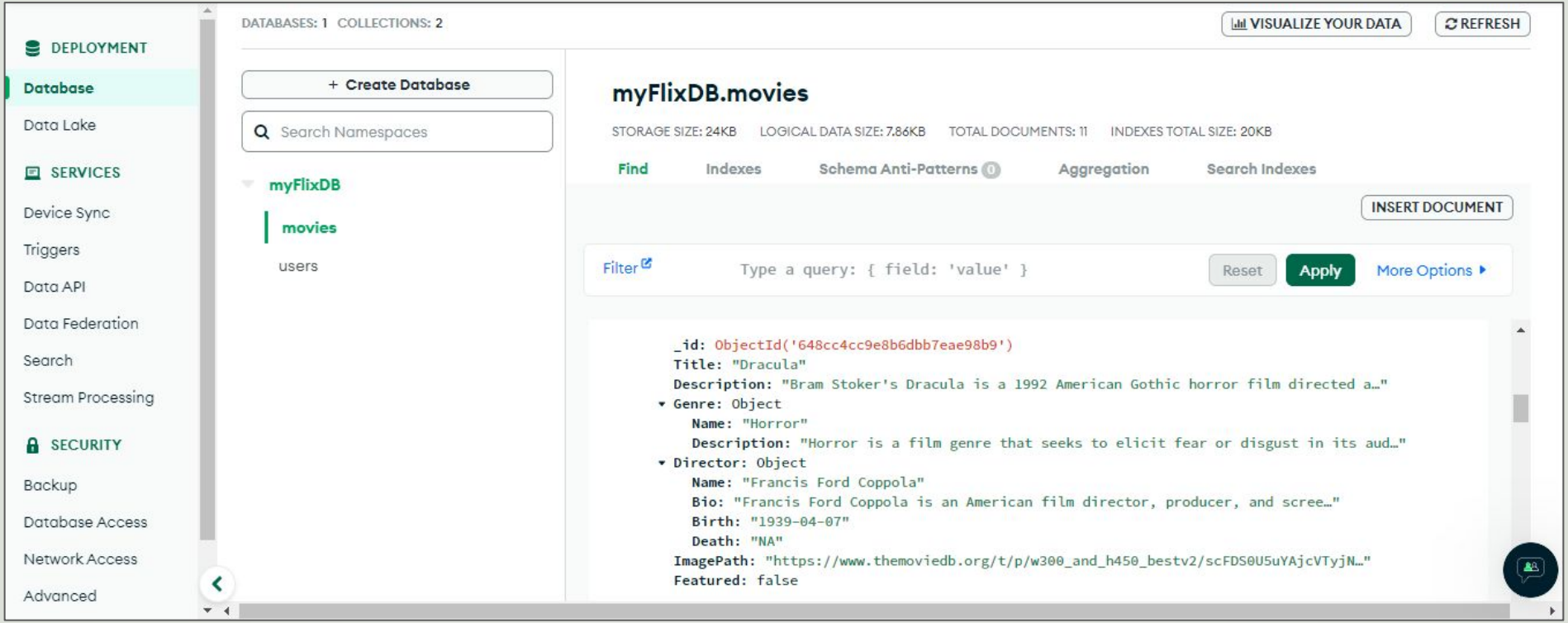
Connecting the API I built previously to myFlix was a key step to deliver real movie information to users. Up until this step, only non-significant movie mock data (with the same structure as the data fetched by the API) were rendered in the UI (using a handmade array written within one of the components for testing purposes).

WHAT WAS THE GOAL

Replacing mock-data with the real data fetched from previously built API.

```
useEffect(() => {
   fetch("https:...")
     .then
     ...
}, [...]);
```

MOVIE DATA FETCHED BEING STORED IN A MongoDB DATABASE



CHALLENGES OR SPECIAL POINTS OF CONSIDERATION

My API for myFlix had been previously designed to have an authentication system with token generation applied to it, and specific Cross-Origin Resource Sharing (CORS) parameters.

In order to render fetched data in my React app at this point, I had to address this by temporarily adjusting one of my backend endpoints (/movies) and my CORS set up to allow the sending of some information on my front-end while I was working on it. I also had to make sure that my API data was being fed into the different components of my app correctly and that all the relation parent-child, useState, useEffect and props were working.

Also, at the first try, the images of my movies from my database were not displaying correctly. After investigation, I found that the link for each film image was not in the correct format. I made the necessary adjustments, updated my movie database again in MongoDB, and the images then displayed correctly.

05

Creating forms, **executing** frontend form validation and **applying** authentication

Skills used

Research
Problem solving
Code writing
Debugging

WHY WAS THIS STEP IMPORTANT

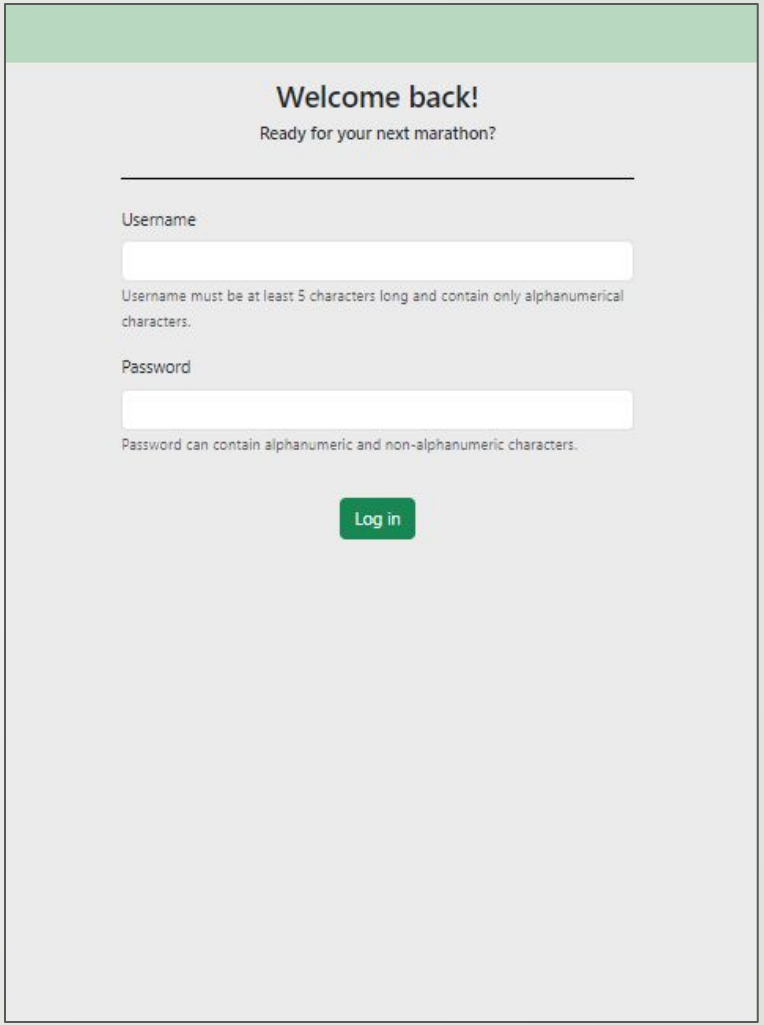
Implementing well designed forms is an important way of facilitating user input and interaction through React components and a web app.

WHAT WAS THE GOAL

Creating a user-friendly sign up form and log in form, as well as applying authentication measures and logic to ensure persistent access into the web app for logged-in users while they navigate between views.

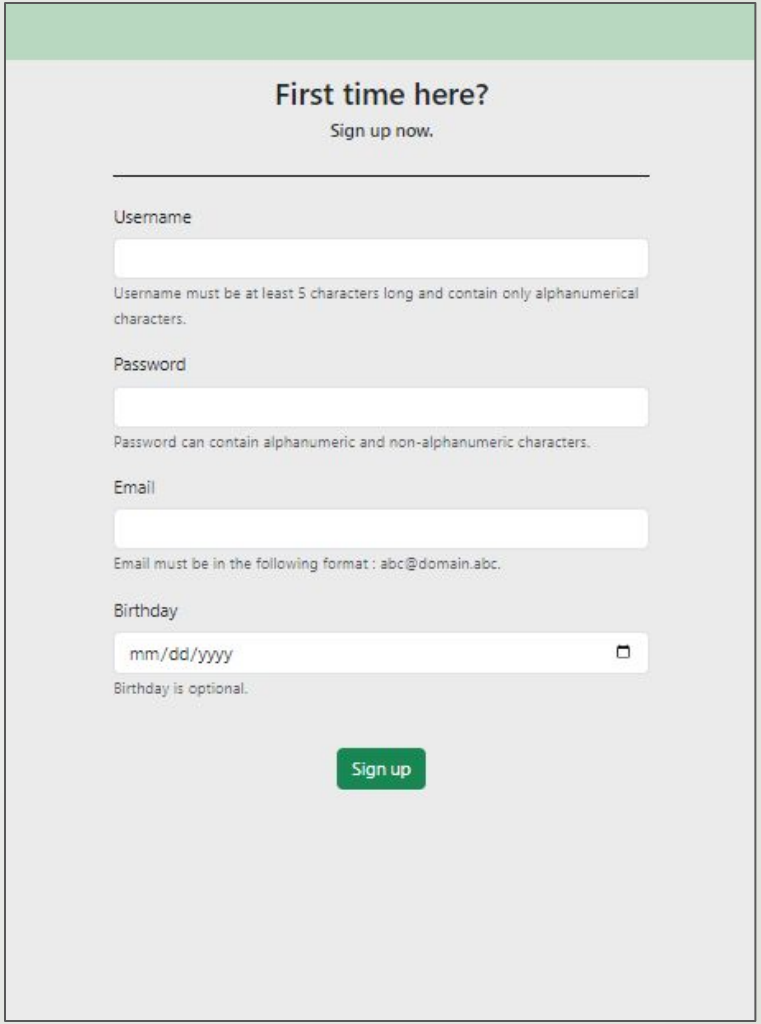
LOG IN

VIEW

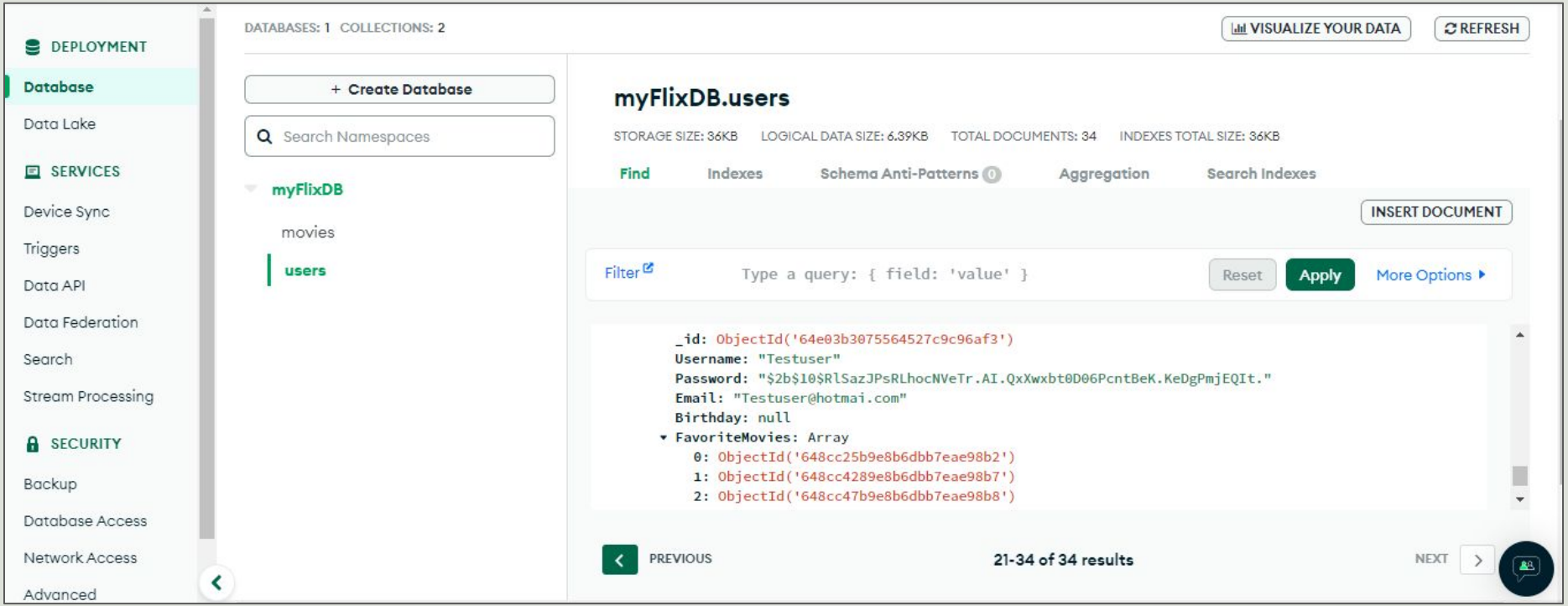

Welcome back!
Ready for your next marathon?
Username
Username must be at least 5 characters long and contain only alphanumerical characters.
Password
Password can contain alphanumeric and non-alphanumeric characters.
Log in

SIGN UP

VIEW


First time here?
Sign up now.
Username
Username must be at least 5 characters long and contain only alphanumerical characters.
Password
Password can contain alphanumeric and non-alphanumeric characters.
Email
Email must be in the following format : abc@domain.abc.
Birthday
mm/dd/yyyy
Birthday is optional.
Sign up

USER ACCOUNT CREATED IN MongoDB DATABASE UPON SUCCESSFUL SIGN UP

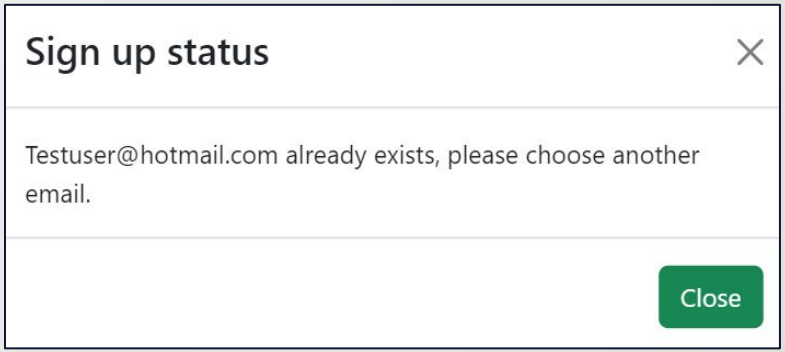


CHALLENGES OR SPECIAL POINTS OF CONSIDERATION

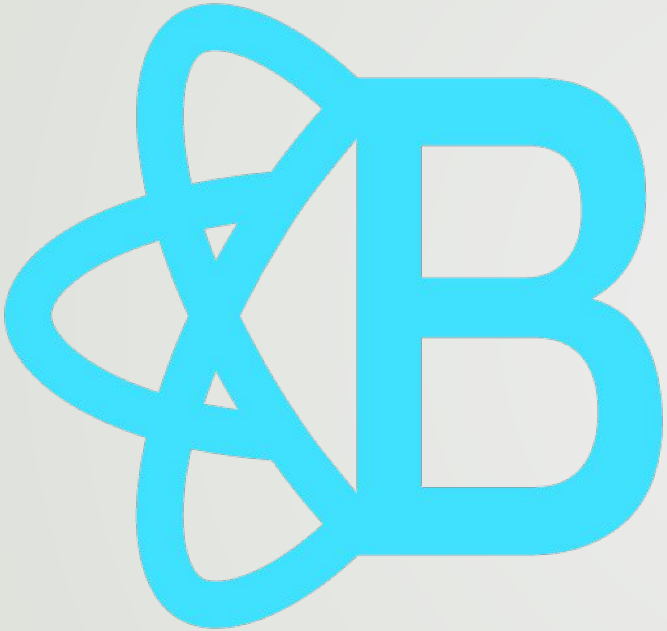
To test the authentication implemented, I had to revert the previous adjustment made on the backend (re-enabling token-based authentica- tion on one of my API endpoints). I also needed to adjust the logic of some endpoints in my backend to ensure that it was impossible for a new user to create an account with an already existing username or email address. I later did several tests in pairs with my MongoDB database to validate the correct implementation of these backend updates.

DECISIONS MADE

Even though it wasn't in the project requirements, I chose on my own to make additional changes to some endpoints in my API to ensure that each user has a unique username and email address, and so create a more realistic and functional web application.



06



Styling the web app using React Bootstrap features and components

Skills used

Creative thinking
User-first perspective
Research
Code writing

WHY WAS THIS STEP IMPORTANT

Applying principles of good design to a React app using UI frameworks is as important as the app structure and functioning since it plays a big part in how users see the product and want to interact with it.

WHAT WAS THE GOAL

Shifting gears from technical implementation of components to focus on app's design, polishing his appearance and ensuring it's responsive to use on any screen size devices.

```
const [showAddFavoriteModal, setShowAddFavoriteModal] = useState(false);
const [showDeleteFavoriteModal, setShowDeleteFavoriteModal] = useState(false);
const [showConfirmationModal, setShowConfirmationModal] = useState(false);
const [showErrorModal, setShowErrorModal] = useState(false);
```

CHALLENGES OR SPECIAL POINTS OF CONSIDERATION

Thanks to the React Bootstrap extensive online documentation, the design of the app itself was particularly smooth.

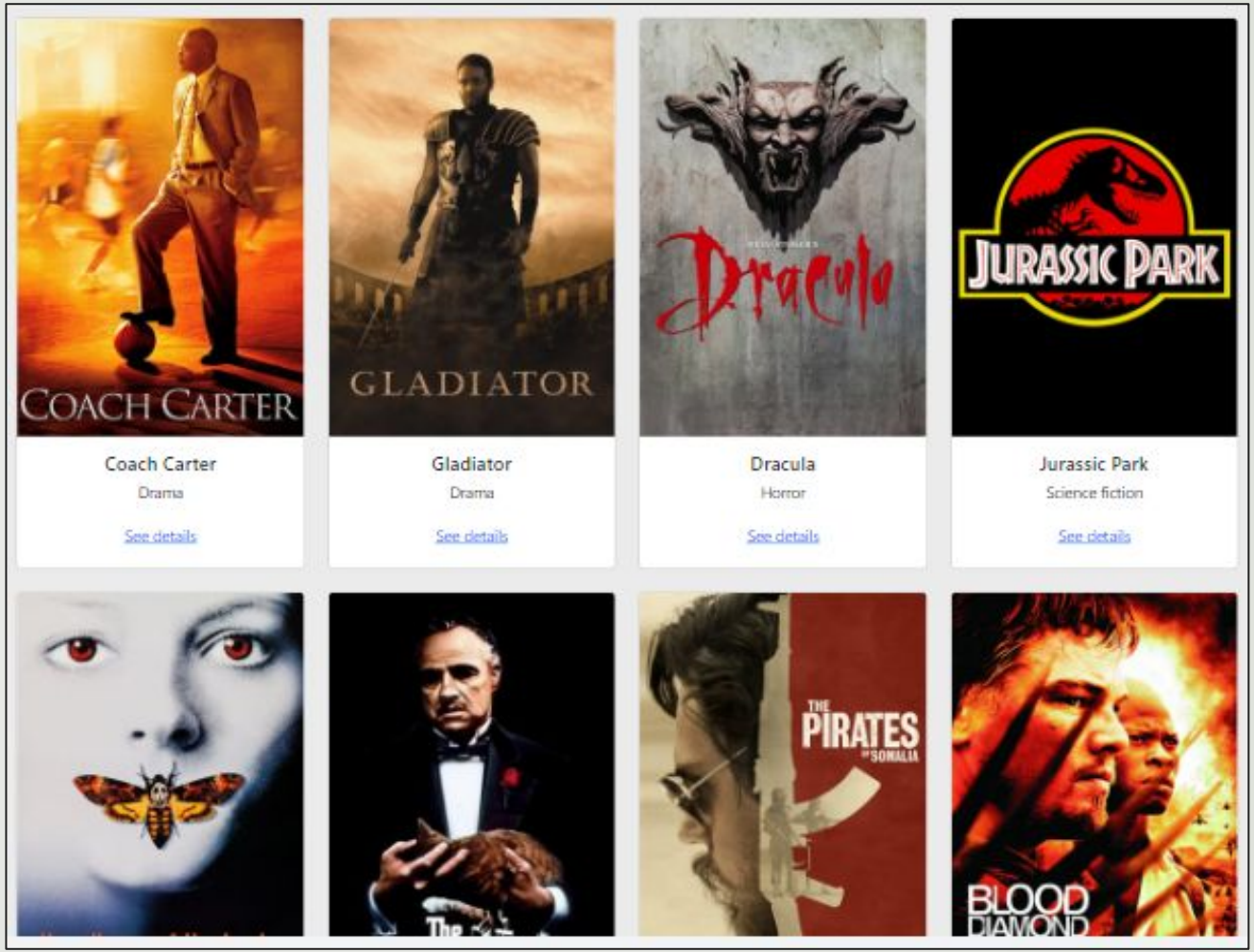
The main challenge was more about ensuring that the design applied to the computer web version of myFlix was as visually appealing and logic for the smaller devices / mobile phones. Many thoughts and tests have been done on how to re-adjust each UI depending on the various screen scales to eventually select the ideal combinations.

DECISIONS MADE

I choose all the visuals and the content organization within each view of myFlix. I made all my decisions based on how I thought users would like to interact with myFlix, and I've implemented, inspired by other well-designed web apps, a consistent styling across each view for a professional looking product.

```
import { Row } from "react-bootstrap";
import { Col } from "react-bootstrap";
import { Button } from "react-bootstrap";
import { Form } from "react-bootstrap";
import { Modal } from "react-bootstrap";
import { Card } from "react-bootstrap";
```

MAIN VIEW
LARGE
SCREEN
VISUAL



SPECIFIC MOVIE VIEW

LARGE SCREEN VISUAL

Title
Jurassic Park

Description
The film is set on the fictional island of Isla Nublar, off Central America's Pacific Coast near Costa Rica, where a wealthy businessman, John Hammond, and a team of genetic scientists have created a wildlife park of de-extinct dinosaurs. When industrial sabotage leads to a catastrophic shutdown of the park's power facilities and security precautions, a small group of visitors, including Hammond's grandchildren, struggle to survive and escape the now perilous island.

Genre
Science fiction

Genre description
Science fiction (or sci-fi) is a film genre that uses speculative, fictional science-based depictions of phenomena that are not fully accepted by mainstream science, such as extraterrestrial lifeforms, spacecraft, robots, cyborgs, dinosaurs, mutants, interstellar travel, time travel, or other technologies.

Director
Steven Spielberg

Director bio
Steven Spielberg is an American filmmaker and a major figure of the New Hollywood era.

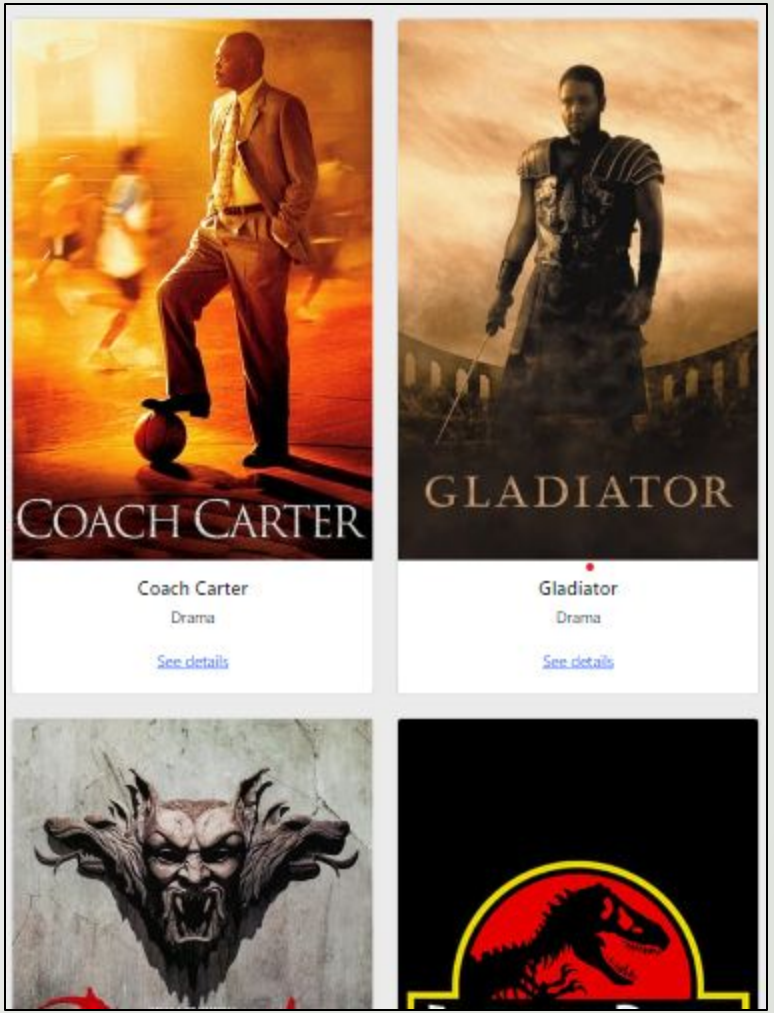
Director birth
12/18/46

Add to favorite

Back

MAIN VIEW

MEDIUM SCREEN VISUAL



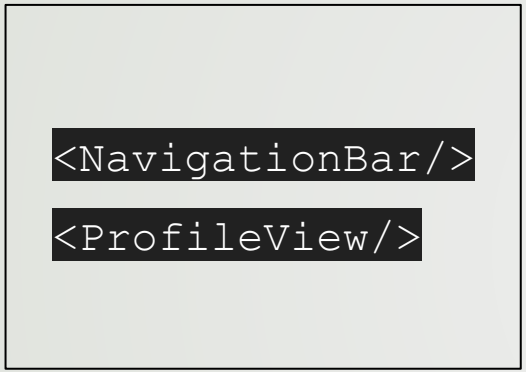
MAIN VIEW

SMALL SCREEN VISUAL

SPECIFIC MOVIE VIEW

MEDIUM AND SMALL SCREEN VISUAL

07



Implementing state-based routing, creating user profile page and specific features

Skills used

Research
Problem solving
Code writing
Debugging

WHY WAS THIS STEP IMPORTANT

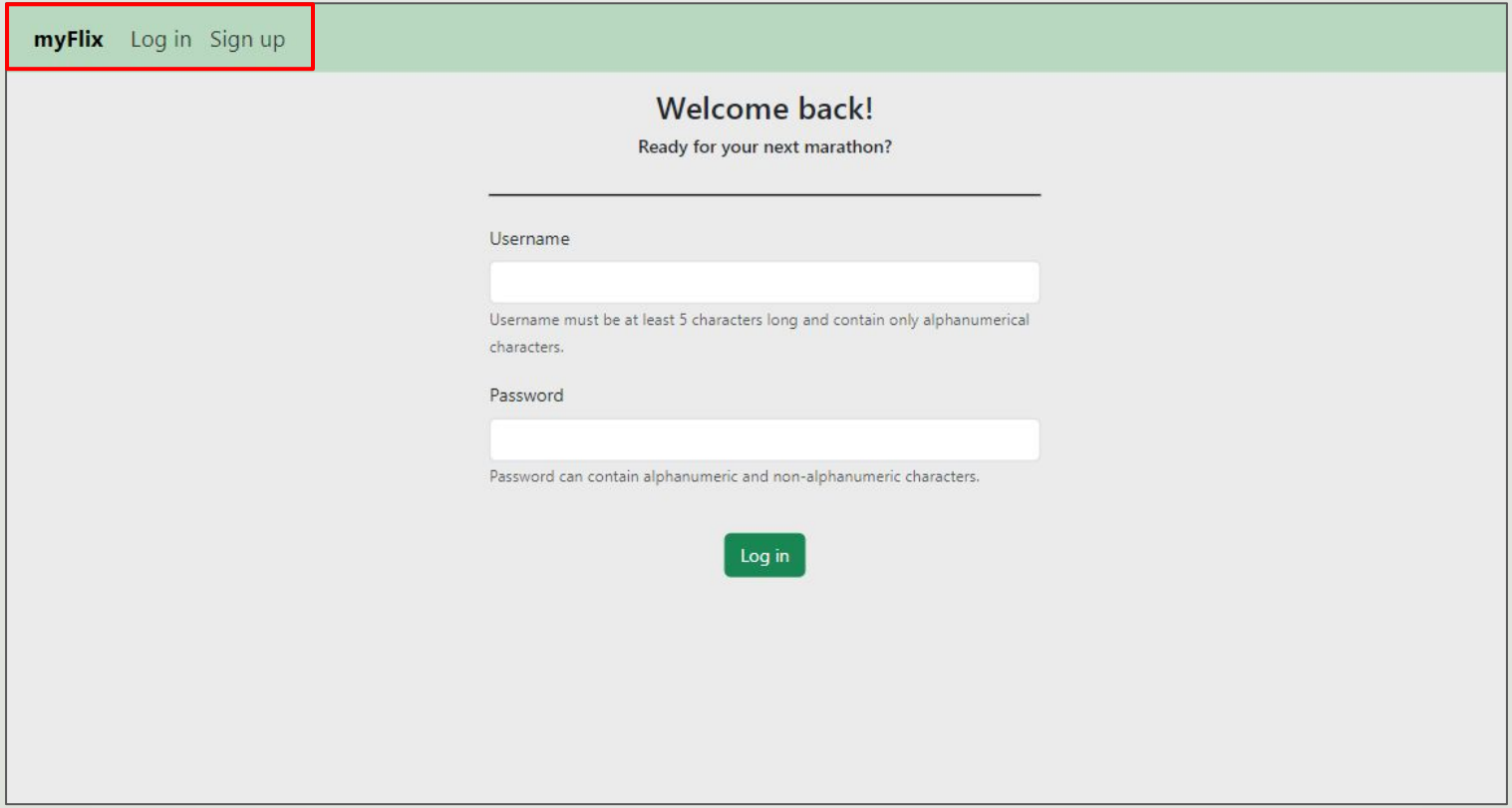
Creating a user profile page was necessary to ensure users have access to their information and favorite movie list. As for the specific features (movie filters and search bar), it made sense to implement those elements since users of this type of product generally expect this kind of functionality to facilitate their interaction.

WHAT WAS THE GOAL

Implementing state-based routing (with React router and React router DOM), so that users can navigate between the different views and obtain unique URLs. The creation of a dynamic navigation bar for users to switch between different views was also part of this step.

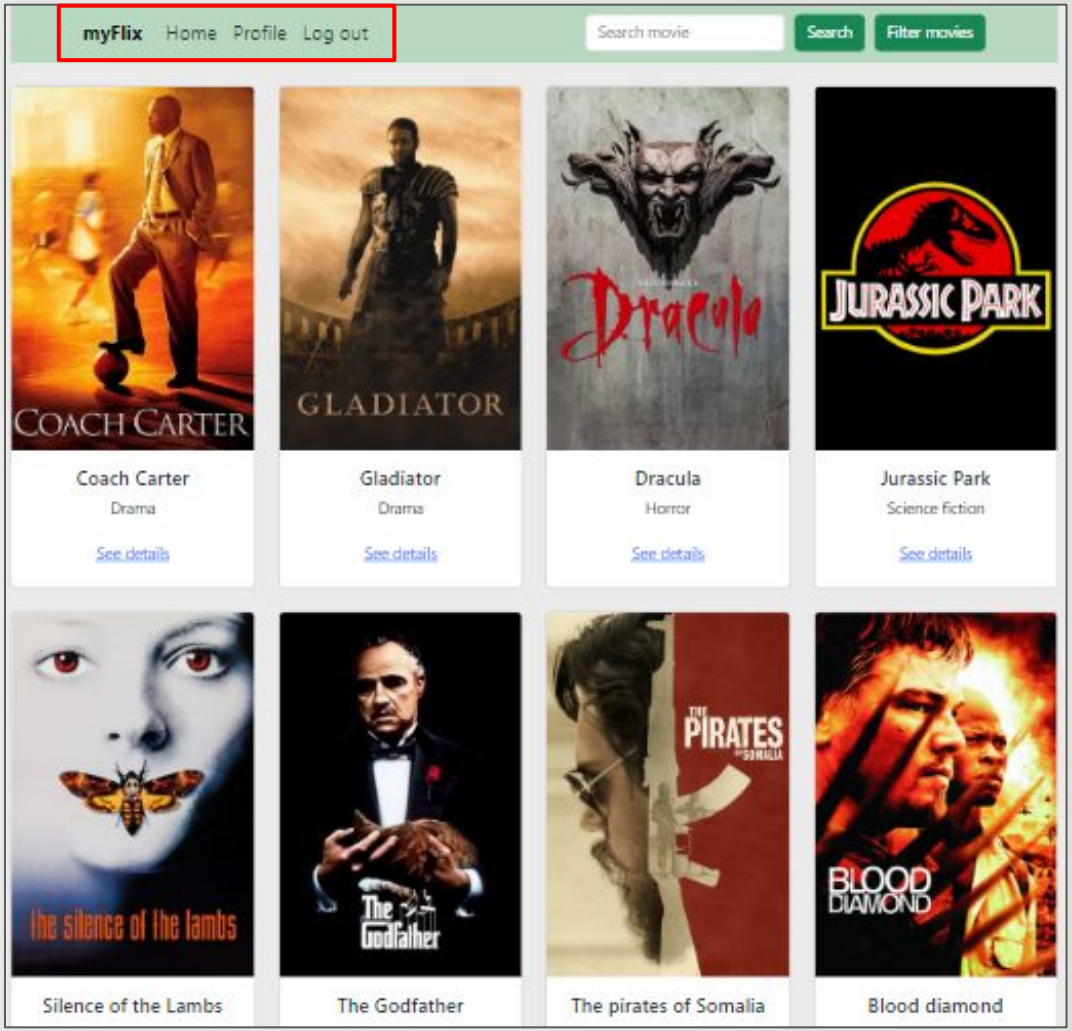
This step was also meant to build the Profile page so that users can view, update or delete their account, as well as consult their list of favorite movies and update it. The codes to implement the filter movie button and the search bar was also meant to be developed at this point.

NAVIGATION BAR - UNAUTHENTICATED USERS

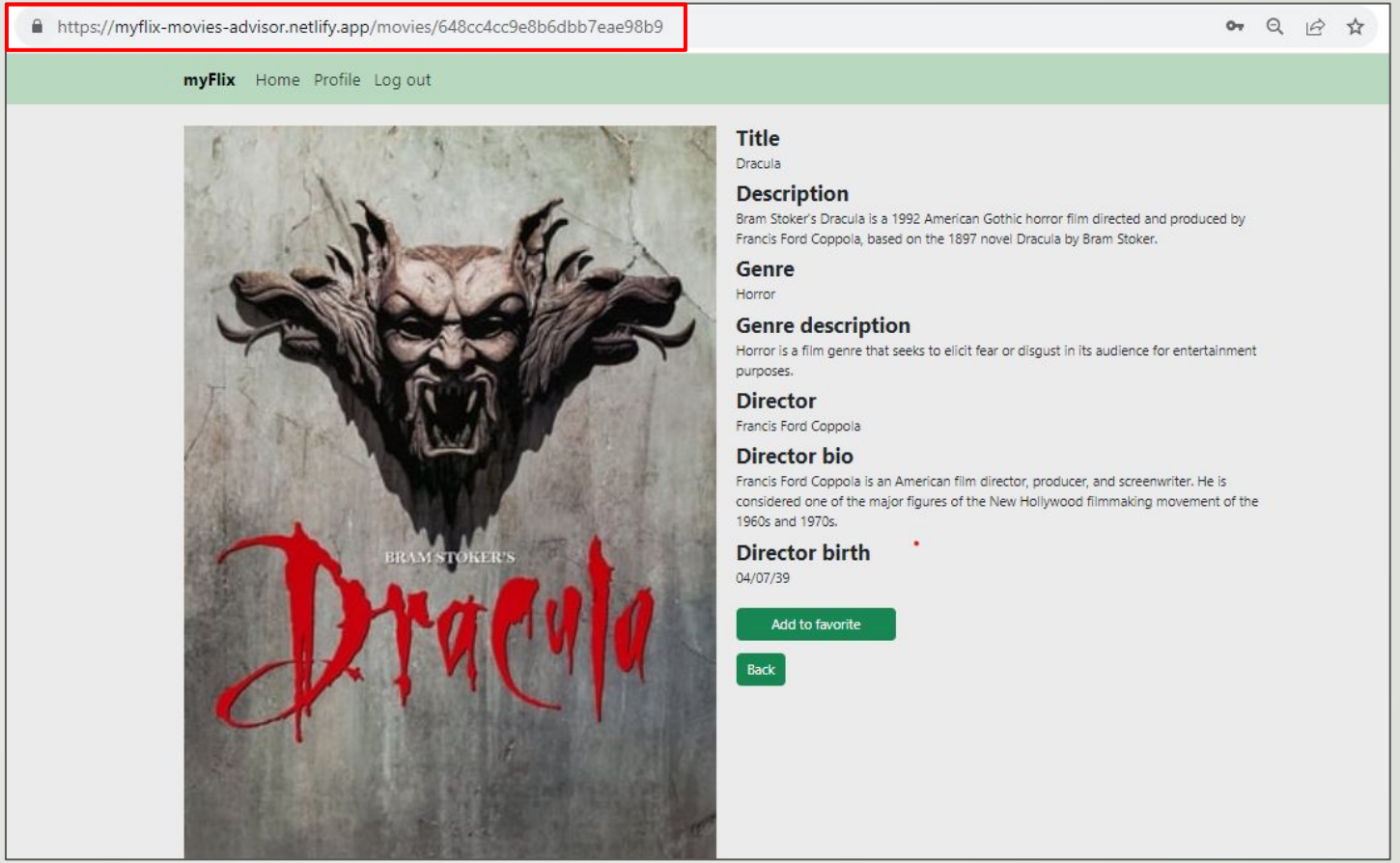


NAVIGATION BAR

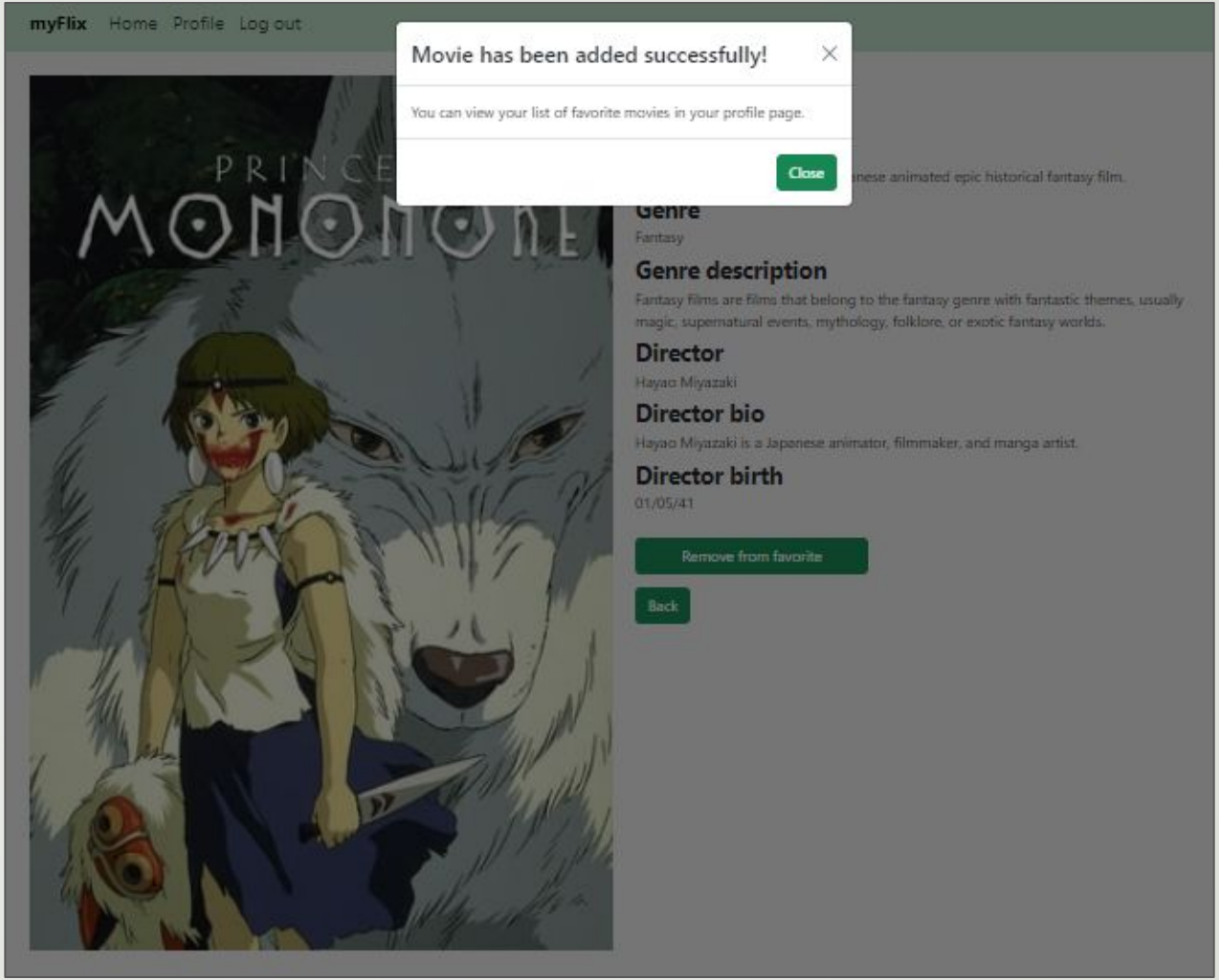
AUTHENTICATED USERS



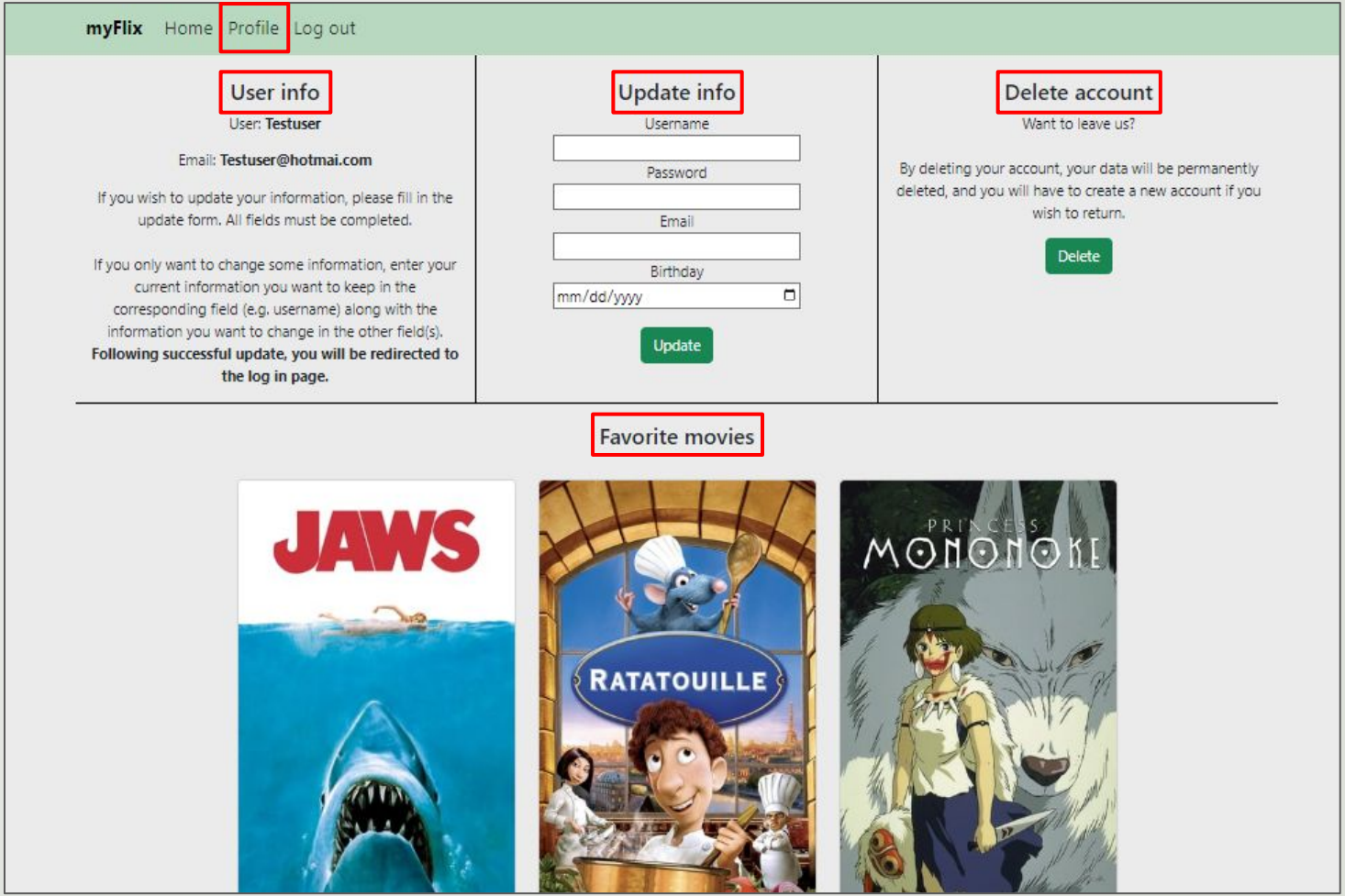
STATE-BASED ROUTING



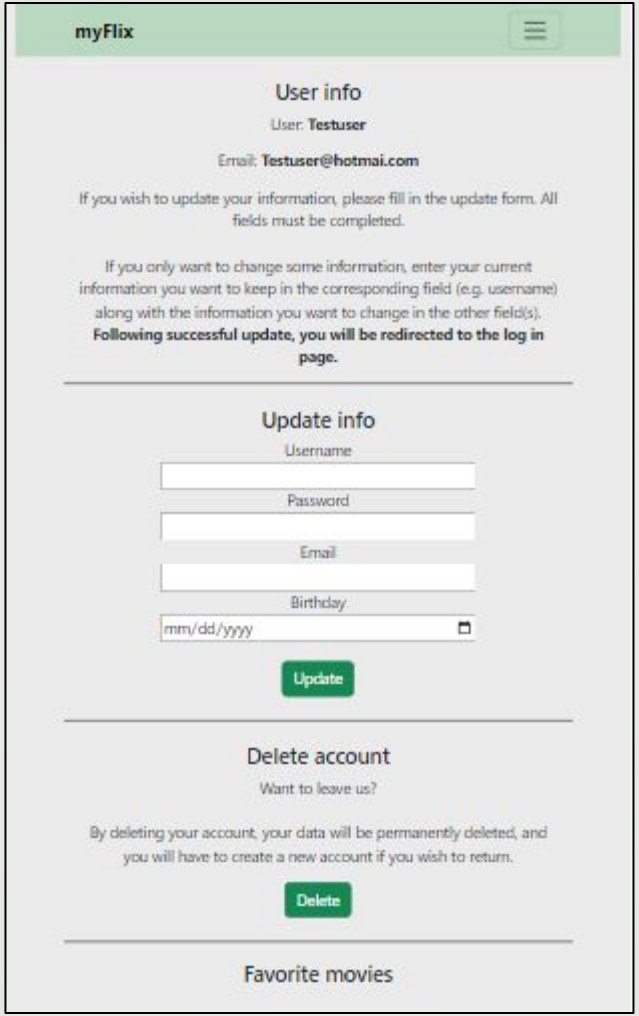
MOVIE ADDED TO FAVORITE (SHOWN IN PROFILE VIEW)



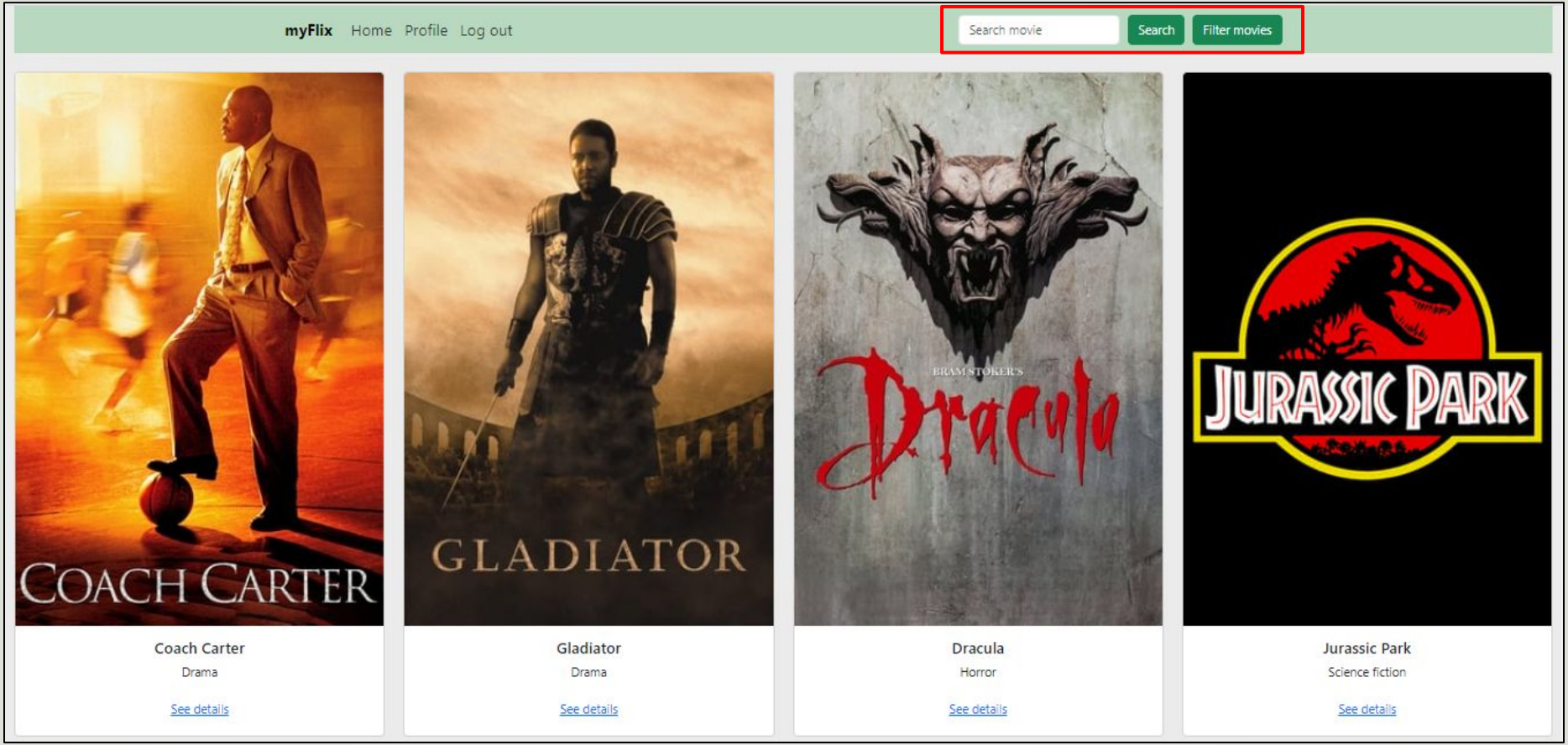
PROFILE VIEW (LARGE SCREEN VISUAL)



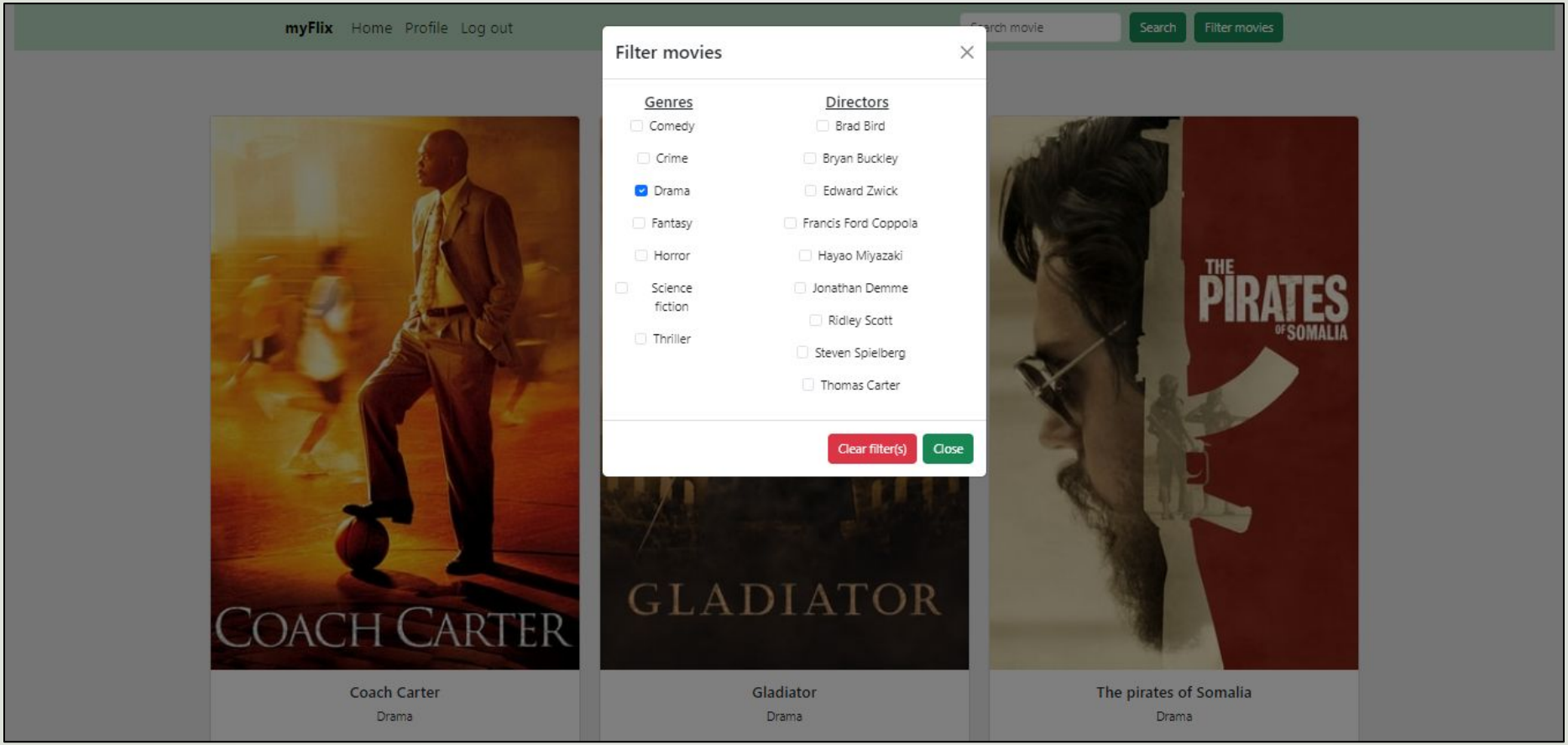
PROFILE VIEW (MEDIUM AND SMALL SCREEN VISUAL)



FILTER BUTTON AND SEARCH BAR

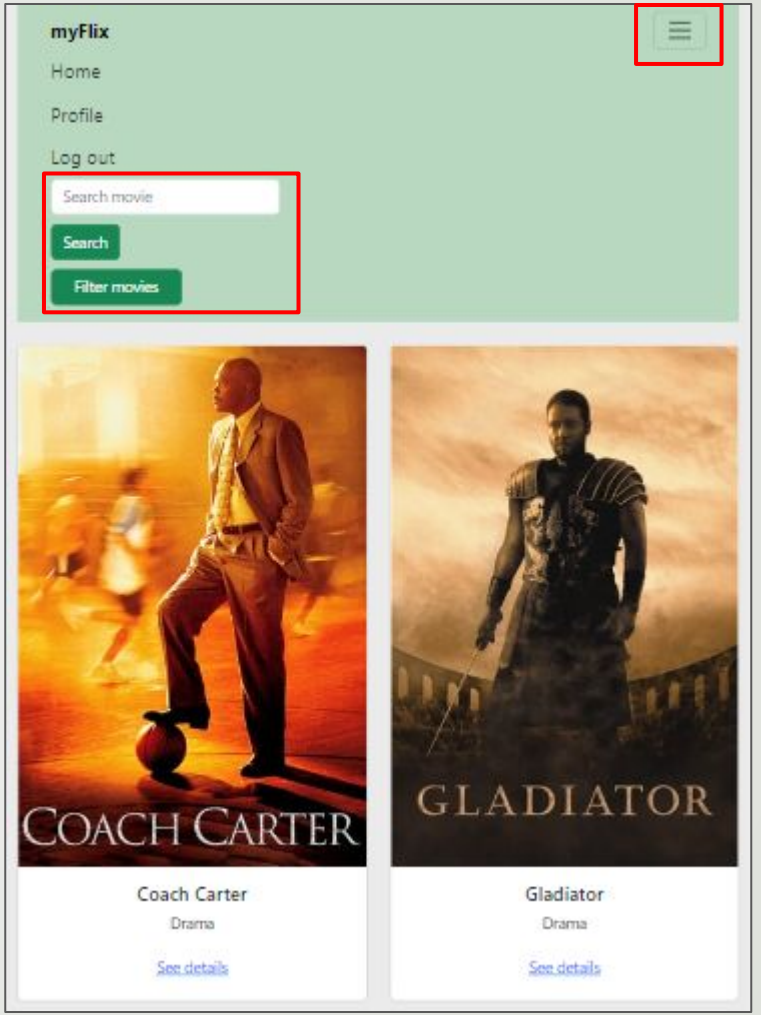


FILTER BUTTON MODAL



FILTER BUTTON AND SEARCH BAR

(COLLAPSED FOR MEDIUM AND SMALL SCREENS VISUAL)



CHALLENGES OR SPECIAL POINTS OF CONSIDERATION

In this step, I was also in my first experimentation with the use of react-router, react-router-dom and the implementation of state-based routing. It was therefore a good challenge to understand the mechanics behind these principles at first, but I was able to find several solutions by myself to assimilate everything and eventually deliver the all expected requirements. Some of the solutions I used to succeed in this step:

- Doing several researches on various platforms (Stack Overflow, Github…)
- Reading the official React router documentation
- Analyzing other codes / projects using react-router to understand their logics
- Carrying out multiple tests locally to understand what works well and what does not work well, and adapt my codes consequently

DECISIONS MADE

I choose how to display the elements within the navigation bar, as well as the different parts composing the profile page. I also thought about the logic behind the movie filter function by asking myself: how could users generally expect to search for their movies using filters? I then implemented the logic accordingly within my code (filters based on genres and directors).

08

Finalizing code revision, refactoring, testing and last adjustments

Skills used

Critical thinking
Detailed overview

WHY WAS THIS STEP IMPORTANT

Ensuring that the codes are optimized, that the web app passes all the tests and that the final product is in its best visual version was a logic thing to do for a sound public deployment.

WHAT WAS THE GOAL

Reviewing each code to make sure everything was optimized as much as possible in order to facilitate future modification, addition or adjustment to the web app.

Adding of comments and clarifications points in the code where important for the benefit and better understanding of anyone else who may work on this project later.

Carrying out several tests on all the functionalities of the application to ensure that it works perfectly.

Adjusting some final design details to ensure professional looking.

CODE COMMENTS TO FACILITATE FUTURE UPDATES AND WORK

```
//***Used to display each filtered movie on the UI (when filter parameter(s) is/are activated).
const [filteredMovies, setFilteredMovies] = useState([]);
//***Used to save the first list of all movie fetched, so it can be re-used when user clear filters to sh
const [originalMovies, setOriginalMovies] = useState([]);

//***This useEffect filter the array of fetched movies based on selected genres and directors, and it upd
useEffect(() => {
    //***Filter movies based on selectedGenres and selectedDirectors.
    const filtered = movies.filter((movie) => {
        //***Check if a movie's genre is included in selectedGenres.
        const genreMatch = selectedGenres.length === 0 || selectedGenres.includes(movie.genre);
        //***Check if a movie's director is included in selectedDirectors.
        const directorMatch = selectedDirectors.length === 0 || selectedDirectors.includes(movie.director
        //***Return true if both genreMatch and directorMatch are true, meaning the movie matches the sel
        return genreMatch && directorMatch;
    });
    if (selectedGenres.length === 0 && selectedDirectors.length === 0) {
        //***If no filters are applied, show the whole list of movies.
        setFilteredMovies([]);
    } else {
        //***If filters are applied, set the filtered movies or an empty array if no movies match.
        setFilteredMovies(filtered);
    }
}, [selectedGenres, selectedDirectors, movies]);

//***Function the set everything back as their initial value (used for the ''clear filters'' button).
const resetFilters = () => {
    setSelectedGenres([]);
    setSelectedDirectors([]);
    setFilteredMovies([]);
```

CHALLENGES OR SPECIAL POINTS OF CONSIDERATION

I positioned myself from the point of view of future colleagues who could work on my project. How can I make my project and my codes as clear as possible to promote its easy appropriation? I reviewed each file to bring improvements in certain places and add comments where I thought it could be useful.

DECISIONS MADE

This step was done on my own initiative and was not required in the project requirements. I made decisions regarding the improvement of certain parts of my codes, and the addition of comments where necessary in order to set my mind to work in a collaborative environment already.

09

Deploying and hosting the web app

Skills used

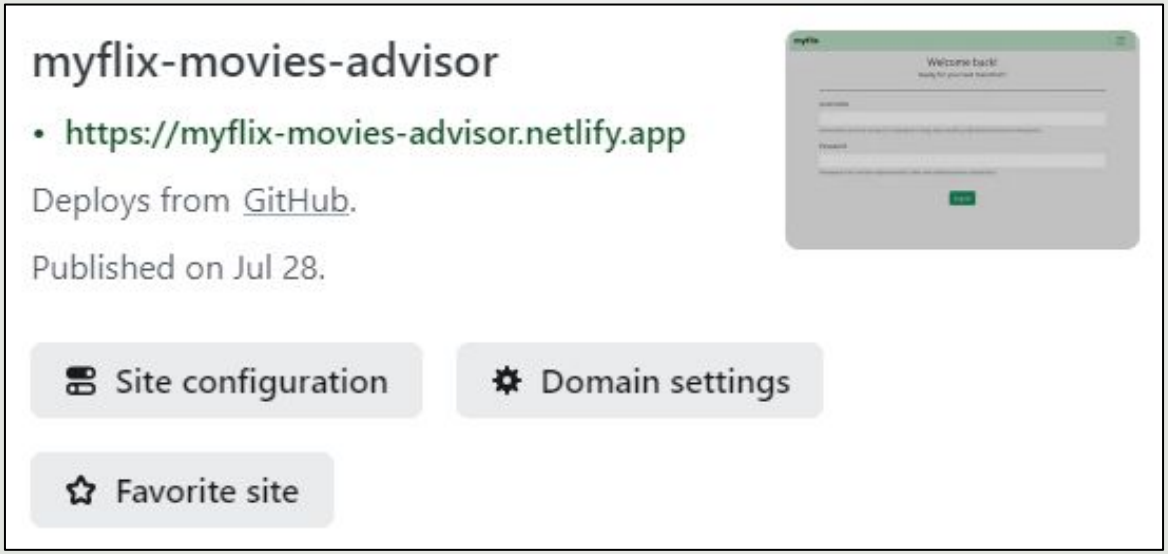
Research
Debugging

WHY WAS THIS STEP IMPORTANT

Ensure the web app is publicly available to everyone.

WHAT WAS THE GOAL

Deploying and hosting myFlix online on Netlify.



CHALLENGES OR SPECIAL POINTS OF CONSIDERATION /

At first, my app would not render properly in the web browser, despite a deployment that seemed successful on Netlify. I had to identify the source of the problem by consulting the Netlify documentation. I ran several tests to troubleshoot the problem until I finally managed to adjust some parameters within Netlify and redeploy my web app successfully.

DECISIONS MADE /

Choosing the name of myFlix URL before deploying it online, having in mind an easy-to-remember domain for users.

10

README.md

Completing the README document for myFlix web app

Skills used

Communication
Content writing

WHY WAS THIS STEP IMPORTANT

Ensure the web app is well documented and easily accessible by anyone interested.

WHAT WAS THE GOAL

Updating and completing the README file located in my myFlix Github repository. The goal was to ensure that all relevant information regarding myFlix is accessible under these four categories:

- Project description
- User interface
- API and React
- App dependencies

CHALLENGES OR SPECIAL POINTS OF CONSIDERATION

Finding the right balance between giving the right level of information, while remaining as synthetic as possible. To help me, I made a first draft, which I then modified several times. I get inspired by other READMEs I've consulted for similar projects and for which I found that the information presented was relevant.

DECISIONS MADE

I wrote the README documentation from A to Z, in terms of content, presentation and structure.

README SAMPLE - FULL VERSION ON Github

README.md

myFlix web app documentation

Content

- Projet description
- User interface
- API and React
- App dependencies

Projet description

myFlix app was created to serve as a reference in the domain of visual entertainment. Users can create an account and then log into *myFlix* app to have access to different information about different movies. They can search for movies based on different criteria and create a list of favorite movies.

User interface

More concretely, when a user is not logged in, he has access to two views: log in or sign up. Once connected in the app, the user has access to two main views: home and profile.