CREATE Project Overview: DPS Deploy Prototype

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DPS Deploy Prototype

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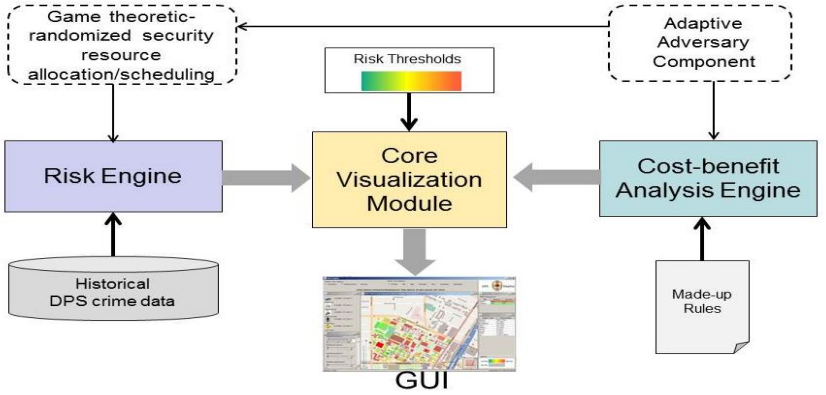
Research and Research Transition Objectives

1. Provide real time decision support to improve USC Department of Public Safety (DPS) situational awareness and to develop strategies that foster more efficient and effective patrolling
2. Develop a prototype DPS_DEPLOY that uses risk-driven data analysis and decision-making, to assess the risk of criminal events on USC campus and facilitate security resource allocation
3. Demonstrate and deploy the prototype at the USC Department of Public Safety

Representative Project Graphic



DPS Deploy System Overview

Major Research Activities and Results Status

Activity 1: Collect and analyze available DPS crime data, adapt and extend existing PortSec/InfraSec platform

Result 1: PortSec/InfraSec core platform and user interfaces were modified to support the DPS patrol area

Activity 2: Design and implement interfaces to display risk heat map based on historical DPS data and resource allocations

Result 2: Implemented DPS_Deploy prototype that geospatially displays past criminal activities by generating customized risk heat maps based on selected options and **successfully demonstrated** the prototype at the USC DPS

Activity 3: Extend DPS_DEPLOY to support both analytics that address past crimes but also predict future criminal events

Result 3: Collected a larger sample of DPS data and developed initial statistical model for crime forecasting

Primary Research Transition Partners & Status

a. An initial DPS_Deploy prototype was presented at CREATE's Executive Program on Counter-Terrorism which resulted in inquiries from the Jewish Federation of Greater Los Angeles

b. The USC-ISI team met with Jason Periard of the Jewish Federation of Greater Los Angeles to discuss extending DPS_Deploy to address the challenges faced by the Jewish Community in greater Los Angeles. The team is actively pursuing this.

c. The team plans to install the DPS_Deploy system at the DPS by the end of June 2015

Additional Project Results

- The current system supports (1) drill down capability into further details of each crime (crime code, reporting officer, etc.) and (2) initial data analytics: percentage of risk per region type per crime type as compared to the total campus risk
- Currently extending the system to cover areas adjacent to the USC campus
- Currently extending the user interface to support customizable exploration of past crimes as well as predicted future criminal events based on various options
- Future work (Year 12 effort: July 2015 - June 2016) includes (1) developing models based on leading indicators that offer the ability not only to predict future crimes, but to identify underlying causes of the future hot spots (2) developing risk calculations based on a set of behavioral rules collected from the DPS experts