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SD Writing 1, Revised

**Overview**

The broad goal of this project is to develop a tool or set of tools that allows law enforcement professionals (in this case, the GW Police Department (GWPD) and its parent, the GW Office of Safety and Security (OSS)) to leverage existing historical data sources to drive a predictive analysis and reporting platform. This toolset would assist GWPD and OSS decision-makers in determining optimal resource allocation across three levels of staff: sworn University Police officers, security staff, and Community Service Aides (student staff). The tool will provide reporting that will influence both long-term and immediate financial and operational decision making by OSS’ senior leadership. We will provide advanced data visualization and reporting capabilities in an interactive web interface, with scheduled data import and analysis batch jobs occurring in the background. Depending on the exact scope and size of the input datasets, we will also employ a variety of machine learning, statistics, and data processing techniques in the analysis. Additionally, we will conduct research into existing products and methods, such as the New York City Police Department’s COMPSTAT system, to determine the types of data analyzed and results produced.

**Intellectual Merit**

To have a computer program analyze a set of crime-related data and accurately predict where the next crime will occur, in real time, is considered the ultimate goal of law enforcement information systems and as of yet, no (publically available) system is capable of this. While it is extremely unlikely that this project will achieve that goal, we hope that the outcomes of this project will contribute to the field of public safety data analysis in a meaningful way. This project is unique because, unlike commercial products which target law enforcement agencies that have large staffs responsible for policing areas on the scale of major cities, GWPD’s area of responsibility is only approximately twenty-five square blocks. Through agreements with GWPD and OSS, the project will have access to production data from a variety of sources maintained by the University, including GWPD’s Automated Records Management System instance (ARMS), the system of record for University criminal reports and statistics dating back to 1999. Since the stakeholders’ interests are primarily in long-term planning as opposed to real-time analysis, we will build an interface that imports data from ARMS on a pre-defined interval, and provide a facility in the web application that allows an authorized user to initiate an on-demand import. To account for possible changes in stakeholder priorities, we will also build frameworks into the application that will read in data from additional sources, such as physical access control systems and fire and life-safety alerting information. These data sources all contain personally identifiable information, including Clery-act reportable information, HIPPA-protected information, and/or FERPA-protected information, as a result, security will be a paramount concern at all stages of development.

**Broader Merits**

The success of this project will provide an immediate benefit to OSS and GWPD staff, as well as the members of the community they serve: the faculty, students, and staff of the George Washington University. By providing a set of tools to visualize and empirically analyze crime and security information sources, we will be helping GWPD to execute its mission of protecting life and property within the University’s jurisdiction. We hope that the outcomes of this project will also help later efforts to develop similar data analysis tools targeted at smaller law enforcement agencies that find themselves vastly underserved by current commercial offerings.