

Software Requirements Report (SRS)

Team 3

NewsVerse

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Overview

An overview of the application NewsVerse is to create an unbiased news platform where users can access a diverse array of sources, ensuring they receive a well-rounded view of current events. It can be referred to as unbiased as we are deriving the news from different sources. We plan to use AI semantic analysis on the news and filter it on the basis of biased or unbiasedness. By aggregating content from different APIs, the app delivers comprehensive news coverage across various categories such as national headlines, business, sports, international relations, weather, stock markets, technology, and art. With live updates and personalized content, users can stay informed on the topics that matter most to them, fostering deeper engagement with the news in a balanced and inclusive way.

Benefit

The creation of an application like NewsVerse is that it offers numerous benefits by providing an unbiased news platform that delivers diverse perspectives. With aggregating news from multiple sources, users gain insights into various viewpoints, counteracting echo chambers and encouraging critical thinking for a comprehensive understanding of complex issues. Utilizing AI semantic analysis to filter biased from unbiased content reduces the spread of misinformation and enhances media literacy, while integrating fact-checking sources empowers users to verify claims. NewsVerse also allows personalized content through customizable news feeds and live updates, fostering deeper engagement without overwhelming users. Interactive features, such as comments and polls, create a sense of community, while educational content helps users learn more about current events and their implications. Additionally, the platform promotes media literacy by ensuring transparency in reporting, helping users assess the credibility of news outlets. Covering a wide range of topics enhances cultural awareness and empathy, while its convenience as a one-stop platform simplifies the process of staying updated. Ultimately, NewsVerse significantly contributes to a more informed and engaged society by prioritizing unbiased reporting and diverse viewpoints.

Scope

News Verse will collect news from diverse sources across various categories, including national headlines, business, sports, international relations, weather, stock markets, and technology. It will utilize AI semantic analysis to filter content based on bias, ensuring users receive accurate information while promoting media literacy. The scope also includes features such as personalized news feeds, live updates, interactive components, and educational content that encourage user engagement and community building. Additionally, NewsVerse aims to enhance users' understanding of different perspectives by providing transparency in reporting and promoting cultural awareness. Overall, the scope defines the application's commitment to

fostering an informed and engaged society by prioritizing unbiased reporting and diverse viewpoints.

High Level Requirements

- Functional Requirements:
 - Provide Top News Stories in a banner like fashion:
 - When clicked a user will be prompted to a dropdown menu that has a summary of said news story and any additional sources that are related to that story linked.
 - Widgets:
 - Gives users the ability to choose from options like weather, stock price of any particular company, time zone information, etc.
 - Categories:
 - Varying news category options relating to different topics like Business, sports, technology, politics, etc.
 - Headline Page:
 - Clearly displayed headlines so that relevant information is accessible right to the eye.
 - Non Bias Summary Page:
 - Produce a summary section that is unbiased. This will be achieved by taking the news content from a variety of sources and using Chat-GPT API to create an unbiased summary.
 - Sources:
 - Display the different sources from which the news is collected and provide the links to those articles from the varying websites.
 - Real Time News Updates:
 - There is a bit of speculation on what is considered to be real time within our team. We are currently thinking of using a ticker that updates the news on the website every half an hour for it to be considered real time.
 - Search functionality:
 - A search feature by which a user can use tags or a few words to search for a specific news of their interest.
 - Bias Score:
 - A score that represents whether an article is left leaning, central, or right leaning. Bias is rated from **0-3** (left-leaning), **4-6** (neutral), and **7-10** (right-leaning).
 - Top Keyword List:
 - A keyword list with the top 10 keywords and a number score of how many times or how relevant the word is in given topic.

- Non-Functional Requirements:
 - System's Quality Attributes:
 - The website should be able to respond quickly to user requests, for example, page loading time should be within 3 seconds.
 - Backend services need to efficiently integrate and process data from different sources to ensure real-time and accurate data.
 - Optimize for high concurrency access to ensure stable operation even during peak user access periods.
 - Compliance and Legal Requirements:
 - Comply with relevant data protection regulations (such as GDPR).
 - Ensure that all news content and references comply with legal requirements for copyright and intellectual property.
 - Scalability
 - The website architecture should support both horizontal and vertical scalability to accommodate the increase in user volume and data volume.
 - Use modern technologies such as microservice architecture to independently expand different parts of the website.
 - Data Integration and Management:
 - Ensure that data integrated from various sources can be accurately classified, stored, and retrieved.
 - Implement efficient data caching strategies to reduce database pressure and improve response speed.
 - Disaster Recovery and Backup:
 - Develop and implement a disaster recovery plan to ensure rapid service recovery in the event of a data center failure.
 - Regularly backup website data and configuration to ensure quick recovery in case of data loss or damage.

Low Level Requirements

- High level Interface API Design
 - Front-end React
 - The communication with the backend will be via the REST API.
 - For the front-end design Material UI will be utilized.
 - The implementation of dynamic effect will be leveraged by GitHub
 - Data Design
 - The communication between front-end and back-end only involves reading the data from the database.
 - Each API endpoint follows the schemas of the tables in DynamoDB it requests. Validate the input and output to ensure it is aligned with the required formats.

- The APIs have to handle errors and return it with the corresponding messages when it occurs.
- Performance
 - Apply caching for frequently accessed endpoints and rate limitation to prevent over requesting to optimize performance.
 - Timeout limit on per API request.
- Testing
 - Perform unit testing and integration testing to ensure the quality of the endpoint and its operation.

Pain Points

ID	Pain Points
PP1	As a user I am overwhelmed with the amount of available resources and news content. I do not want to go to each and every news link to see repetitive news.
PP2	As a user I am confused with different propaganda based viewpoints over the same topics.
PP3	As a user I feel that most of the news pages I have viewed are overwhelming to the eye and give me anxiety on which news articles or topics to read.
PP4	As a user I would like to see the most read news sources so that I can keep up with the most popular stories and be conversational in them.
PP5	As a user I want to view the news and also want to view other information together such as weather, stock prices, and different time zones.
PP6	As a user, I want to avoid downloading too many apps on my phone. A simple News Website will be better.
PP7	As a user, a complex page structure can lead to very slow loading, a more simple structure could solve the problem.
PP8	As a user I want to avoid some emotionally appealing news such as finance or war as my day to day consists of emotionally heavy subjects.
PP9	As a user I want to quickly be updated on news by reading a simple summary for a topic rather than an entire article(s).
PP10	As a user I want to see some dynamic effects on the page which seems interesting and draws my attention to come back.

User Stories:

ID	Description of Requirements	Pain Point	Priority (high priority needed, good to have, additional feature)
R1	We will be providing news links to different websites for the same topic of the news. This allows a user to have a centralized place to view their information in an unbiased way that is achieved by providing different sources and not just one view point.	PP1, PP2 ,PP6	<i>High Priority - needed</i>
R2	We will group the articles into the different topics and provide the generalized summary associated with it.	PP2, PP6, PP9	<i>High Priority - needed</i>
R3	We will provide the Top News stories so that any user that goes on NewsVerse has a chance to catch up with the world instantaneously by being provided with summarizes.	PP4	<i>High Priority - needed</i>
R4	We will make a widgets section, where the users can choose from different types of widgets including the current stock prices for the preferred company, weather and time-zone of the preferred location, etc.	PP5, PP10	<i>Good to have</i>
R5	We will make the UI that is easy on the eyes and not too cluttered. With well defined places for different categories and a drop down component for each news in the categories with the summary and the sources for that news.	PP3	<i>High Priority - needed</i>
R6	We will design a simple page structure that doesn't require too much complexity to speed up uploads. We do not have advertisements for our website and will also make content shorter than what is on the original website.	PP7	<i>Good to have</i>
R8	We are providing unbiased news by	PP2, PP9	<i>High Priority -</i>

	combining all the perspectives from different news sources and generating a summary that covers all of the views.		<i>needed</i>
R9	We will provide a way for users to feel like they have a chance to make their own decisions on what kind of news they would like to be updated on. This will be achieved by creating news categories represented as widgets that a user has the ability to either select and read further or simply ignore without being exposed.	PP8	<i>High Priority - needed</i>