Visualizing Transition of Crimes in Kobe using PRISM

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Security Information Service

Online service providing incident information for citizens

- Promote citizen’s self-protection for security and safety
- Typically distributed by ICT media (e-mail, Web)

Violence incident

On 7:30, June 2nd, an instance of violence occurred near Kobe Sannomiya-station. The suspect is a young man around 25-30 years old, ran away to east....

Problem in Conventional Services

- “One-for-all” information
- Tend to miss important information
PRISM (Personalized Real-time Information with Security Map)

A new security information service that can:
- Personalize incident information by living area of individuals
- Compute severity from distance, time and type of incident
- Visualize on heat map

**Violence incident**
On 7:30, June 2nd, an instance of violence occurred near Kobe Sannomiya-station...
Severity of Incidents

Degree of how the incident is serious for a user

- Closer and newer incidents are more severe

**Alert**
**Warning**
**Caution**
**Notice**

**Violence incident**
On 7:30, June 2nd, an instance of violence occurred near Kobe Sannomiya-station...

**Decay by Distance**

**Decay by Time**

**Kagawa**
Living far from Sannomiya

**Wada**
Living near Sannomiya
Demonstration

PRISM for Web

Kagawa’s map

Wada’s map
Visualized Facts

• More incidents in Nishinomiya than in Nada Ward

• Relevant factors of incident occurrence
  • Location: more along railways, few in mountains
  • Time: incidents always occur somewhere, no relevance with season

• Ecology of wild pigs
  • Wild pigs stay in mountains in winter, come to town in summer
  • Three major spots to encounter
    • Shin-Kobe station, Okamoto town, and Kobe University
Conclusion

We present a new security information service PRISM

- Personalized Real-time Information with Security Map
- Information is personalized by living area of individual users

By visualizing crimes, we can get powerful information to protect ourselves from incidents

Try PRISM now !!

- Web:  [http://goo.gl/bDKejx](http://goo.gl/bDKejx)
- Android: Scan this QR-code
Using Open Data

Hyogo Bouhan Net (Hyogo Prefecture Police)
- Online incident report by e-mail and Web
  - Unstructured text in HTML
  - PRISM applies text-mining and stores in DB
    - [Date, Time, Location, Address, Title, Contents]
  - Use structured incident data for service

Institution Open Data (Kobe City)
- Fact data of public buildings in Kobe
  - [Name, Address, Lat, Lng, Type, Ward]
- PRISM imports CSV data in DB
- Use as landmarks for user’s living area
System Architecture

HTML text (Unstructured)

Hyogo Bouhan-Net

CSV Data

Facilities Open Data

Convert Address to LatLng

Scraping

Import

PRISM-DB

PRISM-API

Clients (powered by Google Maps)

Apache HTTP Server

Perl

MySQL

Android

Apple

Laptop
Time Machine Function

Show past heat map

- Input date and time
- Push the buttons

October 10th

September 10th
Filter Function

Show a selected type of incidents

◦ Ex. Show only reports of wild boars