Sentimental Analysis of Various News Channels based on Health Tweets

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Sentiment Analysis?

Identifying and categorizing opinions expressed in a piece of text, especially in order to determine whether the writer's attitude towards a particular topic, product, etc., is positive, negative, or neutral.

Problem Statement

To filter health news twitter data on basis of news channel, year, keyword and further perform sentiment analysis on filtered data.

Why Trending?

Widely used in areas like:

➔ **City Planners, Business manager and Social Scientists**

Strategic Planning and Decision Making

➔ **Analyst**

Improve advertisement strategies and Reputation.

➔ **Government**

Monitor people reactions on significant events.

How it works?

- Assess the polarity of comments, highlighting the emotional state (joy, pain, disgust, anger).

- The emotional state is visually represented in the form of graph.

Model

- **Data Harvesting**: Extracting information from popular news channels.
- **Analysis**: Based on keyword extraction, clustering and sentiment analysis.
- **Data Visualization**: Generates graphs for visualizing the analysed results.

SENTIMENT ANALYSIS

Topic	Mediterranean migrant shipwreck
Comment	Poor migrants, I feel really sorry
Polarity	Negative
Polarity%	88%
Terms	Poor, feel sorry
Sentiment	Sadness, Compassion

Data Set:

cbchealth - Notepad

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```
586266687948881921|Thu Apr 09 20:37:25 +0000 2015|Drugs need careful monitoring for expiry dates, pharmacists say http://ww
586266687017771008|Thu Apr 09 20:37:25 +0000 2015|Sabra hummus recalled in U.S. http://www.cbc.ca/news/health/sabra-hummus-
586266685495214080|Thu Apr 09 20:37:24 +0000 2015|U.S. sperm bank sued by Canadian couple didn't verify donor info, executi
```

bbchealth - Notepad

File Edit Format View Help

```
585978391360221184|Thu Apr 09 01:31:50 +0000 2015|Breast cancer risk test devised http://bbc.in/1CimpJF
585947808772960257|Wed Apr 08 23:30:18 +0000 2015|GP workload harming care - BMA poll http://bbc.in/1ChTBRv
585947807816650752|Wed Apr 08 23:30:18 +0000 2015|Short people's 'heart risk greater' http://bbc.in/1ChTANp
```

- Health news data from more than 15 major health news agencies such as BBC, CNN, and NYT is used.
- Each line contains tweet id|date and time|tweet.

Implementation Tools

- **Back end**
  SQLite
- **Front end**
  Javascript, HTML, w3.css
- **Library**

  D3.js, TextBlob
- **Server Side**

  Python with Bottle.py framework

Application Criteria:

- **Input**: Channel Name, Year, Health Topic
- **Output**:
  - **->** Grid: Year and Tweets
  - **->** Graph: Positive, Negative & Neutral Polarity

Pseudocode

1. Initialize health news channel tweets dataset.
2. Populate Channel Name and Year.
3. Enter Channel Name, Year, Keyword.
4. Filter table on basis of Channel Name.
5. Filter records such that Year and Keyword are contained in DateTime and Twitter Text column respectively.
6. Display filtered records in grid.
7. Perform Sentiment Analysis using TextBlob on filtered records.
8. Display sentiment polarity via histogram.

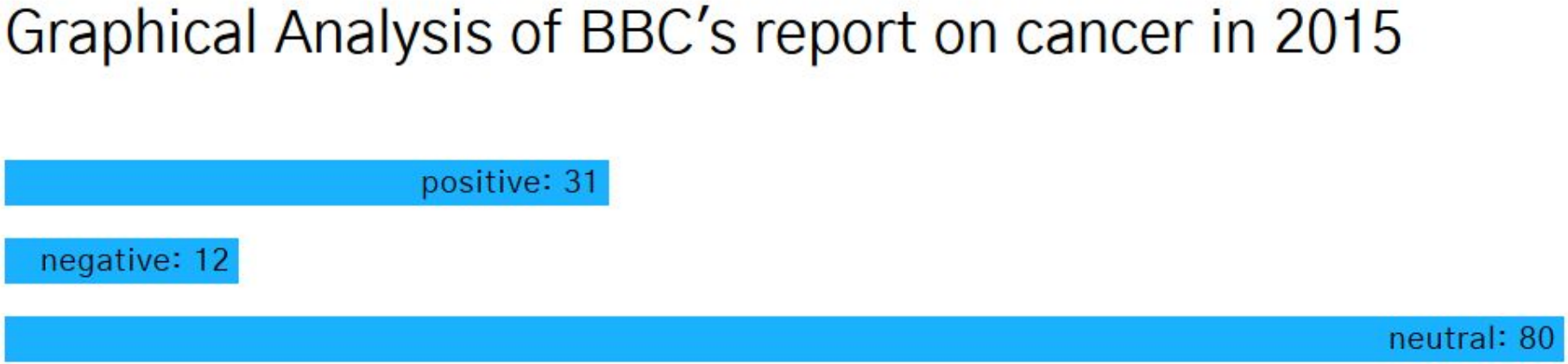
Input:


Sentiment Analysis based on news channels and health
Select channel:
BBC
Select year:
2015
Enter a topic
cancer
SUBMIT

Grid Output:

Date and time	Tweets
2015	Breast cancer risk test devised http://bbc.in/1CimpJF
2015	VIDEO: Skin cancer spike 'from 60s holidays' http://bbc.in/1C9Gy3o
2015	Skin cancer 'linked to holiday boom' http://bbc.in/1Pb4Xjb
2015	Personal cancer vaccines 'exciting' http://bbc.in/1ENwsMD
2015	Fitness linked to lower cancer risk http://bbc.in/1M849wo
2015	Preventive surgery for cancer genes http://bbc.in/1Gcd0IA
2015	VIDEO: Could cannabis oil cure cancer? http://bbc.in/1DPcgcE
2015	Ashya King 'free of brain cancer' http://bbc.in/1G3XMW6
2015	MPs criticise England cancer services http://bbc.in/1HFzjoP
2015	Frankie the dog 'sniffs out cancer' http://bbc.in/1COjVHM
2015	VIDEO: 'Cancer target missed for 20,000 people' http://bbc.in/1KiQ26q
2015	Cancer drug patient's England move http://bbc.in/1EIZifB
2015	The blind breast cancer detectors http://bbc.in/1BCWyAe
2015	NHS misses a year of cancer targets http://bbc.in/1AEAyVK
2015	VIDEO: Lung cancer breath test trialled http://bbc.in/1Jde9L4

Visualization Output:



Thank You !!!