

Experiment 5

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Title

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.

Task Description

Create a web page that displays a list of products (for example, shoes, shirts, or gadgets). Above the product list, include a dropdown menu with filter options such as "All", "Category 1", "Category 2", etc. When the user selects an option from the dropdown, the product list should update immediately to show only the items that match the selected category. If "All" is selected, all products should be displayed. The filtering and display changes must happen dynamically using JavaScript without reloading the page.

Input Screenshots:

```
Exp5(23BIS70162).html > html
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4   <meta charset="UTF-8">
5   <meta name="viewport" content="width=device-width, initial-scale=1.0">
6   <title>Product Lists</title>
7 </head>
8 <body>
9   <h2>Product Input Fields</h2>
10  <input type="text" id="productid" placeholder="Enter Product ID"><br>
11  <input type="text" id="productname" placeholder="Enter Product Name"><br>
12  <input type="text" id="productprice" placeholder="Enter Product Price"><br>
13  <input type="text" id="productcategory" placeholder="Enter Product Category"><br>
14  <input type="button" value="Add Product" onclick="addproductlist()"><br>
15  <label for="categoryDropdown"><b>Filter By Category</b></label><br>
16  <select id="categoryDropdown" onchange="filterbycategory()">
17    <option value="all">--- All Categories ---</option>
18  </select>
19  <br><br>
20  <table border="1" id="productTable">
21    <thead>
22      <tr>
23        <th>ID</th>
24        <th>Name</th>
25        <th>Price($)</th>
26        <th>Category</th>
27      </tr>
28    </thead>
29    <tbody id="producttablebody"></tbody>
30  </table>
31  <script>
32    let products = [];
33    let categories = new Set();
34
35    function addproductlist(){
36      let id = document.getElementById('productid').value;
37      let name = document.getElementById('productname').value;
38      let price = document.getElementById('productprice').value;
39      let category = document.getElementById('productcategory').value;
40
41      if(!id || !name || !price || !category){
42        alert("Please fill all fields!");
43        return;
44      }
45
46      let product = { id, name, price, category };
47      products.push(product);
48
49      if (!categories.has(category)) {
50        categories.add(category);
51        let option = document.createElement('option');
52        option.value = category;
53        option.text = category;
54        document.getElementById('categoryDropdown').appendChild(option);
55      }
56
57      displayproducts(products);
58
59      document.getElementById('productid').value="";
60      document.getElementById('productname').value="";
61      document.getElementById('productprice').value="";
62      document.getElementById('productcategory').value="";
63    }
64
65    function displayproducts(list){
66      const tbody = document.getElementById("producttablebody");
67      tbody.innerHTML = "";
68      list.forEach(p => {
69        let row = `<tr>
70          <td>${p.id}</td>
71          <td>${p.name}</td>
72          <td>${p.price}</td>
73          <td>${p.category}</td>
74        </tr>`;
75        tbody.innerHTML += row;
76      });
77    }
78  </script>
79</body>
80</html>
```

```

83  function filterbycategory(){
84      let selected = document.getElementById('categoryDropdown').value;
85      if(selected === "all"){
86          displayproducts(products);
87      } else {
88          let filtered = products.filter(p => p.category === selected);
89          displayproducts(filtered);
90      }
91  }
92  </script>
93  </body>
94  </html>

```

Output Screenshots:

Product Lists

http://127.0.0.1:3000/Exp5(23BIS70162).html

Product Input Fields

Enter Product ID
Enter Product Name
Enter Product Price
Enter Product Category
Add Product

Filter By Category

--- All Categories ---

| ID | Name | Price(\$) | Category |
|----|--------------------------|-----------|-------------|
| 1 | BMW | 250000 | Cars |
| 2 | Real Madrid 16/17 Jersey | 50 | Tshirts |
| 3 | Samsung Galaxy s23 ultra | 1100 | Electronics |
| 4 | BourneVille | 20 | Chocolate |

Please reopen the preview.

Port: 3000 Port: 5500

Product Lists

http://127.0.0.1:3000/Exp5(23BIS70162).html

Product Input Fields

Enter Product ID
Enter Product Name
Enter Product Price
Enter Product Category
Add Product

Filter By Category

Cars

| ID | Name | Price(\$) | Category |
|----|------------------------|-----------|----------|
| 1 | BMW | 250000 | Cars |
| 5 | Lamborghini Murcielago | 750000 | Cars |

Please reopen the preview.

Port: 3000 Port: 5500

Product Input Fields

Enter Product ID
Enter Product Name
Enter Product Price
Enter Product Category
Add Product

Filter By Category
Tshirts

| ID | Name | Price(\$) | Category |
|----|--------------------------|-----------|----------|
| 2 | Real Madrid 16/17 Jersey | 50 | Tshirts |

Please reopen the preview.

Port: 3000 Port: 5500