RASD

Introduction

SafeStreets is a crowd-sourced application whose intention is to notify the authorities when traffic violations occur.

The sources of notifications are the citizens which takes photos of violations and sends them to the authorities through the application.

The information provided by users are integrated with other suitable information and are stored by the service.

The system also runs an algorithm to read the license plate of the vehicle in the photos. All collected data can be mined by citizens and authorities to find which streets are the safest. Users can have different levels of visibility authorities must be able to know the license plates of vehicles in the photos while normal users can only see data in the form of statistics.

Moreover, data is sent to the municipal district so that important information can be extracted through statistics in order to make decisions to improve the safety of the area.

GOALS

USER:

G1) Notify authorities about traffic violations

G1-1) Send pictures of violations

SafeStreets:

G2) Store information provided by users:

G2-1) Complete it with metadata

G2-2) Mine information

G3) Identify potentially unsafe areas:

G3-1) Suggest possible interventions

Security Goals:

S1) Offer different levels of visibility to different type of users

S2) Personal data of users are stored respecting current security standards

SCOPE (TODO order to be fixed)

World phenomena:

1)Violation

2)Intervention of authorities

3)Municipality put into effect interventions to improve safety

Machine phenomena:

1)Shortest path calculation for authority’s intervention

2)the creation of an object of type violation

3)run algorithm to identify the license plate/s in the photos

4)database queries

5)schedule most efficient path to look up the notified violations

6)periodically run algorithm to suggest possible interventions to municipality

Shared phenomena:

1)user notify the system about violation (observed by the system controlled by the world)

2)send notification to authorities (controlled by system observed by world)

Domain Assumptions

D1) For each notification data and metadata about the violation are correct

D2) Accounts are personal and login credentials never gets stolen

D3) Each fiscal code number is unique

D4) Authorities always intervene in case of a notified violation

D5) Information about authorities’ location are always available through GPS

D6) Only one agent is notified, and it is the closest to the violation area

D7) User sends only clear photos( if it is not clear he/she would retake the photo)