Digi-Lumen Technologies

SentryMDU Solar Powered Remote Surveillance Monitoring
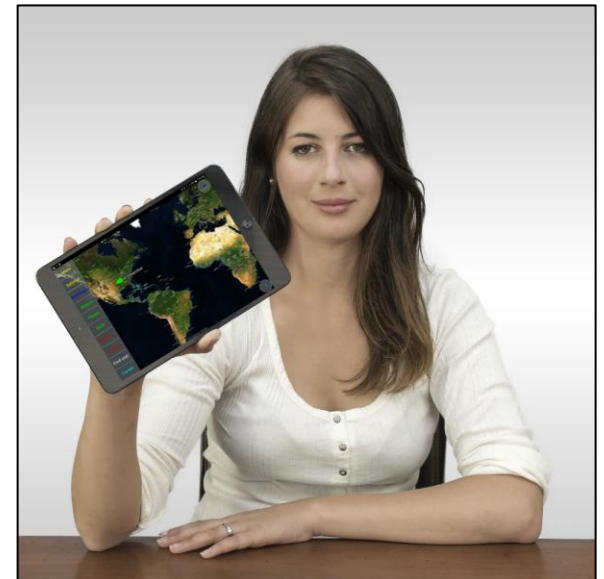
December 2019

Solar Birdhouse Enclosure

1. Explain what the Sentry MDU System is ……

2. Technology Review

3. Outline benefits to the monitoring of Remote Areas

4. Where to find more information

1. Brief Technology Review
2. Features Summary of the Sentry MDU System
3. Screen examples of Key Features
4. Options for monitoring remote locations
5. Next Steps
6. Appendix

Technology Review

Description of the Sentry MDU System

App on your mobile device

❑ Sentry MDU (Multi Data Unit) is a Mobile Device / Client Server system that provides real-time video streaming integrated with GPS location tracking, remote access and remote monitoring/control.

❑ The system was designed to be a communications tool for First Responders (Police, Fire, Emergency Operations, Search & Rescue), Security and more.

SentryMDU Business Model

Three different User options are available …

For a single remote area we recommend the "Subscription" option unless you have more than 50+ people that need access.

Free User	**Subscription User**	**Licensed Server User**
No satellite imagery or remote server storage.	Limits on satellite imagery and remote server storage.	No limits on satellite imagery and remote server storage.
No $$ Cost	**Level 1 = $4.99/mon**	**Annual Server License**
	Level 2 = $9.99/mon	**Annual Desktop License**
	Level 3 = $14.99/mon	**$ Satellite Imagery usage**
		$ Cost / User / mon

Street Map

Satellite Map

Satellite Map

Users / Employees only need to carry a Smartphone or Tablet that runs the Android operating system (ver 5.1+). We handle everything else.

Download the App

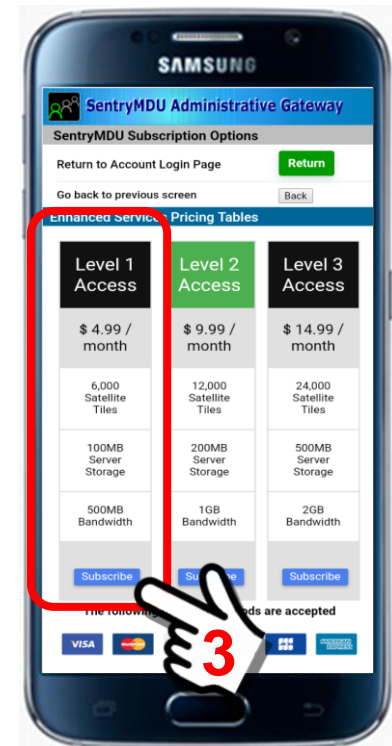The App is free to download and install

Install on your Device

Install the App and Register for a "new" User Account.

Select a Subscription

Select a Subscription Level and Security Domain.

100101001100110
110001100
010100110
1001001
01010010
111000110100101

System Security, Access and Permissions

❑ Every User on the system must be given specific "access" rights.

❑ Data encryption (SSL) between mobile device and Server is available. In addition, Diffie-Hellman encryption is available for direct device-to-device communications.

❑ Security settings can segregate users by levels of what they can "see" and change. Access can be segregated by County, City, Department, sub-Department, User , etc.

❑ Since devices can be CONTROLLED from a remote location, specific safeguards have been provided to:

1. Allow Users to "turn off" the Sentry MDU App on their Device.
2. Allow Users to "turn off" the Remote Access feature so others cannot monitor the device.

- ❑ Everyone has a cell phone, available everywhere (**not proprietary**).
- ❑ Allows for better performance and multi-use capability that is NOT available in single purpose existing camera device.
  - ❑ Better specifications (i.e. audio, video, camera, screen resolution)
  - ❑ Environmental sensors (GPS, Accelerometer, gyro, proximity, compass, barometer)
  - ❑ WiFi 802.11 a/b/g/n/ac, Dual-band (2.4GHz & 5GHz), WiFi Direct, hotspot
  - ❑ Cellular 2G, 3G, 4G-LTE capability (5G in the future)
  - ❑ Large, high-resolution display screen
- ❑ Portable, easy to wear, rugged cases available (Mil / waterproof).
- ❑ The use of cell phones expands the potential pool of Users.
  - ❑ General employees
  - ❑ Police/Sheriff's officers that would respond to incidents
  - ❑ Volunteers
- ❑ Ease of Use … almost everyone knows how to use a Smartphone.
- ❑ Easy to update, software delivery via Digi-Lumen Technologies website.

Sentry MDU Features Summary

1. System is scalable to thousands of Users per Server Instance
2. Features of the Sentry MDU System
   a. High resolution satellite imagery and map screens.
   b. Monitor GPS location of devices by 911 Operator/Dispatch/Officers.
   c. Flexible configuration options depending on the department.
   d. Solar Powered Enclosures available (looks like a Birdhouse).
   e. Can be a stationary camera, Body-Cam or a vehicle "Dash Cam".
   f. Real-time audio & video capability.
   g. Video streaming (broadcast to all users).
   h. Remote access and control of device (stealth mode).
   i. Automated upload of data to the Server via Wifi or Cellular.
   j. Scheduled upload of data during the day or shift change.
   k. Use as remote surveillance camera (motion & object recognition).
   l. Ability to review data History on any sensor (ie GPS, video, audio).
   m. Access to existing surveillance systems in homes, public buildings.

SentryMDU Solar Powered Surveillance Enclosure

30 inches

29 inches

24 inches
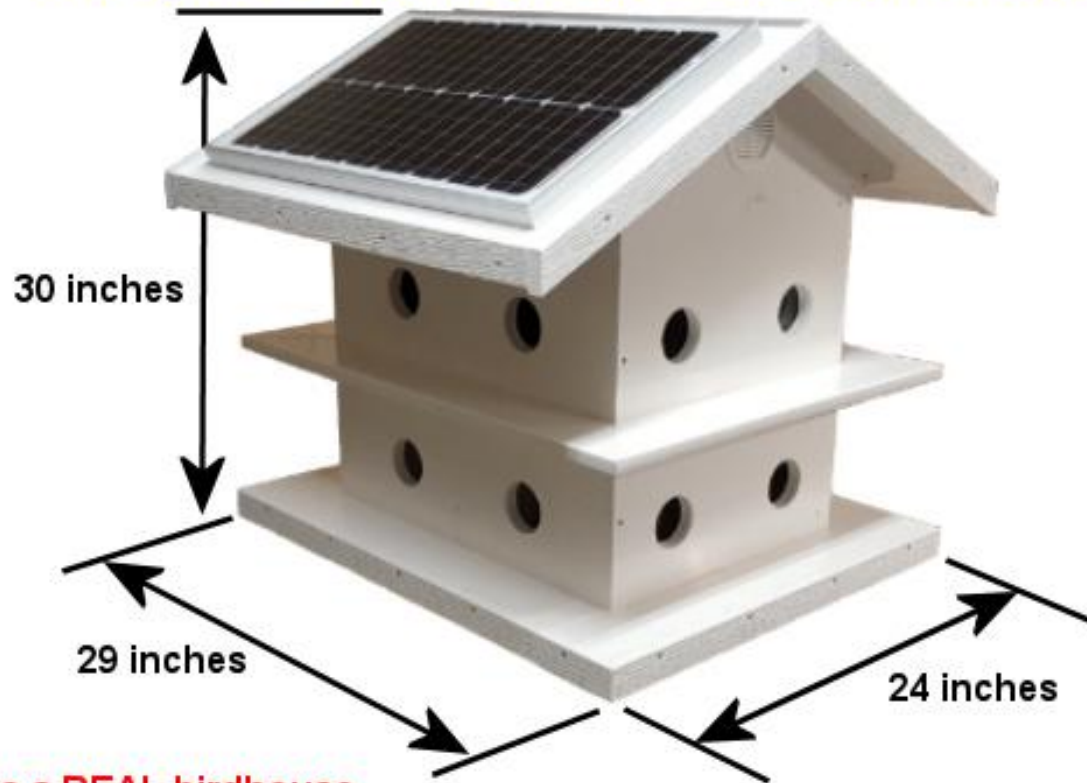
PS - It is also a REAL birdhouse ...

Constructed of industrial grade polymers and stainless steel fasteners. It is weatherproof and designed for outdoor, unattended operation. It will not corrode, never needs painting and should only require periodic annual maintenance. Perfect for remote outdoor locations.

More than just a Camera …. Monitoring in real-time

SentryMDU enabled mobile device inside birdhouse enclosure

Users / Employees

Police Officer

Police Dispatch

Areas under surveillance
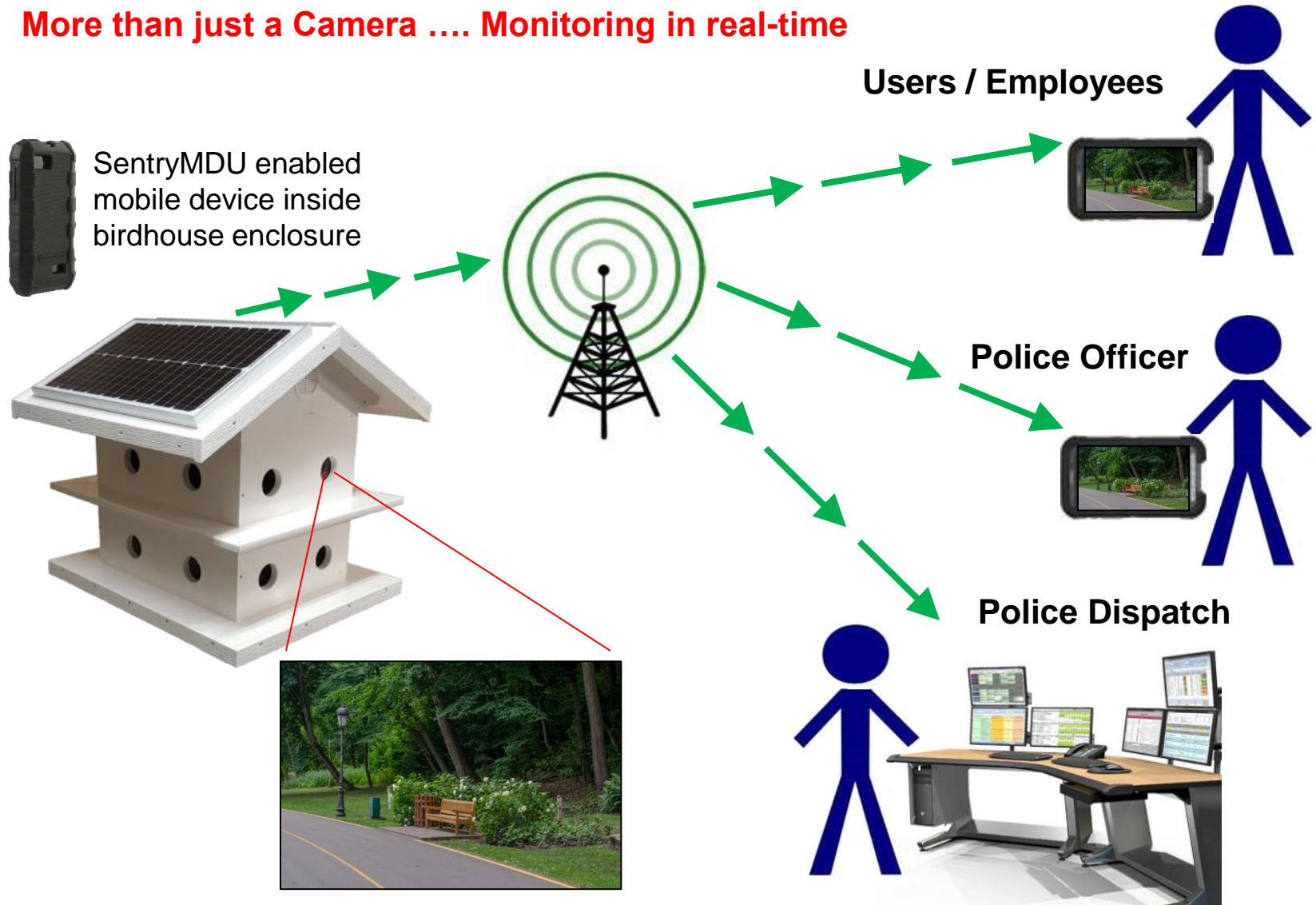
Install groups of cameras in Park Areas to monitor vandalism.
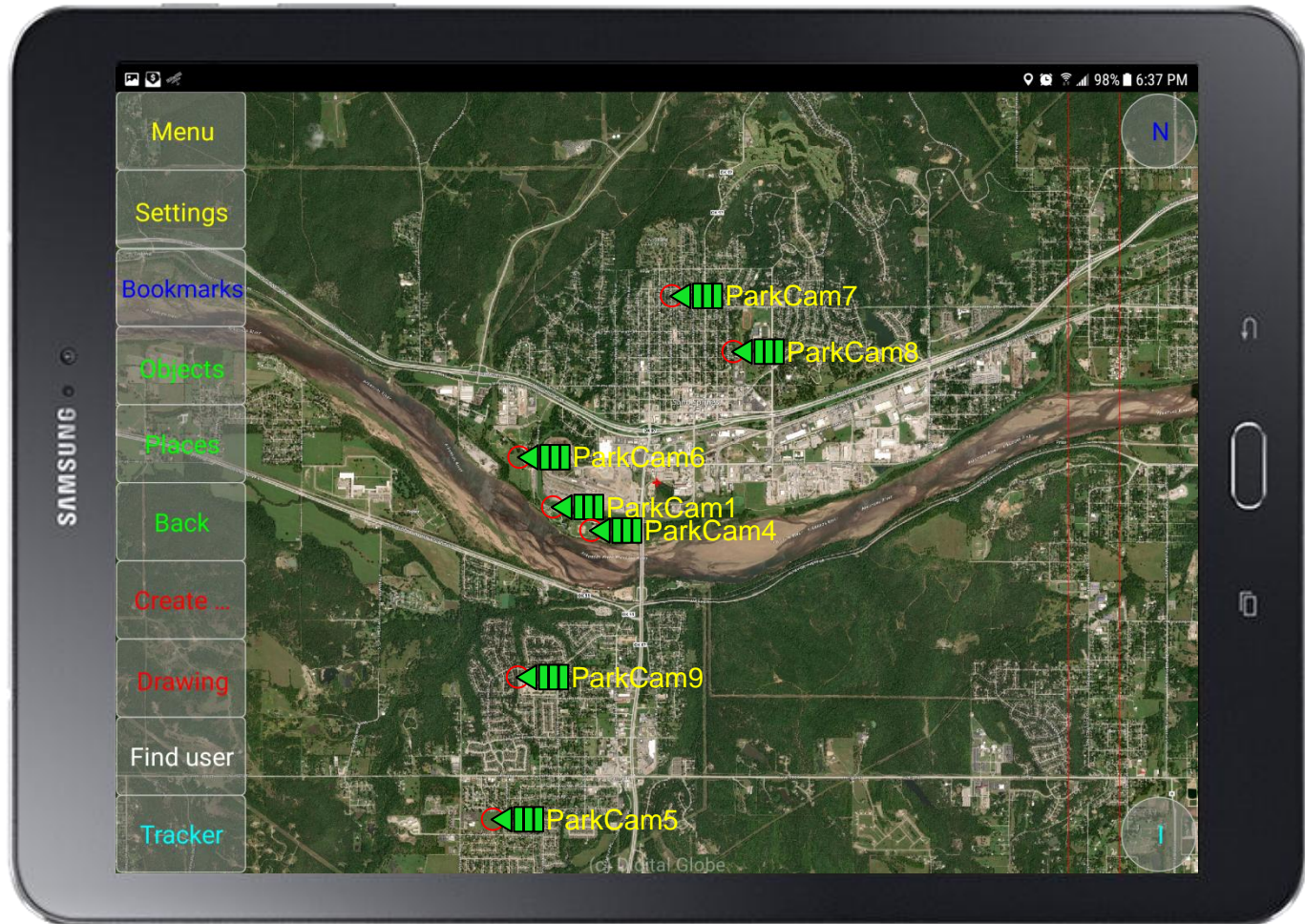
Cameras may hook to existing power source or use **SentryMDU Solar Powered birdhouses** to monitor remote areas.
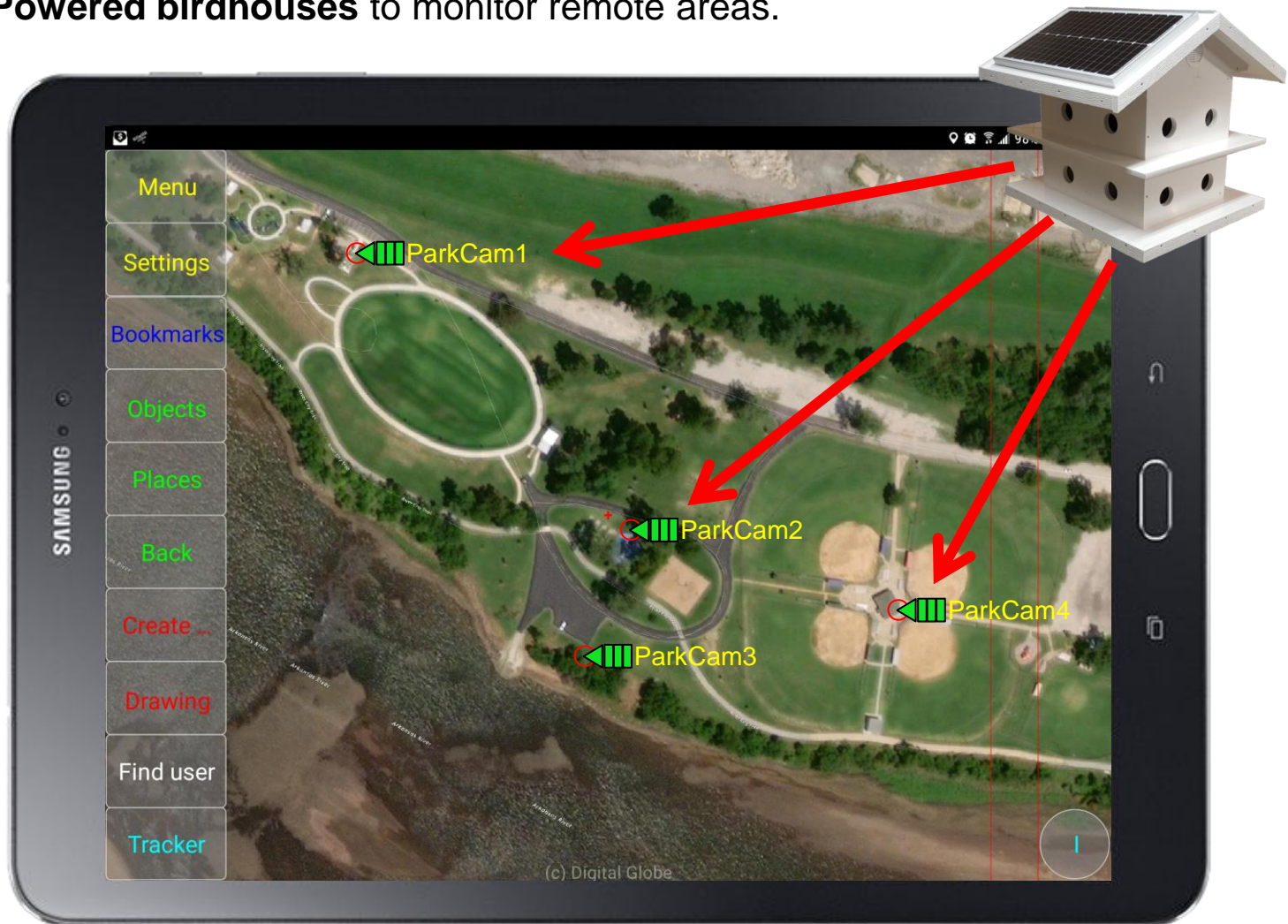
Screen Examples of Key Features

SentryMDU Worldwide Coverage

Worldwide coverage allows connection to remote devices in ANY location where WiFi or Cellular internet access exists.

SentryMDU Mobile Object Panel

Access audio, video, sensors and data on remote devices.
Turn on the camera of the remote device.

SentryMDU Remote Video Monitoring

Monitor audio-video from remote devices.
Example of a vehicle live streaming a "dash-cam" video.

Sentry MDU Mobile App – Feature Examples

SentryMDU Motion Detection

Motion detection features include masking and sensitivity.
Triggered events will send you a notification with video image.
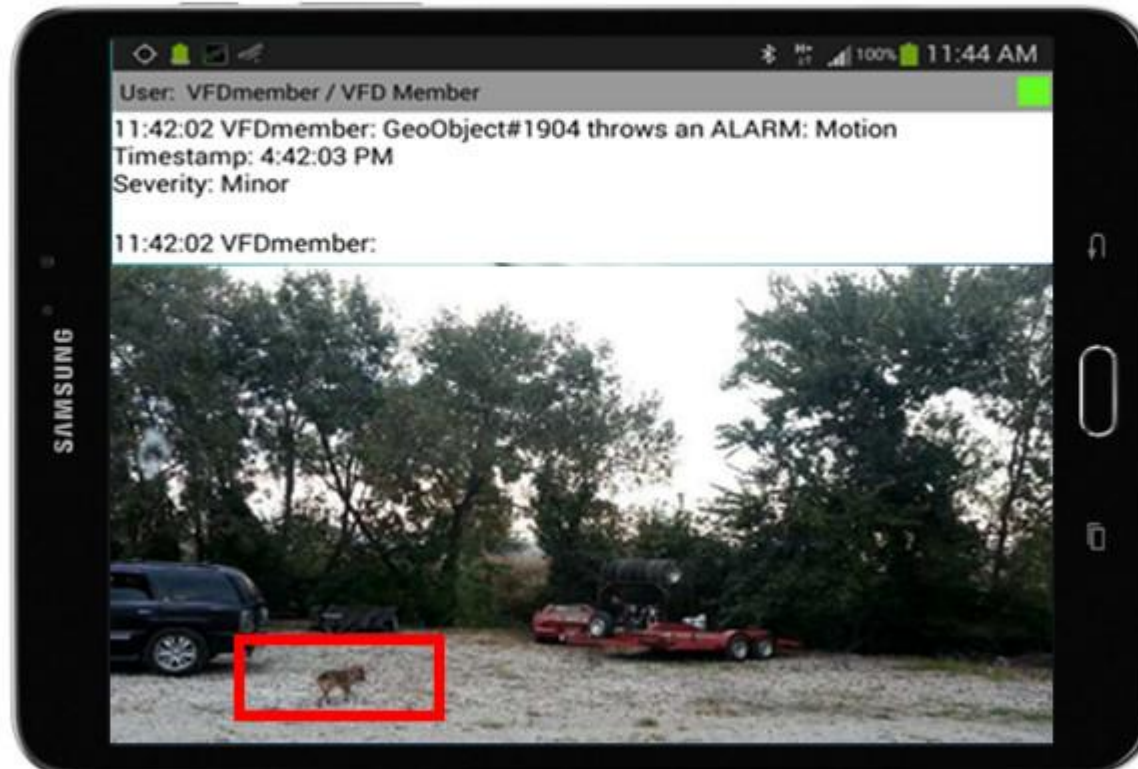
SentryMDU Object Recognition

Object Recognition features use artificial intelligence (A.I.)
to recognize 20 object categories (people, cars, animals, etc).

SentryMDU Map Objects Feature

Place map objects on the satellite overlay.
Then you may attach documents, video, pictures and
other reference materials to the GPS location of these objects.

Options for Monitoring Remote Areas

Increase the ability to catch unauthorized access

1. To monitor the security of a **Remote Location** you will install an App on your smartphone or tablet. This App (it is free) could be installed by all of your employees or the Police Dispatch, or the 911 Center, or area Police Officers … it is up to you how many people you want to have access.

2. Depending on "how" you set up the security credentials of Users, any/all of these people could then "monitor" the mobile surveillance devices you set out in your Remote Location.

3. Monitor Only … if you only want to "watch" (monitor) your facilities you can do that. Click on the App, locate the device location on a high resolution satellite image, click on the icon and watch live video (or you can set Bookmarks for a one-click access).

4. Monitor and Record 24/7 … You can set up your devices to record 24/7 if you want. You can still monitor it anytime.

5. Monitor and Record by Schedule … You probably don't want to record 24/7, so you have options where you can turn on-off the recording at scheduled times. Record during closed hours.

6. Trigger recording via motion detection … You can configure each device to be triggered by motion. You will need to decide how sensitive you want it to be when triggered (by a bug, a mouse, a dog, an elephant).

7. Trigger recording via Object Recognition … This feature uses an Artificial Intelligence (AI) engine to attempt to determine "what" it is looking at in the video. There are 20+ categories including people, animals, vehicles, etc. Unlike "motion detection", which could trigger on either a person or a dog, if you set the Object Recognition feature to trigger on a "Person", then you will only get a triggered Alert if the AI Engine determines that the object meets the criteria of a "Person" within a certain probability (set by you).

8. Send triggered Alerts to yourself or one of your employees … In the event unauthorized activity is taking place, or the device notices that "people" are in places they should not be, at times they should not be there … the device will send you an Alert Notification to your Smartphone. Click on the button and view a live-streaming video of the scene. Of course, it is also recording so you can go back and look at it later (if you don't want to be up at 2am in the morning).

9. Send triggered alerts to Police Dispatch … In addition to sending Alerts to yourself, you may want to send these alerts to Police Dispatch. The Dispatch Personnel would have a smartphone/Tablet with the SentryMDU App installed and configured to receive the Alerts and be able to watch live video from the Remote Location . They could dispatch a Police Officer to the scene as they monitor the situation.

10. Send triggered alerts to Police Officers on duty … In addition to sending Alerts to yourself, or Dispatch, you may want to send these alerts directly to local Police Officers that are on duty at the moment. The Police Officers would have a smartphone (I assume most already have smartphones) with the SentryMDU App installed and configured to receive the Alerts and be able to watch live video from the Remote Location . Since the GPS location of the triggered device and location of the available police officers will show on the satellite image, the closest available officer could take the call.

11. Monitor Existing Cameras you have installed … If you already have "some" cameras installed. The SentryMDU System has the ability to also access these cameras and make them available to anyone that has the App installed on their smartphone.

Next Steps

Suggested Next Steps

1. Think about it, consult with associates and other potential stakeholders.

2. Visit the **Digi-Lumen Technologies LLC** website (www.Digi-Lumen.com).

3. Visit the **YouTube Website** and review some of the videos posted on the **SentryMDU YouTube Channel**.

4. Download the **SentryMDU Mobile Device User Guide** and review.

5. Optional – Download and install the SentyMDU App on a mobile device and play around with it. Others may do the same (it is FREE).

6. Review the SentryMDU Features List and determine if your organization can benefit from the use of the SentryMDU System.

7. Decide to implement the SentryMDU System for your Organization.

Appendix

https://www.digi-lumen.com

Section on Solar Power Enclosures

SentryMDU App on DLT Website

Search for: SentryMDU