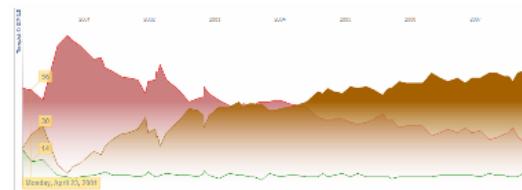


Thank you!



twiStA

Twitter Sentiment Analysis

An Evolution Timeline Sentiment Analysis in Politics Microblogging.



- Keywords:
- Microblogging:
- Twitter.
- Linked Open Services.
- Machine Learning
- Sentiment Analysis.



Client



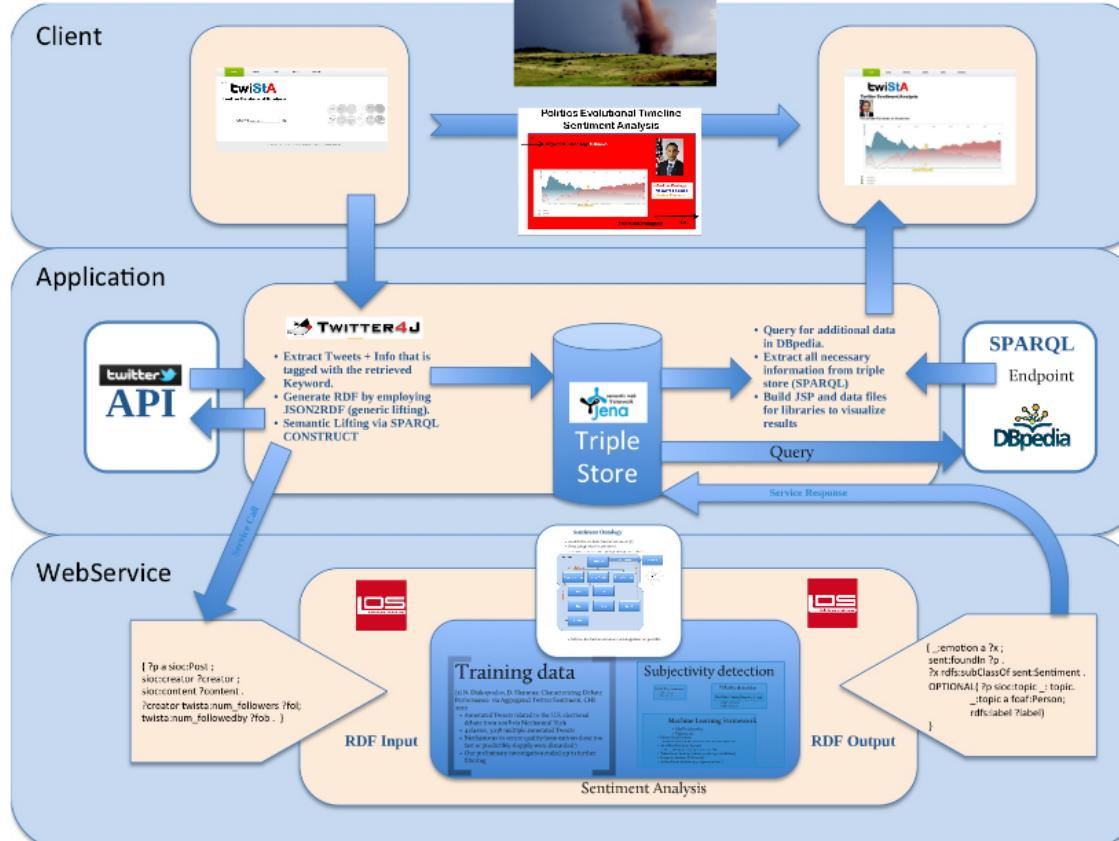
Politics Evolutional Timeline
Sentiment Analysis



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• Microblogging
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Thank you!

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Twitter Sentiment Analysis

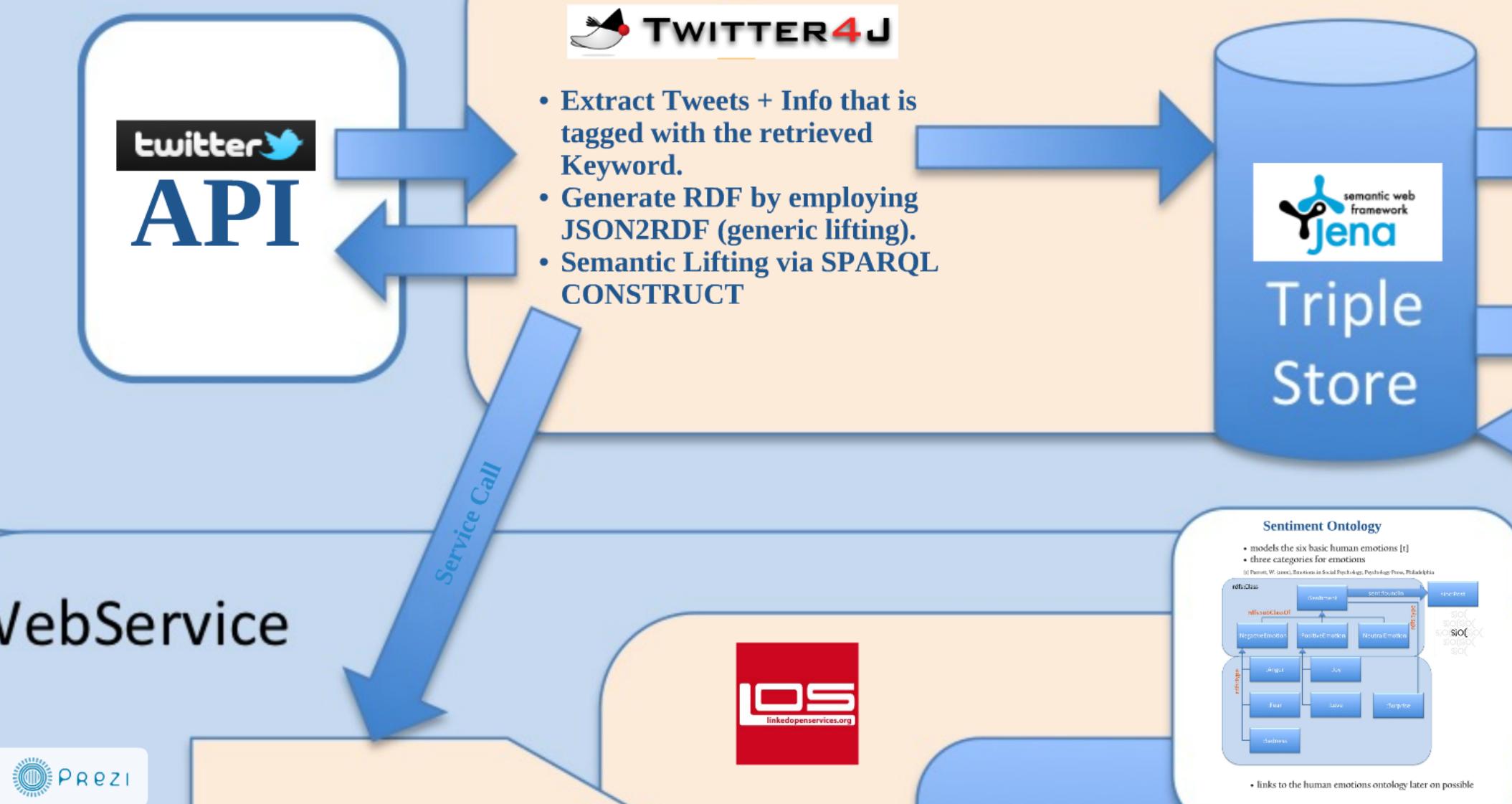
Keyword:

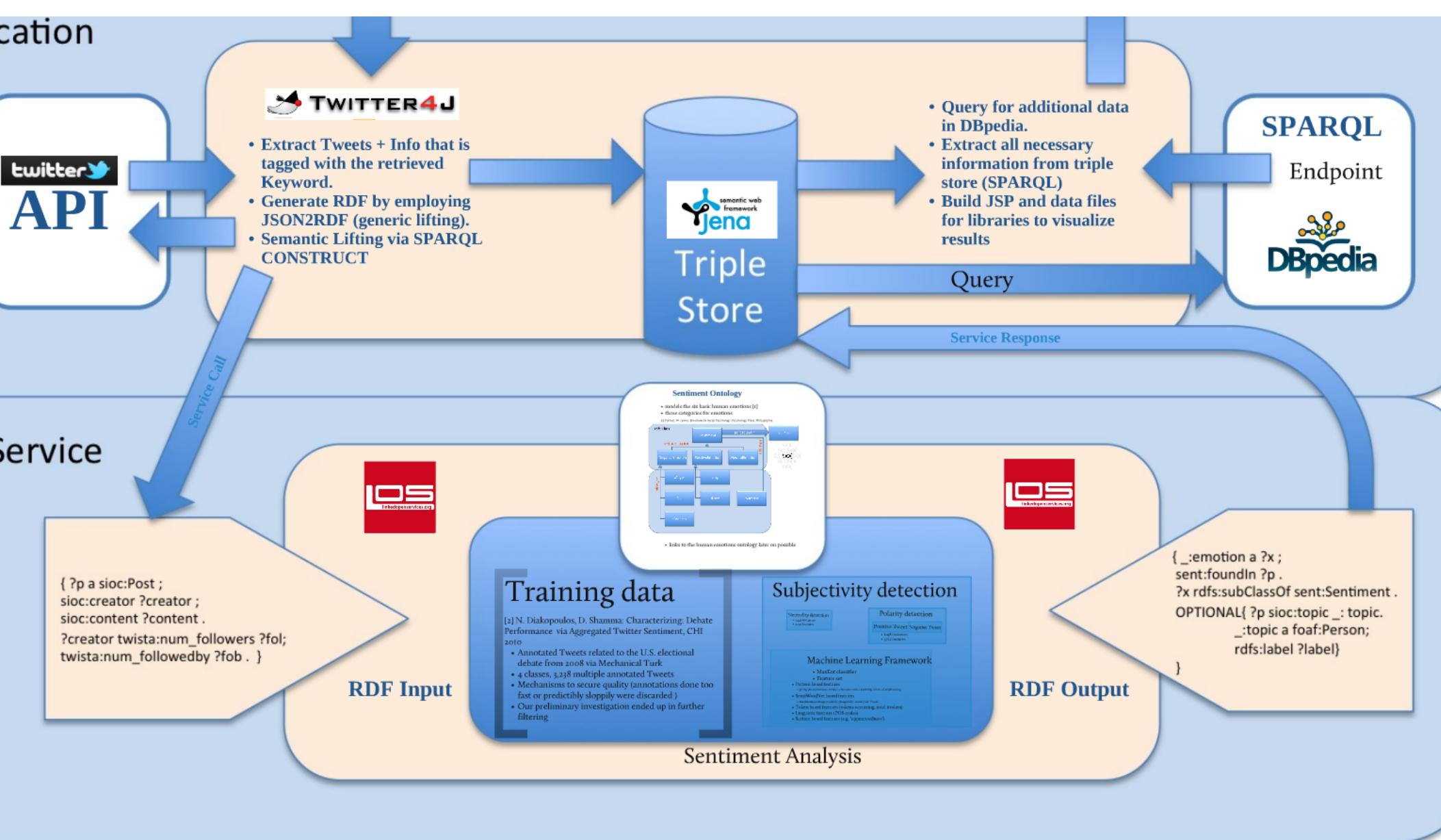
GO



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pplication





WebService

Service

```
{ ?p a sioc:Post ;  
    sioc:creator ?creator ;  
    sioc:content ?content .  
    ?creator twista:num_followers ?fol;  
    twista:num_followedby ?fob . }
```



RDF Input

Training data

[2] N. Diakopoulos, D. Shamma: Characterizing: Debate Performance via Aggregated Twitter Sentiment, CHI 2010

- Annotated Tweets related to the U.S. electoral debate from 2008 via Mechanical Turk
- 4 classes, 3,238 multiple annotated Tweets
- Mechanisms to secure quality (annotations done too fast or predictably sloppily were discarded)
- Our preliminary investigation ended up in further filtering

Subjectivity detection

Neutrality detection

- 2445 instances
- 4292 features

Polarity detection

Positive Tweet Negative Tweet

- 1938 instances
- 3722 features

Machine Learning Framework

- MaxEnt classifier
- Feature set
- Pattern based features
 - giving pluses/minuses, smileys, character-runs, retweeting, forms of emphasising
- SentiWordNet based features
 - maximum/average positivity/negativity scores per Tweet
- Token based features (tokens occurring, total #token)
- Linguistic features (POS-codes)
- Surface based features (e.g. 'uppercasedness')

R



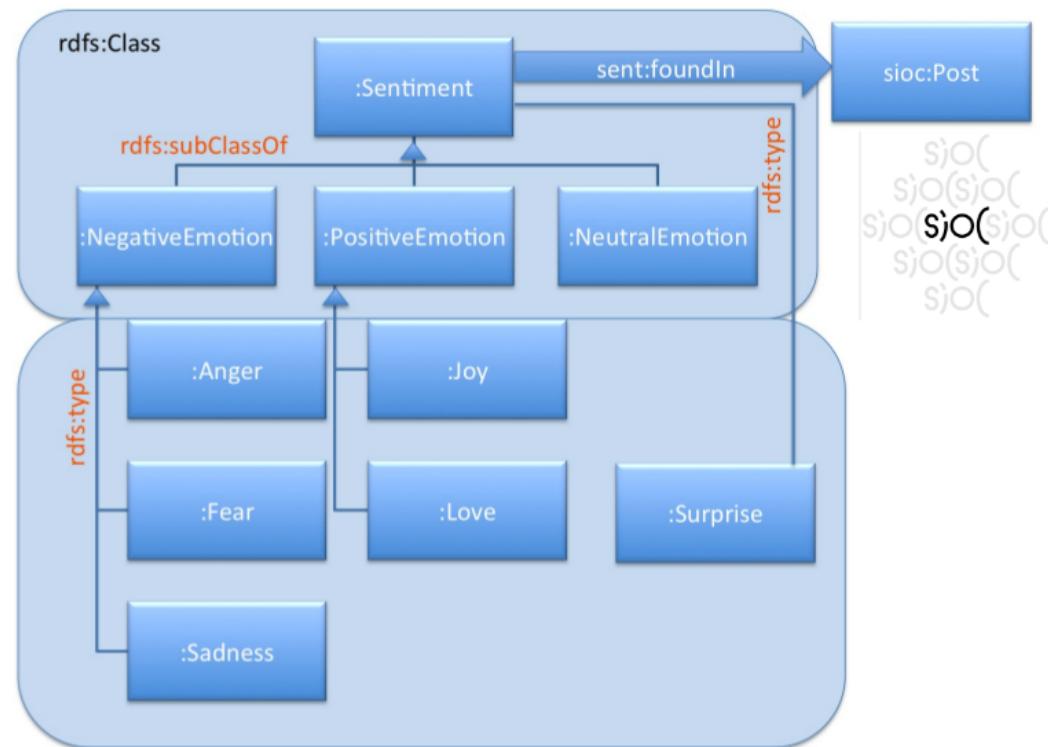
RDF Output

```
{ _:emotion a ?x ;  
  sent:foundIn ?p .  
  ?x rdfs:subClassOf sent:Sentiment .  
  OPTIONAL{ ?p sioc:topic _:topic.  
            _:topic a foaf:Person;  
            rdfs:label ?label}  
}
```

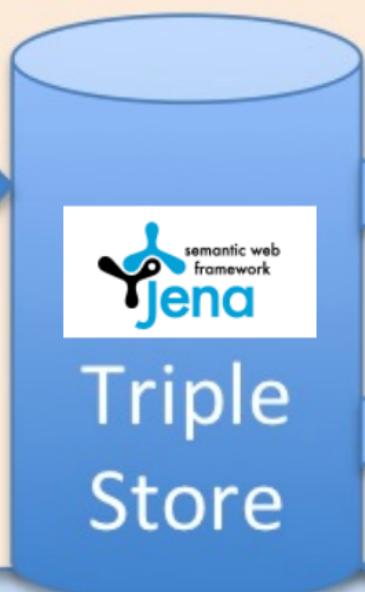
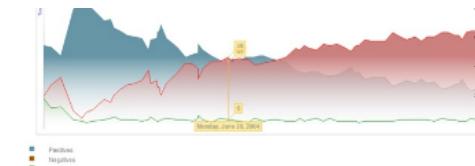
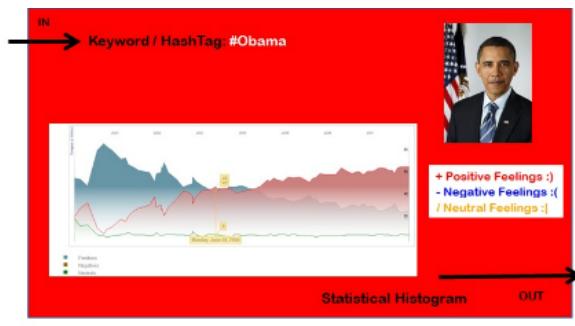
Sentiment Ontology

- models the six basic human emotions [1]
- three categories for emotions

[1] Parrott, W. (2001), Emotions in Social Psychology, Psychology Press, Philadelphia



- links to the human emotions ontology later on possible



- Query for additional data in DBpedia.
- Extract all necessary information from triple store (SPARQL)
- Build JSP and data files for libraries to visualize results

Query

SPARQL
Endpoint

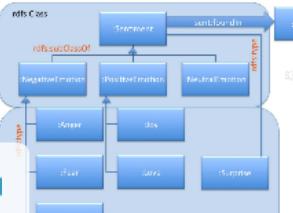


Service Response

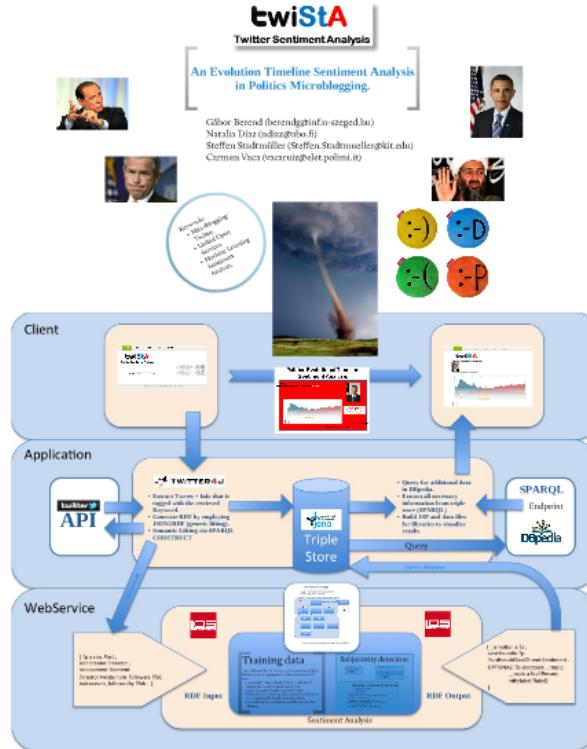
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Thank you!

