News Aggregator Project Report

A Web Application to Fetch and Display News Headlines Using NewsAPI

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1 Introduction

This report describes the News Aggregator, a web application developed to fetch and display the latest news headlines using the NewsAPI. The application provides a user-friendly interface with animated news cards, a search functionality, and a responsive design. The project is implemented using HTML, CSS, JavaScript, Bootstrap, and Animate.css to ensure a professional and engaging user experience.

The objective of this project is to create a robust and visually appealing news aggregator that fetches real-time news data and presents it in an organized manner, with features like search and error handling to enhance usability.

2 Project Overview

The News Aggregator is a client-side web application that:

- Fetches news headlines from the NewsAPI using a provided API key.
- Displays news in responsive, animated cards with details like title, description, source, publication date, and a link to the full article.
- Includes a search bar to filter news by keywords.
- Features a loading spinner and error handling for a seamless experience.

The application is designed to run on a local server (localhost) to comply with News-API's Developer plan restrictions, which limit browser-based API requests to localhost environments.

3 Features

The News Aggregator includes the following key features:

- Real-Time News Fetching: Retrieves the latest headlines from NewsAPI using the API key a488e2469ae94312a7ddd612ecb504c0.
- Animated News Cards: Displays news in cards with fade-in animations (using Animate.css) and hover effects for interactivity.
- Search Functionality: Allows users to search for news by keywords, with support for both button clicks and Enter key presses.
- Loading Spinner: Shows a spinner during API requests to indicate loading.
- Error Handling: Displays user-friendly error messages for API or network issues.
- Responsive Design: Uses Bootstrap to ensure the application looks great on both mobile and desktop devices.

4 Implementation Details

The project is implemented using the following technologies:

- HTML: Provides the structure with a container for news cards, a search bar, and a loading spinner.

- CSS: Custom styles for cards, hover effects, and layout, with Bootstrap for responsiveness.

- JavaScript: Handles API requests, dynamic card generation, search functionality, and error handling.

- Bootstrap 5.3.0: Ensures a responsive and modern design.

- Animate.css 4.1.1: Adds animations to cards and error messages.

- NewsAPI: Fetches news data using the provided API key.

The application consists of three main files:

- index.html: Defines the webpage structure.

- styles.css: Contains custom styles for cards and layout.

- script.js: Manages API calls, rendering, and user interactions.

5 How to Run the Application

To run the News Aggregator on localhost (required due to NewsAPI restrictions):

1. Create a folder (e.g., news-aggregator) and save the three project files: index.html, styles.css, and script.js.

2. Set up a local server using one of the following methods:

   - VS Code Live Server: Install the Live Server extension, right-click index.html, and select "Open with Live Server" (opens at http://localhost:5500).

   - Python: Run python -m http.server 8000 in the project folder and open http://localhost:8000.

   - Node.js: Install Node.js, run npx http-server, and open http://localhost:8080.

3. Open the localhost URL in a browser to view the application.

4. Use the search bar to filter news by keywords (e.g., "cricket" or "technology").

6 Challenges and Solutions

- Challenge: NewsAPI's Developer plan restricts browser requests to localhost, causing CORS errors elsewhere.

- Solution: The application is designed to run on a local server. For public deployment, a backend proxy or a paid NewsAPI plan is recommended.

- Challenge: Handling missing article data (e.g., images or descriptions).

- Solution: The code checks for missing data and provides fallbacks (e.g., "No description available").

7 Conclusion

The News Aggregator is a professional, user-friendly web application that successfully fetches and displays news headlines using NewsAPI. With its animated cards, search functionality, and responsive design, it provides an engaging experience for users. The project demonstrates the effective use of modern web technologies and robust error handling.

For further details or source code, contact Samad at samadmehboob@gmail.com.