This document outlines the requirements for the development of a news website that scrapes news articles and generates humorous headlines. The website will feature a daily email subscription service, social media sharing capabilities, and an admin panel for managing and editing generated headlines. Additionally, the platform will include functionality for training a machine learning model based on user interactions with the jokes. The implementation will utilize Python for backend processing and Next.js for the frontend interface.

## **Objectives**

The primary objectives of this project are:

1. **Automate News Scraping**: Implement a system to scrape news articles from various sources reliably.
2. **Generate Joke Headlines**: Create an algorithm to transform standard news headlines into humorous ones.
3. **Daily Email Subscription**: Develop a feature for users to subscribe and receive daily emails with the top joke headlines.
4. **Social Media Sharing**: Enable users to share humorous headlines easily on social media platforms.
5. **Admin Panel**: Build an admin interface for editors to review, edit, and approve generated joke headlines.
6. **Model Training**: Collect data from user interactions to train a machine learning model for improving joke generation.

#### **1. News Scraping Functionality**

* **Function Name**: scrape\_news
* **Description**: Scrapes news articles from Drudge Report and stores them in AWS DynamoDB table drudgescrape.
* **Fields to Store**:
  + newsId (UUID)
  + newsOriginalTitle (string)
  + newsUrl (string)
  + newsContent (string, initially empty)
  + newsRank (integer)
  + newsNewTitle (string, initially empty)
  + isScrapeContent (boolean, initially false)
  + isRender (boolean, initially true)
  + article (string, initially empty)
  + newsImageURL (string, initially empty)

#### **2. Content Scraping Functionality**

* **Function Name**: scrape\_content
* **Description**: Scrapes the content from each news URL if isScrapeContent is false and updates the newsContent field in the DynamoDB table.

#### **3. Joke Generation Functionality**

* **Function Name**: make\_joke
* **Description**: Generates multiple jokes based on the news title and content and stores them in another DynamoDB table.
* **Fields to Store**:
  + NewsId (UUID)
  + newTitle (string)
  + newTitleRank (integer)
  + Joke (string)
  + dateCreated (timestamp)
  + Creator (string, e.g., system/admin/user)
  + JokeRank (integer)

#### **4. Content Rewriting Functionality**

* **Function Name**: rewrite\_content
* **Description**: Checks if the content cannot render in an iframe (isRender is false). If so, writes a new article and updates the article field.

#### **5. Email Subscription Management**

* **Function Name**: store\_email
* **Description**: Stores email addresses in a DynamoDB table for daily feed subscriptions.

#### **6. Daily Email Sending**

* **Function Name**: send\_daily\_email
* **Description**: Sends a daily email to subscribers with a list of news articles. The email should contain links to the news articles on the website.

#### **7. Admin Joke Creation**

* **Function Name**: admin\_joke
* **Description**: Allows an admin to create and store a new joke for a news article.
* **Fields to Store**:
  + NewsId (UUID)
  + newTitle (string)
  + newTitleRank (integer)
  + Joke (string)
  + dateCreated (timestamp)
  + Creator (string, should be 'admin')
  + JokeRank (integer)

#### **8. Admin Title Editing**

* **Function Name**: admin\_title
* **Description**: Allows an admin to change the title of a news article.
* **Field to Update**: newsNewTitle

#### **9. Admin Image Addition**

* **Function Name**: admin\_image
* **Description**: Allows an admin to add an image to a news article, upload it to AWS S3, and store the image URL in the newsImageURL field.

**10 news function**

This function will be responsible for fetching the latest news articles from the DynamoDB table and preparing the data to be displayed on the frontend of the website. The frontend (using Next.js) will call this function to get the latest news articles to display to users.

#### **Steps to Implement**

1. **Fetch News Articles**:
   * Query the DynamoDB table drudgescrape to get the latest news articles. You can decide on the criteria for "latest" (e.g., based on the newsRank or a date field).
2. **Filter and Format Data**:
   * Prepare the data to be sent to the frontend, including necessary fields such as the newsId, newsOriginalTitle, newsNewTitle, newsUrl, newsContent (or excerpt), newsRank, newsImageURL, article, and isRender

### **Frontend Requirements for News Website**

#### **Endpoint**

* **Endpoint Name**: /api/news
* **Description**: Fetches the latest news articles to be displayed on the frontend.

### **Components and Layout**

<https://codesandbox.io/p/sandbox/blissful-joana-z2lh9j?file=%2Findex.html%3A35%2C30>

#### **1. Home Page**

##### **News Menu**

* **Description**: A menu that lists all news titles and jokes.
* **Functionality**:
  + Displays a vertical list of news titles and jokes.
  + Users can click on each item to view the corresponding news article.
  + Highlights the currently selected news title.

##### **News Header**

* **Description**: The header section for the news display.
* **Functionality**:
  + Displays the title of the currently selected news article.
  + Includes a logo or branding for the news website.

##### **News Feed**

* **Description**: A scrolling ticker displaying all news articles.
* **Functionality**:
  + Continuously scrolls through the latest news articles.
  + Each article in the ticker is clickable and redirects to the full article view.
  + Provides a visual overview of all current news articles.

##### **News Article Display**

* **Desktop**:
  + **Layout**: Column layout displaying news articles.
  + **Interaction**: Users can click on a news title to view the article.
  + **Navigation**: Includes a down arrow for scrolling through articles.
* **Mobile**:
  + **Layout**: Bottom bar for navigation.
  + **Interaction**: News articles are displayed in an iframe.
  + **Navigation**: Users can swipe or use the bottom bar to navigate through articles.

#### **2. Toolbar**

* **Description**: A toolbar providing various controls for the news display.
* **Functionality**:
  + **Pause/Go Button**: Pauses or resumes the automatic loading of the next news article.
  + **Subscribe Field**: Allows users to enter their email to subscribe to daily news updates.
  + **Next and Back Buttons**: Navigate to the next or previous news article.
  + **Share Button**: Shares the current news article to email, X, and Facebook.
  + **Loader Bar**: A visual bar under the news article that takes 10 seconds to load the next article automatically.

#### **3. News Loader Bar**

* **Description**: A loading indicator that shows progress before automatically loading the next news article.
* **Functionality**:
  + Displays a loading animation that completes in 10 seconds.
  + Triggers the loading of the next news article when the loading completes.
  + Can be paused/resumed via the toolbar.

### **Interaction Details**

1. **Clicking News Titles**:
   * When a user clicks on a news title in the news menu, the corresponding article is displayed in the main content area.
   * The selected news title is highlighted in the menu.
2. **Automatic Loading**:
   * The loader bar under the news article begins to fill when an article is displayed.
   * After 10 seconds, the next article is automatically loaded unless the loader is paused.
3. **Navigation Controls**:
   * Users can manually navigate through articles using the next and back buttons in the toolbar.
   * The toolbar's pause/go button can control the automatic loading feature.
4. **Subscription**:
   * Users can enter their email address in the subscription field to receive daily news updates.
   * The subscription data is sent to the backend and stored for email delivery.
5. **Sharing**:
   * The share button allows users to share the current news article via email, X, and Facebook.
   * Provides an easy way for users to share interesting articles with others.

### Admin Panel Requirements for News Website

#### Endpoint

- \*\*Endpoint Name\*\*: `/admin`

- \*\*Description\*\*: Provides an interface for administrators to manage active news articles, including editing titles and jokes, uploading images, adjusting ranks, and sharing to X (Twitter).

### Components and Layout

#### 1. Active News Section

- \*\*Description\*\*: Displays the list of currently active news articles.

- \*\*Functionality\*\*:

- \*\*Field for Joke and Title\*\*:

- Allows administrators to enter a new joke or title for the selected news article.

- Saves the new title when the administrator presses the enter key.

- \*\*Image Button\*\*:

- Provides a button to upload an image for the news article.

- Once an image is uploaded, it is stored in AWS S3 and associated with the news article.

- \*\*Rank Number\*\*:

- Displays the current rank of the news article.

- Includes a `+` button to increment the rank number.

- \*\*Share to X Button\*\*:

- Each news article line includes an X button that shares the article automatically to X (Twitter).

- Allows administrators to edit the text and attach a photo before sharing.

### Interaction Details

1. \*\*Entering and Saving New Titles\*\*:

- \*\*Action\*\*: Administrator enters a new title or joke in the input field.

- \*\*Trigger\*\*: Pressing the enter key saves the new title or joke.

- \*\*Backend\*\*: The updated title or joke is stored in the database under the corresponding news article.

2. \*\*Uploading Images\*\*:

- \*\*Action\*\*: Administrator clicks the image button to upload a new image.

- \*\*Trigger\*\*: The image is uploaded and stored in AWS S3.

- \*\*Backend\*\*: The image URL is saved in the database and associated with the corresponding news article.

3. \*\*Adjusting Rank Numbers\*\*:

- \*\*Action\*\*: Administrator views the rank number listed next to each news article.

- \*\*Trigger\*\*: Clicking the `+` button increments the rank number.

- \*\*Backend\*\*: The updated rank is saved in the database.

4. \*\*Sharing to X (Twitter)\*\*:

- \*\*Action\*\*: Administrator clicks the X button next to a news article.

- \*\*Trigger\*\*: Opens a text editor to allow editing the share message and attaching a photo.

- \*\*Backend\*\*: Once confirmed, the news article is shared to X (Twitter) with the edited text and photo.

### Summary

The admin panel provides a comprehensive interface for administrators to manage the active news articles effectively. It allows for quick editing of titles and jokes, seamless image uploads, easy rank adjustments, and direct sharing to X (Twitter) with customizable messages and images. This functionality ensures that administrators can keep the news content engaging and up-to-date with minimal effort.