WEB TECHNOLOGY LAB

Assignment- 6

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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;
        }
    </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;
        }
    </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

Enter item Add Item

Shopping List

Enter item Add Item

- Rice
- Apple
- Charger

Shopping List

Enter item Add Item

- Rice
- Charger