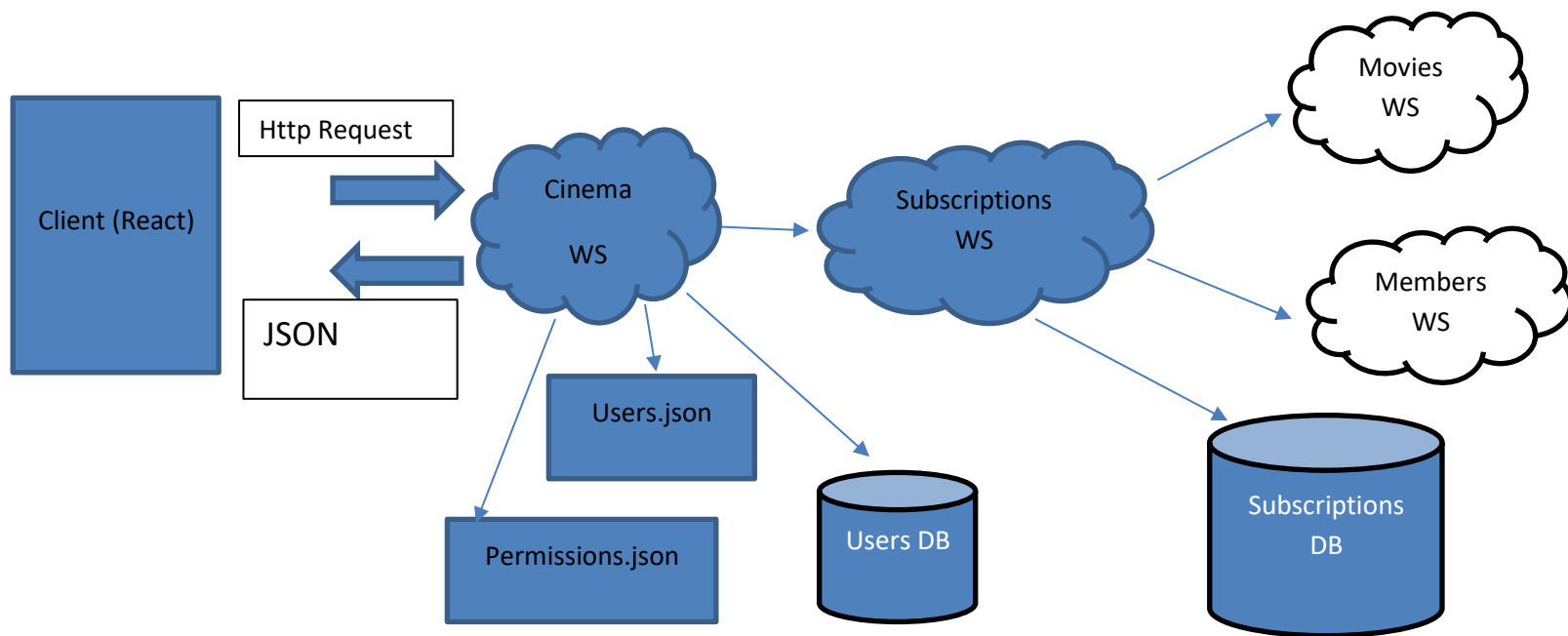# Full Stack – Final Project

You need to create a Web application for Movies & Subscription management with the following architecture:

General Description

You have to build a Cinema Management system Web Site

The Web Site uses 4 Data sources:

- 2 JSON files (Users & Permissions)
- Users DB
- Subscriptions Web Service (REST API)

The Subscriptions WS needs to be developed as a REST API. This WS uses 3 Data Sources:

- Movies WS (from https://api.tvmaze.com/shows)
- Members WS (from https://jsonplaceholder.typicode.com/users)
- Subscriptions DB

Data Sources Structures:

Users.json

 A json file stores the system users' data. Each user has an ID & name.

Permissions.json

A json file stores the users' permissions. Each record (user) has a user id and array of permissions.

UsersDB

A MongoDB database who stores usernames & passwords.

SubscriptionsDB

A MongoDB database that holds 3 collections:

1. Members – A collection that stores the subscription members data pulled from the Members WS at https://jsonplaceholder.typicode.com/users
   o _id (ObjectId)
   o Name (String)
   o Email (String)
   o City (String)

2. Movies – A collection that stores movies data pulled from the Movies WS at https://api.tvmaze.com/shows
   o _id (ObjectId)
   o Name
   o Genres (Array of Strings)
   o Image (A string – The URL of the image picture)
   o Premiered (Date)

3. Subscriptions – A collection stores the data of all the subscriptions:

   o _id (ObjectId)
   o MemberId (ObjectId)
   o Movies (an Array of {movieId: Object Id, date: Date}) - This field store all the movies the member (subscription) watched and their dates

System Components

Subscriptions Web Service

This is a Node based REST API that provides services/data about members (subscriptions), movies and the movies the members watched.

When the REST API server starts, it pulls all the data from the external members & movies web services and populates the relevant data in the relevant collections (Members & Movies collections) in the Subscriptions DB (a MongoDB data base).

At this point, the Subscriptions collection is empty (as none of the members has not watched any movie yet).

Important: From this point, all the data will be managed in the Subscriptions DB!

Cinema Web Service

This is a Node based REST API that provides a management system for movies and subscriptions.

System users

Only authorized users can log in to the website. The first user is the **Admin** and only he can manage other users (create, change & remove)

- o The Users.json stores the following data for every user:
  - ▪ Id (The _id that created in the Database)
  - ▪ First Name
  - ▪ Last Name
  - ▪ Created date
  - ▪ SessionTimeOut (number) – the duration (in minutes) a user can work on the system once he logged in.

- o user permissions regarding the movies' management system:
    - ▪ Id (The _id that created in the Database)
    - ▪ Permissions - an array of permissions (strings)
        - ● "View Subscriptions"
        - ● "Create Subscriptions"
        - ● "Delete Subscriptions"
        - ● "View Movies"
        - ● "Create Movies"
        - ● "Delete Movies"

A user can have many permissions!

- o The UserDB database stores a collection with the following data:
    - ▪ _Id (ObjectId)
    - ▪ Username (Required for login)
    - ▪ Password (Required for login)

Important: The system starts with only one (pre-defined) record of the System Admin data (both in the json files and in the database).

Front End

The Front End will be built with React (Functional components and Hooks) & Redux OR Context for State Management.

<u>Pages & Procedures</u>

<u>1 – Login Page</u>

The homepage of the system. A page with username & password text box and a "Login" button. A successful login redirect to "Main" Page. A failed attempt will present a proper message in the same page (Login page).
Once a user logged in – his name will be presented in all the site pages

First time users (which don't have password yet) will click on "create account" link which will redirect them to a "CretaeAccount" page

Movies - Subscriptions Web Site

Log in Page

User name : [   ]
Password : [   ]
[Login]
New User ? : [Create Account](#)

<u>2 – CreateAccount Page (form)</u>

This page will allow to a new user (that has been created by the system admin) to setup his login details. The page will present 2 text boxes:

- Username – **the given Username from the system admin**
- Password – a new password

Movies - Subscriptions Web Site

Create an Account

User name : [   ]
Password : [   ]
[Create]

A click on "Create" button will check: If the Username exists in the database, it will store the new password and redirect back to Login page.

If the Username is NOT existing in the database, the page will present a proper message and the creation will fail!

3 – Main Page

The Main page contains a menu of the system movies & subscriptions options.

For the Sys Admin ONLY, there will be another Menu option called "Users Management"

Movies - Subscriptions Web Site

[Movies] [Subscriptions] [Users Management] [Log Out]

- Movies – Will Redirect to "Movies" Page
- Subscriptions – Will redirect to "Subscriptions" Page
- Users Management – **Visible only to the sys Admin –** will redirect to "Manage Users" page
- Logout – Will log out the current user and redirect to "Login" Page

4 - ManageUsers Page

This page has a menu with 2 options:

- All Users (default) – shows the "Users" page
- Add User- redirect to "Add User" page

5. "Users" Page

This page presents all the users' data:

Movies - Subscriptions Web Site

Users

All Users | Add User

Name : Avi Cohen
User Name : avi@gmail.com
Session time out (Minutes) : 44
Created data : 11/12/1998
Permissions : View Subscriptions, Edit Movies

Edit | Delete

Name : Dana Ron
User Name : dana@gmail.com
Session time out (Minutes) : 60
Created data : 11/12/1990
Permissions : View Subscriptions, Edit Movies

Edit | Delete

- Click on "Edit" button will redirect to "Edit User" page
- Click on "Delete" button will delete the user's and all his data from the system

6 - EditUser Page

This page presents a form with all the selected user's data:

- First Name
- Last Name
- Created Date (Read only)
- Username
- Session Time Out
- Permissions: a list of checkboxes will all the permissions types:
  - "View Subscriptions"
  - "Create Subscriptions"
  - "Delete Subscriptions"
  - "Update Subscription
  - "View Movies"
  - "Create Movies"
  - "Delete Movies"
  - "Update Movie"

Movies - Subscriptions Web Site

Users

Edit User : Avi Cohen

First Name : Avi

Last Name : Cohen

User Name : avi@gmail.com

Session time out (Minutes) : 60

Created data : 11/12/1998

Permissions :

☑ View Subscriptions
☐ Create Subscriptions
☐ Delete Subscriptions
☐ Update Subscriptions
☑ View Movies
☑ Create Movies
☐ Delete Movies
☐ Update Movies

Update   Cancel

A click on "Create Subscriptions", "Update Subscriptions" and "Delete Subscriptions" options will automatically check the "View Subscriptions" checkbox

A click on "Create Movies", "Update Movies" and "Delete Movies" options will automatically check the "View Movies" checkbox

- A click on "Update" button will be save the updated data and redirect back to "All Users" page
- A click on "Cancel" button will redirect back to "All Users" page

7 - AddUser Page

This page presents a form with all the fields for a new user's data:

- First Name
- Last Name
- Username
- Session Time Out
- Permissions: a list of checkboxes will all the permissions types:
    - "View Subscriptions"
    - "Create Subscriptions"
    - "Delete Subscriptions"
    - "Update Subscription
    - "View Movies"
    - "Create Movies"
    - "Delete Movies"
    - "Update Movie"

Movies - Subscriptions Web Site

Users

All Users | Add User

Add New User

First Name : [   ]
Last Name : [   ]
User Name : [   ]
Session time out (Minutes) : [   ]
Permissions :
☐ View Subscriptions
☐ Create Subscriptions
☐ Delete Subscriptions
☐ Update Subscriptions
☐ View Movies
☐ Create Movies
☐ Delete Movies
☐ Update Movies

Save | Cancel

A click on "Create Subscriptions", "Update Subscriptions" and "Delete Subscriptions" options will automatically check the "View Subscriptions" checkbox

A click on "Create Movies", "Update Movies" and "Delete Movies" options will automatically check the "View Movies" checkbox

A "save" button will save all the data in the proper data sources: First in the database for getting the new _id for the user, and then in the json files (with the given id)

A "cancel" button click will redirect back to the "ManageUsers" page

Movies & Subscriptions Management

The System allows to manage members (subscriptions) and their movies.

8 – Movies Page

This page has a menu with 2 options:

- "All Movies" (default) page

- "Add Movie" page

9 – "All Movies" Page

Present all movies in a list. Each movie has its name, year, image, "edit" & "delete" buttons, and a list of all the subscriptions that watched that movies (name + year)

Each subscription name is a link to this member.

This page is visible only to users with the right permission

This "Edit" & "Delete" buttons are visible only users with the right permission

Movies - Subscriptions Web Site

Movies

All Movies | Add Movie | Find Movie : [_____] | Find

Under the dome , 2016
genres:"Drama","Science-Fiction","Thriller"

Subscriptions watched

- Avi Cohen , 12/11/1998
- Dana Levy , 01/10/2001

Edit | Delete

Arrow , 2002
genres:"Drama","Science-Fiction"

Subscriptions watched

- Gil Milo , 12/11/1995

Edit | Delete

- A click on "Edit" button will redirect to "Edit Movie" page.
- A click on "Delete" button will delete all the movie's data from the server, including from the subscription's watched movies list.
- A click on the Subscriber link will redirect to the "Member" page.

- Enter movie name phrase and click on the "Find" button" will present the same page with the match movies.

10 – "Add Movie" Page

This page allows to create a new movie

This page is visible only to users with the right permission

Movies - Subscriptions Web Site

Movies

All Movies   **Add Movie**

Name : The GodFather
Genres Drama,Thriller
image url http://www.someurl.jp
Premired 20 / 05 / 2020
save   cancel

- A click on "Save" button will save the new data in the DB
- A click on "Cancel" button will redirect to the "All Movies" page

11 – "Edit Movie" Page

This page allows us to update a movie data

This page is visible only to users with the right permission

Movies - Subscriptions Web Site

Movies

Edit Movie : Under the Dome

Name : TUnder the Dome
Genres Drama,Thriller
image url http://www.someurl.jpg
Premired 17 / 05 / 2020
update   cancel

- A click on "Update" button will save the updated data in the DB
- A click on "Cancel" button will redirect to the "All Movies" page

12 – "Subscriptions" Page

This page manages all the members and their movies subscriptions

This page is visible only to users with the right permission

This page has a menu with 2 options:

-   All Members (Default) – present "All Members" page
-   Add Member – present "Add Member" page

13 – "All Members" Page

This page presents all the members and their movies they watched (subscribed to)

-   Click on the "edit" button will redirect to "Edit Member" page
-   Click on "Delete" button will delete all the user's data (including the relevant data from the movies data sources)

Movies - Subscriptions Web Site

Subscriptions

All Members | Add Member

Avi Cohen

Email : avi@gmail.com
City : Tel Aviv
Edit | Delete

Movies Watched
Subscribe to new movie

- [Under the dom](#) , 12/5/ 2019
- [Arrow](#), 17/5/ 2017

Dana Levy

Email : Dana@gmail.com
City : Haifa
Edit | Delete

Movies Watched
Subscribe to new movie

The "Watched Movies" section includes a list of links to the movies the member watched, and the date he watched them. Is also have a button for subscribing to a new movie.

- A click on a movie link will redirect to "All Movies" page that present ONLY the selected movie.
- A click on "Subscribe on new movie" button will open a new section with a drop down with all the movies he <u>has not watched yet</u>, and a date for watching it.

Movies - Subscriptions Web Site

| Movies | Subscriptions | Users Management | Log Out |

Subscriptions

| All Members | Add Member |

Avi Cohen

Email : avi@gmail.com
City : Tel Aviv
| Edit | Delete |

Movies Watched
| Subscribe to new movie |

Add a new movie
| Big ⇕ | 28 / 05 / 2020 |
| Subscribe |

- Under the dom , 12/5/ 2019
- Arrow, 17/5/ 2017

- Click in "Subscribe" will add the subscription of that movies (at that date) to the member
- Another click on "Subscribe to new movie" button will close the "add new movie" section

14 – "Edit Member" Page

This page allows us to edit the member's data

Movies - Subscriptions Web Site

Movies | Subscriptions | Users Management | Log Out

Memebers

Edit Member : Avi Cohen

Name : Avi Cohen
Email Avi@gmail.com
City Ashdod

update | cancel

- Click on "Update" button will update the member's data
- Click on "Delete" button will redirect back to the "All Members" Page

15 – "Add Member" Page

This page allows us to add a new member

This page is visible only to users with the right permission

Movies - Subscriptions Web Site

Movies | Subscriptions | Users Management | Log Out

Subscriptions

All Members | Add Member

Add new Member

Name : Avi Cohen
Email Avi@gmail.com
City Ashdod

save | cancel

- Click on "Save" button will create the new member
- Click on "Delete" button will redirect back to the "All Members" Page

End