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INM433 Visual Analytics Individual coursework submission:  
Visual Analytics analysis of Pro-Isis Twitter messages

By Niall Larkin

# Motivation, data and research questions:

## Motivation for study and domain specific research questions for investigation:

The motivation for this study is to characterise pro ISIS supporter behaviour on Twitter. As a result three pertinent research questions come to the fore:

1. Who are the main individuals within the ISIS social media network
2. What are the main topics of discussion within this group over time in particular topics of propaganda will be assessed for this analysis.
3. What are the sentiments of this group towards these Propaganda specific topics over time

This analysis is pertinent as it will detail if ISIS’s is consistent with the types of Propaganda it generates over time or whether or not there is pattern where the Propaganda topics they utilise change over time or if they remain static overtime.

## Data suitability:

A Kaggle dataset ‘How ISIS Uses Twitter’ [1] is being used for this analysis. The dataset is appropriate as it consists of scraped Tweets of Pro-Isis twitter users from after the November 2015 terrorist attacks in Paris to April 2016. This data has also already been used to assess ISIS twitter behaviour in academia prior to this as well [2].

## Data Transformations

Three specific data cleaning operations need to be performed on this dataset prior to use:

1. Some of the twitter messages are >140 characters which does not make sense as all tweets have to be 140 characters or less[xx]
2. Some tweets are in Windings and need to be removed.
3. Blanks are present in the geotags section and need to be filled in as N/A.

Two specific research questions where assessed using this dataset:

1. Social Network Cluster analysis. This is done to assess who are the most significant users in the Pro Isis Twitter network.
2. Sentiment analysis: What are the main topics of these users and what is the sentiment towards them.