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Exercise 10

Inventory Management System – Documentation

Overview

The **Inventory Management System Visualization** project aims to present inventory data effectively using **interactive charts** built with **Chart.js**.

This system provides a visual overview of inventory categories and stock levels through **Pie Charts** and **Bar Graphs**, improving clarity for inventory analysis.

Objective

To **visualize inventory data** using modern JavaScript chart libraries.

To make the **distribution of items** across various categories easily understandable.

To allow quick assessment of stock availability across different product types.

Technologies Used

HTML5 — Structure of the webpage

CSS3 — Basic styling

JavaScript — Logic for data handling and chart generation

Chart.js — JavaScript library for building responsive charts

Project Structure

`index.html` — Main webpage containing two `<canvas>` elements for Pie and Bar charts.

`script.js` — JavaScript file containing data and chart logic.

Features

Pie Chart representing the **distribution** of inventory across different categories.

Bar Chart displaying the **count of items in stock** per category.

Responsive Design — Charts adjust to different screen sizes.

Color-coded categories for easy identification.

Inventory Categories and Data

Category	Items in Stock
Electronics	200
Clothing	150
Home Appliances	100
Books	80
Toys	50

How It Works

HTML is used to create a basic page structure with two `<canvas>` elements.

Chart.js library is imported via CDN.

Inventory data is prepared in the `script.js` file.

Two charts are initialized:

Pie Chart (`type: 'pie'`) for inventory distribution.

Bar Chart (`type: 'bar'`) for stock quantity by category.

Code Snippets

HTML (`index.html`)

```
html
```

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <title>Inventory Management Visualization</title>
  <script src="https://cdn.jsdelivr.net/npm/chart.js"></script>
</head>
<body>
  <h1>Inventory Management System</h1>
  <canvas id="pieChart" width="400" height="400"></canvas>
  <canvas id="barChart" width="400" height="400"></canvas>
  <script src="script.js"></script>
</body>
</html>
```

JavaScript (`script.js`)

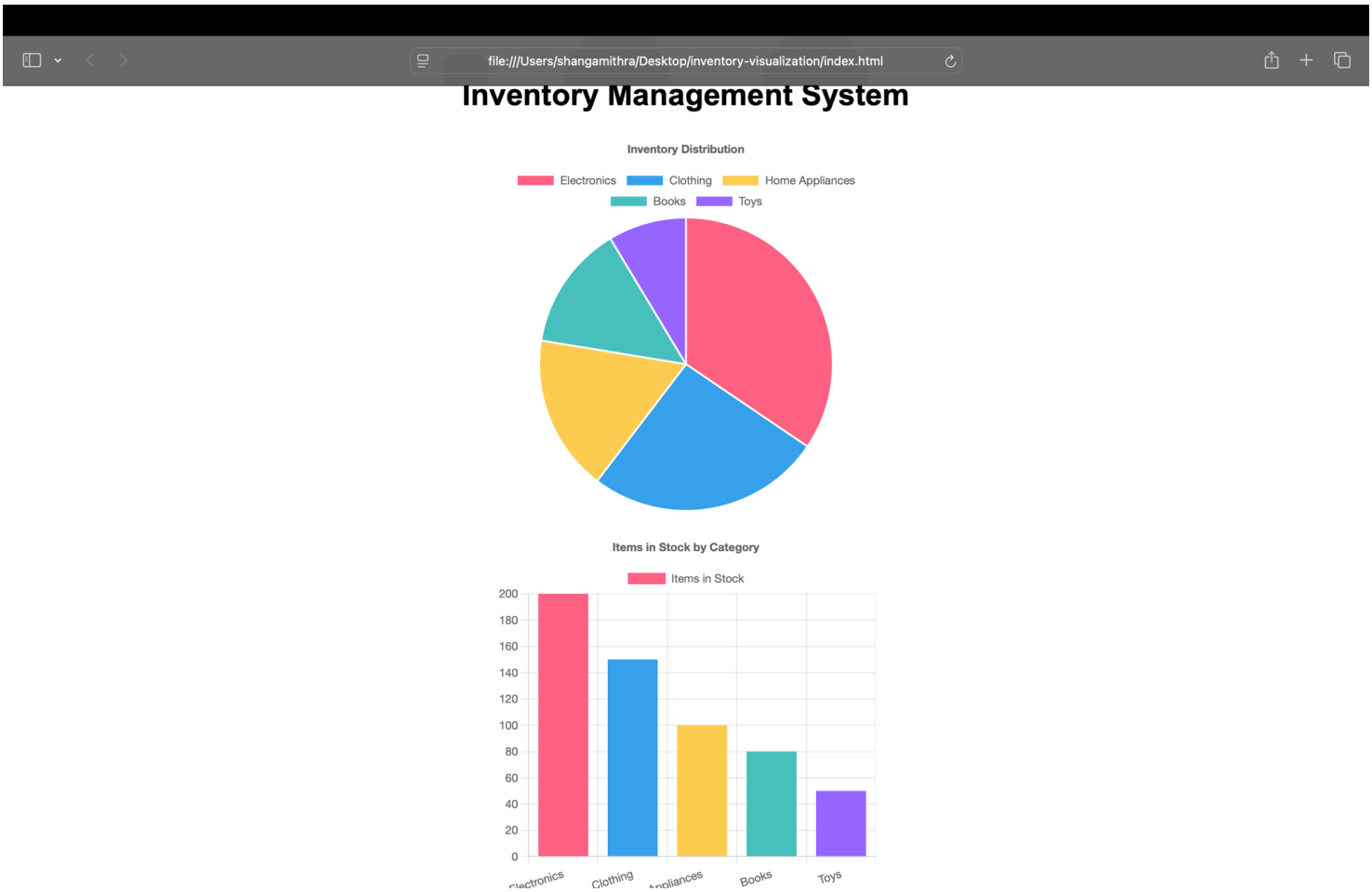
```
javascript
```

```
const inventoryData = {
  labels: ['Electronics', 'Clothing', 'Home Appliances', 'Books', 'Toys'],
  datasets: [{
    label: 'Items in Stock',
    data: [200, 150, 100, 80, 50],
    backgroundColor: ['#FF6384', '#36A2EB', '#FFCE56', '#4BC0C0', '#9966FF'],
  }]
};

// Pie Chart
new Chart(document.getElementById('pieChart'), {
  type: 'pie',
  data: inventoryData,
  options: {
    responsive: true,
    title: {
      display: true,
      text: 'Inventory Distribution'
    }
  }
});
```

```
// Bar Chart
new Chart(document.getElementById('barChart'), {
  type: 'bar',
  data: inventoryData,
  options: {
    responsive: true,
    title: {
      display: true,
      text: 'Items in Stock by Category'
    },
    scales: {
      yAxes: [{
        ticks: {
          beginAtZero: true
        }
      }]
    }
  }
});
```

OUTPUT



Conclusion

The project successfully demonstrates how to **visually manage and analyze inventory** data using **simple web technologies**.

It offers a quick and intuitive overview that could be extended for real-world inventory management systems.