

## WebTech LAB

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**Task-**Develop a single page application for Shopping List. First develop a simple prototype using html and javascript. Gradually develop a MVC based prototype.

### Simple Prototype

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Shopping List</title>
  <style>
    body {
      font-family: Arial, sans-serif;
      background-color: black;
      text-align: center;
    }

    h1 {
      color: gold;
    }

    #itemInput {
      color: black;
      background-color: aqua;
    }

    button {
      border-radius: 50%;
    }

    button:hover {
      cursor: grab;
    }

    #shoppingList {
      color: blue;
      font-style: italic;
    }
  </style>
</head>
<body>
```

```

<h1>Shopping List</h1>
<div>
  <input type="text" id="itemInput" placeholder="Enter item">
  <button onclick="addItem()">Add Item</button>
</div>
<ul id="shoppingList" onclick="removeItem(event)"></ul>
<script>
  function addItem() {
    var itemInput = document.getElementById('itemInput');
    var itemName = itemInput.value.trim();
    if (itemName !== '') {
      var shoppingList = document.getElementById('shoppingList');
      var listItem = document.createElement('li');
      listItem.textContent = itemName;
      shoppingList.appendChild(listItem);
      itemInput.value = '';
    }
  }
  function removeItem(event) {
    if (event.target.tagName === 'LI') {
      event.target.remove();
    }
  }
</script>
</body>
</html>

```

## MVC Prototype

```

// data.js
class ShoppingListModel {
  constructor() {
    this.items = [];
  }

  addItem(itemName) {
    this.items.push(itemName);
  }

  removeItem(index) {
    this.items.splice(index, 1);
  }

  getItems() {
    return this.items;
  }
}

```

```
// view.js
class ShoppingListView {
  constructor(controller) {
    this.controller = controller;
    this.itemInput = document.getElementById('itemInput');
    this.shoppingList = document.getElementById('shoppingList');
    this.addItemButton = document.querySelector('button');

    this.addItemButton.addEventListener('click', () =>
this.controller.addItem());
  }

  bindRemoveItem(handler) {
    this.shoppingList.addEventListener('click', (event) => {
      if (event.target.tagName === 'LI') {
        const index =
Array.from(this.shoppingList.children).indexOf(event.target);
        handler(index);
      }
    });
  }
}
```

```
// controller.js
class ShoppingListController {
  constructor(model, view) {
    this.model = model;
    this.view = view;
    this.updateView();

    this.view.addItemButton.addEventListener('click', () =>
this.addItem());
  }

  addItem() {
    const itemName = this.view.getItemInputValue();

    if (itemName !== '') {
      this.model.addItem(itemName);
      this.updateView();
      this.view.clearItemInput();
    }
  }

  updateView() {
```

```

        const items = this.model.getItems();
        this.view.updateItemList(items);
    }

    bindRemoveItem() {
        this.view.bindRemoveItem(index => {
            this.model.removeItem(index);
            this.updateView();
        });
    }
}

```

```

<!--index.html-->
<!DOCTYPE html>
<html lang="en">

<head>
    <script src="data.js"></script>
    <script src="view.js"></script>
    <script src="controller.js"></script>

    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Shopping List MVC</title>
    <style>
        body {
            font-family: Arial, sans-serif;
            background-color: black;
            text-align: center;
        }

        h1 {
            color: gold;
        }

        #itemInput {
            color: black;
            background-color: aqua;
        }

        button {
            border-radius: 50%;
        }

        button:hover {
            cursor: grab;
        }
    </style>

```

```
    }

    #shoppingList {
        color: blue;
        font-style: italic;
    }
</style>
</head>

<body>
    <h1>Shopping List</h1>

    <div>
        <input type="text" id="itemInput" placeholder="Enter item">
        <button>Add Item</button>
    </div>

    <ul id="shoppingList"></ul>

    <script>
        const model = new ShoppingListModel();
        const view = new ShoppingListView();
        const controller = new ShoppingListController(model, view);
    </script>
</body>
</html>
```

Output of both prototypes

# Shopping List

Add Item

# Shopping List

Pringles

Add Item

# Shopping List

- *Pringles*
- *Coffee*
- *Iphone*
- *Keyboard*

# Shopping List

- *Pringles*
- *Coffee*
- *Keyboard*