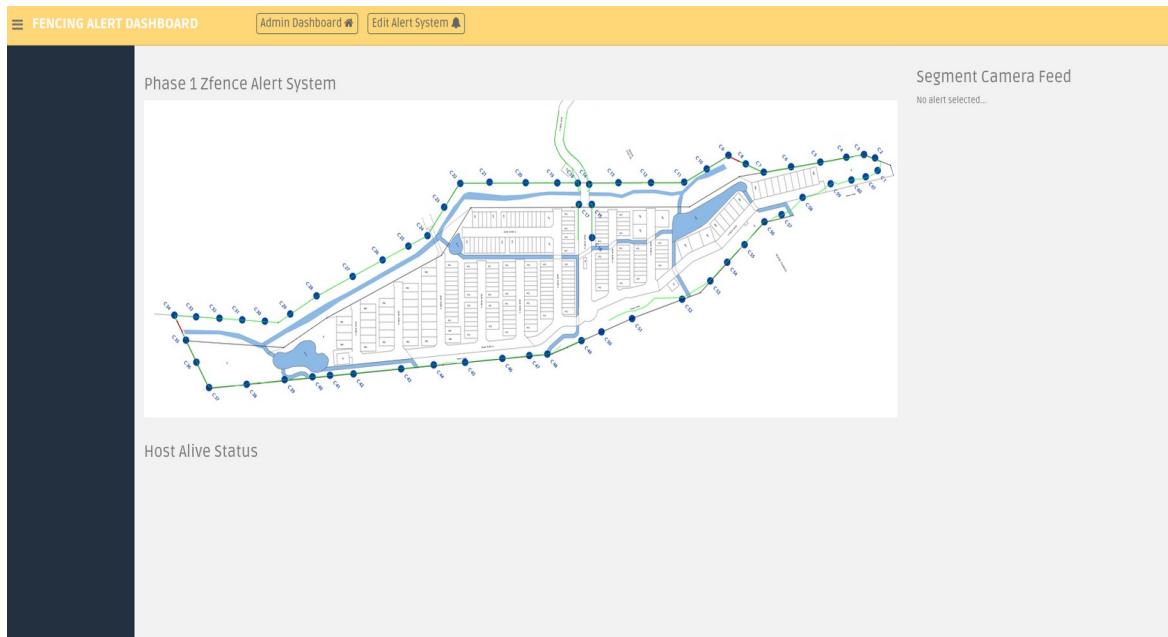


# User Manual

## FENCE Monitoring System

Advance Communications Sdn. Bhd.

version 1.0



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## **Overview**

FENCE monitoring system is a web application used together with the FENCE hardware provided by Advance Communications Sdn. Bhd. The monitoring system can be viewed via a web browser (Mozilla Firefox) and works best with existing CCTV monitoring applications.

This user manual intended for end-user admins and operators to get a basic understanding on how to use the monitoring system effectively. The manual is divided into 2 major section, one featuring some configuration know hows and one featuring the operation manual (viewing and registering alerts triggered by the sensors)

# Basic Manual

This is a preface section describing basic operations that one should know in order to use the system.

## Login

To login and gain access to the monitoring system, first open up a web-browser (preferably Mozilla Firefox) and navigate to the IP address in which the system is installed on. In our example, the server is installed on the SAME machine as the web-viewer, and we use the loopback IP address (127.0.0.1 or localhost). For installations on DIFFERENT machines, navigate to the following page :

`http://<SERVER_IP>:<SERVER_PORT>/login`

where one would replace <SERVER\_IP> with the IP address of the server and <SERVER\_PORT> with the port number which the service is running on the server. The DEFAULT port which the system runs on is 8000. A sample login from the web-browser is shown in Figure 1. The URL used in the example is framed in a blue rectangle.

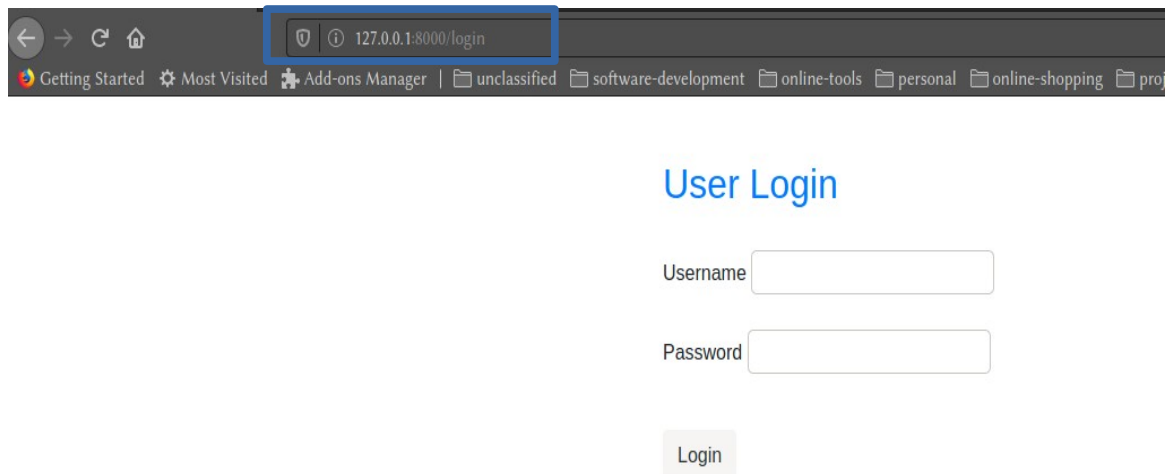


Figure 1 – Login Page

The default username is “admin” while password is “test123”. One may change this after logging in.

# Navigation

After logging in, the user should be greeted by a page shown in Figure 2.

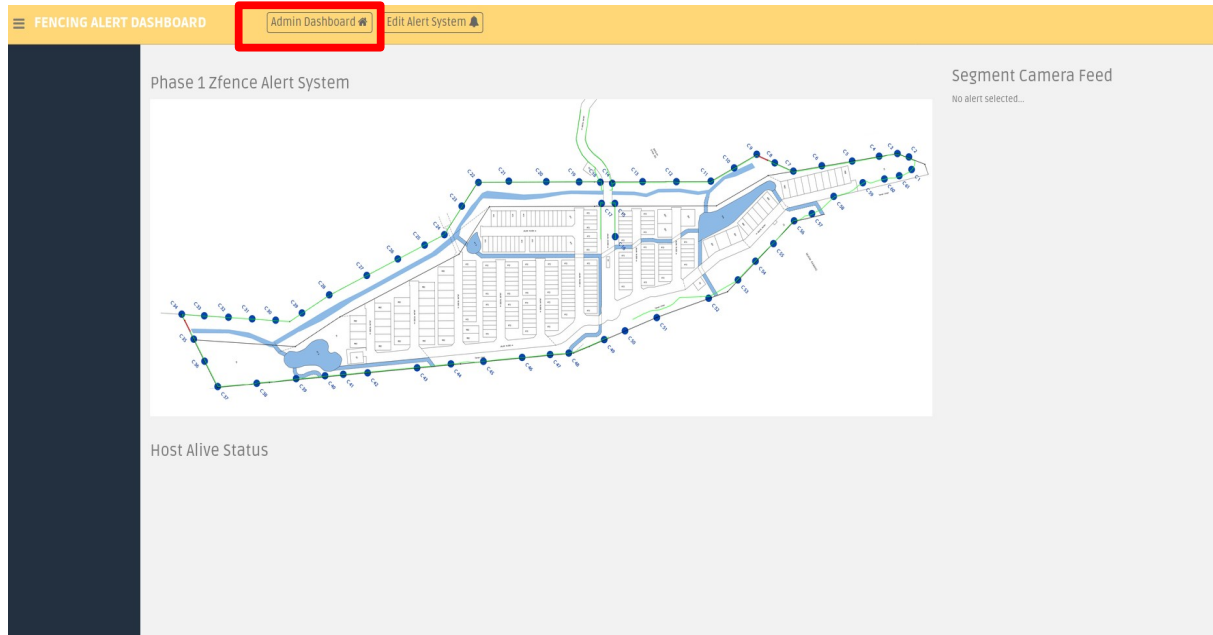


Figure 2 – Landing Page

Once here, the user may click on “Admin Dashboard” to navigate to the administrative dashboard. Alternatively, the user may also click on “Edit Alert System” to perform configuration on alert layouts which will be further discussed in latter sections.

Figure 3 shows a screen capture of the admin dashboard. The user may perform a wide variety of tasks on the dashboard.

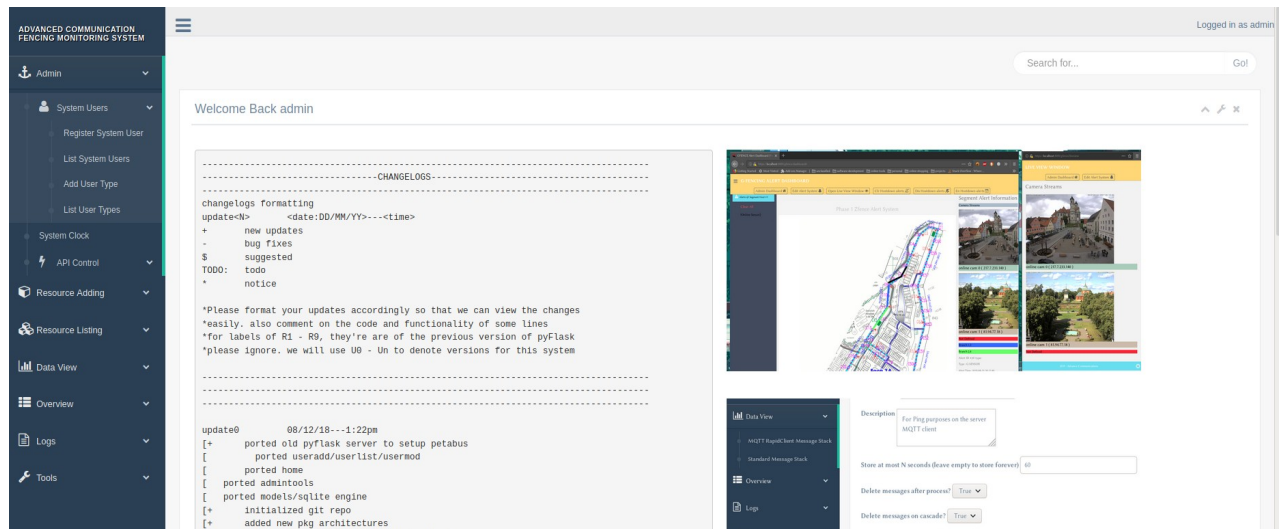


Figure 3 – Admin Dashboard Page

## Admin Section

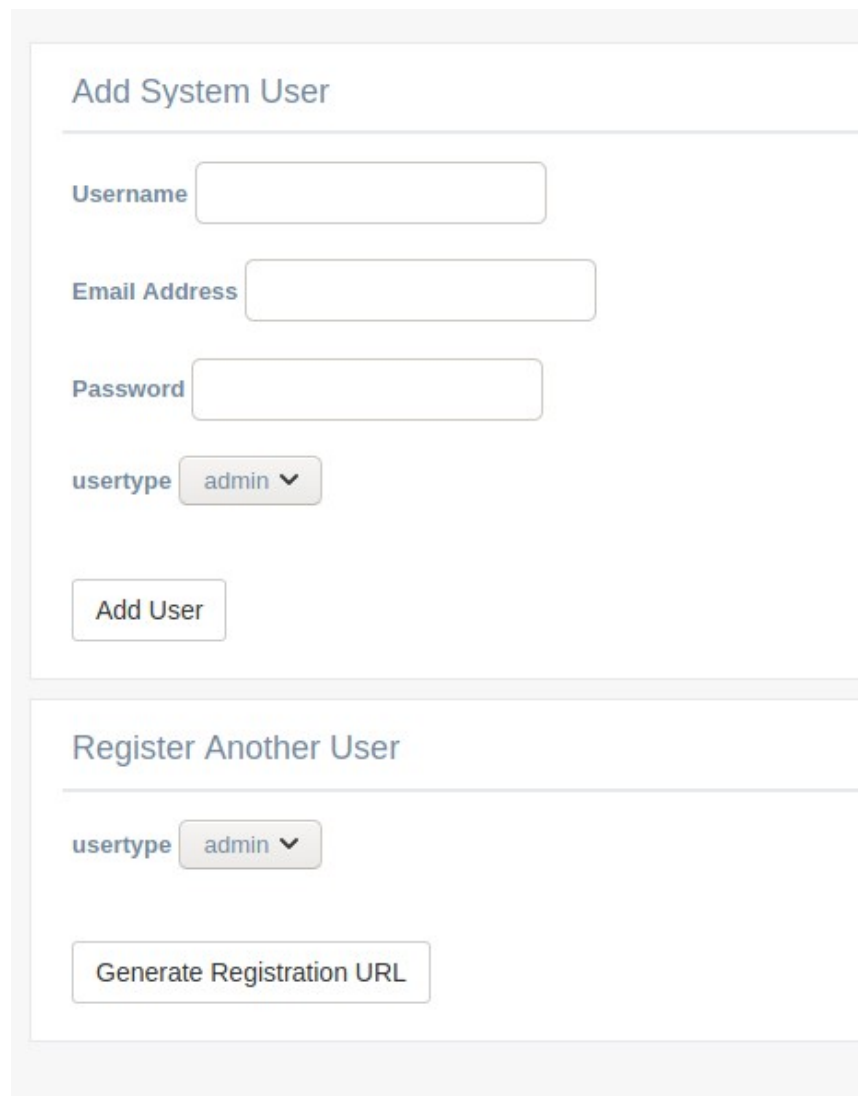
This section describes some administrative tasks crucial to using the monitoring system.

### System Users

This section describes actions that can be performed to handle system users. Most actions are performed under the “System Users” menu.

#### Add New Users

To add new users, navigate to “Register System User”. One could either register by direct adding or by sending a registration URL. Figure 4 shows the two options.



The image shows two web forms for adding system users. The top form, titled "Add System User", contains input fields for "Username", "Email Address", and "Password", followed by a "usertype" dropdown menu set to "admin", and an "Add User" button. The bottom form, titled "Register Another User", contains a "usertype" dropdown menu set to "admin" and a "Generate Registration URL" button.

Figure 4 – Top (Add users directly)

Bottom (Create a URL to add user, URL may be sent to another machine that has access to the server)

## Listing / Delete Users

Navigate to “List System Users” to inspect the list of registered system users. One may also change the password of users here. Simply click on the Blue “Change Password” button to perform a password change. Figure 5 shows an sample list of 2 users. Obviously, one may also delete a user account by clicking on the red “Delete” button. But beware, do not delete the ONLY admin account as no one will be able to add new users back into the system again.

Userlist of the system Search for...

Showing 1 to 2 of 2 entries

Username	Email Address	User Type	Privilege Level	Created On	Options
admin	chia_jason96@live.com	admin	0	2019-12-22 17:42:03	<span>Modify</span> <span>Change Password</span> <span>Delete</span>
user0	example@email.com	seer	1	2019-12-22 17:42:03	<span>Modify</span> <span>Change Password</span> <span>Delete</span>

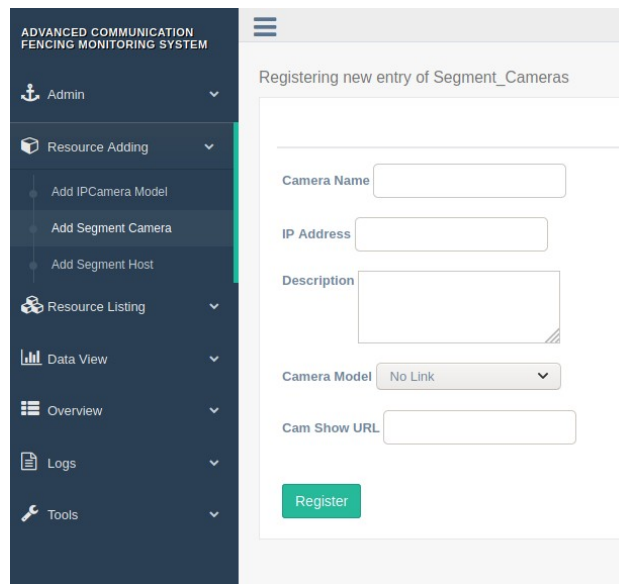
Figure 5 – Listing System Users and Changing Password

# System Resources

System resources are configuration that requires hardware settings as well.

## Adding System Resources

To add new resources, navigate to “Resources Adding” and one may add new Segment Host, Segment Cameras as well as the Camera Models. Figure 6 shows how to add new Segment cameras. One must first define a IP Camera Model first BEFORE adding new cameras, the IP camera model tells the monitoring system HOWTO obtain the JPEG captures.



The screenshot displays the 'Advanced Communication Fencing Monitoring System' interface. On the left is a dark blue sidebar with a menu including 'Admin', 'Resource Adding', 'Resource Listing', 'Data View', 'Overview', 'Logs', and 'Tools'. The 'Resource Adding' menu is expanded, showing sub-options: 'Add IPCamera Model', 'Add Segment Camera' (which is highlighted with a green bar), and 'Add Segment Host'. The main content area on the right is titled 'Registering new entry of Segment\_Cameras'. It contains a form with the following fields: 'Camera Name' (text input), 'IP Address' (text input), 'Description' (text area), 'Camera Model' (a dropdown menu currently showing 'No Link'), and 'Cam Show URL' (text input). A green 'Register' button is located at the bottom of the form.

Figure 6 – Adding new Segment Cameras



# Listing System Resources

Figure 7 shows a list of registered Segment Host. Like System Users, resources are modified by first Listing them, then one would just modify whichever of their liking.

ADVANCED COMMUNICATION  
FENCING MONITORING SYSTEM

Admin

Resource Adding

Resource Listing

List IP Camera Models

List Segment Cameras

List Segment Hosts

Edit GFElements

Data View

Overview

Logs

Tools

Logged in as admin

RPI Segment Host

entries

Search

ID	Box	IP address	Description	#GElements branch1	#GElements branch2	#GElements branch3	#GElements branch4	Fault Alerts Disabled	Host Alive Status	Options
1	Test Box 01	1.1.1.1	Sample	30	30	30	30	None	unknown	<div>ModifyDelete</div>
2	Test Box 02	1.1.1.2	Sample	15	0	0	0	None	unknown	<div>ModifyDelete</div>
3	Test Box 03	1.1.1.3	Sample	0	15	0	0	None	unknown	<div>ModifyDelete</div>
4	Test Box 04	1.1.1.4	No G-SENSOR	0	0	3	3	None	unknown	<div>ModifyDelete</div>
5	Test Box 05	1.1.1.5	NO RADAR	5	5	0	0	None	unknown	<div>ModifyDelete</div>

Showing 1 to 5 of 5 entries

Previous1Next

Figure 7 – Listing System Resources

Editing entry for Segment\_Cameras Resource : 3

Camera Name

France insecure cam 01

IP Address

80.11.245.147:8081

Description

insecure cameras found online @ france

Camera Model

Mobotix Online Insecure

Cam Show URL

Submit Changes

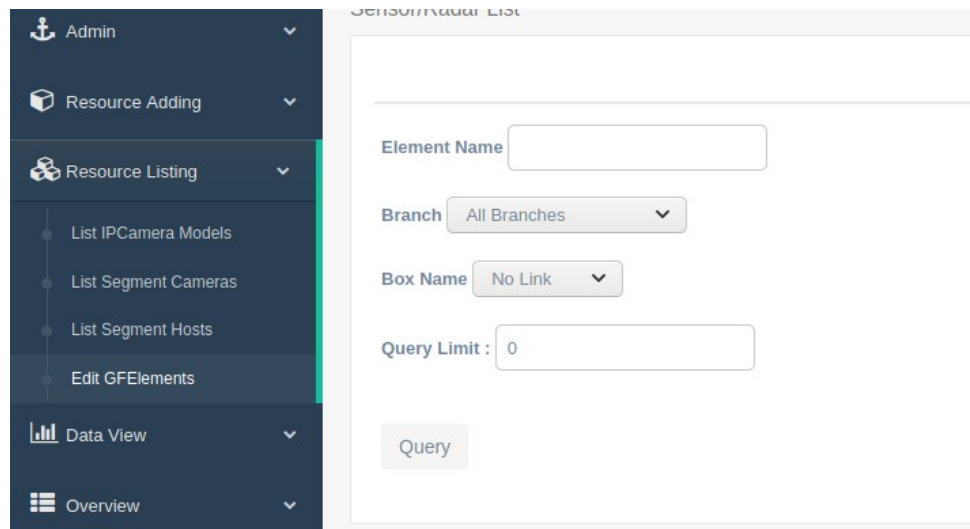
Figure 7.1 – Editing a resource. Hit “Submit Changes” to register the new modifications

## GFE Elements

GFE elements are general elements on the FENCE system. Configuration of GFE element is important as it determines which sensors triggers which camera.

### Finding a particular GFE element

Figure 8 shows a search form to find a particular GFE element. Fill in the form accordingly (one may leave some values blank to indicate search for ALL)



The screenshot displays the FENCE system's user interface. On the left is a dark blue sidebar with a vertical list of navigation items: 'Admin', 'Resource Adding', 'Resource Listing', 'List IPCamera Models', 'List Segment Cameras', 'List Segment Hosts', 'Edit GFElements', 'Data View', and 'Overview'. The 'Resource Listing' item is expanded, and 'Edit GFElements' is highlighted. The main content area on the right is titled 'Sensor Radar List' and contains a search form. The form includes four input fields: 'Element Name' (a text box), 'Branch' (a dropdown menu with 'All Branches' selected), 'Box Name' (a dropdown menu with 'No Link' selected), and 'Query Limit' (a text box with '0' entered). A 'Query' button is positioned below these fields.

Figure 8 – Finding a GFE element

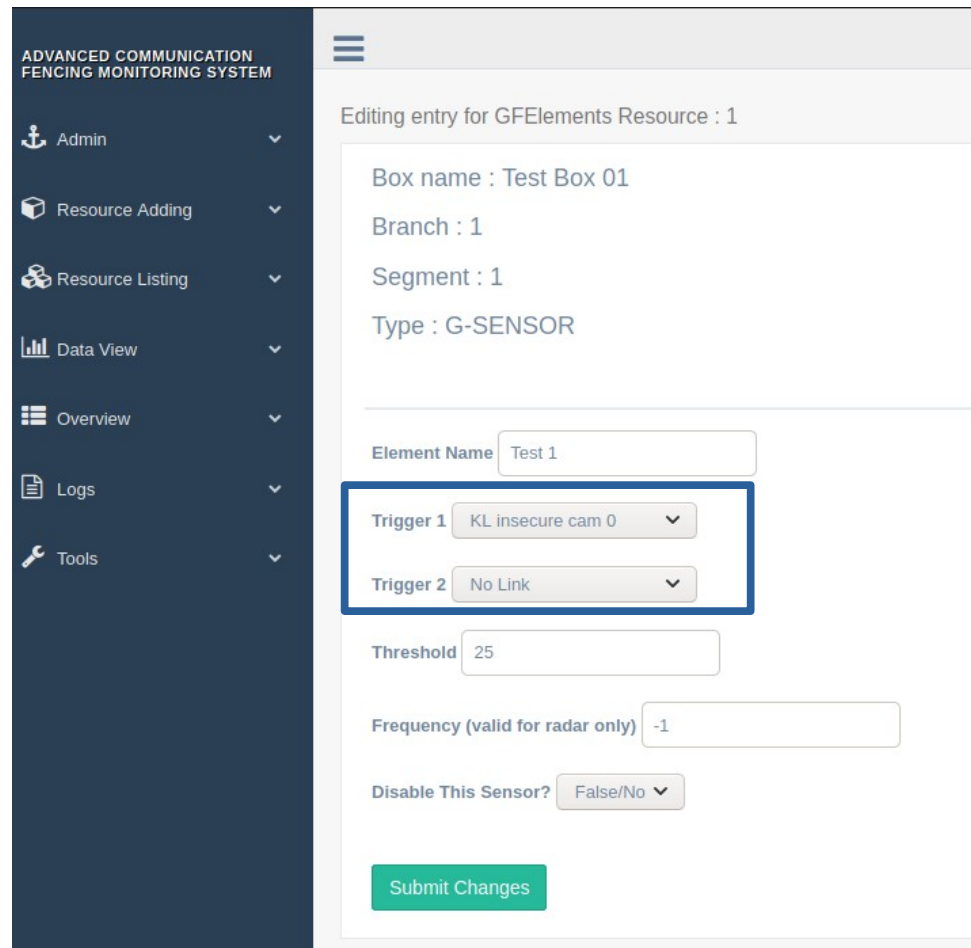
## Editing a GFE element

Once a GFE element is found, one can then edit its name, description as well as the cameras it triggers. Figure 9 shows a page which lists relevant GFE elements and Figure 10 shows modification of a selected GFE element. One may use the Search Box highlighted in red to further narrow down the search. Alternatively, clicking on column headers (highlighted in green) also sorts accordingly.



Element Name	Element Type	RPI ID	Box	Branch	Segment Number	Threshold	Frequency (valid for radar only)	Description	Trig Cam1	Trig Cam2	Disabled	Options
None	G-SENSOR	1	Test Box 01	1	3	25	-1	None	Unlinked	Unlinked	None	<button>Modify</button> <button>Delete</button>
None	G-SENSOR	1	Test Box 01	1	4	25	-1	None	Unlinked	Unlinked	None	<button>Modify</button> <button>Delete</button>
None	G-SENSOR	1	Test Box 01	1	5	25	-1	None	Unlinked	Unlinked	None	<button>Modify</button> <button>Delete</button>

Figure 9 – Listing of relevant GFE elements



ADVANCED COMMUNICATION FENCING MONITORING SYSTEM

- Admin
- Resource Adding
- Resource Listing
- Data View
- Overview
- Logs
- Tools

Editing entry for GFElements Resource : 1

Box name : Test Box 01

Branch : 1

Segment : 1

Type : G-SENSOR

Element Name

Trigger 1

Trigger 2

Threshold

Frequency (valid for radar only)

Disable This Sensor?

Submit Changes

Figure 10 – Editing a GFE element trigger. The highlighted blue section indicates the corresponding camera in which the GFE element will trigger. One may also disable the sensor via the “Disable This Sensor” dropdown.

## Viewing Alerts (As Admin)

Viewing alerts as an admin has more privilege. One can search for specific alerts (using the search box can improve results). Figure 11 shows a search form for the Alerts.

The screenshot shows a web interface titled "Triggered Alerts". Below the title is a search form with the following fields and values:

- Time From :** 01/03/2018
- Time Until :** 01/11/2020
- Box Name :** No Link
- Branch :** All Branches
- Reason :** Any Reason
- Sensor Type :** G-SENSOR & P-RADAR
- Segment # :** 0
- Query Limit :** 0

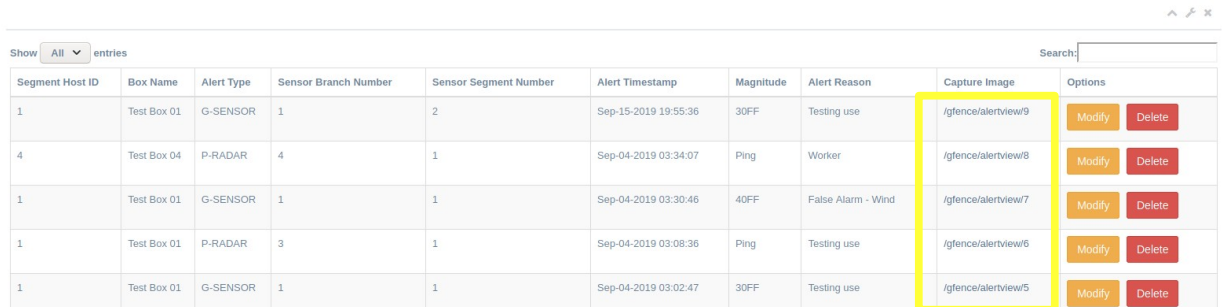
At the bottom of the form is a button labeled "Query".

Figure 11 – Searching for an Alert in the System

Leaving settings in default search for **all** alerts in the current year.

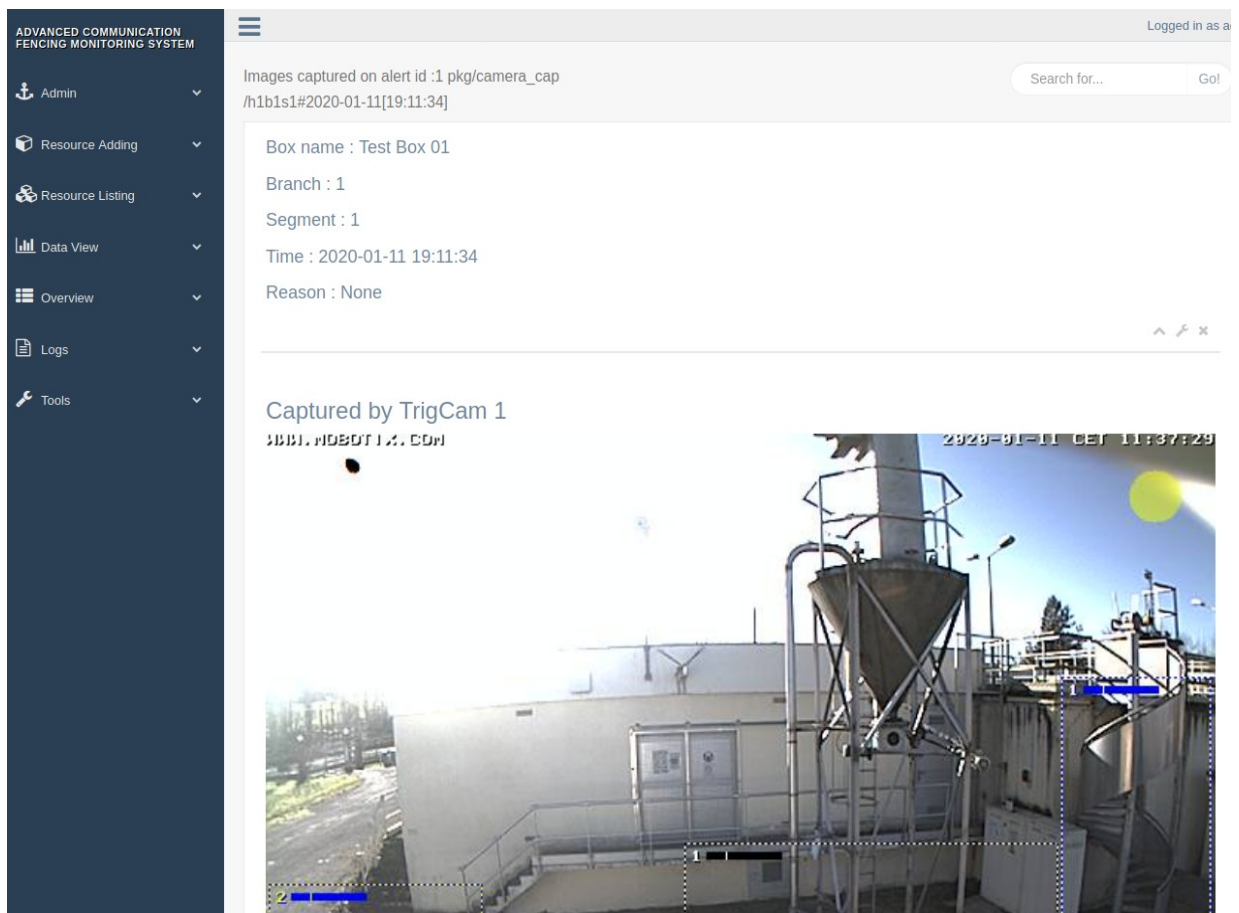
## Inspecting Alerts

Figure 12 shows how to inspect alerts. Do not click on Modify as the Alert database is READ ONLY. One would perform inspection by clicking on the highlighted text under the column “Captured Image”. Figure 13 shows a sample inspection of an alert. One could delete the alert if it is deemed uneventful.



Segment Host ID	Box Name	Alert Type	Sensor Branch Number	Sensor Segment Number	Alert Timestamp	Magnitude	Alert Reason	Captured Image	Options
1	Test Box 01	G-SENSOR	1	2	Sep-15-2019 19:55:36	30FF	Testing use	/gfence/alertview/9	<a href="#">Modify</a> <a href="#">Delete</a>
4	Test Box 04	P-RADAR	4	1	Sep-04-2019 03:34:07	Ping	Worker	/gfence/alertview/8	<a href="#">Modify</a> <a href="#">Delete</a>
1	Test Box 01	G-SENSOR	1	1	Sep-04-2019 03:30:46	40FF	False Alarm - Wind	/gfence/alertview/7	<a href="#">Modify</a> <a href="#">Delete</a>
1	Test Box 01	P-RADAR	3	1	Sep-04-2019 03:08:36	Ping	Testing use	/gfence/alertview/6	<a href="#">Modify</a> <a href="#">Delete</a>
1	Test Box 01	G-SENSOR	1	1	Sep-04-2019 03:02:47	30FF	Testing use	/gfence/alertview/5	<a href="#">Modify</a> <a href="#">Delete</a>

Figure 12 – Alert Listings, by clicking on the text under the “Captured Image” column, one could load the image of the captured alert as well as details regarding it.



ADVANCED COMMUNICATION FENCING MONITORING SYSTEM

Admin Resource Adding Resource Listing Data View Overview Logs Tools

Images captured on alert id :1 pkg/camera\_cap /h1b1s1#2020-01-11[19:11:34]

Box name : Test Box 01  
Branch : 1  
Segment : 1  
Time : 2020-01-11 19:11:34  
Reason : None

Captured by TrigCam 1

2020-01-11 19:11:37:29

The image shows a white building with a large metal structure on top, possibly a silo or a tower, and a blue sky in the background.

Figure 13 – Sample Alert Viewer

One more feature that an admin can use is to download the queried alerts as a form of comma separated values (csv). To do this, simply click on the highlighted button as shown on Figure 14.

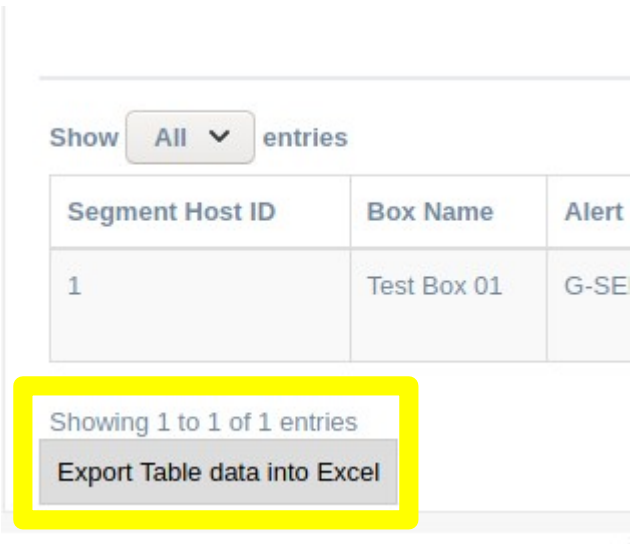


Figure 14 – Export the alert data onto excel comma separated value file (.csv)

# Operator Section

This section introduces an operator how to use the system to register an alert.

## Alerts

Figure 15 shows an alert on the system. When one opens the alert dashboard in their web browser, they will see the “RED line” flashing on the map as well as an alert sound played. An operator can view the alert by clicking on the highlighted region shown in the picture.

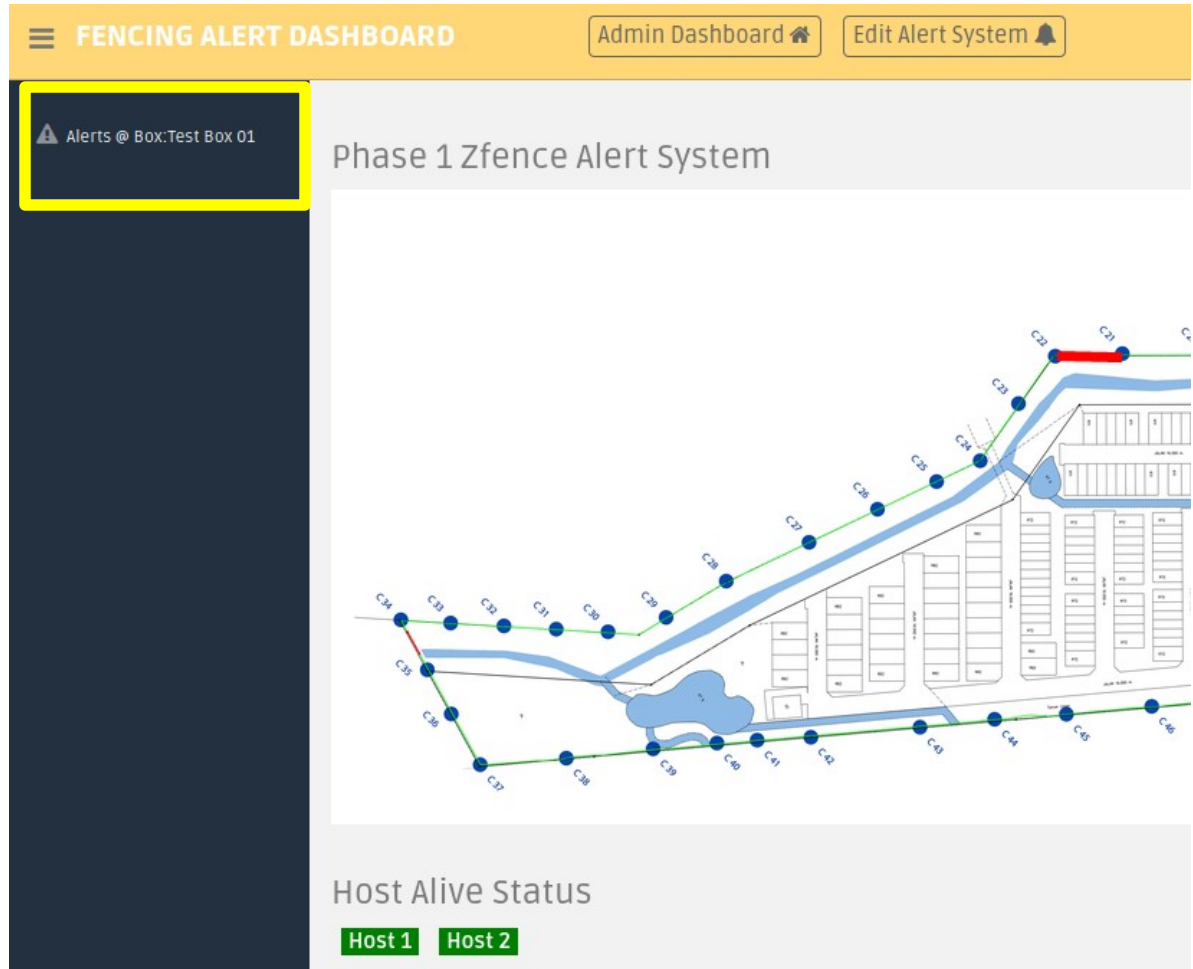



Figure 15 – A typical alert event.

Once an operator clicks on an alert, the following feed will be shown on the RIGHT panel on the Alert Dashboard. Shown in figure 16, one can view details of the alert.

## Segment Alert Information

### Camera Streams



France insecure cam 01 ( 80.11.245.147:8081 )

Not Defined

Branch 1,3

Branch 2,4

Alert ID #1 type:

Type : G-SENSOR

Sensor : Test 1

Alert Time :2020-01-11 19:11:34

Origin Host : 1

Box Name : Test Box 01

Branch : 1

Seg. Number : 1

Magnitude sm: 30

Figure 16 – Alert details

Alert ID : ID of the alert

Box Name : Name of the box that triggers the alert

Branch/Seg : Branch and Segment number of the GFE element

Blue lines indicate branch 1,3 and green lines indicate branch 2,4



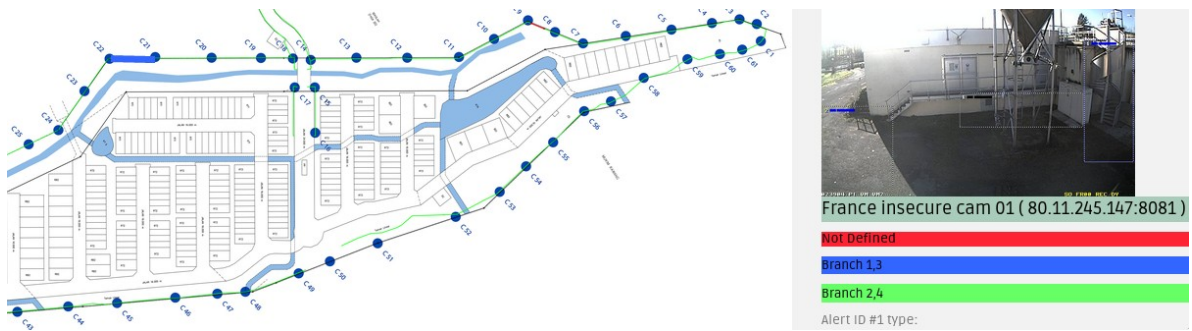


Figure 16.1 – Notice how the Red alert line turns to Blue when selected. This indicates that the alert comes from BRANCH 1 or 3, since they are on the same side.

Once determining the cause of the trigger, the operator may choose from the following shown in figure 17 about the cause of the alert.

Figure 17 – Selecting a cause

The operator just have to click on the cause and the alert will be registered. If the operator is unable to determine and would like to view other alerts, he/she may click on “Close alert details”, meaning that the alert will not be registered and kept for further inspection. Note that this way, the alert is still UNREGISTERED and will continue to sound the alarm.

## Host Down

Host status are displayed on the “Host Alive Status” panel. They are located below the map shown in figure 18.

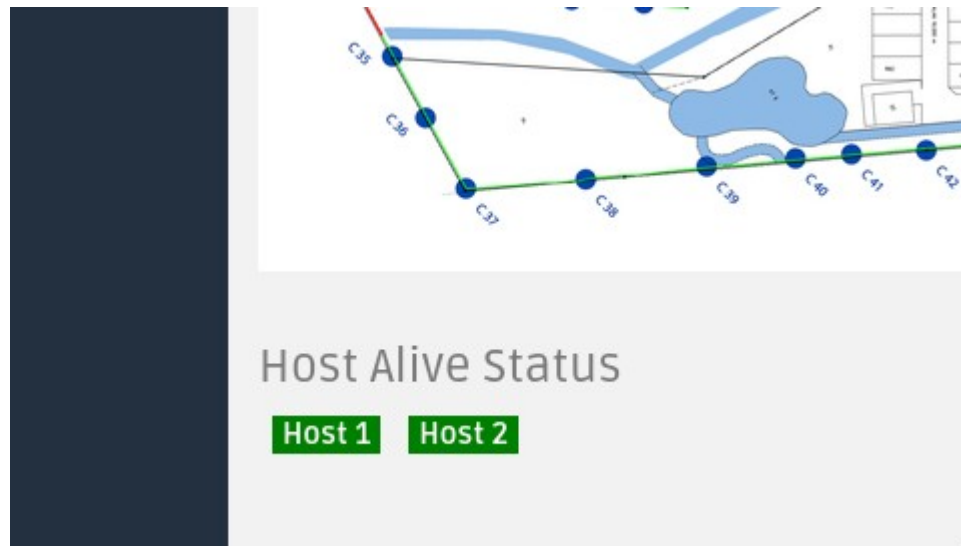


Figure 18 – Example of 2 host being “UP”.

Say for example, a host now is dead, the firmware on the box will send a message indicating it is no longer working. This will turn a block green as shown in figure 18.1

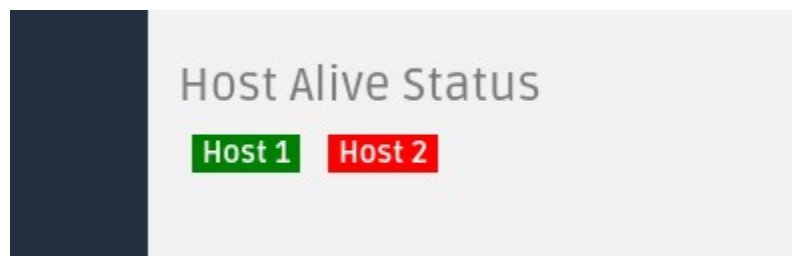


Figure 18.1 – Host down.

In addition to having a red block under the host alive panel, one may also see a BLACK line alternating with alerts. This meant that the section which was covered by that host is now no longer covered. (Meaning vibrations and proximity detections are now offline for the black sections). The black section can be shown in Figure 19.

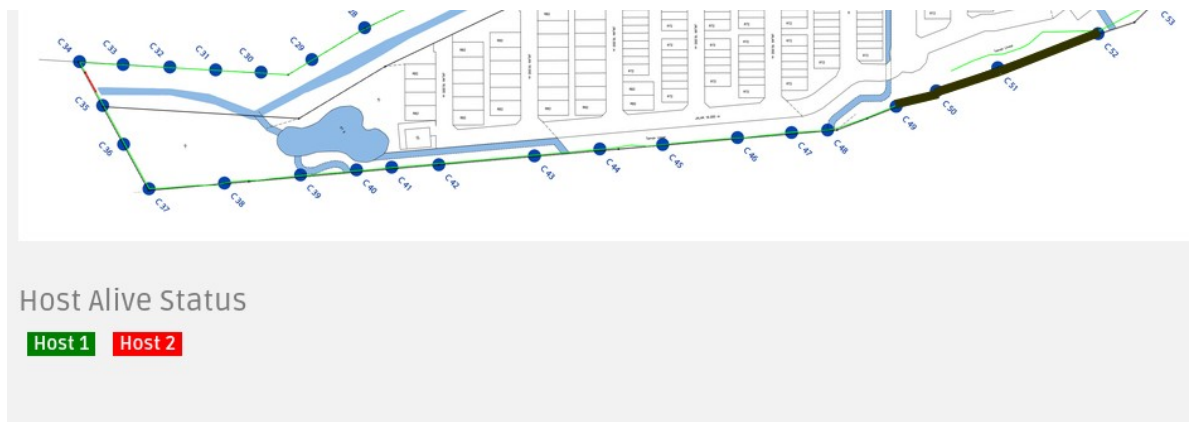


Figure 19 – Black section indicate that the section is now offline. Host 2 is the corresponding host that is now “down”