School of Computing  
CA326 Year 3 Project Proposal Form

**SECTION A**

Project Title \_\_\_\_\_\_\_Tweet Analytics and Visualisation Tool\_\_\_\_\_\_\_

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*(A third team member is exceptional and requires detailed justification.)*

Staff Member Consulted \_\_\_\_Alessandra Mileo\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Project Description (1-2 pages):

1. **Description -** Our project is centred around creating a tool which analyses and visualises the impact of tweets. We researched on whether we would present this tool as an Android application, or as a web application. We have chosen to build a web app, as we feel that this is the best way to showcase the visualisation of analytics. The application will also be easily accessible by many devices. In terms of the domain of tweets which we will be examining, we have chosen to focus on tweets relating to businesses. We have chosen this domain as we feel that there will be a large amount of data which can be examined, and it will result in interesting and useful analytics. We had a broad range of aspects which we could analyse from these tweets, but chose to focus in on particular data. We plan to measure the impact a post from a business has by measuring the tweet’s popularity, the comments which are generated towards the post and the magnitude of the polarity that the post generates. We feel that these aspects will together create insightful analytics, and also give us the possibility to study the chain effect of certain type of posts. We can then create visualisations through various mediums to allow users to see the impact across the dimensions we have identified over time. This tool will be an accessible way to examine the general attitude towards posts, but also for businesses to understand the attitudes of the public towards their methods. The visualisation aspect creates a deeper understanding of the analysis. We are currently investigating both static and real time analysis on the data. In terms of static analysis, we would analyse historical posts, which would allow a business a way to analyse the effect of posts which have existed for some time. We are also investigating using the Twitter streaming API to dynamically monitor posts in real time. This would result in analytics being produced from the time the post is generated to the time that the app is queried. This would allow a business to monitor the effect of a post from the moment they have created it and react when necessary.

1. **Programming language(s)** - List the proposed language(s) to be used
   * + Python
     + JavaScript
     + SQL
2. **Programming tool(s)** - List tools (compiler, database, web server, etc.) to be used
   * + Currently, we plan to use the following tools. They are still subject to change.
       - Django, a full-stack Python framework
       - Twitter API’s
       - Visualisation tools: We have looked into a number of visualisation tools, such as Data-Driven Documents (D3.js) or Cytoscape.js. We are currently researching these further.
       - VADER(Valence Aware Dictionary and sEntiment Reasoner) to examine the sentiment of the specific post, and the replies and comments from the public towards it. We have chosen this tool as it it is a powerful state-of-the-art tool to analyse social media feeds with a good level of accuracy
3. **Learning Challenges** - This project on a whole is a great learning challenge. We will be using Django for the first time, and also working with Twitter API’s and sentiment analysis. In terms of the visualisations, we have multiple options which we are currently researching, as we have not previously worked with visualisation tools before. We have researched a number of JavaScript libraries, and are also currently looking into the Jupyter Notebook as we are considering Python as one of our languages. This is a web application in which you can create and share documents that contain live code, equations, visualisations as well as text.
4. **Hardware / software platform** - We will be using Linux as the platform for development.
5. **Special hardware / software requirements** - We have no special hardware/software requirements. We will have no issues demonstrating our project in a school of computing lab.