Skills Assessment Project: Sentiment Analysis Web Interface

Overview:
Candidates are required to build a web-based interface designed for the sentiment analysis of news articles, allowing users to copy and paste the text of a news piece to obtain its sentiment evaluation. The project should be completed within 75 to 90 minutes. It will test the candidates' skills in HTML, CSS, JavaScript, Node.js, Express, and Python.

Objective:
Create a web application where users can paste text from a news article, press a button to analyze the sentiment, and view the results.

Task Breakdown:

1. HTML and CSS (15-20 minutes)
    - Task: Design a simple and clean user interface.
    - Evaluation Points:
        - Structure and semantics of HTML code.
        - Styling and layout proficiency with CSS.
        - Deliverables: A webpage with a textarea, a button, and a display area for results.
2. JavaScript (Front-End) (20-30 minutes)
    - Task: Write JavaScript to handle user interactions.
    - Evaluation Points:
        - Handling Mechanism chosen.
        - Displaying results from the server.
    - Deliverables: Functional front-end code that interacts with the server.
3. Node.js and Express (Back-End) (20-30 minutes)
    - Task: Set up an Express server to handle requests.
    - Evaluation Points:
        - Server setup and routing.
        - Handling POST requests and response generation.
        - Integration with the Python script for sentiment analysis.
    - Deliverables: A server script capable of receiving data and responding with sentiment analysis results.
4. Python for Sentiment Analysis (10-15 minutes)
    - Task: Implement a sentiment analysis script.
    - Evaluation Points:
        - Use of Python for text processing.
        - Integration with the VADER sentiment analysis tool.
        - Output formatting and error handling.
    - Deliverables: A Python script that analyzes sentiment and returns results.
5. Integration and Testing (10-15 minutes)
    - Task: Ensure all parts work seamlessly together.
    - Evaluation Points:
        - Successful integration of front-end, back-end, and Python script.
    - Deliverables: A fully integrated and functional web application.

Additional Instructions:

- Tools: Candidates can use any IDE or code editor of their choice, and also AI tools (Copilot,GPT, et…).
- Resources: Access to documentation for Express, NLTK, and others.
- Submission: Code should be submitted in a structured format and send via email.

Assessment Criteria:

- Code Quality: Readability, use of best practices, and comments.
- Problem-Solving Skills: Approach to solving tasks and overcoming challenges.
- Technical Proficiency: Mastery of the required technologies and tools.
- Time Management: Ability to complete tasks within the given timeframe.

This assessment is designed to evaluate the candidates' skills in a practical and comprehensive manner, mirroring real-world tasks they might encounter as engineers in our company.