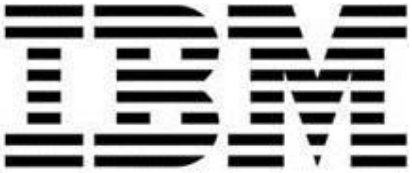

COLLEGE CODE: 9623

COLLEGE NAME: AMRITA COLLEGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT: COMPUTER SCIENCE AND ENGINEERING

STUDENT NM-ID: 7FAC42B18FBD7CFA8E342DD3224A3ED4

ROLL NO: 962323104067

DATE: 25/09/2025

COMPLETED THE PROJECT AS PHASE- 5

TECHNOLOGY PROJECT NAME: DYNAMIC IMAGE SLIDER

SUBMITTED BY:

NAME: NITHEESH S

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The **Real-Time Stock Ticker** project aims to provide a **simple and interactive web platform** for users to view **live stock market updates**.
It allows users to enter a stock symbol (like AAPL, MSFT, or TSLA) and instantly see the **latest stock price** along with a **trend chart** showing price movement over the past few days.

The main purpose is to demonstrate:

- How **real-time data** can be fetched from a **public API**
- How to **visualize financial data** dynamically using charts
- How to build a **responsive and interactive** front-end web application

This project is a practical demonstration of **web development, API integration, and data visualization** — essential concepts in modern software and fintech applications.

Technologies Used

Technology	**Purpose**
HTML5	To create the basic structure of the webpage.
CSS3	To style the page and make the design clean and responsive.
JavaScript (ES6)	To handle the logic, API requests, and dynamic updates.
Chart.js	To display stock prices as an interactive line chart.
Alpha Vantage API	To fetch live and historical stock market data.
Git & GitHub	For version control, collaboration, and project hosting.
GitHub Pages	For deploying the web application online for demo access. real-time-stock-ticker/

```
|
├── index.html              # Main webpage (UI structure)
├── style.css               # Styling for layout and design
├── script.js               # JavaScript logic for API requests and chart rendering
├── README.md               # Project overview, setup guide, and documentation
├── .gitignore              # Specifies files/folders to be ignored by Git
|
```

```
├── assets/                # Folder containing screenshots and demo images
|   ├── demo1.png          # Screenshot of main interface
|   └── demo2.png          # Screenshot of stock chart
|
├── report/                # Folder for the final project report
|   └── Final_Project_Report.pdf
|
└── api_documentation/     # Folder for API details
    └── API_Documentation.md
```

GITHUB: https://github.com/nitheesh2006-s/Dynamic-Image-Slider.git

Challenges and Solutions

Challenges

1. **API Limitations:**
   The Alpha Vantage API allowed only a few requests per minute, which caused frequent datafetching errors during testing.

2. **Invalid Stock Symbols:**
   Users entering incorrect or unsupported stock codes led to failed responses and confusion.

3. **Chart Overlap:**
   Each new data request caused multiple charts to stack over one another, making the visualization unclear.
4. **Deployment Issues:**
   The application initially failed to load correctly on GitHub Pages due to incorrect folder structure and missing file references.

Solutions

1. **Optimized API Usage:**
   Implemented proper request timing and used demo/personal API keys to avoid rate limits.
2. **Input Validation:**
   Added checks and clear error messages to handle invalid or unsupported stock entries gracefully.
3. **Chart Reset Logic:**
   Ensured the previous chart instance is destroyed before creating a new one, preventing overlaps.
4. **Corrected File Structure:**
   Placed all core files (index.html, style.css, script.js) in the root directory and reconfigured deployment settings.

Key Takeaway

This project enhanced understanding of **real-time API integration, data visualization, and front-end deployment workflows**, building both technical and problem-solving skills in a practical web development context.