

Skills needed to complete the project:

- IBM NLU API understanding.
- IBM Knowledge Studio understanding.
- Understanding of web scraping techniques.
- Web Application Development Experience.
- Object Oriented Programming Design pattern understanding.
- Documentation.
- Environment and Language: Python, Django, Javascript, HTML, CSS, BeautifulSoup, IBM APIs, External Web scraping API.

Milestone 1: Object-Oriented Design and UsageAPI

- Yahoo Finances - Conversation and News
- Ceo.ca - Conversation and News
- MarketWatch - News (Update a few lines of code for my version to work)
- Reddit API update. (Use the link from the previous email for support)
- Twitter Scrapping update. (Use the link from the previous email for support.
- Choosing the right API for the cause provided in the diagram or new effective solutions are welcome too.

Milestone 2: IBM NLU

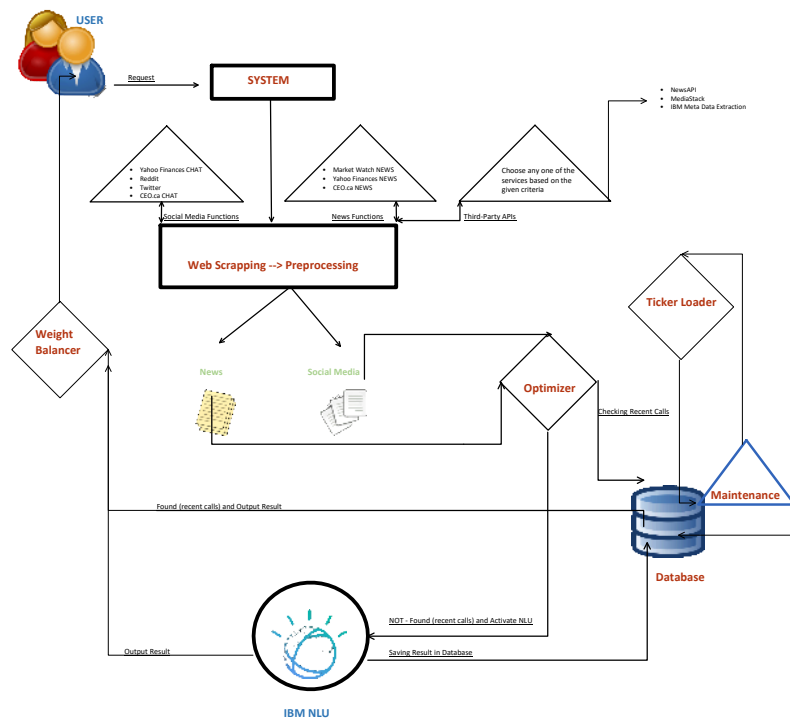
- Use the IBM NLU to use for sentiment analysis.

Milestone 3: Critical Functions

- Optimizer
- Ticker Loader
- Maintenance

Milestone 4: Putting Everything together

- Prepare the website based on the design.
- Provide documentation on how the project was completed and what steps need to be taken to upgrade it, how the functions are interacting with each other.



The whole project should be done using updated **efficient** OOP approach using Python, Django, JavaScript, HTML, CSS.
 The program should running locally in the device and there should be very small changes needed to run it in the web using preferably using IBM services.

Completed Task:

- Yahoo Finances - Chat
- Yahoo Finances - News
- CEO.ca - Chat
- CEO.ca - News

Partially Completed Task:

- MarketWatch News
 - o A bit of update required
- Reddit API https://github.com/marketsentiment/mslive_public
- Twitter API https://github.com/marketsentiment/mslive_public

Incomplete Task:

- IBM NLU
- **Critical Functions**
 - o Optimizer
 - o Ticker Loader
 - o Maintenance
- **Website**
 - o Login Page
 - o Homepage
 - o Selected Company Page
 - o Exploration Page

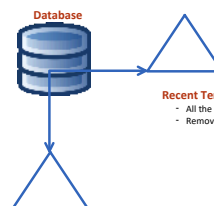
Third-Party APIs
 Choose any one of the services based on the given criteria

- Full Articles
- Several Sources (mainly financial)
- Real Time Data
- Easy Maintenance
- Pricing
- Expendable



The function is responsible for the following:

- Cleaning the SCRAPPED data from special or regular characters.
- Checking the **Recent Temporary Dataset** CSV files for that (requested company) and process the updated unprocessed articles/posts through IBM NLU to save cost of processing.



Recent Temporary Dataset

- All the requested company CSV files
- Remove any news older than 3 days from the CSV files.

Final Dataset

- All the requested company's CSV file with Predicted Sentiment
- Keep on saving the result.



The function is responsible for the following:

- Maintaining the database/datasets and making sure the designed database/dataset remains as designed.
- Use the **Ticker Loader** to download CSV file for the listed companies in the **Final Dataset** and add a column of the **closing value**.



The function is responsible for the following:

- **Ticker Loader** to download CSV file of the companies present in the **Final Dataset** and add a column of the **closing value**.
- This function should automatically activate everyday.

User Experience - Website

