

Real Time Support System For Public Safety Using Geo-fencing Techniques: A Geospatial Approach

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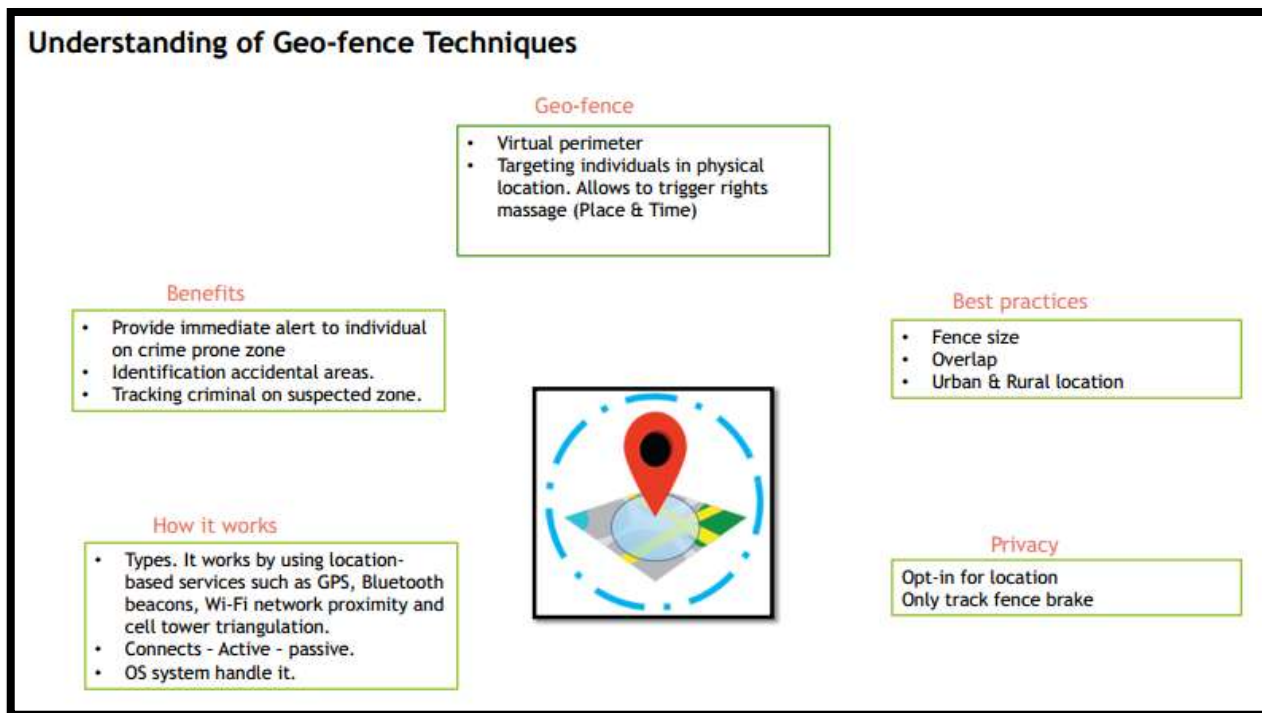
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Abstract: *Geo-fence is creating a virtual perimeter in real-world geographic area and virtually fenced off in geographic location. Geo-fences take any shape and customized with various fencing options like predefined set of boundaries such as school boundaries, crime prone zone, accidents prone zone and etc. It can be also created around the point location like police station and watch towers. Geo-fence basically live mapping technique and helps in real time support system. This study try to attempt and understand the importance of Geo-fence in policing in order to cut crimes and enhancing the public safety measures. Various technical support system and applications were discussed detailed in this study.*

Keywords: Geo-fence, Interactive Map, Geospatial Applications, GIS.

INTRODUCTION

Geo-fence is creating a virtual perimeter in real-world geographic area and virtually fenced off in geographic location. Geo-fence basically live / dynamic mapping technique and helps in real time support system. Geo-fence technique can be classify into three categories 1, static 2, dynamic 3, Peer to peer. Static fence is based on the position of a mobile user with respect to a fixed area. For example, the messages that are sent to opt-in users when they enter a retail store. Dynamic fence based on the position of a mobile user with respect to a changing data stream. For example, dynamic pattern of crime hot spot zone. Peer-to-peer his is based on the position of a mobile user with respect to other users. Instances check-in notification of nearby friends on a social mobile app like Yelp, Facebook, or Foursquare. Over the past decade, it's been used by the following types of companies and individuals, amongst many others fleet management companies, who want to track any route deviations by their drivers marketing companies, who use geo-fences to send promotional materials via text message when customers have entered certain geographical areas, asset management companies, who might use geo-fencing to send alerts if any stock or inventory leaves a designated area, child location services, as employed by parents or guardians, may use geo-fences to create alerts if children leave specific geographical areas. Police and law enforcement authorities, who use geo-fences to monitor people under house arrest, or on parole with strict geographical requirements.



AIM

This study try to attempt and understand the importance of Geo-fence in policing in order to cut crimes and enhancing the public safety measures.

OBJECTIVES

- To create real time geospatial support system to receive and display the real time crime incidents data for better crime prevention plan and public safety measures.
- The real time geospatial support system should have calibre of lightning-fast compilation and analysis of data from a variety of other sources.
- Support system capable of handling various spatial operator like Geo-fence, Geo-process and filter events in real time crime data.

REAL TIME SPATIAL DECISION SUPPORT SYSTEM

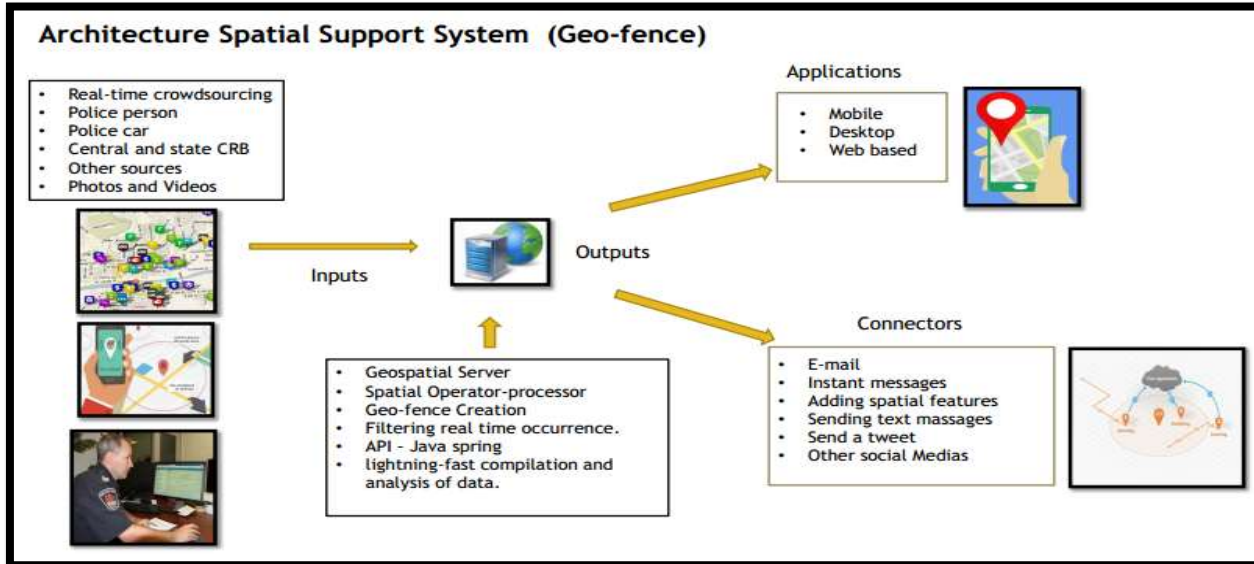
As per current statistic 40 percent of the world community started using (LBS) location based service and indian scenario 80 percent of the folks are started using mobile phones. Millions of apps available for smart phones users and there is no appropriate app for getting location based alerts for crime incidents and criminal activities. To enable this service real time spatial decision support system is very much essential. By implementing this technology individual able to get answer where is crime hotspots and get notified when the entering into crime hotspots zone and from police end they can intensify the patrolling in order to ensure public safety and precautionous actions.

ARCHITECTURE OF THE GEOSPATIAL SYSTEM

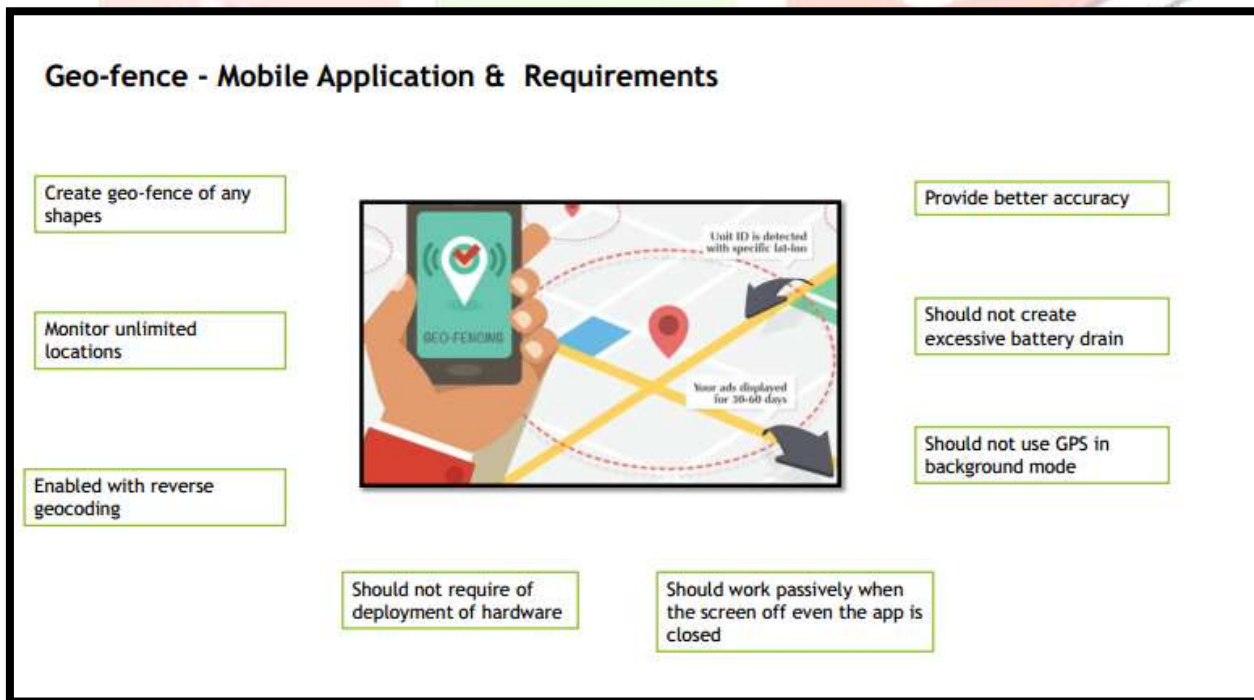
Geospatial support system / server should able to connect real time crime data stream from various sources likes crowdsourcing, police person, patrolling car, crime record bureau and other sources. All these data streams undergo continuous processing and analysis later send relevant information to users and end-users. Receive and display the real time crime incidents and caliber of lightning-fast compilation and analysis of data from a variety of other sources. While gathering the real time data filtering unwanted data is very much essential to get the actionable information.

REAL-TIME INFORMATION AVAILABLE TO DECISION MAKERS AND PUBLIC

Geospatial support system should provide the real-time information to police department and public. Instances sending an instant alert messages to public and police officers on hotspots zone of different crimes. This system leverages any public or end user can upload crime incidents data, picture and videos from scene of crime. Application will able to run through web browsers, smartphones and tablets therefore police and public can view the crime and criminal activities consequently public can get alert message and police intensify their patrolling in risk zones.



At present there is no real time geospatial support system to receive and display the real time crime incidents and criminal activities data for better crime prevention plan and public safety measures. It gives users the ability to connect to real-time data streams from a wide variety of sensors, perform continuous processing and analysis of those data streams, and send relevant information to users or other systems.



CONCLUSION

“Prevention better than cure” – Technology solution for preventative and proactive solution for Public safety. Creating dynamic fencing on crime hotspot would create the clarity on awareness and enhancement of personal safety. Creating community-based ecosystem that features a socially empowered safety map app. Analyze the data collected in real-time, provide real-time threat intelligence. Revolutionary is the accuracy and speed with which incidents can now be validated. Geo-fence maintains its value even in the most isolated areas. If you not monitoring your surroundings with Geo-fence app could still let you know when danger approaches and help you get away from it. Geo-fencing will become the next endpoint security innovation.

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