NRA Community CCTV Network project

21 December 2021

BACKGROUND

The NRA Security team believes that a Community CCTV Network could be extremely useful for two main reasons:

1. **Prevention of Crime: Most importantly, and the reason for rolling this project out, is that new technology allows us to use CCTV to prevent crime.**

   The way we planned this was initially rooted in cost considerations - because the NRA cannot afford to have its own CCTV network. From that constraint has emerged a really innovative application of new technology.

   What we can do is 'borrow' the feed from private CCTV cameras and, at a small monthly cost, analyse that in real-time using Artificial Intelligence – no human intervention at all. If the analytics identify suspicious behaviour, alerts are sent directly to our Community Patrol vehicles.

   There is no change to the way the camera owner uses their camera – they are simply 'lending' the feed to the Community CCTV network.

2. **Investigation of Crime**: The investigation of crime is easier and more effective if we can get CCTV footage quickly after an incident. If we are really fast, we may even be able to employ the LPR network but we can always get something from the footage: link the suspects to other crimes, learn about security weaknesses, spot trends, assist SAPS, support our Community Patrols, etc.

   At the moment we always have to ask around to see who has footage, let the owner hunt through the archive after work, help with downloads, etc. – a process that can take days to complete. We currently have to do this at least weekly.

   If the NRA has access to archived footage (or at least knows exactly who to contact) this would all be improved tremendously.

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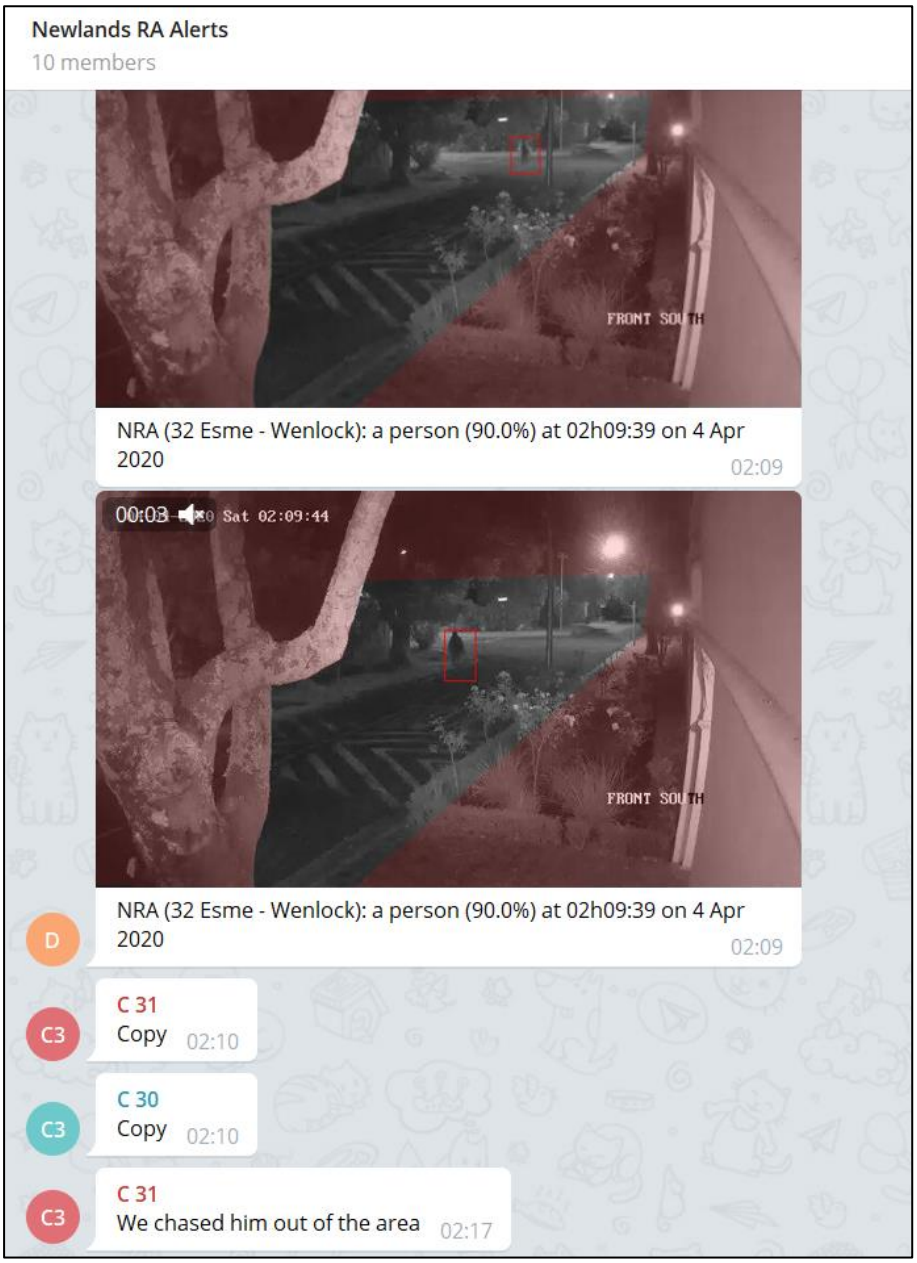
THE LOGIC

In Newlands, we have a particular problem with burglaries and car break-ins at night.

We know from snippets of CCTV footage over the years that these are invariably committed by people who at some stage are walking in the streets – either after getting out of a car or while wandering around looking for opportunities.

Our community patrollers sometimes intercept these people by chance but that is not a real solution because, with limited resources, we can't afford to have eyes everywhere at night.

What we <u>can</u> afford is to turn privately-owned CCTV cameras into <u>virtual</u> eyes by streaming their images to a behavioural analytics programme which send out alerts whenever something suspicious is detected.



The alerts go directly to the Community Patrol cars, massively amplifying their effectiveness.

<u>EXAMPLE OF THE NETWORK IN ACTION</u>

The image to the left is a screenshot of how the system works.

- At 02.09.44 a resident's camera spots a walker in the road.

- By 02.10 two patrol cars are responding.

- By 02.17 they have located the person, removed him and reported back. Their response will, of course, depend on the circumstances.

The system is already live and we are adding more cameras as quickly as we can find suitable locations.

The reason that this is possible is because we are taking one of our previously implemented 'layers' of security – the Community Patrol cars – and making them available to respond to alerts from the cameras.

CAMERA NETWORK

There are approximately one hundred streets in our area. However, we know which roads are historically most vulnerable to criminal activity during the night, so those are the early priorities.

At time of writing, there are 25 cameras alerting the Patrol vehicles and we are seeing great results. The intention is to include another 10-20 if they can be found and funded.

This network of cameras will be built off a backbone of existing privately-owned cameras, and a handful of new ones installed by residents who are keen to be involved.

The Community CCTV network uses cameras which look over public spaces. With most domestic installations, this is a camera which looks out over the resident's gate but it could also be open ground to the rear of a property.

The NRA technical partner, JPTek, then links that camera feed to a Behavioural Analytics programme. In the event that there is more than camera at the location, the feed from the street-facing camera will be isolated from the others.

This has no effect on the owner's use either of that camera or any others that she/he might have.

Four things are needed to include the camera on the Community CCTV network

1. The camera must be overlooking a public space.

2. There must be uncapped WiFi at the property. A continuous low-resolution feed is uploaded for analysis. This is quite data heavy but it doesn't affect the download speed at all – which is how we experience almost all of our internet use.

3. The NRA technical installer will need some time at the property (typically about an hour) to link the required camera feed to the analytics system.

4. A monthly fee of R200 must be paid for the licensing fees of the analytics programme. Further details below.

FINANCING

1. Camera Installation: At existing installations, this will have been paid for by the owner.

2. Connection to the Behavioural Analytics system: This usually costs about R600 and needs to be done by JPTek, the NRA technical partner. If the local community is unable to cover this connection cost, the NRA will do it, subject to the camera being in a priority location.

3. R200 pm Licencing fees: The software analytics supplier is a local company called DeepData, based in Lakeside.

   The product we are using for the analytics, DeepAlert, is essentially a wholesale product, distributed by Security Companies and a Direct Debit / invoice will be administered by JPTek to collect licencing fees.

   Typically, installations are implemented in consultation with individual WhatsApp groups, which is the main channel for community security communications. In this way, cameras and funding can be secured in a highly localised way.

If you make your camera feed available to the Community CCTV Network, the Community Patrol cars will respond to any suspicious night time activity outside your gate.

To date, the majority of monthly fees have been wholly funded by the camera owners themselves. This is either because they are keen to make a meaningful contribution to their community, because they see the great value in Community Patrollers watching their bit of road, or a bit of both.

However, we also have cases where homeowners are not in a position to make that contribution, or they have more than one suitable camera. In these situations we have asked local WhatsApp group to crowdfund the monthly fee.

That crowdfunding has been successful in every single case so far. In one Upper Newlands group, every camera is being funded in this way. It is our experience that people who appreciate the value of the project, but don't themselves have a camera to offer, are quick to step up with a modest contribution to the running costs.

Each camera costs R2,400 per annum to run. If just five homes club together, they'll each contribute less than R500 for a whole year's camera subscription.

The analytics contract can be cancelled at a month's notice so, if it does not work out as expected, the risk is very small.

Your NRA Security representative will be happy to facilitate this conversation on your local WhatsApp group if that would be helpful.

IMPLEMENTATION

CALL TO ARMS!!

- If you have a camera on your home that might be suitable, please contact us at security@newlandsresidents.org.za.

We will help work out how the monthly fee could be funded. Then your local NRA security representative and Jaco Snyman of JPTek will walk you through the process from there.

Once Jaco has visited the site, and connected your camera(s) to the Analytics system, all night time alerts from that camera will be sent within seconds to the Community Patrol cars.

Jaco will also set up a private messaging channel for you (and whoever else you specify) so that you receive alerts from your camera.

<- This is a snapshot from a Community CCTV camera at midday

12 hours later, at midnight, two suspicious men were seen by the same camera as they checked out houses. ->

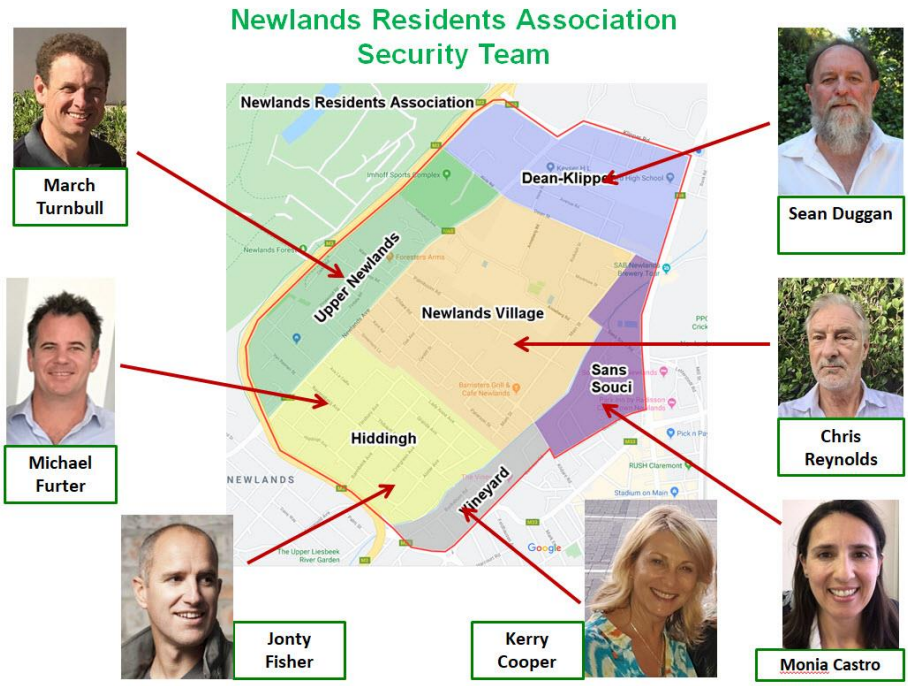
<- The first alert was received by the Community Patrol cars approximately 10 seconds after the first camera image was taken.

Less than 2 minutes later, two Community Patrol cars were in the road, searching for the suspects.

They remained in the area for a further twenty minutes and subsequent review of nearby video showed that the suspects had sprinted away from the area when they spotted the Patrol cars arriving.

No crime was committed.

WHO ARE THE NRA SECURITY TEAM?



The team meets monthly to discuss current security issues. A representative also meets weekly with Rondebosch SAPS and Claremont SAPS, as well as attending the monthly Claremont Community Police Forum.

Wherever possible we work with our neighbours to exchange ideas and reduce duplication of effort. Our nearest equivalents are Fernwood, Rondebosch, Upper Claremont, Kenmar, Harfield and Lynfrae.

Our overall strategy, subject to available resources, is to incrementally increase security in our streets, parks and open spaces.

We refer to 'layers' of security: your fence, dog and alarm are all layers of personal security. SAPS liaison, LPR cameras and Community Patrols are all layers managed by the NRA.

The Community CCTV Network project is the most recent security 'layer' to be introduced by the NRA.

The single most important tool in our toolbox are the <u>Community Patrol Vehicles</u>.

They are our eyes, ears and presence. The Community CCTV project would not be possible without these vehicles to respond to security alerts within seconds of receiving them.

Community Patrols are funded by those residents who subscribe to the Localised Security Services (LSS) product from FADT. This is the simplest and most effective way you can contribute to Newlands's security.

Typically LSS is an add-on to FADT's private Armed Response contracts, but it can be purchased from FADT independently.

All funds, collected in this way are ring-fenced for the Community Patrols. We strongly urge everyone to consider making this contribution; the more subscribers we have, the more Patrols we can afford.