City of Tempe Graffiti Challenge

Frequently Asked Questions (FAQs)

1. Should GASP sync with 311?

No.

1. Will code changes be required?

Alerts coming from the machine learning applied to the video from mounted city vehicles will be pushed to RabbitMQ. ArcGIS will then pull the messages from RabbitMQ.

1. What data will be used to train the initial model?

Abatement team has 15,000 photos of graffiti that can be used for machine learning. This is currently stored in a SQL server. These files can be given to the CIC. These are color photos in .JPEG format. Resolution is XYZ and the megapixels of the image are XYZ

1. Can law enforcement be more proactive with the GASP app?

In version V1.0 there will not be a reporting feature to law enforcement. Law enforcement currently has access to all graffiti reporting through their GIS dashboard, so they will be able to see all reported graffiti from the GASP app there.

1. Is a sync required with police department and courts?

No, police already have access to ArcGIS so they will be able to see any data that is pushed/pulled into ArcGIS.

1. Will processing be done at the Edge (the truck) or in the cloud?

The processing will be done in the cloud as we want to keep the imagery of the infraction. The trucks and city vehicles have LTE connectivity.

1. Can GASP be OS agnostic between iOS and Android?

You will be able to view the data on any platform that supports ArcGIS which iOS and Android currently do.

1. What is the expected cost of supporting the equipment?

Depends on how the solution is architected and what communication method is used.

Cameras, processor, and other equipment needs to be refreshed and maintained as needed.

1. What is the overall cost of sharing?

This will depend on the amount of data pushed and how many parties we are pushing the data too. It will just be data transfer costs.

1. What is the expected timeframe from collection to notification?

Near real time - depends on the equipment used and how quickly the processor can run imagery through the algorithm. This is dependent on sending the data via LTE and not batch processing.

1. Will 3rd party integration of information be required?

Not in V1.0

1. Will the current trucks’ cameras be used that are a part of RouteWare?

Not for V1.0. Cameras specifically for this purpose will be purchased and placed on a City vehicle for V1.0

1. How do we get GPS data for the camera feed?

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1. How likely is the finding to be graffiti?

Accuracy and consistency will likely vary significantly based on a number of variables like distance from camera, angle, obstructions, lighting, size and contrast of tag.

1. How will the end user see the abatement locations?

Using an ArcGIS web application.

1. Can we put cameras (AI) on other city vehicles too?

In time this could be possible with an agreement between departments.

1. Where is video stored and for how long?

The video will be stored in the cloud. The Graffiti Abatement team takes before and after pictures at each site when they abate a location. Any images collected could be removed after the clean up occurs. In order to provide time for someone to go back and review the content, images will be deleted two weeks after they are collected.

1. Who has access to video images?

Images will be available internally to City of Tempe employees working on this project or with Graffiti Abatement.

1. What is the cost to the taxpayer of this specific solution?

Depends on how long data is stored and the quality of the video.

1. How are privacy rights being addressed?

Images will be reviewed when a possible instance of graffiti is reported to the Graffiti abatement team. After the identified graffiti is documented and removed, the image will be deleted within two weeks. Images will only be accessed by those directly working on the app, the GIS App or working on the Graffiti Abatement.

Any images collected will be at street level.

1. Will the data be used for other purposes outside of graffiti abatement?

For prototype purposes will just be graffiti abatement. City can review use cases and expand program as appropriate.

1. Will this transmit real time (live) or stored until reviewed?

Ideally transmit near real time data. Will not live stream. Will process in the cloud to ID and send alerts and then override the solid state storage on some schedule.

1. Can outside entities share video?

Not in the initial version of the application.

1. What are the ethical implications?

Should be minimal if designed correctly and only used for graffiti.

1. What are the citizen rights with respect to privacy?

Homework

1. Who maintains the data?

The City of Tempe will maintain data.

1. What are the video requirements: definition, color, etc.?

Depends on several variables. Likely need to test cameras to match to graffiti use case. Does it matter if it works at night/low light. Should be color, does it need to be HD, shouldn’t need to be PTZ, pan/tilt/zoom. What’s the best focal point for tag detection. Are existing cameras optimized for computer vision.

1. Will city code have to be amended?

Homework