SMART: Social Media Analytics and Reporting Toolkit

Mission Need
Recent advances in technology have enabled social media services to support space-time indexed data. Such spatiotemporal data has immense value for increasing situational awareness of local events, providing insights for investigations and understanding the extent of incidents. However, the large volume of unstructured social media data hinders effective exploration and examination. Analysts require new methods for monitoring their topics of interest, identifying trends and anomalies, and dealing with the data volume and its dynamic nature.

SMART system provides users with scalable and interactive social media data (e.g., Twitter and Instagram) analysis and visualization, which includes real-time monitoring of social media channel, extraction of trending and abnormal topics, density based spatial clustering, and task-tailored interactive message categorization. In addition, web and news media sources are incorporated in the system so that users can search news articles of interest. Our system also provides an email alert/summary service to automatically send emails related to user-defined topics. We provide such functionalities through not only a desktop application, but also a highly interactive and accessible Web interface.

Benefit: This technology provides analysts with scalable and interactive social media analysis and visualization through topic extraction, combination of filters, cluster examination, and stream categorization. These components are tightly integrated into a highly interactive visual analysis workbench, that allows an analyst to observe, supervise, and configure the methods in each individual analysis process.

Collaborators:
• University of Stuttgart
• Purdue University