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| CAB432 Cloud Computing – Semester 2 2019 |
| Assignment 1 Proposal |
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# Introduction

Reporial provides users the latest news information with an emotional analysis on the content. Utilising the NewsAPI, IBM Watson Natural Language Understanding and Google Charts, users can search articles based on any topic and be presented with a graphed information based on the emotions expressed in the article. Articles presented to the user can come from thousands of other news sources.

When a user searches for a topic, the website will automatically fill up with articles in a tile card format. Each card contains a headline, image, description and a graph displaying the emotional analysis.

### News API

<https://newsapi.org/>

The News API is a simple HTTP REST API for searching and retrieving articles live from all over the web. News API obtains articles from over 30,000 news sources and blogs for reporial to retrieve data.

Reporial utilises one API endpoint provided; *newsapi.v2.everything or https://newsapi.org/v2/everything,* which is used to search for articles based on a search query. This endpoint returns a maximum of 25 articles sorted by published date.

### IBM Watson Natural Language Understanding

<https://www.ibm.com/watson/services/natural-language-understanding/>

The IBM Watson Natural Language Understanding API is one of IBM’s Watsons machine learning API. It is used to process advanced text analysis and extract metadata from content such as concepts, entities, keywords, categories, sentiment, emotions, relations and semantic roles. Some of which can provide a score for the tone or a list of words that have great meaning for the user.

Reporial uses this API to analyse the emotion the article content and return a score between zero and one. Given the highest score is the emotion analysed in the content.

## Google Charts

<https://developers.google.com/chart/>

Google Charts is a JavaScript API used to display visualized data on websites, From simple line charts to complex hierarchical tree maps, google’s chart gallery provides a large number of charts that are ready-to-use. The charts are interactive and rendered using HTML5/SVG technology to provide cross-browser compatibility (including VML and older browsers) and cross platform compatibility to smartphones (iOS/Android).

Reporial includes the library within the client-side and is obtained via CDN. The charts values are displayed when articles have been analysed and the web page has completed loading.

# Use Cases

## Use Case A

***As a news reader, I want to search for articles based on a topic and see an analysis on each article so that I can see a visual representation of the specific article analysis.***

User ….

## Use Case B

***As a news reader, I want to search for articles and see a listed view of the articles returned including the image, headline, source, and description so I can get an insight on the story.***

User …

## Use Case B

***As a news reader, I want to identify the emotion of each article***

User selects an analysis button (words, phrases, relations, entities, meaning) and data will be displayed underneath the content

# Technical Breakdown

NewsTube will be designed to keep client-side processing to a minimum, this is to ensure all heavy processing is completed on the server side, with responses being optimised and filtered before being sent back to the client.

The first stage will involve processing the news articles and render them on the client side. The second stage will involve searching YouTube related to the news topic and displaying them on the page. The third stage will involve analysing the news content and displaying the data.

## Server side

All API calls are processed on the server side using the GET request to get data in JSON format. POST request will be used to send text to TextRazor for analysis.

All of the data obtained from the API will be mashed together using Javascript and will create new html tags to be sent to the client.