

Dynamic Product Filter with Dropdown using JavaScript DOM Manipulation

Objective:

Build a web-based product list that can dynamically filter and display items based on the user's selection from a dropdown menu. This task helps you understand how to use JavaScript to manipulate the DOM, handle events, and update visible elements in real time.

Aim:

To create a dynamic product filter that updates the displayed list of products based on the category selected from a dropdown menu using HTML, CSS, and JavaScript.

Tools Used:

1. HTML
2. CSS
3. JavaScript
4. Web Browser

Procedure:

1. Create an HTML file with a dropdown menu for filtering and a list of product items.
2. Assign category data to each product item.
3. Use CSS to style the dropdown menu and product list for a clean layout.
4. Write JavaScript code to detect changes in the dropdown menu selection.
5. Filter and update the displayed product list dynamically based on the selected category.
6. Test the functionality in a web browser to ensure it works without reloading the page.

Code:

```
<!DOCTYPE html>
<html>
<head>
  <title>Dynamic Product Filter</title>
  <style>
    body {
      font-family: Arial, sans-serif;
      margin: 20px;
    }
    h2 {
      color: #333;
    }
    select {
      padding: 5px;
      margin-bottom: 15px;
      font-size: 14px;
    }
    .product {
      padding: 8px;
      border: 1px solid #ccc;
      margin: 5px 0;
      border-radius: 5px;
      background-color: #f9f9f9;
    }
  </style>
</head>
<body>

  <h2>Product List</h2>
```

```

<label>
  Filter by Category:
  <select id="categoryFilter">
    <option value="All">All</option>
    <option value="Clothing">Clothing</option>
    <option value="Electronics">Electronics</option>
    <option value="Books">Books</option>
  </select>
</label>

<div id="productList">
  <div class="product" data-category="Clothing">T-Shirt</div>
  <div class="product" data-category="Clothing">Jeans</div>
  <div class="product" data-category="Electronics">Headphones</div>
  <div class="product" data-category="Electronics">Smartphone</div>
  <div class="product" data-category="Books">Novel</div>
  <div class="product" data-category="Books">Cookbook</div>
</div>

<script>
  document.getElementById('categoryFilter').addEventListener('change', function() {
    var selected = this.value;
    var products = document.querySelectorAll('.product');

    products.forEach(function(product) {
      if (selected === 'All' || product.getAttribute('data-category') === selected) {
        product.style.display = 'block';
      } else {
        product.style.display = 'none';
      }
    });
  });
</script>
</body>
</html>

```

Result:

The web page successfully filters and displays the products dynamically based on the selected category from the dropdown menu.

Output:

Product List

Filter by Category:

All

T-Shirt

Jeans

Headphones

Smartphone

Novel

Product List

Filter by Category:

Clothing

T-Shirt

Jeans

Product List

Filter by Category:

Books

Novel

Cookbook