Development Process

 1. Analyzing the DOM structure.

    I picked up Hindustan Times' newspaper for this challenge and focused on the national news. I saw that all the headlines were contained within <h3 class= "hdg3"> tags

2. Built the extension project structure

    I researched online and found out that manifest.json is required which activates the extension when we visit the url. So I setup a manifest.json and content.js(this contains the logic).

3. Extracting Headlines:

    I wrote content.js script to extract headlines from the webpage using document.querySelectorAll('h3.hdg3 a'). This allowed for targeting all relevant headlines on the page.

4. Integrating OpenAI API

    I used OpenAI api to convert the headlines into rhyme. I have previous experience with this API and ML in general so it was easily done. This required handling API authentication and structuring the request correctly.

<u>Challenges</u>

 - API Rate Limiting: I encountered 429 errors (Too Many Requests) from the OpenAI API. Implemented a retry mechanism with a delay to handle rate limiting.

- CORS Issue: There was a CORS issue when making API requests from the content script. This was resolved by ensuring the correct permissions and origins were declared in the manifest file.

- DOM Manipulation: Ensuring that the script correctly updates the text of each headline on the webpage was a challenge. This was tackled through careful DOM manipulation and verification of selectors.

- Testing and Debugging: The process involved constant testing and debugging to ensure the script worked as intended. Console logging was extensively used to monitor the process.

Extra feature-
Added a feature to append an exclamation mark "!!!" after every rhymed headline for visual distinction and testing purposes.

P.S-
If you run it without any api key or expired one you will see 401 in console.

Still you can see the extension is working or not by the 3 (!!!) mark in changed headlines.