Experiment 2

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Subject Name: Full Stack- I **Subject Code: 23CSP-339**

1. Aim:
To implement a dynamic product filtering system that updates displayed items based on user dropdown selection using JavaScript and DOM manipulation.

2. Objective:
- Create a product dataset
- Build filter dropdown UI
- Implement filter logic using Array.prototype.filter()
- Dynamically update the DOM
- Add visual feedback (e.g., filtered results)

3. Code:

HTML:

```
<select id="filter">
<option value="all">All Products</option>
<option value="electronics">Electronics</option>
<option value="clothing">Clothing</option>
</select>

<div id="products-container"></div>
```

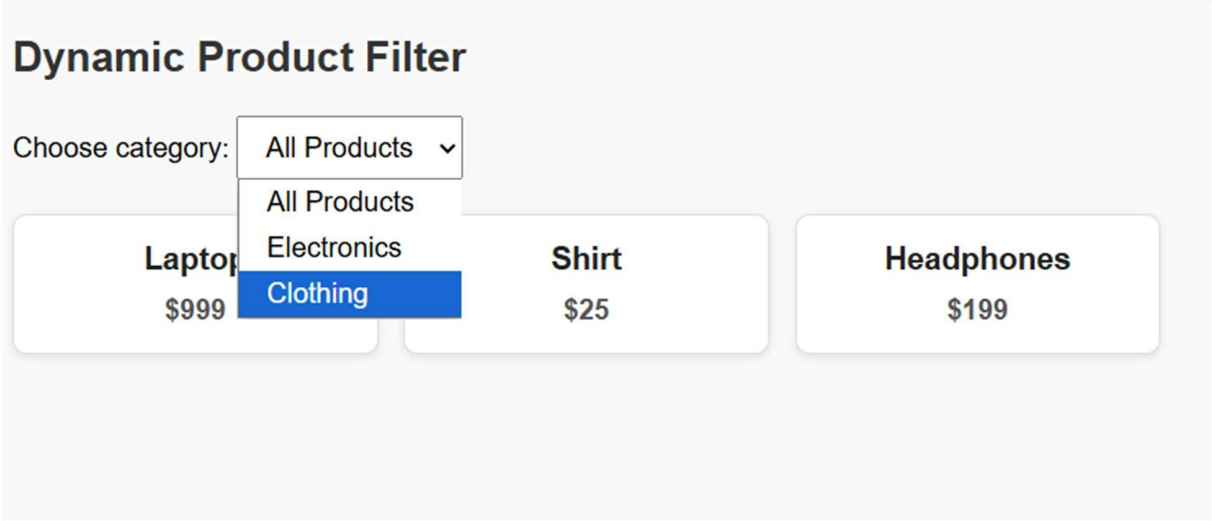
JavaScript:

```
const products = [
  { name: "Laptop", category: "electronics", price: 999 },
  { name: "Shirt", category: "clothing", price: 25 },
  { name: "Headphones", category: "electronics", price: 199 }
];
```

```
document.getElementById('filter').addEventListener('change', (e) =>
  { const selected = e.target.value;
  const filtered = selected === 'all' ? products : products.filter(p => p.category ===
selected);
  renderProducts(filtered);
});

function renderProducts(products) {
  const container = document.getElementById('products-container');
  container.innerHTML = products.map(p => `
    <div class="product">
      <h3>${p.name}</h3>
      <p>$${p.price}</p>
    </div>
  `).join('');
}
```

4. **Output:**
5.



6. Learning Outcomes:

a) Learned how to select and manipulate DOM elements dynamically.
b) Gained experience in using event listeners to handle user interactions.
c) Practiced applying array methods like filter(), map(), and join() to process data.
d) Learned to render and update UI content in real time without page reload.
e) Understood real-world use of filtering techniques in e-commerce websites.