Experiment 07: Use jQuery selectors and the $(document). ready () function to hide/show elements and change styles dynamically.

Learning Objective: Student should be able to utilize the jQuery library to select HTML elements and dynamically manipulate their properties, such as visibility and style, in response to user events like button clicks.

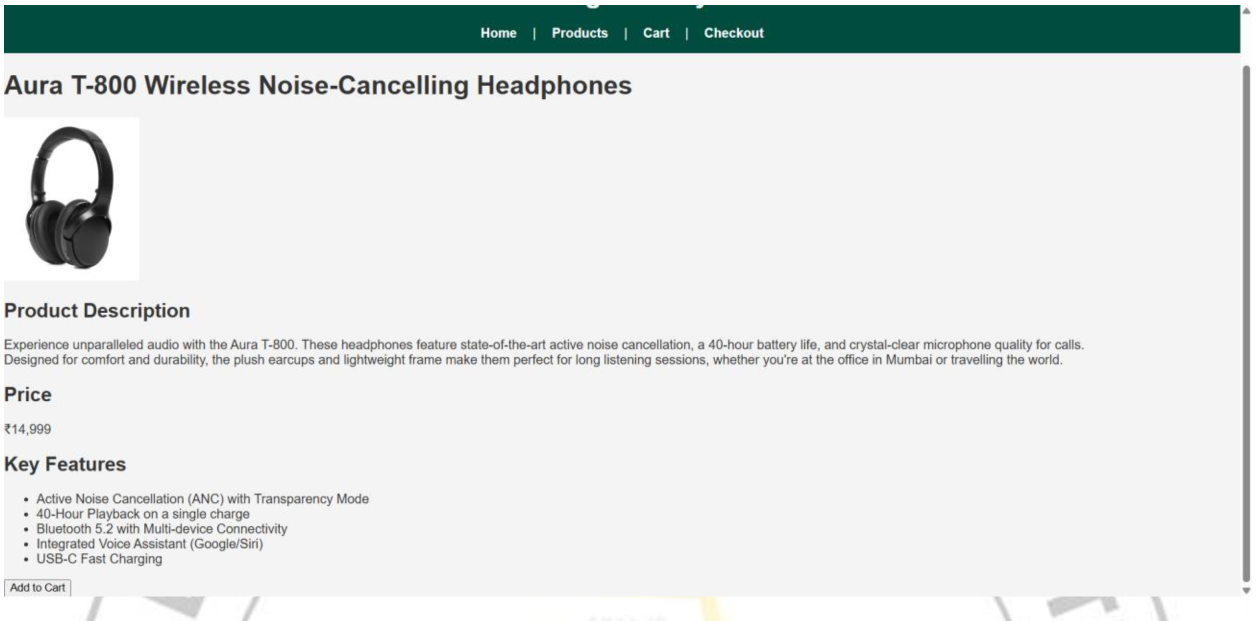
Tools: Notepad, Google Chrome

Theory:
jQuery is a fast, small, and feature-rich JavaScript library. Its motto is "write less, do more." For an engineer, it's best understood as a powerful abstraction layer over raw JavaScript that dramatically simplifies tasks like HTML Document Object Model (DOM) traversal and manipulation, event handling, and animation.

Core jQuery Concepts:

- **The $ Function:** The dollar sign $ is an alias for the jQuery function and is the entry point for almost all jQuery operations.
- **Selectors:** jQuery uses CSS-style selectors to find and select HTML elements. This is far more concise than vanilla JavaScript's document.getElementById() or document.querySelector().
    - $('#myId') selects the element with id="myId".
    - $('.myClass') selects all elements with class="myClass".
    - $('p') selects all <p> elements.
- **$(document).ready():** This is a crucial event handler. It ensures that your code only runs *after* the entire HTML page has been loaded by the browser. Attempting to manipulate an element before it exists in the DOM will result in errors. The standard shorthand for this is $(function() { ... });.
- **Manipulation Methods:** Once an element is selected, you can call methods on it to change it.
    - .hide() / .show() / .toggle(): Change the visibility of an element.
    - .css('property', 'value'): Changes a CSS property.
    - .text('new text'): Changes the text content of an element.
    - .on('event', function): Attaches an event listener (e.g., 'click'). This is the modern way to handle events in jQuery.

Result and Discussion:



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Aura T-800 Wireless Noise-Cancelling Headphones

Product Description

Experience unparalleled audio with the Aura T-800. These headphones feature state-of-the-art active noise cancellation, a 40-hour battery life, and crystal-clear microphone quality for calls. Designed for comfort and durability, the plush earcups and lightweight frame make them perfect for long listening sessions, whether you're at the office in Mumbai or travelling the world.

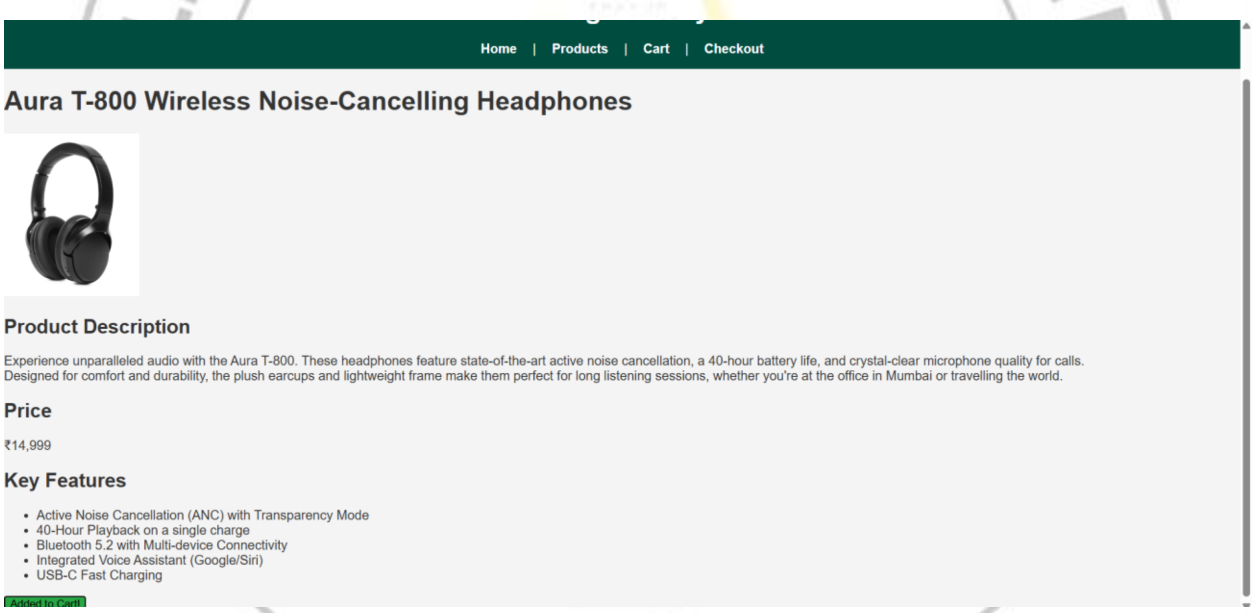
Price

₹14,999

Key Features

- Active Noise Cancellation (ANC) with Transparency Mode
- 40-Hour Playback on a single charge
- Bluetooth 5.2 with Multi-device Connectivity
- Integrated Voice Assistant (Google/Siri)
- USB-C Fast Charging

Add to Cart



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Added to Cart!

Webpage displaying product details with a add to cart button, when clicked it turns green and changes to added to cart.

Learning Outcomes: The student should have the ability to write JavaScript code to select DOM elements, handle user events like form submission, and implement conditional logic to perform client-side validation, preventing invalid data from being submitted.

Course Outcomes: Upon completion of the course students will be able to apply client-side scripting technologies to create interactive and responsive web applications. Also, students will be able to analyze and implement client-side validation techniques to enhance user experience and data integrity.

Conclusion:

This experiment successfully added a crucial layer of interactivity and intelligence to our web application. By implementing client-side validation, the “GadgetGalaxy” checkout form is now more user-friendly, robust, and efficient. This marks a significant step from creating static pages to building dynamic web applications.

For Faculty Use

Correction Parameters	Formative Assessment [40%]	Timely completion of Practical [40%]	Attendance / Learning Attitude [20%]	
Marks Obtained				