

Loader and Collapsible Elements

Web Development

Time: 60 mins

Introduction

In this class, the student/s will learn to add new features to the MMBFLIX website like showing a loading spinner while the website loads. Student/s will also learn to add a button to hide/show the movie description along with adding copyright information in the footer.

HTML Tags & CSS Properties Introduced

- `onload = "functionName()"` calls the user-defined function `functionName()` on the page load event
- `class="position-fixed top-0 w-100 h-100"` Sets a fixed position starting from top at 0 keeping width as 100 and height as 100.
- `z-index` CSS property that allows stacking a section. An element with greater stack order is always in front of an element with a lower stack order.
- `class="spinner-border position-absolute top-0 start-0"` Loads lightweight loading icon at position with respect to a containing block and specifies offsets in percentage from the edges of the element's containing block
- `<button class="accordion-button" data-bs-toggle="collapse">` Creates a collapsible button element such that it can show/hide the elements.
- `<i class="bi bi-chevron-double-up">` Creates a double-up button icon.

Vocabulary

- **Accordion** is used to show or hide an HTML element using a collapsible effect.
- **Loader** is a component that is displayed while the web page gets loaded. Different types of page loaders used are spinners, loading bars, and hourglass animations. Bootstrap has spinners.

Learning Objectives

Student/s should be able to:

- **Demonstrate** how to add a loader icon while the website loads.
- **Explain** how to add an accordion feature to hide/show a section of a website.
- **Create** new features for the multimedia website like loader and hide/show button.
- **Explain** how to add copyright icons and messages in the footer of a website.

Activities

1. Class Narrative: (2 mins)

- Brief the student/s that the multipage media website MMBFLIX is ready and more features can be added to the website.

2. Concept Introduction Activity: (5 mins)

- Let the student/s click on the explore-activity and explore new features added to the website.
- Lead student/s to answer the new features observed are
 - The website loads with a spinner.
 - Movie descriptions can be hidden or shown using an arrow.
 - The footer has a copyright icon and text added.
- Introduce the student/s to Spinners.
- Using the slides, explain what the student/s will learn using Bootstrap framework:
 - to add a loading spinner
 - to add a hide/show arrow
 - to add copyright to the footer

3. Activity 1: Add Loading Spinner Icon: (12 mins)

Teacher Activity: (5 mins)

- Explain to the student/s how to create and display background with a spinner while the website loads.
- Show the `showPage()` function in the `main.js` file and highlight that the `document.getElementById('loader').style.display` is set to `"none"`; and hence hiding the spinner on page loading.
- Set the z-index value to 0 where spinner cannot be seen, then change the value to 1 where carousel controls the arrow can be seen, then change the value to 3 and then 1100 and explain that to avoid elements overlapping the spinner we assign a higher stack value for z-index.
- Notify students that the offset values for positioning the spinners can be one of these:
 - ❖ 0 - for 0 edge position
 - ❖ 50 - for 50% edge position
 - ❖ 100 - for 100% edge position

Student Activity: (7 mins)

- Guide the student/s to add a red spinner at the center of the screen.

4. Activity 2: Add a Hide/Show Arrow: (10 mins)

Teacher Activity: (4 mins)

- Explain to the student/s to make a movie playable by clicking on the movie image along with grouping the movie name, rating, movie category, and release year as a section such that it can be hidden/shown using an arrow.

Student Activity: (6 mins)

- Guide the student/s to add accordion features to hide/show movie details with an arrow.
Probing question: Which class is used to create the collapsible element to show and hide other HTML elements?
Expected answer: `accordion-button` class

5. Activity 3: Add Copyright to the Footer: (10 mins)

Student Activity: (6 mins)

- Explain to the student/s about bootstrap bi-chevron icons and using CTRL + ALT + C to add the copyright icon.
- Guide the student/s to create the footer with copyright information and double-up button.

6. Introduce the Post class project: (2 min)

- Move the Gallery, Folk music, and Videos within the accordion button for country Australia and its description.

7. Test and Summarize the class learnings: (5 mins)

- Check for understanding through quizzes and summarize learning after respective missions.
- Summarize the overall class learning towards the end of the class.

8. Additional activities:

- Encourage the student/s to add a loading spinner for the Music page.
- Encourage the student/s to add an accordion effect for the Music section.

9. State the Next Class Objective: (1 min)

- We will learn to create a chatbot and integrate it into the website.

U.S. Standards:

CSTA: 2-AP-13, 2-AP-19

Links Table		
Activity	Activity Name	Link
Class Presentation	Loaders and Hide/Show Buttons	https://s3-whjr-curriculum-uploads.whjr.online/c339f0c2-52a5-4a04-9e08-b8ddde058443.html
Explore Activity	Loaders and Hide/Show Buttons - Explore Activity	https://tynker.com/code/view/635f892537a9406186012f62/
Teacher Activity 1	Add a Loading Spinner	https://tynker.com/code/project/635f73f40a4f304e58389692
Teacher Activity 1 Solution	Add a Loading Spinner - Solution	https://tynker.com/code/project/635f7806c026a55bb025e112
Student Activity 1	Add a Loading Spinner	https://tynker.com/code/project/635f7a3620c0576dc5121742
Teacher Reference: Student Activity 1 Solution	Add a Loading Spinner - Solution	https://tynker.com/code/project/635f7aaed711255c8947dc42
Teacher Activity 2	Add a Hide/Show Arrow	https://tynker.com/code/project/639c07d41230145a8873afd2
Teacher Activity 2 Solution	Add a Hide/Show Arrow - Solution	https://tynker.com/code/project/63

		9c069c2f134f5324670f22
Student Activity 2	Add a Hide/Show Arrow	https://tynker.com/code/project/635f8772dbf4ee2ad059c922
Teacher Reference: Student Activity 2 Solution	Add a Hide/Show Arrow - Solution	https://tynker.com/code/project/635f852e6aab273be16db842
Student Activity 3	Add a Footer	https://tynker.com/code/project/635f8b6197049712020174d2
Teacher Reference: Student Activity 3 Solution	Add a Footer - Solution	https://tynker.com/code/project/635f892537a9406186012f62
Student's Additional Activity 1	Add a Loading Spinner	https://tynker.com/code/project/63608caba9656457932ccf32
Teacher Reference: Student's Additional Activity 1 Solution	Add a Loading Spinner	https://tynker.com/code/project/635ff433ecba7661a5372c72
Student's Additional Activity 2	Add an Accordion Button	https://tynker.com/code/project/636090a1630a3c67c95bc3f2
Teacher Reference: Student's Additional Activity 2 Solution	Add an Accordion Button - Solution	https://tynker.com/code/project/63608e757b5f051489595bb2
Post Class Project	Add Accordion to the Travel Website	https://tynker.com/code/project/63a15a176699605ddf57bb16
Teacher Reference: Post Class Project Solution	Add Accordion to the Travel Website - Solution	https://tynker.com/code/project/63a15475490bdf574f284392