

Predictive Policing (PredPol) is a sociotechnical system that has three characteristics: the system has emergent properties, it has complex relationships with organizational objectives, and it is a non-deterministic system. Through these characteristics, I'll describe the PredPol system intended to fight crime.

The emergent properties of the PredPol system are a consequence of the relationships between system components. Here are a few of PredPol's system components:

- Software performs optimization of resource assignments by using crime report data of a specific type within a particular reporting region
- Police are assigned to a location during a specified period to perform a set of visible activities
- The protection of the environment (citizens and property) as measured through reported violations (police reports)

The emergent aspects are that recent violations have an impact on future policing assignments. This property appears analogous to 'attention' in many other systems.

The system components have complex relationships with the organizational objectives. For example, people considering committing a crime of a certain type in a certain location now have to factor the increased risk of getting caught. Police officers may filter assignments using domain knowledge or their trust in the system. These complex relationships appear to work together to achieve less reported categorical crime in selected regions, over time.

The PredPol system is non-deterministic, meaning it does not produce the same output when presented with the same input. Crime reporting, a measure, and input into the software part of the system cannot be controlled directly by creating scheduled policing activities. Despite this aspect, the overall effect of the system appears to be a reduction of certain categories of crime in select regions by optimizing the location, timing, and nature of policing activities.

In summary, the PredPol system is both complex and non-deterministic. It is intended to reduce certain categories of crime in specific locations. The measure of system effectiveness is the reduction in the number of offenses reported over time. PredPol system's effect emerges from optimizing deterrent presence in the environment.

References:

<https://www.cbsnews.com/news/lapd-computer-program-prevents-crime-by-predicting-it/>