

Sentiment Analyzer

Breaking down live twitter feed into simple representations.

Document Version:
1.0

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1 Document Revision History

The revision history shows the history for this Business Requirements Document and provides descriptions of particular changes made.

Date	Version	Section/Page	Update Description	Contact Name
24 th July, 2014	0.1	All		Karun Thankachan Kruthika Ved

2 Document Approval History

The section tracks the review and approval of this Technical Design Document. This is also the list of who has authority to approve changes in the document.

Name	Role	Date	Responsibility

3 Scope of the Design

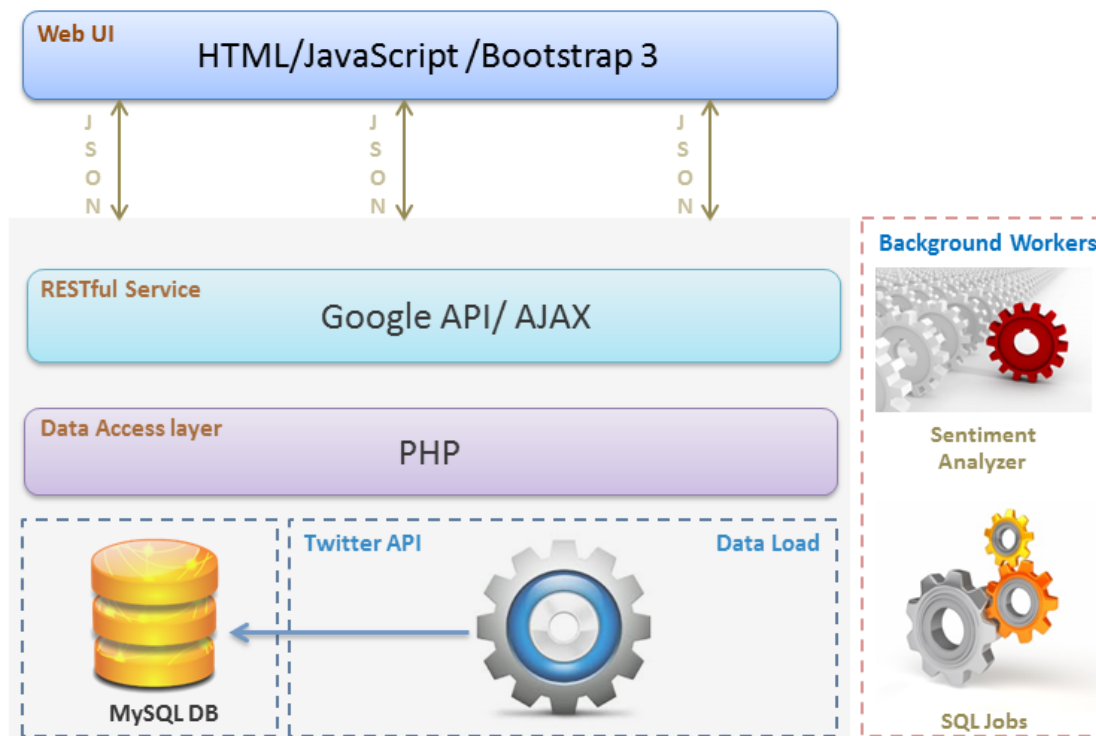
An NLP based analysis of social networks, customer survey and feedback to get the sentiment towards various Dell products / services.

The end result is that huge amount of data is broken into easily interpretable representations like graphs and heat maps, helping to better respond to customer reviews.

4 Application Architecture

The following diagram depicts the architecture of this initiative. The tweets gathered via Twitter API are passed to the database after some initial filtering (via python). This data is accessed by PHP on AJAX request triggered by the User. The data is filtered by Google APIs or custom APIs to obtain necessary JSON sent to the client side.

The sentiment analyzer, the core of the project is run as a sub-process by PHP on certain request to generate necessary data. The architecture framework utilized is client-server architecture to reduce load on the server and divide part of the work onto the client side.

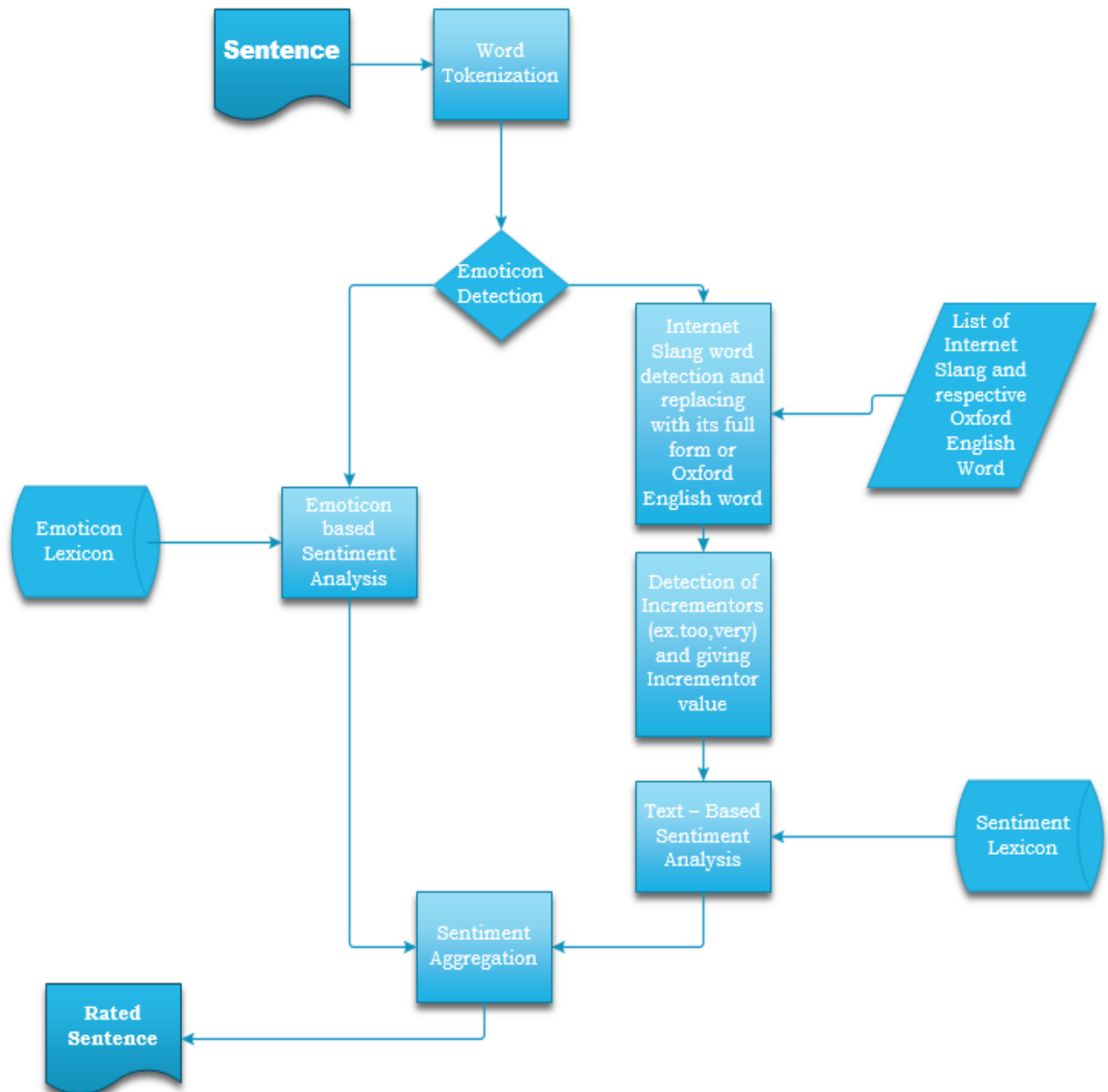


5 Technologies

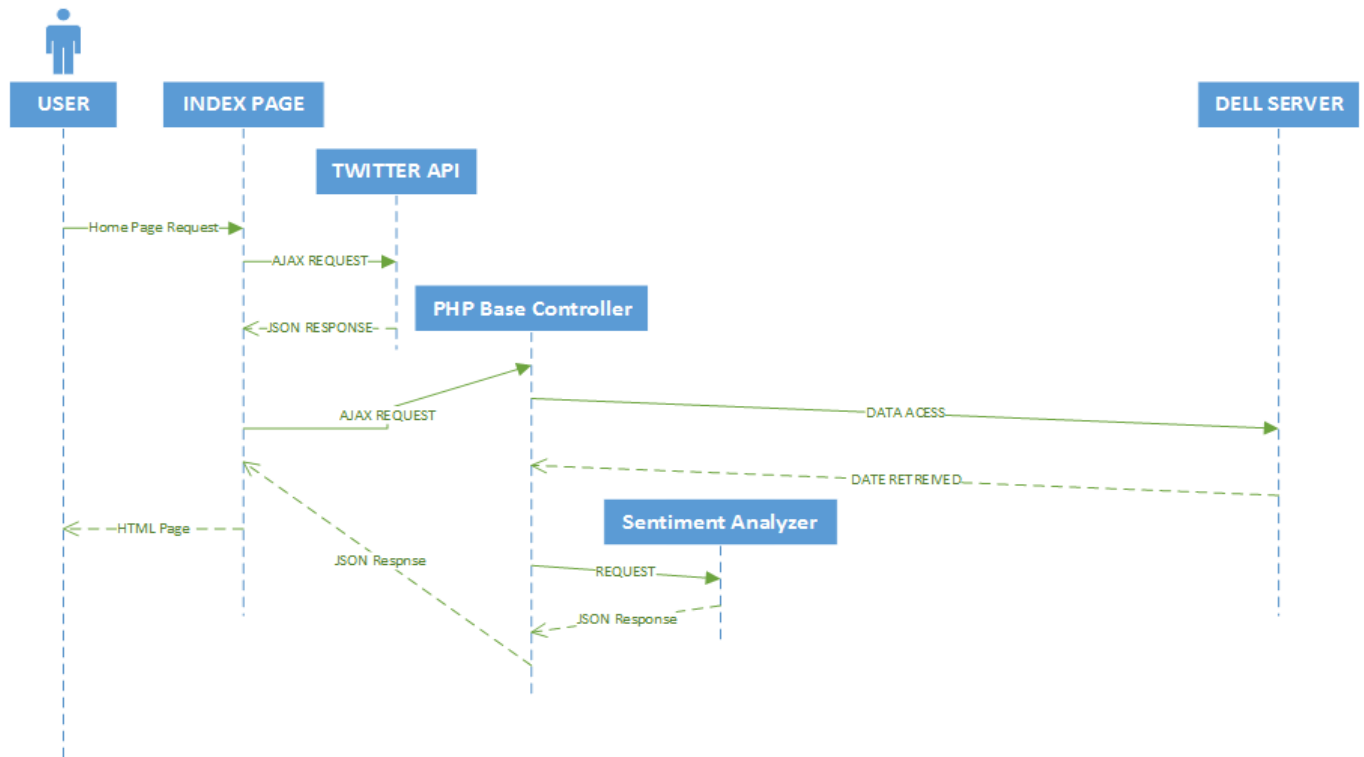
- NLTK -- Text Processing
- SentiWordNet -- Word sentiment
- Google Maps JavaScript API v3 Geocoding Service -- Resolving location of tweet
- Twitter API -- Collecting data
- Google Chart API – for making Graphs
- HTML5
- CSS (Bootstrap)
- Python

6 Design

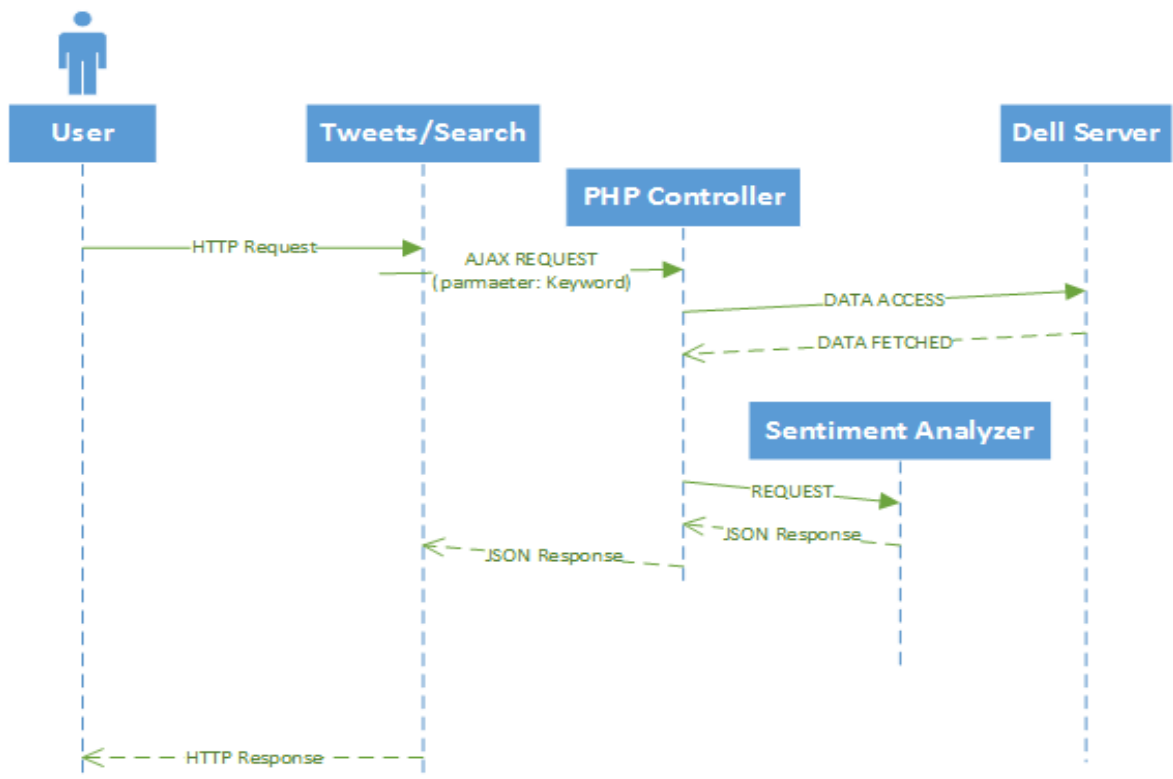
6.1 Sentiment Analyzer Design



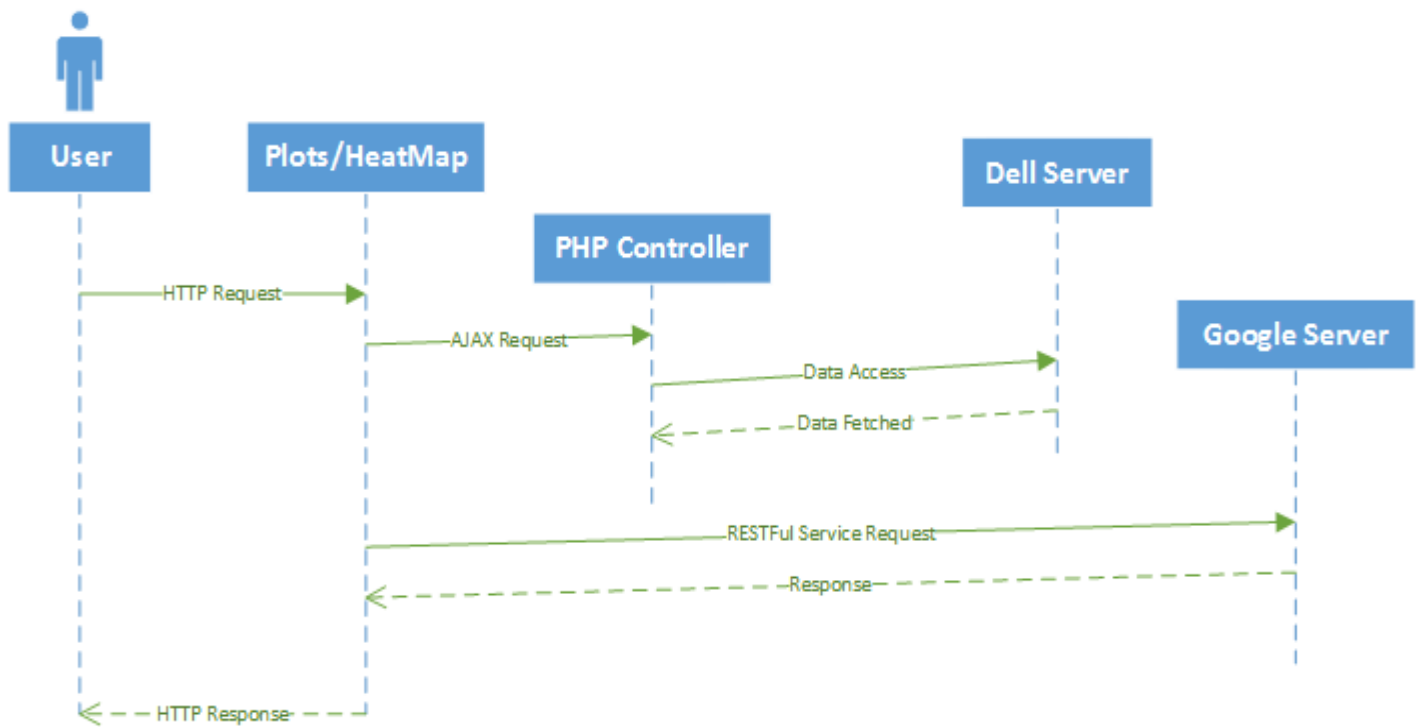
Web UI design



Index Page Sequence Diagram



Tweets/Search Page Sequence Diagram

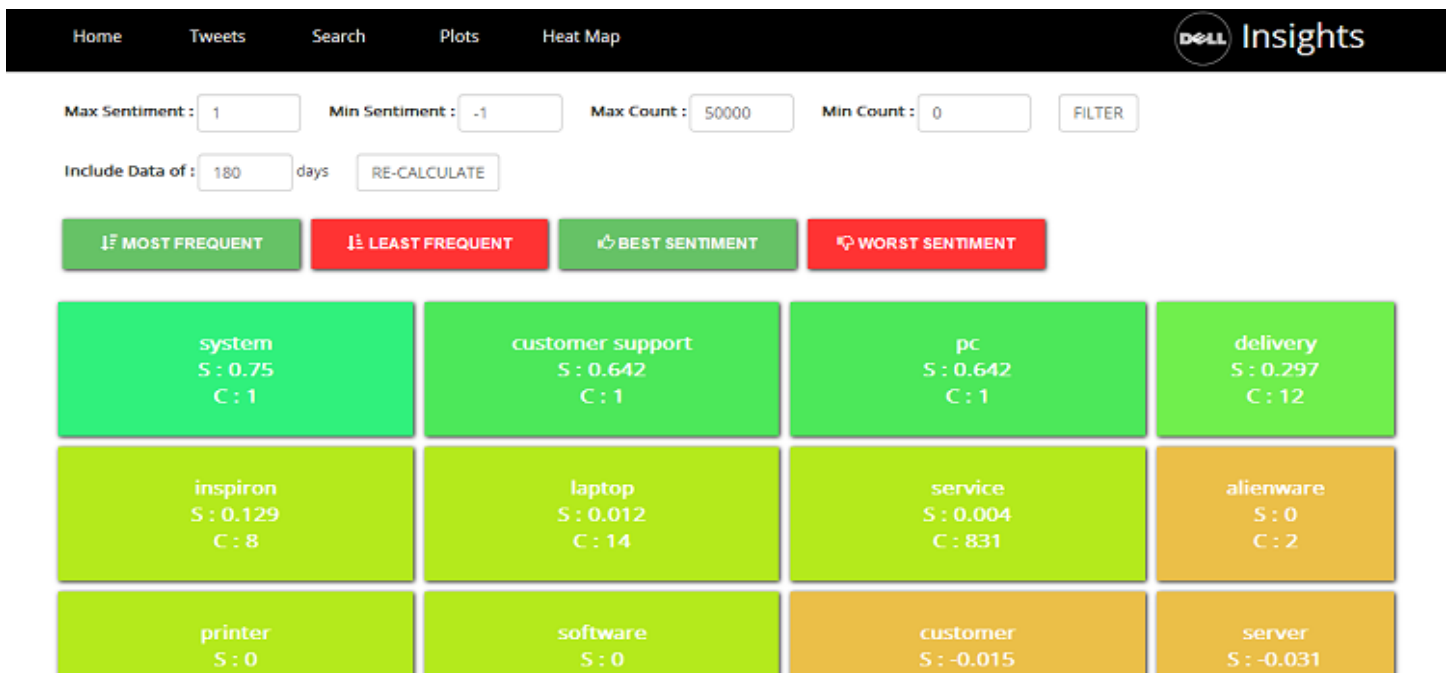


Sequence Diagram for Plots and HeatMap pages

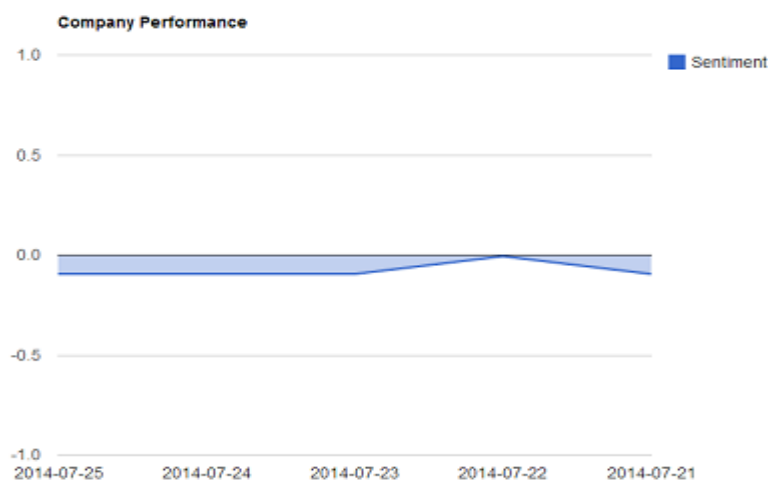
7 Business value

- Huge amount of data broken into easily interpretable representations, helping to better respond to customer reviews.
- Improve customer relationship, thereby bettering NPS and brand value
- Real-time control-center representation of data, to monitor during major announcements.

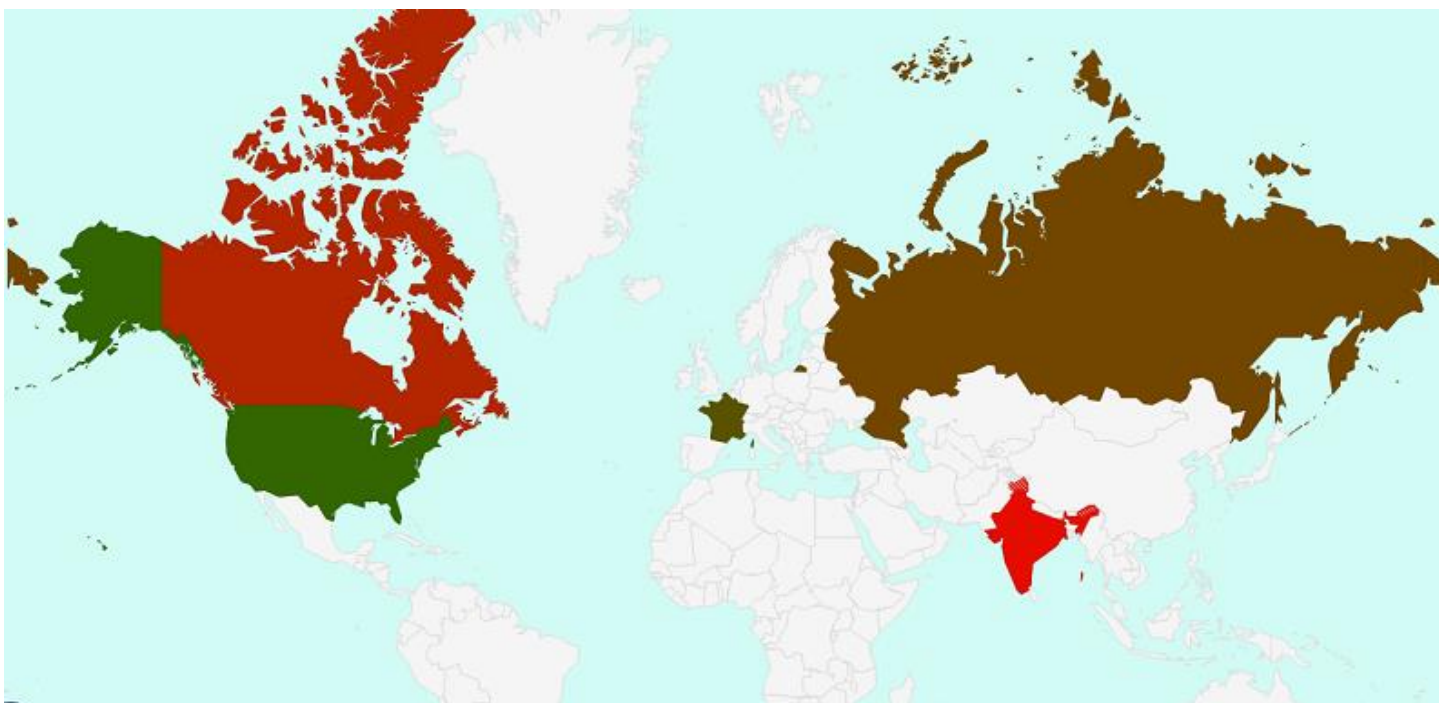
The One-Shot Views are depicted as follows



Keyword-specific sentiment



The company performance



The sentiment on the company on a global scale heat mapped from red to green

The entire project code is available on Github

<https://github.com/DCSGInterns/NLP>