myFlix web app

Angular frontend development process



*All usernames, passwords or other similar information shown in this presentation is fictive and for illustrative purpose only

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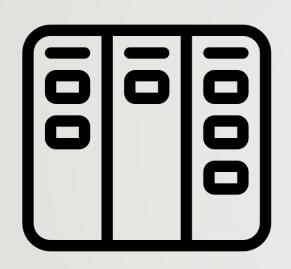
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01



Analyzing the project user stories, setting up a Kanban board and creating the web app user flow

Skills used

Project management
Analytical thinking
Visual communication (schemas)

WHY WAS THIS STEP IMPORTANT

Analyzing the user stories is essential to pinpoint the exact features that need to be implemented in a product, and thus fulfil stakeholders and users expectations.

Knowing how to work with Kanban is also important, since it's a project management method widely used in various work environments. Kanban is interesting since it's based on simple visuals and allows tasks to be presented in a clear and effective way, which makes it a useful project management and monitoring tool, especially in coding.



WHAT WAS THE GOAL

Analyzing each user story (2) and note down the technical requirements and functionalities needed to meet the desired results.

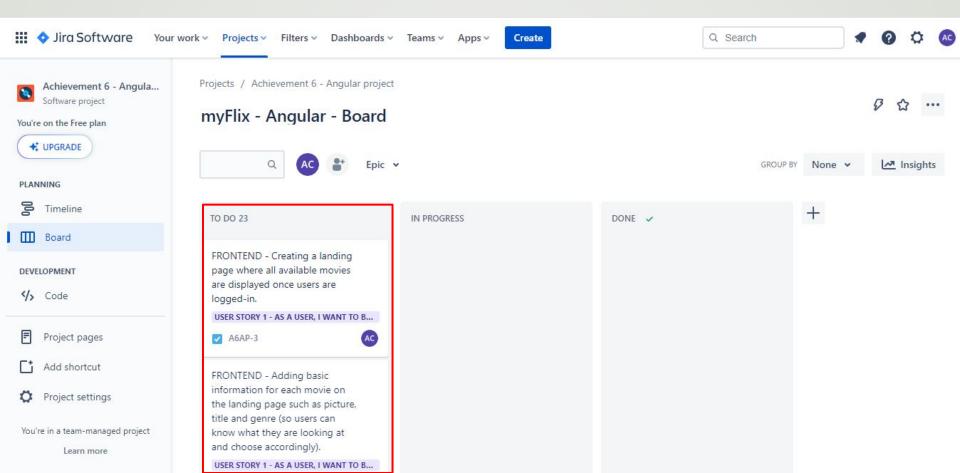
Migrating the technical requirements extracted from the project's user stories into Kanban cards / tasks (in Jira) to structure and align the project over the development (see images on next slides).

Adding story points to each card based on the expected effort required.

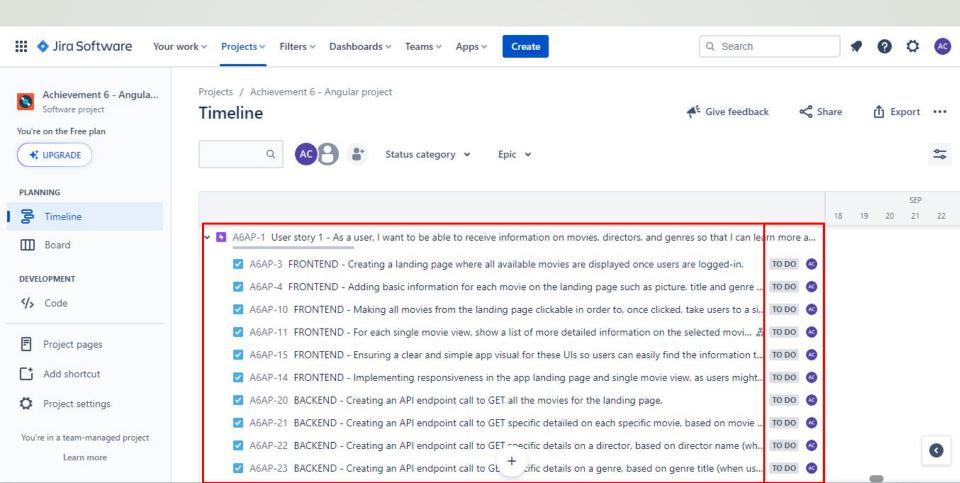
Creating the users flow on myFlix Angular (see images on next slides).

• Showing the steps users have to complete to achieve their end goal while using the web app.

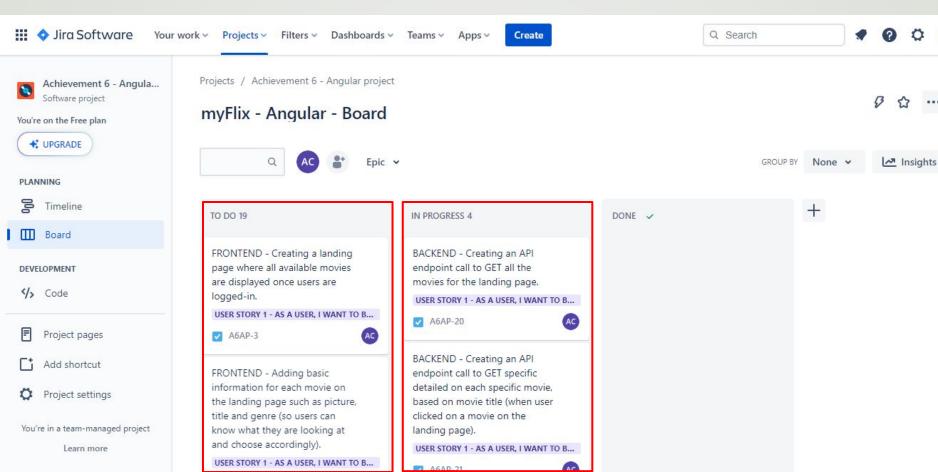
KANBAN BOARD AT THE BEGINNING OF THE PROJECT



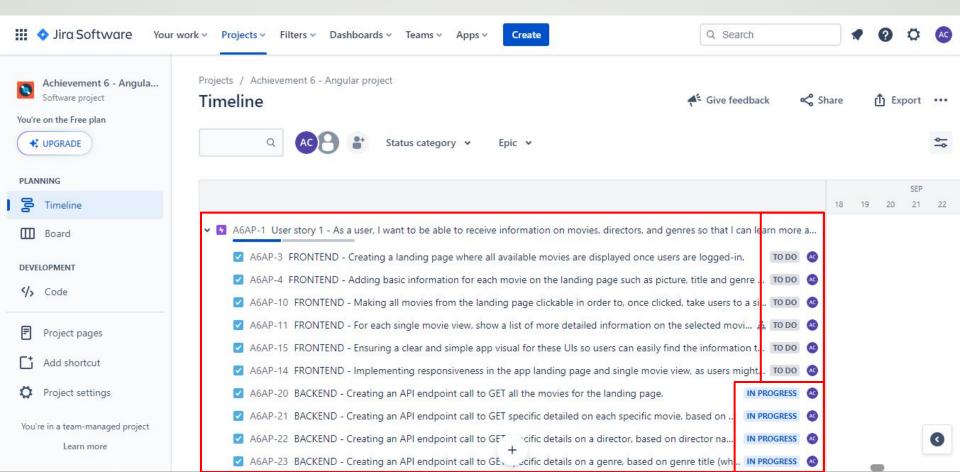
KANBAN TIMELINE AT THE BEGINNING OF THE PROJECT



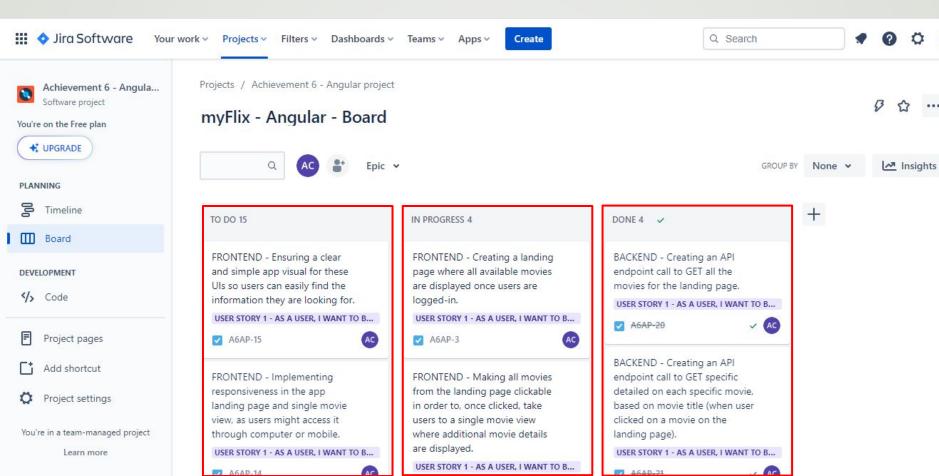
KANBAN BOARD IN PROGRESS



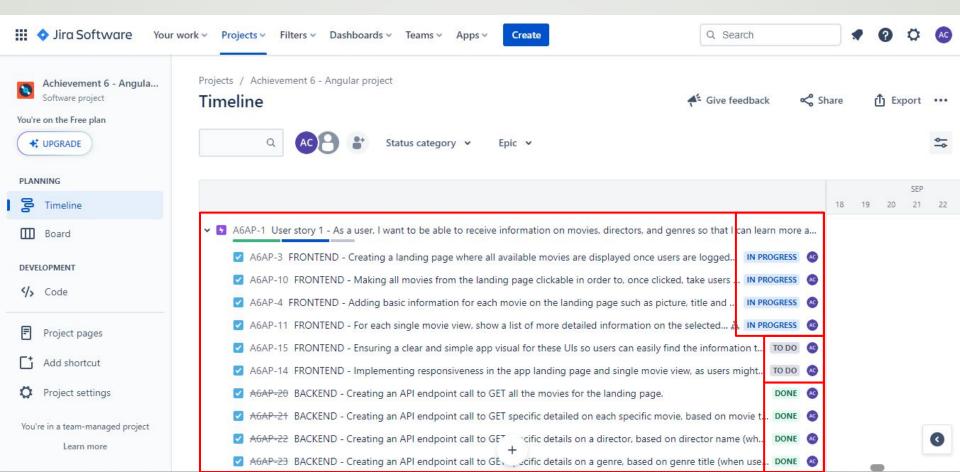
KANBAN TIMELINE IN PROGRESS



KANBAN BOARD IN PROGRESS



KANBAN TIMELINE IN PROGRESS



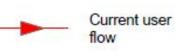
User flow 1

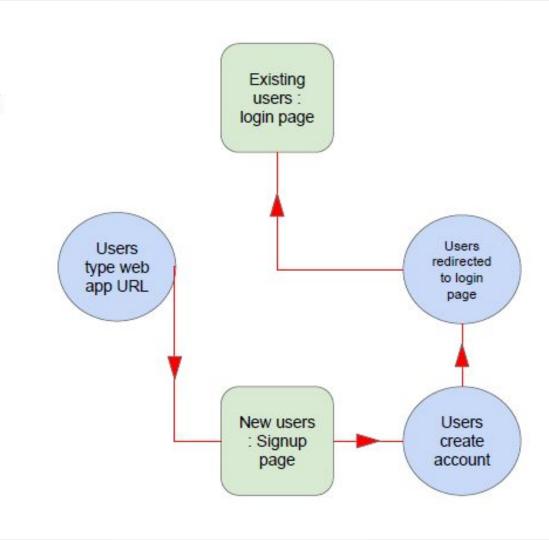
As a user, I want to be able to create a profile so I can save data about my favorite movies.

Legend

Users action

App UI





User flow 2

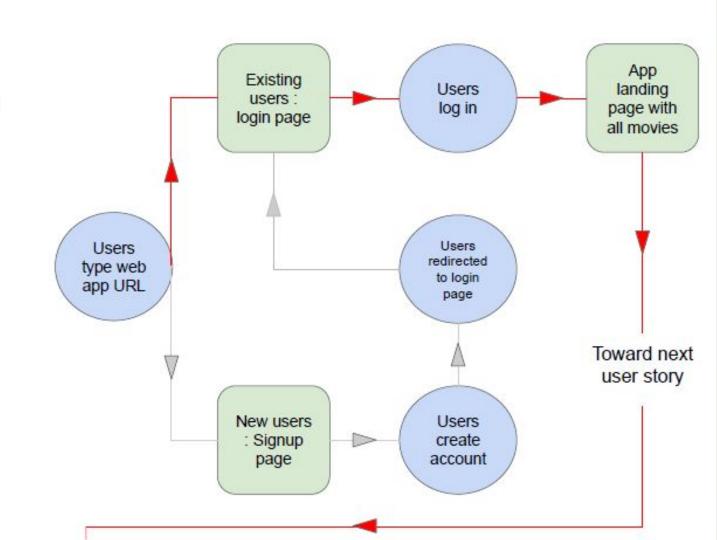
As a user, I want to be able to create a profile so I can save data about my favorite movies.

Legend

Users action

App UI

Current user flow



User flow 3

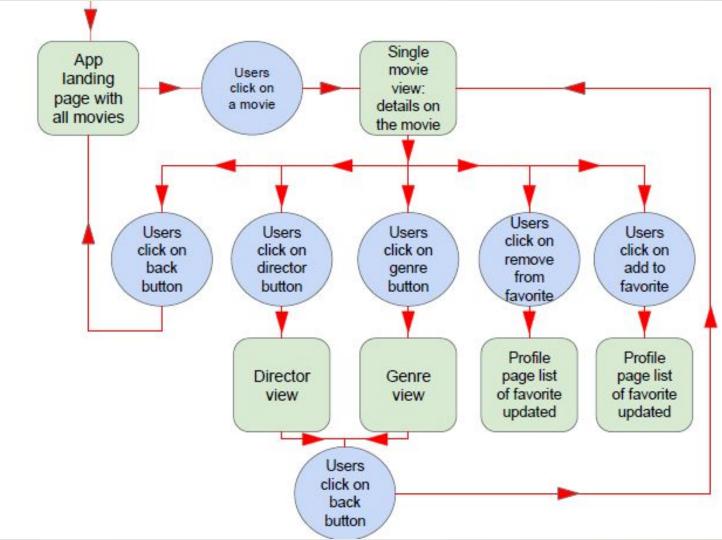
As a user, I want to be able to receive information on movies, directors, and genres so that I can learn more about movies I've watched or am interested in.

Legend

Users action

App UI

Current user flow



CHALLENGES OR SPECIAL POINTS OF CONSIDERATION

This first step was familiar to me, since I already had good experience with project management softwares (e.g.: Asana) as well as analyzing user stories.

DECISION MADE

I chose the project management tool to be used for the project (in this case - Jira). I also decided how to formulate and present the tasks for the projects in the Jira's cards, and added their story points.



Creating the project using Angular CLI, configuring the files and creating an Angular service file to connect with the API

Skills used

Research Problem solving Debugging

WHY WAS THIS STEP IMPORTANT

Organizing the development environment for efficient and well-oriented work from the beginning is one of the keys to ensure smooth workflow and limit avoidable time loss due to inefficient project initialization.

As for the Angular service, it was essential to create it to ensure communication between the frontend and the backend of the web app.

WHAT WAS THE GOAL

Creating the project by running \$ ng new myFlix-Angular-client in the Angular CLI (similar to running create-react-app in React).

Setting up and configuring Angular HttpClient (with Angular HttpClientModule) to ensure the web app is able to communicate and fetch data from the movie API.

Writing codes to load the data from the API:

- In the newly *fetch-api-data.service.ts* created, I've added the necessary imports (*HttpClient*, *HttpHeaders*, *HttpErrorResponse*, etc.).
- I then implemented in this same file the codes used to make the calls from myFlix frontend to each endpoint in the backend API (see examples on the next slides).

CODE CALLING THE ENDPOINT ALLOWING TO GET ALL MOVIES

```
getAllMovies(): Observable<any> {
  const token = localStorage.getItem('token');
  return this.http.get(apiUrl + 'movies', {
   headers: new HttpHeaders(
       Authorization: 'Bearer' + token,
  }).pipe(
    map(this.extractResponseData),
    catchError(this.handleError)
  );
```

CODE CALLING THE ENDPOINT ALLOWING TO ADD FAVORITE MOVIES

```
userAddFavoriteMovie(Username: string, MovieID: string): Observable<any> {
 const token = localStorage.getItem('token');
 const headers = new HttpHeaders({
   Authorization: 'Bearer' + token,
 });
 const requestBody = {};
 return this.http.post(apiUrl + 'users/' + Username + '/movies/' + MovieID, requestBody, { headers }
    .pipe(
     map(this.extractResponseData),
     catchError(this.handleError)
    );
```

CHALLENGES OR SPECIAL POINTS OF CONSIDERATION

At some point, I realized that there was a missing endpoint in the backend, considering the list of calls from the frontend that needed to be implemented. It was therefore impossible to call this specific missing endpoint from the frontend.

To fix this, I went back to the backend code, and I created a new endpoint. I carried out various tests to ensure that it was working properly. I was then able to connect my frontend service to this new endpoint, thus ensuring to keep meeting all the project requirements.

03



Creating user registration and user log in components / UIs

Skills used

Research
Problem solving
Code writing
Debugging

WHY WAS THIS STEP IMPORTANT

Implementing and rendering a sign up and a log in logic / view was important to ensure users have a mean to access the content displayed inside the web app (and reserved for authenticated users).

WHAT WAS THE GOAL

Creating a sign up and log in component using \$ ng generate component user-registration-form and \$ ng generate component user-login-form.

Implementing the codes in the newly TypeScript (.ts) file created for the sign up and log in process respectively.

(suite on next slide)

WHAT WAS THE GOAL (SUITE)

Updating the HTML file for the sign up and log in respectively, to ensure a simple and clear view is rendered in users' welcome page for both components.

• Angular's binding syntax and directives, such as *NgModel*, have also been added at this point in the HTMLs to establish communication between the TypeScript files and the HTML files.

Polishing up the UIs for the welcome page / sign up view / log in view with Angular Material.

• For example, sign up form and log in form in UIs are shown using a dialog box from Angular Material (similar to a modal in Bootstrap) (see next images).

Running tests to ensure sign up and log in process are working as expected and that, once logged-in, current user and related token are stored correctly in localStorage.

FIRST RENDERED VIEW - WELCOME PAGE (NO STYLING)

Welcome to myFlix!

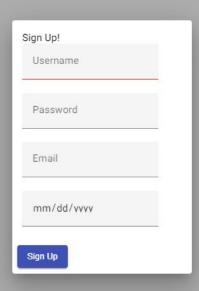




FIRST RENDERED VIEW - SIGN UP FORM (NO STYLING)

Welcome to myFlix!

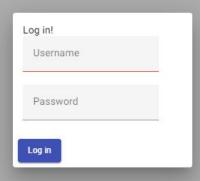




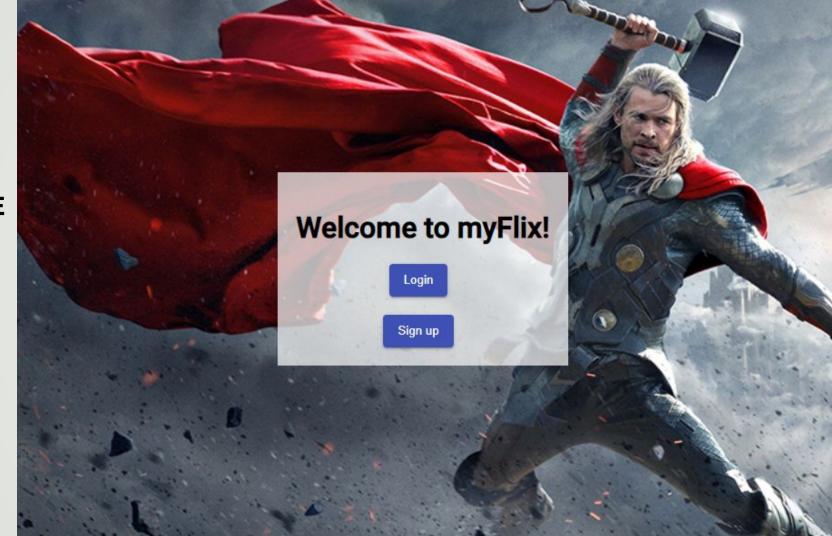
FIRST RENDERED VIEW - LOG IN FORM (NO STYLING)

Welcome to myFlix!











Sign up!

Username

Username must be at least 5 characters long and contain only alphanumerical characters.

Password

Password can contain alphanumeric and non-alphanumeric characters.

Email

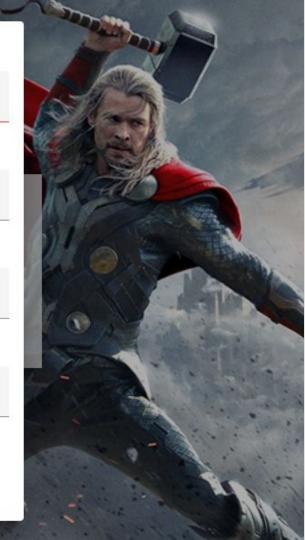
Email must be in the following format: abc@domain.abc.

Birthday

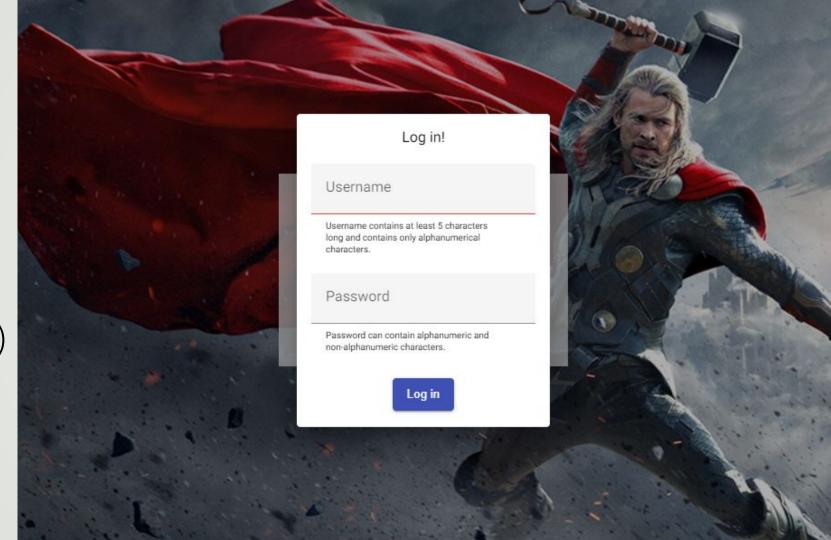


Birthday is optional. If you want to add it, pick your birthday from the calendar icon.

Sign up



LOG IN
FORM
(WITH
STYLING)



04



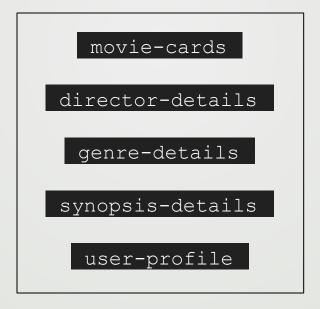
Implementing the web app main view and profile page (for logged-in users), and routing between pages

Skills used

Research Problem solving Code writing Debugging

WHY WAS THIS STEP IMPORTANT

This step was crucial for implementing the actual core codes and views of the web app. Without it, myFlix wouldn't have had any movies to display and no profile page on which users could have checked their information and updated it, making the final product pointless.



WHAT WAS THE GOAL

Creating the main view (displaying all movie cards) on which users land after logging in successfully. To do so, I:

- Created the main view component
- Wrote codes in the main view TypeScript file to fetch the movies from the API
- Wrote codes in the main view HTML file to display the movies fetched from the API
- Added an action bar below each movie card with different links to display, in dialogs and based on users' interaction, movie director details, movie genre details and movie synopsis details. A favorite button has also been added (see images on next slides)
- Ensured responsiveness and consistent styling / color palette with Angular Material for a great experience on any device sizes

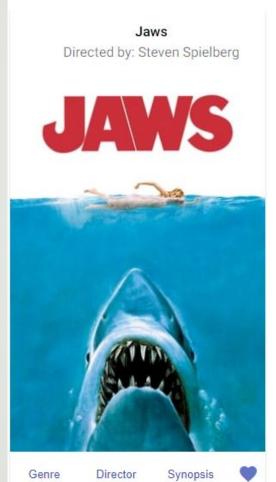
Creating the navigation bar at the top of the website. To do so, I:

- Added the myFlix logo
- Listed all available pages to navigate
- Added the logout function

FIRST RENDERED VIEW - MAIN VIEW ON LARGE SCREEN (NO STYLING)

Menu myFlix Jurassic Park Coach Carter Gladiator Silence of the Lamb: Jaws Directed by: Steven Spielberg Directed by: Steven Spielberg Directed by: Thomas Carter Directed by: Ridley Scott Directed by: Jonatha JAWS The silence o GLADIATOR COACH CARTER Director Synopsis Director Synopsis Director Synopsis Director Synopsis Director Sy myFlix Menu

MAIN **VIEW** ON LARGE **SCREEN** (WITH STYLING)

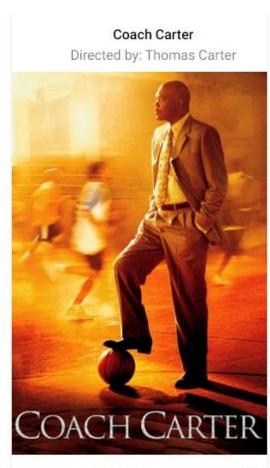




Director

Synopsis

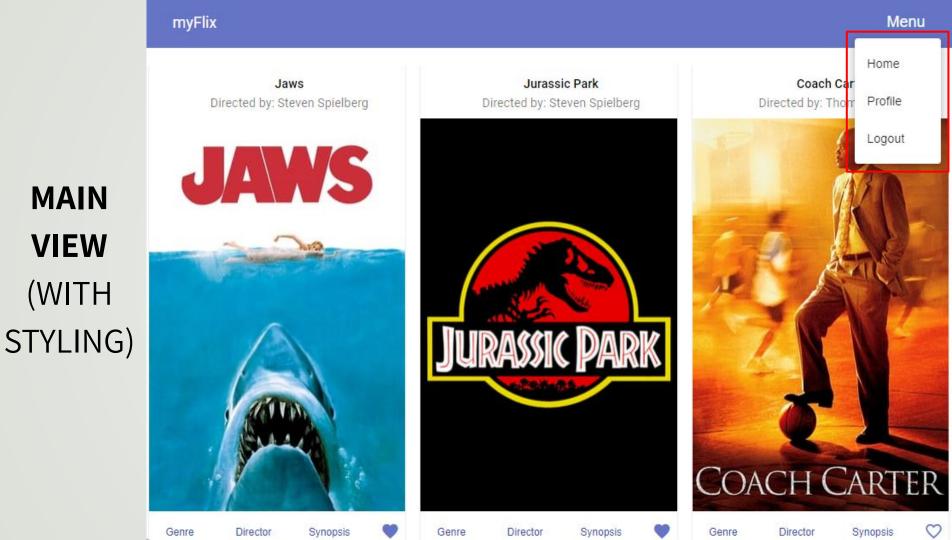
Genre



Director

Synopsis

Genre



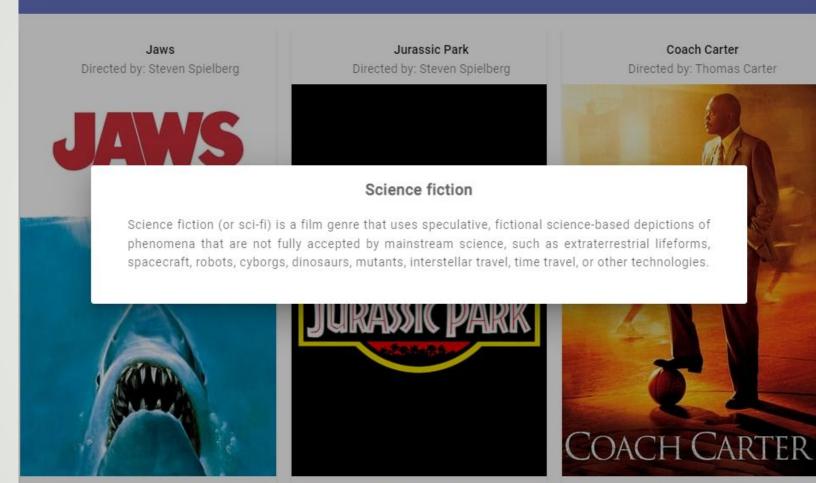
MAIN VIEW

MOVIE GENRE DETAILS

Director

Genre

Synopsis



Director

Genre

Synopsis

Genre

Director

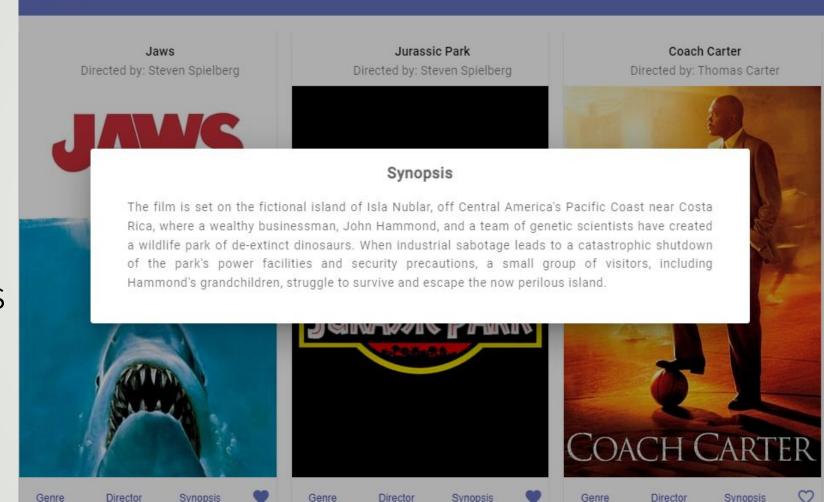
Synopsis

MAIN

VIEW

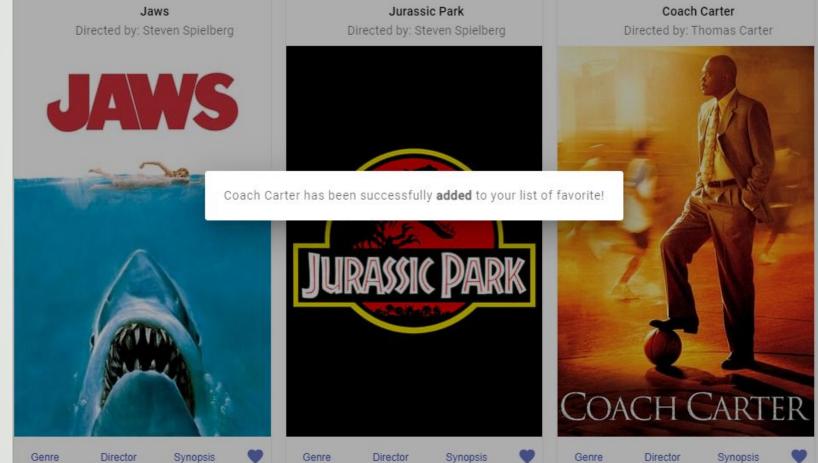
MAIN VIEW

MOVIE SYNOPSIS DETAILS



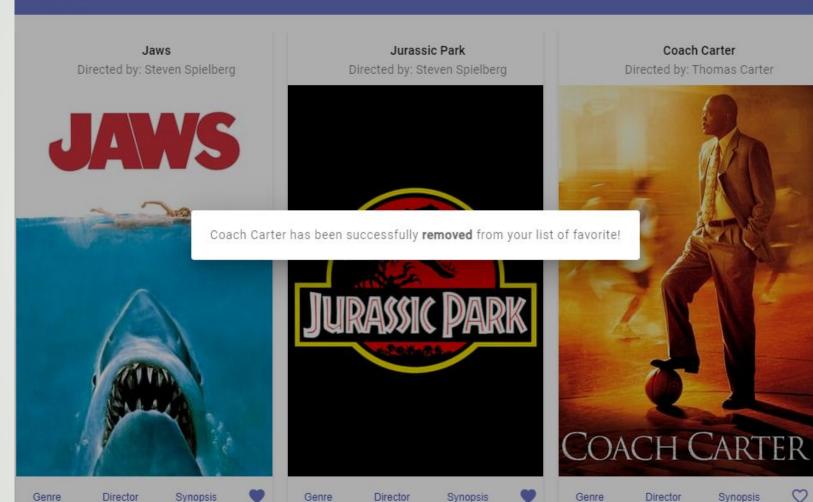
Menu myFlix Jurassic Park Coach Carter Jaws Directed by: Thomas Carter Directed by: Steven Spielberg Directed by: Steven Spielberg **MAIN VIEW** Coach Carter has been successfully added to your list of favorite!

ADD TO **FAVORITE**



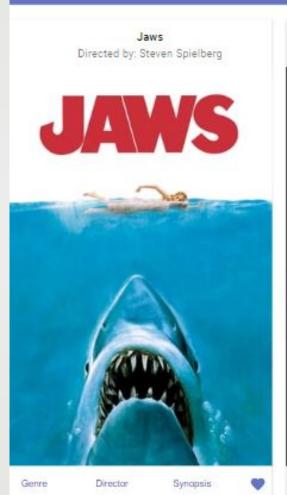
MAIN VIEW

REMOVE FROM FAVORITE



MAIN VIEW

RESPONSIVE FOR MEDIUM SCREENS





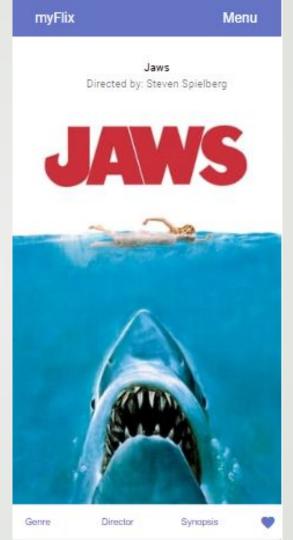
Director

Genre

Menu

MAIN VIEW

RESPONSIVE FOR SMALL SCREENS



WHAT WAS THE GOAL (SUITE)

Creating the profile page for users to be able to consult their info and update their account. To do so, I:

- Repeated some steps done in the main view UI creation (creation of a component and wrote codes in the TypeScript and HTML files)
- Implemented logic to display users information, allow users to update their account (username, password, email and birthday) or delete it, and show movies that have been added to their favorite. I also added some codes to ensure users can remove movies from their favorite from their profile page, and update their list of favorite movies accordingly in real time.
- Implemented logic to ensure that users' actions (e.g: movie added to favorite) remains between sessions, so that users can go back to their account after logout and always see / access the movies they've listed as favorite in previous sessions.
- Ensuring responsiveness and consistent styling / color palette with Angular Material for a great experience on any device sizes.

FIRST RENDERED VIEW - PROFILE PAGE (NO STYLING)

User Profile

Name: Testuser

Email: Testuser@gmail.com

Favorite movies:

FIRST RENDERED VIEW - PROFILE PAGE (NO STYLING)

User Profile

Name: Testuser

Email: Testuser@gmail.com

Favorite movies:

lurassic Park

Directed by: Steven Spielberg



remove from favorite

FIRST RENDERED VIEW - PROFILE PAGE (NO STYLING)

myFlix Menu

User Profile

User information

Name: Testuser

Email: Testuser@gmail.com

Edit information

Username

Username must be at least 5 characters long and contain only alphanumerical characters.

Password

Password can contain alphanumeric and nonalphanumeric characters. Email

Email must be in the following format : abc@domain.abc. Birthday

Birthday is optional. If you want to add it, pick your birthday from the calendar icon.

Update

Delete information

Delete account

Favorite movies:

PROFILE PAGE ON LARGE SCREENS (WITH STYLING)

myFlix Menu

User profile

User information

Name: Youpi Email: youpi@hotmail.com

If you want to update your information, please fill in the update form.

All fields must be completed. If you only want to change some information, enter your current information you want to keep in the corresponding field (e.g. username) along with the information you want to change in the other field(s).

Edit information

At least 5 characters long and only alphanumerical characters.

Email

Email must be in the following format : abc@domain.abc.

Password

Can contain alphanumeric / nonalphanumeric characters.

Birthday

Birthday is optional. If you want to add it, use the calendar icon.

Update

Delete account

Want to leave us?

By deleting your account, your data will be permanently deleted, and you will have to create a new account if you wish to return.

Delete account

Favorite movies

Move from side to side to see all movies (when many movies in favorite)

Jaws

Directed by: Steven Spielberg

Jurassic Park

Directed by: Steven Spielberg

Gladiator

Directed by: Ridley Scott

Silence of the Lambs

Directed by: Jonathan Demme

Blood diamond

Directed by: Edward

PROFILE PAGE

_

RESPONSIVE FOR MEDIUM SCREENS (PART 1) myFlix Menu

User profile

User information

Name: Youpi Email: youpi@hotmail.com

If you want to update your information, please fill in the update form.

All fields must be completed. If you only want to change some information, enter your current information you want to keep in the corresponding field (e.g. username) along with the information you want to change in the other field(s).

Edit information

Username	Password	
At least 5 characters long and only alphanumerical characters.	Cen contain alghenumeric / no alghenumeric characters.	er .
Email	Birthday	Ċ
Small must be in the following formet: ebo@domein.ebc.	Birthday is optional, if you want to add it use the calendar icon.	

Delete account

Went to leave us?

By deleting your account, your data will be permanently deleted, and you will have to create a new account if you wish to return.

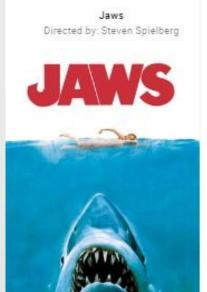
Delete account

PROFILE PAGE

RESPONSIVE FOR MEDIUM SCREENS (PART 2)

Favorite movies

Move from side to side to see all movies (when many movies in favorite)







PROFILE PAGE

RESPONSIVE FOR SMALL SCREENS (PART 1)

myFlix Menu

User profile

User information

Name: Youpi Email: youpi@hotmail.com

If you want to update your information, please fill in the update

All fields must be completed, if you only want to change some information, enter your current information you want to keep in the corresponding field (e.g. username) along with the information you want to change in the other field(s).

Edit information

Scroll down to complete all the form

Username

At least 5 characters long and only alphanumerical characters.

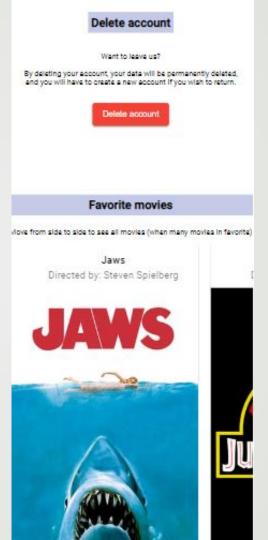
Password

Con contain alphanumeric / nonalphanumeric characters.

Update

PROFILE PAGE

RESPONSIVE FOR SMALL SCREENS (PART 2)



WHAT WAS THE GOAL (SUITE)

Implementing routing between the different views (with *RouterModule*) to redirect users when certain actions are triggered (e.g. users are redirected to the welcome view when they delete their account). The three routes implemented are:

- /welcome
- /movies
- /user-profile

DECISIONS MADE

I chose how to structure and present the visuals (fonts, colors, buttons, dialogs, etc.) of the welcome view, the main view and the profile page, for all screen sizes.



05



Final code revision, testing, and design last adjustments

Skills used

Critical thinking Synthetization

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 it's 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 modifications, additions, or adjustments to the web app.

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

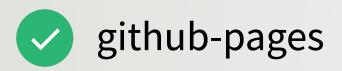
Carrying out several tests on all the features to ensure everything work as it should.

Adjusting some final design details to ensure professional looking.

CHALLENGES OR SPECIAL POINTS OF CONSIDERATION

I positioned myself from the point of view of future colleagues who could work on this project. How can I make this 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.

06



Deploying the web app

Skills used

N.O.

WHY WAS THIS STEP IMPORTANT

This step was essential to ensure that the web app can be used and accessed by everyone.

WHAT WAS THE GOAL

Deploying the app to gh-pages and make it available for everyone.

CHALLENGES OR SPECIAL POINTS OF CONSIDERATION

Since I had previously implemented a CORS protection measure in the backend code, I had to add the new gh-pages domain of myFlix Angular in the backend's list of authorized domains, in order to ensure that the API would authorize the requests routed to it instead of blocking them.





Creating all the necessary documentation

Skills used

Technical writing Communication

WHY WAS THIS STEP IMPORTANT

Adequate and complete documentation on a project, from the comments inside the codes to the creation of a README resource, greatly facilitate future updates, better and shared understanding within teams, and easier project appropriation by new members, among other things. It was therefore important to carry out such task.



WHAT WAS THE GOAL

Preparing two of my projects for handoff to other developers - my myFlix backend API and my myFlix frontend Angular. To do so, I:

- Inserted meaningful comments where necessary in my projects files
- Generated documentation for myFlix backend using JSDoc (see image next slides)
- Generated documentation for myFlix Angular frontend using TypeDoc (see image next slides)
- Created a README on the project Github repository (see image next slides)

```
    * @fileoverview passport.js

  @description This file contains the logic that handles two authentication strategies: local (usernar
const passport = require('passport'),
   LocalStrategy = require('passport-local').Strategy,
   Models = require('./models.js'),
   passportJWT = require('passport-jwt');
let Users = Models.User,
   JWTStrategy = passportJWT.Strategy,
   ExtractJWT = passportJWT.ExtractJwt;
passport.use(new LocalStrategy(
       usernameField: 'Username',
       passwordField: 'Password'
                                                                           myFlix backend
                                                                    COMMENTS WRITTEN IN JSDOC
    (username, password, callback) => {
                                                                     FORMAT TO GENERATE JSDOC
       console.log(username + ' ' + password);
                                                                  DOCUMENTATION AUTOMATICALLY
       Users.findOne({ Username: username })
                                                                           (SEE NEXT IMAGE)
           .then((user) => {
```

myFlix JSDoc DOCUMENTATION AUTOMATICALLY GENERATED

Home

auth.js

This file contains the API logic for user login, including authentication using Passport and emission of JWT tokens upon users successful login. It has one POST endpoint: /login.

Source:

auth.js, line 1

index.js

This file constitutes the main API element. All endpoints are defined there, as well as their specific parameters, what they require and what information they return. Endpoints summary (12 in total):

- -6 GET
- -1 PUT
- -3 POST
- -2 DELETE

Home

Global

addFavoriteMovies

createUser

deleteFavoriteMovies

deleteUser

getDirector

getGenre

getMovies

getOneMovie

getUserInfo rootDirectory

updateUser

userLogin

This file also contains the codes to import other project files (eg: auth.js which contains the logic for log in or passport.js which contains the logic related to JWT) as well as codes that configure certain additional elements, such as cross-origin resource sharing (CORS).

```
@module fetch-api-service
   @remarks
   This component regroups all the logic and function to call the different API's endpoints. Specific
 * This component include several requests/functions:
   -6 GET requests
   -1 PUT request
   -3 POST requests
   -2 DELETE requests
import { Injectable } from '@angular/core';
import { catchError } from 'rxjs/operators';
import { HttpClient, HttpHeaders, HttpErrorResponse } from '@angular/common/http';
import { Observable, throwError } from 'rxjs';
import { map } from 'rxjs/operators';
* Declaring the api url that will provide data for the client
                                                                      myFlix frontend
                                                             COMMENTS WRITTEN IN TYPEDOC
const apiUrl = 'https://my-weekend-movie-app-53a46e3377d7.he
                                                              FORMAT TO GENERATE TYPEDOC
@Injectable({
                                                             DOCUMENTATION AUTOMATICALLY
  providedIn: 'root'
                                                                      (SEE NEXT IMAGE)
```

myFlix TYPEDOC DOCUMENTATION AUTOMATICALLY GENERATED

my-flix-angular-client

- N my-flix-angular-client
- **∨** N app-root
 - © AppComponent
- ▼ N favorite-movie-add
 - C AddFavoriteDetailsCompo
- ▼ N favorite-movie-remove
 - RemoveFavoriteDetailsCor
- ▼ (N) fetch-api-service
 - FetchApiDataService
- **∨** N get-all-movies
 - MovieCardComponent
- - DirectorDetailsComponent
- - GenreDetailsComponent
- ▼ 🕦 get-information-onsynopsis
 - © SynopsisDetailsComponen

Module get-information-on-director

> Settings

Remarks

This component allows to display information about the director of each movie in a dialog prompt (when clicked by users). To do so, it takes the information about the director of X movie object, and renders it in the html.

Example

```
In the TypeScript file, this is the data extracted from a movie object and
required for this component to work:

data: {
   Name: string,
   Bio: string,
   Death: string
}

These are then accessed within the html (e.g: {{ data.Name }} to display
director's name).
```

Param

README SAMPLE

FULL VERSION ON GITHUB

myFlix web app documentation (frontend - Angular) @

Content

- Projet description
- User interface
- Technical aspects (overview)
- Technical aspect (development)
- App dependencies

Projet description ∂

myFlix web app has been created to serve as a reference in the domain of visual entertainment. Users can create an account and then log into myFlix to have access to information about different movies. They can search for movies and create lists of favorites. myFlix has been built in two parts: the frontend (here) and the backend (see this repository for the backend part of myFlix).

The objective of this part of the project (frontend) was to develop an easy-to-use and responsive web app using Angular for the best user-experience whenever they are accessing *myFlix* to read details about different movies.

myFlix frontend development can be breakdown in the five following points:

• Who — The users of myFlix web app, so movie enthusiasts who enjoy reading information about different

CHALLENGES OR SPECIAL POINTS OF CONSIDERATION

Finding the right balance between giving the right level of information, while remaining as synthetic as possible.

DECISIONS MADE

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