PreTrender

Application to predict the future of trend patterns.

Concept

- 'History repeats Itself"
- Prediction is an abstract thought but computation is the closest we can get to the future.
- Any entity with a web presence is predictable.
- Entity's trend is proportional to people's perception of it expressed in the form of comments, blogs and tweets.

Overview

- Pretrender is a mobile based application .
- The user can input any topic with a web presence.
- It generates entity's trending score on any date in the future.
- The basis of prediction is entity's past trend pattern expressed as a function of sentiment score evaluated using tweets.

Components

- Interactive Session
- Tweet Fetching
- Sentiment Evaluation
- Graph and Data constriction
- Prediction
- Application

Interactive Session

- Application just a simple Interface.
- Server takes in input via UDP connection.
- Session remains active till the end of computation.
- Application can be made faster only by increasing processing speed of server.

Fetching

- Uses authentication keys to fetch real time tweets about queried entity.

- For purpose of sample computation we take 50 tweets per day over last two months.

- Tweets are then filtered for language, hyperlinks and repetitions.

- Twitter, Query and Queryresult.

Filtering Using Regex

"RT|@.*?\\s|(?:^|[\\W])((ht|f)tp(s?):\\/\\//|www\\.)"
+ "(([\\w\\-]+\\.){1,}?([\\w\\-.~]+\\/?)*"
+ "[\\p{Alnum}.,%_=?&#\\-
+()\\[\\\]*$~@!:/{};']*)"

```
*******************************TWEET:43*******************************
*eats Cadbury Oreo*
**************************************************************************
*******************************TWEET:44*******************************
 Another for the list: Cadbury owner paid no UK corporation tax last year
 #taxdodger #parasite
**************************************************************************
*******************************TWEET:45*******************************
"WEST COAST'S CADBURY"
A  gorgeous Chocolate  Male who carries Blue & Cream!!  Susan Traffas
**************************************************************************
*******************************TWEET:46*******************************
the person that decided to put Double Decker bars in the Cadbury's selection
box's is my hero
**************************************************************************
*******************************TWEET:47*******************************
I feel like Cadbury wouldn't have invented fruit and nut dairy milk if they
wanted me to be thin
**************************************************************************
*******************************TWEET:48*******************************
#Christmas #food #shopping pick up 8 medium Satan Cadbury Selection Box
**************************************************************************
*******************************TWEET:49*******************************
should have ate cadbury eggs today
**************************************************************************
*******************************TWEET:50*******************************
Cadbury owner defends avoiding tax bill despite sales of £2 billion via
@ExpressAndStar
**************************************************************************
```

Sentiment Evaluation

- Stanford Core-NLP Sentiment library.

- Annotation, tokenization, parsing and calculation.

- Sarcasm Removal

Sarcasm

- *I have a computer, a playstation & pizza delivery. Why the hell should I leave the house?*
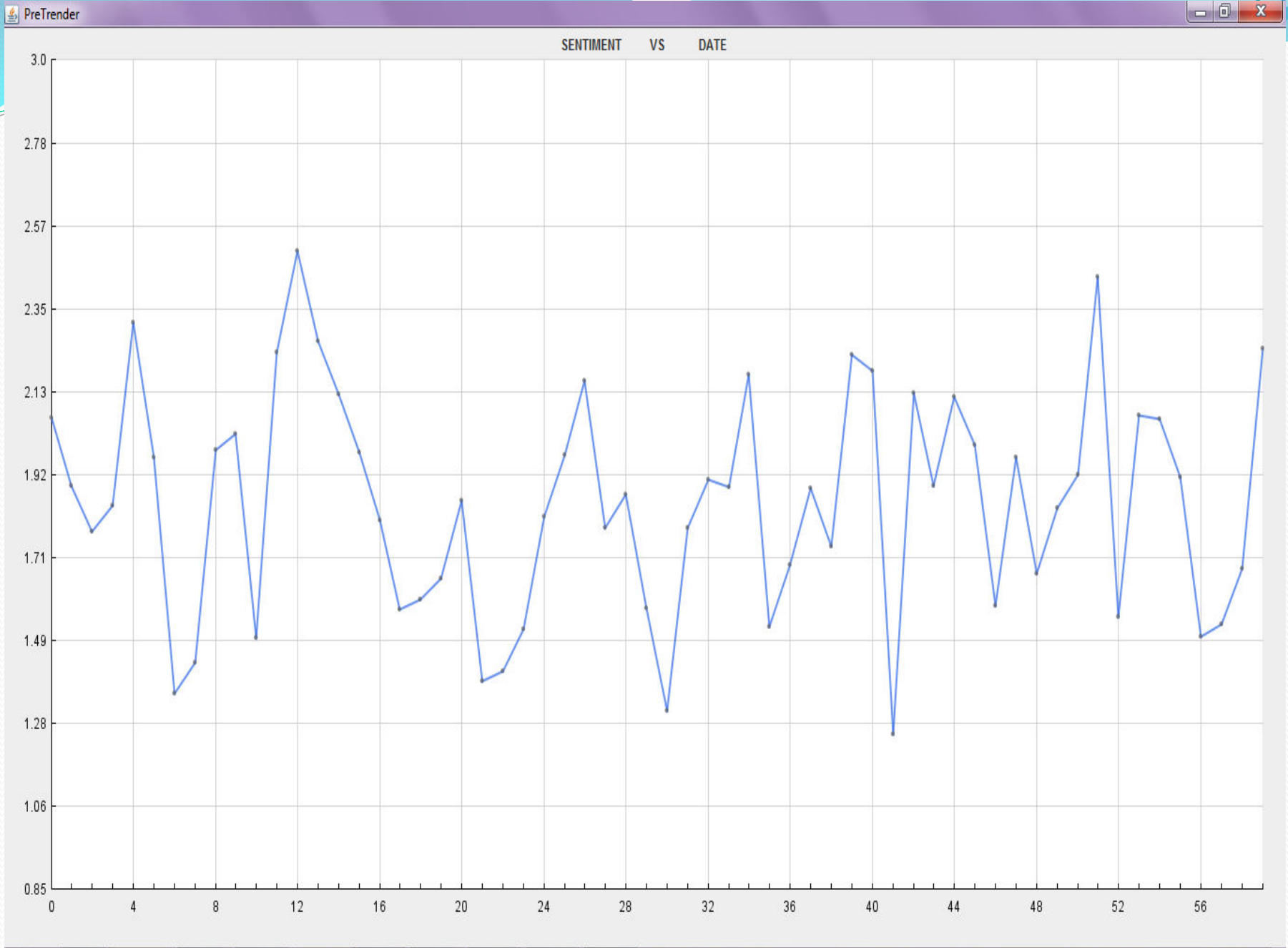
-Negative by Stanford Core NLP

- *I've found Lord. He was behind the sofa the whole time.*

-Positive by Stanford Core NLP

Graph and Data Constriction

- A total of around 2000 sentiments are constricted to 60 values, per day a sentiment.

- Exponential Weight Moving Average.

- Plotting of graph using swing and canvas java classes.

Prediction

- Langrange's interpolation to make the graph continuous.

- Graph divided into smaller fragments to get slopes.

- Extrapolation using slope comparison.

Application

- Application is just an abstract interface.

- Loading time proportional to server speed.

- Multithreading used to run UI and keep session active.

- Server can handle multiple requests using one thread for each client.

Demo

- Real time
- Log Files
- Application

Scope

- Lagrange's Interpolation

- Processing Speed

- Anomalous graph

- Language filtering