This research project is inspired by the paper *Robust Dynamic Classes Revealed by Measuring the Response Function of a Social System*[1] by Riley Crane and Didier Sornette. The medium examined in the aforementioned paper was the video sharing website of YouTube. In this research project, the ideas presented in the Crane and Sornette paper are applied to the social media website, Twitter with the aim of the project being the ability to break down a time series into meaningful intervals of classifiable events. Through graphical representation I present an original method for extracting and visualizing the events of any time series corresponding to the prominence of a particular word on Twitter between September 9th 2008 and January 31st 2013. While many time series do not exhibit burst activity, many words that correspond to holidays, political figures, social movements, seasonal trends, celebrities and natural disasters do and provide an excellent testing ground for the proposed analysis. Through mathematical and statistical analysis of a time series I present a method that determines the best description of the history of any given word over the aforementioned interval. The results of this project can, in the future, be expanded to examine the time series of n-grams on Twitter and in turn be used to quantify and visualize the public response over time to headlines regarding topics such as natural disasters, flu levels, political change, and policy.

1. Crane, Riley, and Didier Sornette. "Robust Dynamic Classes Revealed by Measuring the Response Function of a Social System." PNAS105.41 (2008): 15649-15653. Web. 8 Feb. 2013.