

Experiment 5- Full Stack Development

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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

```

<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Product Lists</title>
</head>
<body>
  <h2>Product Input Fields</h2>
  <input type="number" id="productid" placeholder="Enter Product ID"><br>
  <input type="text" id="productname" placeholder="Enter Product Name"><br>
  <input type="number" id="productprice" placeholder="Enter Product Price"><br>
  <input type="text" id="productcategory" placeholder="Enter Product Category"><br>

  <input type="button" value="Add Product" onclick="addproductlist()"><br><br>

  <label for="categoryDropdown"><b>Filter By Category</b></label><br>
  <select id="categoryDropdown" onchange="filterbycategory()">
    <option value="all">--- All Categories ---</option>
  </select>
  <br><br>

  <table border="1" id="productTable">
    <thead>
      <tr>
        <th>ID</th>
        <th>Name</th>
        <th>Price($)</th>
        <th>Category</th>
      </tr>
    </thead>
    <tbody id="producttablebody"></tbody>
  </table>

```

```

<script>
let products = [];
let categories = new Set();

function addproductlist(){
  let id = document.getElementById('productid').value;
  let name = document.getElementById('productname').value;
  let price = document.getElementById('productprice').value;
  let category = document.getElementById('productcategory').value;

  if(!id || !name || !price || !category){
    alert("Please fill all fields!");
    return;
  }

  let product = { id, name, price, category };
  products.push(product);

  if (!categories.has(category)) {
    categories.add(category);
    let option = document.createElement('option');
    option.value = category;
    option.text = category;
    document.getElementById('categoryDropdown').appendChild(option);
  }

  displayproducts(products);

  document.getElementById('productid').value="";
  document.getElementById('productname').value="";
  document.getElementById('productprice').value="";
  document.getElementById('productcategory').value="";
}

```

```

function displayproducts(list){
  const tbody = document.getElementById("producttbody");
  tbody.innerHTML = "";
  list.forEach(p => {
    let row = `<tr>
      <td>${p.id}</td>
      <td>${p.name}</td>
      <td>${p.price}</td>
      <td>${p.category}</td>
    </tr>`;
    tbody.innerHTML += row;
  });
}

function filterbycategory(){
  let selected = document.getElementById('categoryDropdown').value;
  if(selected === "all"){
    displayproducts(products);
  } else {
    let filtered = products.filter(p => p.category === selected);
    displayproducts(filtered);
  }
}
</script>
</body>
</html>

```

Output

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
122	fffff	999	C
77	hh	2356	aa

Filter By Category

C ▼

ID	Name	Price(\$)	Category
122	fffff	999	C