



Enhancing Community Safety: Gang Graffiti Automatic Recognition and Interpretation System

A DHS Science and Technology Center of Excellence

Mobile App Fights Gang Violence

Law enforcement officials in Indiana are using the **Gang Graffiti Automatic Recognition and Interpretation (GARI)** system, developed by the Center for Visualization and Data Analytics, a Department of Homeland Security (DHS) Science and Technology (S&T) Center of Excellence, to identify and track gang activity in their communities via mobile phones.

Gangs use graffiti to communicate messages, including challenges and warnings, or to intimidate rival gangs. Having hand-held access to graffiti images and their locations helps officers track gang affiliation, growth, membership, and activity. The ability to track gang movements also helps communities develop strategies to mitigate gang activities.

Gangs are a serious threat to public safety. According to the 2011 National Gang Threat Assessment, as of April 2011, about “1.4 million gang members belonging to more than 33,000 gangs were criminally active in the United States.” Gangs commit about 48 percent of violent crime in most communities; in others, they are responsible for up to 90 percent of violent crime.

“GARI is still in its infancy—but once this gets going, it’s going to be beautiful—it will be very helpful and very useful. I love it—and I’m really excited about the possibility of using it with the prison population to identify tattoos. Tattoos are more specific because you can identify an actual person. GARI can really help the street officers because it’s available 24/7—it’s quick and instantaneous.”

~ Detective Steve Schafer
Criminal Gang Unit
Indianapolis Police

GARI Helps Users:

- Determine when a new gang moves into an area
- Identify what gangs are active in an area
- Target youth who are at risk of gang recruitment
- Prepare for potential outbreaks of gang violence



How It Works

GARI is a mobile device application that analyzes gang graffiti. A user takes an image of the graffiti using a smartphone or tablet and immediately receives an interpretation of the gang affiliation and what the graffiti means. The system’s repository of gang graffiti images gives users historical information and geographical locations of other images, helping to track gang movement, growth, membership, and activity.

GARI adds new images to a central database, records their GPS coordinates, and records the date and time the images were acquired. More than 8,000 gang graffiti images have been uploaded to GARI since fall 2012. GARI is available for the Android platform and has a Web-based interface for use with other platforms, such as desktop computers and mobile devices.

GARI for Border Security and Other Users

GARI is being used by the Indiana Department of Public Safety Division of Homeland Security, the Indianapolis Metropolitan Police Department, the INGang Network, and 15 other police departments.

Border patrol agents, intelligence analysts, and National Fusion Centers could use GARI as a homeland security solution to track international gangs involved in drug trafficking, identity theft, counterfeiting, and human trafficking.

In local communities, school officials or neighborhood watch groups could use GARI as a crime fighting tool.