

Public Eye +

An enhanced version of Public Eye that is easier to use, fool proof, and incentivize citizens for their effort in maintaining a smooth traffic flow.

One of the prime reasons for bad traffic in our city is that we citizens do not respect laws. We know that there cannot be cops at every junction all the time. And hence traffic that moves smoothly in the presence of cops suddenly turns into chaos in their absence. At the end of the day, we end up blaming everything from bad roads to corporation and even lack of cops. But the root causes for everything are the citizens ourselves. If people had an incentive to follow traffic rules laid out by well-meaning cops and experts we'd have a much smoother experience with super fast travel times for everyone. Instead of a paltry 15Kmph average speed, everyone could move much faster¹.

The question that holds answers for a smooth ride is "Why don't we respect traffic laws"? I believe that this is because there is no fear. The ratio of cops is small due to economic constraints. It is impossible to monitor every junction and every inch of a road with a camera.

While thinking of a solution and poring over a wide variety of options including comic book inspired vigilantes, I came up with a solution which in retrospect is similar to Bangalore City Police's Public Eye project.

We keep seeing Traffic Constables equipped with Digicams making a note of vehicles. Private conversations with a lawyer told me that only

the Inspector is authorized by law to issue a ticket. The constabulary exists only to assist him and nothing more. Now, say every citizen can act as a constable and provide actionable data. This is precisely what Public Eye does. Anybody with a camera can send details of an offence which is then checked out with a traffic camera before a ticket is sent.

↓→	Public Eye	Public Eye+
User Identification	None	Mobile Phone Number
Location	User Entered	GPS (<5m accuracy)
File Size	200kB	No limit
Encryption	None	Encrypted
Time	User Entered	Automatic
Vehicle No	User Entered	Automatic detection / User Updated
Submission	Website	Via Phone using Data/Wifi
Rewards	None	Coupons/ Talk time
Sustainability	Government Funding	Self sustainable

Table 1: Comparison of Public Eye and Public Eye+

Public Eye + (Citizen Cam) is an app that runs on any Android smart phone. This provides several advantages over the current website based system.

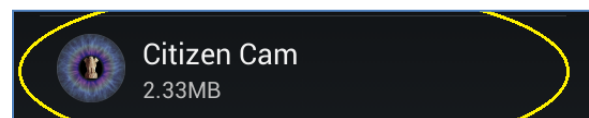


Figure 1: Screenshot of the App

¹ Sharath Sharma Kalagaru, "Need for More Speed, Please," *Bangalore Mirror*, November 4, 2012, sec. City, <http://www.bangaloremirror.com/index.aspx?page=article§id=10&contentid=2012110420121104012830384072d427>.

First of which is the identity of the person submitting the complaint. The app automatically finds the IMEI and Phone Number and links it to the user. This curbs any incentive to file a false complaint. If a person is using false information on their phone, it is a violation of various laws to curb terrorism which would lead to stringent punishment.

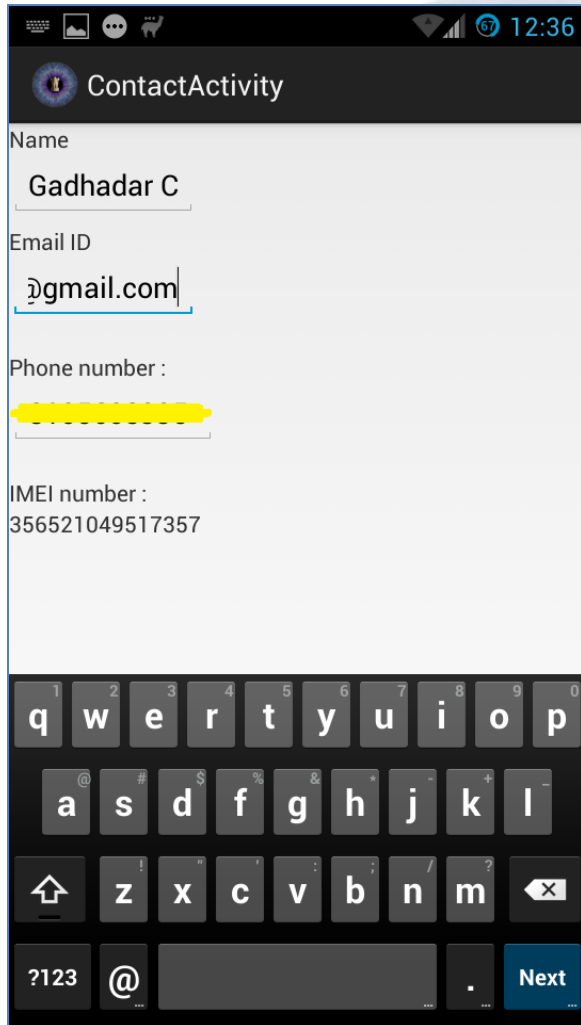


Figure 2: Contact Details Obtained on first run

The second major feature of the app is its ability to use accurate GPS data from the phone instead of an address from the user. The GPS co-ordinates provide irrefutable position information of the offender.

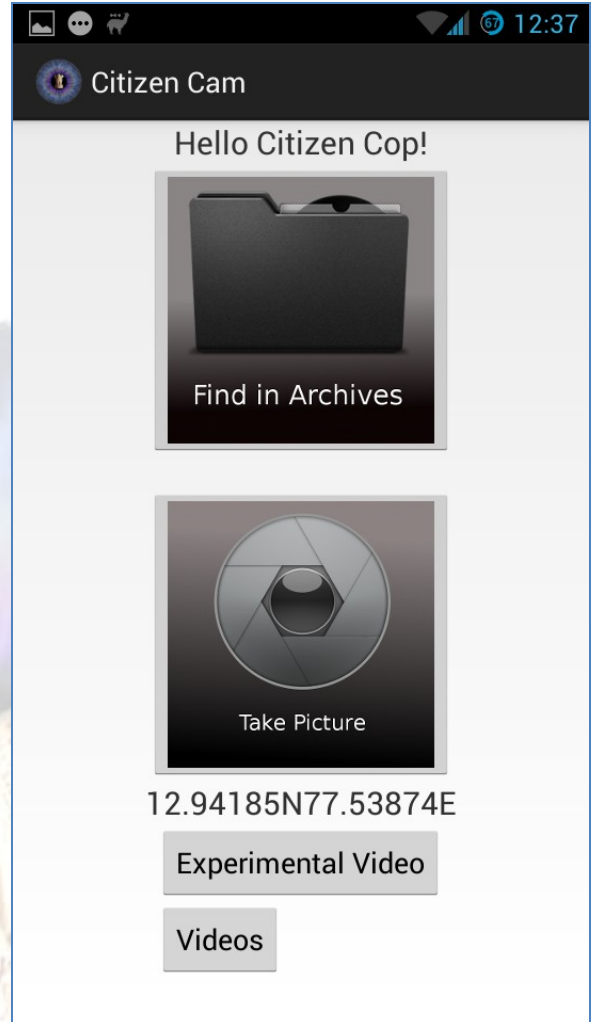


Figure 3: Screenshot showing successful GPS location in UI

Usage of app

When an offender is spotted, the user takes out his/her phone. Click on "Take Picture" button.

The phone will take a picture and immediately encrypt it with location and time obtained from GPS satellite.

The file is dispatched to a secure server either immediately using the users Data connection or via WiFi later. On the server the pictures are compressed to a more appropriate size and dispatched to Bangalore City Police servers.

PictureActivity

Capture Offendor

BANGALORE CITY TRAFFIC POLICE

Vehicle Registration Number

Traffic Violation Type

Violation Place

Remarks

Figure 4: Screenshot of page to submit Offence details

Status

The project and app have been developed and tested on a few Android devices. It has been tested on numerous Android devices and can be released to public in as little as a month with minor changes.

We have developed both server side and phone side of the software which is being released under an open source license.

Source Code

Complete Source Code for the Android App can be downloaded here: <http://goo.gl/0C5U28>

Future Developments

Ability to record Video: This will be essential to catch people jumping traffic signals and driving dangerously. The idea is to have the ability to record not more than 10seconds of video. The rest of the app works just like in the case of a still image.

Rewards: In order to incentivize people to spend a little time in catching traffic offenders. The program will reward catchers with coupons or cash in the form of talk time.

Suppose an offender is caught in action by ten people. The first person to report will get 10INR. The second person 5 INR and the rest of the reporters are paid 2INR as talk time. If more than ten people report an offence, they will be given a thank you note and a coupon. The reward amount of 31INR is collected from the offender. The amount is small but if a person were to catch ten offenders per day, it starts to become a significant sum. The reward will act as a stimulus for everyone to be vigilant.

The whole idea of the project is to embed a fear of law into all drivers like me. Even if only 1 or 2% of the population is honest and will agree to catch offenders, it now imbibes a sense of fear. Anyone around us could be a cop.

This, I believe will lead to a self-enforced discipline on the roads making it much easier for the cops to man the city.

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