## IMPLEMENTATION

**Data Access**

**Registering an application**

The first and foremost step is to register as a user and then create an app. Twitter requires users to create an app to use its APIs. It uses Open Authentication or OAuth to grant access to its APIs and data under certain terms and conditions. An app can be easily created by following these steps:

1. Log in to the app management console at <http://apps.twitter.com>.

2. Once logged in, click on the Create New App button. Fill up the required fields, you may provide the callback URL .

3. Click on Create Your Twitter Application to complete the process. Once done, you'll be redirected to the app details page which will contain the required details for connecting to it.

4.Our application is ready to use.We ger secret tokens and access tokens that are used to connect with twitter.

**Connecting with twitter**

We then connect with twitter using ROAuth package with giving consumer secret and token . Once authentication is completed. Connection is successful.

**Extracting sample Tweets**

Now that we are connected to Twitter using R, the logical next step is to start using the APIs. In this section we will try to extract some sample tweets for any user. We will also see what attributes a tweet contains like favourite count,number of retweets etc.

### Data processing and normalization

The tweets extracted are not directly used to analysis.Rather the tweets are preprocessed .For preprocess in R we have packages like tm, lubridate ,data.table etc.

After preprocess data takes the form a table which is ready to use for analysis.

### Data Analysis

**Sentiment analysis**

Twitter timelines are the new battlegrounds for brands,s and organizations to fight it out and present a winner. Twitter is also a place where users usually rant about their disappointments or share their happiness. The dynamics of human interaction and our urge to share opinionated views on wide ranging topics, from cat pictures to wars and everything in between, have reached an altogether different level.

**Key concepts of sentiment analysis**

The following are the key concepts/terms in context of sentiment analysis. Subjectivity The dictionary meaning of the word opinion is a view or a judgement formed about something, not necessarily based on facts. In simpler words, an opinion is a reflection of our beliefs irrespective of what the facts are. Therefore, subjectivity is an expression of our sentiments/opinions about things, people and so on. Subjectivity is the reason why some people like a particular product while others do not. Subjectivity or subjective texts are a core concept behind sentiment analysis. Subjective texts are of importance to the field of sentiment analysis for the reasons stated preceding. Subjective sentences/texts of the form I love reading books express positive sentiment as opposed to objective sentences like Twitter is a social network which simply states a fact. Sentiment analysis is broadly an analysis of subjective texts to understand the overall emotions expressed. Sentiment polarity For analytical purposes we usually assign a score or a label to the entity of interest. In the case of sentiment analysis, we usually assign a score to each of our subjective texts or words on a continuous or discrete scale (say between -5 and +5) to mark the degree of sentiment. Usually, negative scores denote negative sentiments with extreme negative values denoting very negative sentiments, and the opposite for the positive side of the scale. A score of 0 denotes neutral sentiment. Sentiment polarity may also work based on class labels like liked versus disliked (say a movie review system). The use of polarity scores or labels depends on the use case at hand usually