

Lab 5: Getting started with HTML and CSS

In this lab, you will start implementing the graphical user interface (GUI) of the web-based version of the Film Library. To that end, you will work with **HTML**, **CSS**, and the **Bootstrap** framework.

As you have implemented in the previous labs, the Film Library comprises a collection of films, each with a set of fields (id, title, favorite, watch date, and rating).

Note: Consider that you are NOT requested to implement any functionality in this lab, just to implement the web-based GUI according to the specifications. Indeed, since we are not using any database in this lab, (statically) populate the webpage with a few dummy films (4-5). A possible result is shown at the end of the first exercise (Figure 1).

1. Implement a web-based GUI of the Film Library

Develop a static webpage containing the user interface to display the list of Films in the Film Library. Use the Bootstrap framework to structure and format the graphical components. **Try to keep things as simple as possible, using the framework's defaults.** Structure the appearance as described below:

- On the top of the webpage, there is a **navigation bar**, including a Film Library **logo**, a **search box**, and an icon representing a logged-in user.
- Below the **navigation bar**, the webpage is structured in two columns: the first one corresponds to a **left sidebar** that occupies 1/4 of the total width, and the second one corresponds to the **main content**, which occupies the remaining part.
- The **left sidebar** is composed of buttons designed to apply filters over the Films in the Film Library. The filters are: "All," "Favorite," "Best rated," "Seen last month," and "Unseen." Remember that in this lab, you are not required to implement the filtering feature; you should just display the name of the filters.
- The **main content** has: (i) a label to show the title of the current filter; (ii) the **list of films** that would result from applying that filter, and (iii) an element to create a new film and add it to the Film Library.
- Each movie in the **list of films** should be displayed in the following manner.
 - The title of the Film. The title of the favorite films should be displayed in red.
 - An element to show and set whether the Film is a favorite, e.g. a checkbox (☒) or not (☐.
 - The Film's watch date, in the format "Month D, Year" (e.g., "March 24, 2023") if present.
 - The rating of the Film, expressed by showing five stars, empty or filled. The score ranges from 1 to 5, so there will be from 1 to 5 filled stars. If the score is not assigned, five empty stars are visualized.
- Finally, there is an element for creating a new entry. It should be represented by the "+" symbol and positioned in the top right part of the main page.

Use the following screenshot as a reference (note that this is just an example):

Film Library				
Search				
All				
Favorite				
Best Rated				
Seen Last Month				
Unseen				
All				
Title	Favorite	Last seen	Rating	
Pulp Fiction	<input checked="" type="checkbox"/>	March 10, 2024	★★★★★	
21 Grams	<input checked="" type="checkbox"/>	March 17, 2024	★★★★☆	
Star Wars	<input type="checkbox"/>		☆☆☆☆☆	
Matrix	<input type="checkbox"/>		☆☆☆☆☆	
Shrek	<input type="checkbox"/>	March 21, 2024	★★☆☆☆	

FIGURE 1: REFERENCE SCREENSHOT

2. Optional: Implement the responsive version of the web-based GUI

As an optional exercise, you can try to exploit the responsive features offered by the Bootstrap framework so that if the webpage is ever displayed on a smartphone screen (or in a small browser window), the left sidebar and the search box should collapse (i.e., be hidden), and all the other components should be re-arranged to fit the screen width (e.g., as shown in the second screenshot below in Figure 2). The left sidebar should appear, between the navigation bar and the content, when pressing the left “hamburger” button (the three horizontal lines) – you can use `button class="navbar-toggler"` to this aim (search in the Bootstrap documentation how to use it).

Film Library				
All				
Title	Favorite	Last seen	Rating	
Pulp Fiction	<input checked="" type="checkbox"/>	March 10, 2024	★★★★★	
21 Grams	<input checked="" type="checkbox"/>	March 17, 2024	★★★★☆	
Star Wars	<input type="checkbox"/>		☆☆☆☆☆	
Matrix	<input type="checkbox"/>		☆☆☆☆☆	
Shrek	<input type="checkbox"/>	March 21, 2024	★★☆☆☆	

FIGURE 2: RESPONSIVE REFERENCE SCREENSHOT

Hints:

1. **Use the Bootstrap framework** (v. 5.3) and its components to implement the static webpage: <https://getbootstrap.com/docs/5.3/getting-started/introduction/>
2. **Keep things as simple as possible.** Use Bootstrap classes as much as possible, both for content and layout.
3. You are encouraged to create your separate CSS file to experiment with custom CSS, but limit its content to set simple things, such as colors. Try not to use it for layout (use Bootstrap classes).
4. You can find the several **icons** (like the FilmLibrary logo) in the Bootstrap Icons site (<https://icons.getbootstrap.com>). Specifically, after selecting an icon, you can follow one of these approaches:
 - a. Importing its HTML:
 - i. Copy and paste the HTML section of the icon in your HTML page.
 - b. Download the icon:
 - i. After saving the icon (inside the folder of your project), import it using the image tag: ``
 - c. Importing the bootstrap icons CSS (**preferred**):
 - i. In your webpage's header section add the link to the bootstrap icon's stylesheet that you can find here: <https://icons.getbootstrap.com/#install> (use the "CDN" approach, do not forget to add the integrity attribute, see below how to compute it):

```
<link href="https://cdn.jsdelivr.net/npm/bootstrap-icons@1.11.3/font/bootstrap-icons.min.css"
integrity="sha384-XGjxtQfXaH2tnPFa9x+ruJTULE3Aa6LhH5WRr1XeTyhez4abCG4ccI5AkVDxqC+"
rel="stylesheet" crossorigin="anonymous">
```

- ii. Include the icons in your web page using the icon tag:
`<i class="selected_icon_name_here"></i>`

NOTE: how to compute the *integrity* attribute if it is not available:

- First, make sure the content is the one you want by downloading it and checking it!
- Follow these instructions to compute the value:
https://developer.mozilla.org/en-US/docs/Web/Security/Subresource_Integrity