Twitter Project
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Final Report for the "World Cup Final 2014" Twitter Dashboard

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Introduction

With the increasing number of Internet users in our modern technological world, a platform to communicate our thoughts and beliefs to the world was developed. This development was named Twitter. Twitter is a social media website where people express their thoughts and comments on certain topics as tweets, and these tweets can be shared with your followers and/or to the world. Other Twitter users can then share your tweets, create their own tweets, and comment on anyone else's tweet, creating a connected platform. Until now, it has served its purpose well, but there are times when users want something more theme oriented and user specific. This orientation is desired with the data Twitter has provided with its myriad number of users. A dashboard must be created.

A project task was assigned by the University of Twente to its students to form a team of 6 members and to construct a working dashboard as an extension to the Twitter website. The dashboard will be created for the purpose of benefiting football fans, as it will be using a data collection of tweets regarding the FIFA World Cup 2014. A demo of the finished product will then be presented to showcase the features to the client. The project will not be used for beneficiary reasons outside the academic environment created by the University of Twente, and the dashboard is not meant for profit. The sole purpose of this team experience is to prepare the university students for a real working environment they may possibly encounter in the future.

Stakeholders

Client: University of Twente
    Contact Persons: Maurice van Keulen
Developers: University of Twente Students
    Contact Persons: Andrei Bercea, Christopher Colomb, Georgi Kanev,
    Julian Navarro di Pasquale, Maika Rabenitas, Vishva Sundarapandian Raani
End Users: Football fans interested in following the World Cup Final 2014 tweets
Interviewee (End User) : Eduard Boza (student, person interested in the World Cup Final 2014)

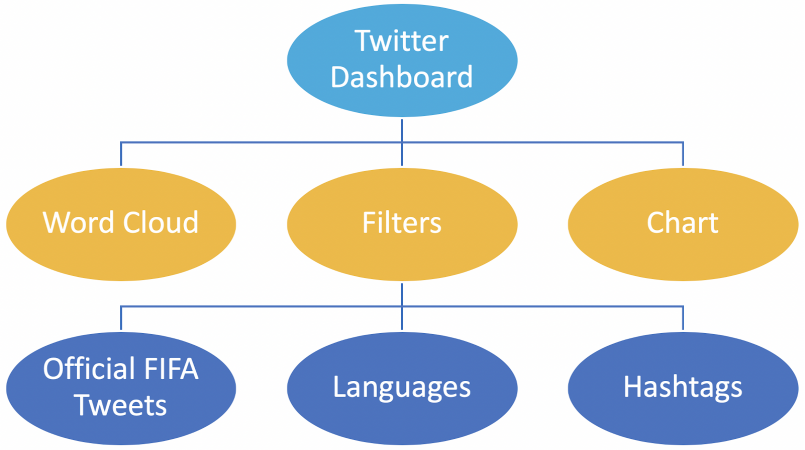
Requirements

The project needs to satisfy all of the stakeholders' requirements. For the Twitter dashboard, the client, University of Twente, required the developers to use a predetermined tweet collection with the Python programming language using the ECA module.

To create a user specific dashboard, the insights of a person who takes an interest in FIFA World Cup 2014 are necessary. Therefore, we conducted an interview with Eduard Boza who met this criterion. He has provided us with both functional and quality requirements of which the developers should implement within the dashboard. As there are time and resource constraints, Eduard and the project team came to terms of requirements everyone can work with.

With the interview, the functions to be implemented within the dashboard have been concluded; they are as followed: filters, a pie chart, and a word cloud. With the filter

functions, users can view tweets of their desired languages, show tweets that include the hashtags they searched, and only show retweets of official FIFA tweets. For the pie chart, it was designed accordingly to the finalist countries for the 2014 World Cup, Germany and Argentina. With this chart, it can give an impression of which country everyone wanted to win during the world event . The word cloud function serves a similar purpose. It continuously scans the dataset to see which popular keywords were used the most then displays them for a set time interval.



Design

The design of the FIFA World Cup 2014 Twitter Dashboard is as shown below.

1) Language Filter
2) Hashtag Filter
3) Official FIFA Tweet Filter
4) Pie Chart
5) Word Cloud
6) Tweet List

Performance Results

- **Tweet List** - As the tweet list refreshes at a set time interval with only up to 20 tweets per refresh and erases the previous tweets to maintain a maximum of 20 tweets in its section, there are no latency issues with the function, because the memory does not overload.
- **Filters** - There are three filter options within the program:
    - Languages - 58 languages were found within the ‘language’ attribute from the dataset. With this filter function, the end user is able to select their desired language then the program is able to show tweets that are tweeted in the language selected.
    - Hashtags - The function was implemented successfully, so the end users can filter an infinite amount of tweets containing the hashtags
    - Official FIFA Tweets - The tweets that were retweeted from the official FIFA account were able to be filtered correctly.
- **Pie Chart** - The pie chart consists of two variables which are defined as ‘germany’ and ‘argentina’. As the name stands, they each represent one of the finalist countries. The program goes through the tweet list and increases one variable if a set keyword is discovered. The keywords counted within each array generate the pie chart results without any problem.
- **Word Cloud** - On the first performance test, the word cloud’s code was written in a way where it would find and count every single word, making the array used with the word cloud insufficiently large resulting in the function to run slowly. To resolve this problem, on the second test, the code was modified where the word cloud would use an array of set keywords, allowing the word cloud to run with no latency.

Conclusion

The primary objective of the dashboard was to make our stakeholders happy. To achieve this, the requirements established by the client and end users must be fulfilled. Synergizing the project team’s strengths, a FIFA World Cup 2014 Twitter Dashboard was developed with an intuitive user interface and with all functions working sufficiently. The stakeholders’ requests were met with the final product.