



Operating Instructions

i-PRO Active Guard Plug-in for Genetec



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1. INTRODUCTION

1.1. FEATURES

1.1.A. Terms in use

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Microsoft® Windows® are described as Windows.

1.1.E. Disclaimer of warranty

This product is designed to search/verify a specified face from database that stores face information and thumbnail images created based on faces captured by network cameras and display statistical information by operation using a client terminal or system compatible with this product. This product by itself is not designed for crime prevention. Our company accepts no responsibility for the following under any circumstances.

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- (5) ANY CLAIM OR ACTION FOR DAMAGES BROUGHT BY ANY PERSON OR ORGANIZATION AS A PHOTOGRAPHED SUBJECT DUE TO VIOLATION OF PRIVACY CONCERNING A SURVEILLANCE CAMERA'S PICTURE OR SAVED DATA, FOR SOME REASON (INCLUDING USE WHEN USER AUTHENTICATION ON THE AUTHENTICATION SETTING SCREEN IS SET TO OFF), BECOMING PUBLIC OR BEING USED FOR ANY PURPOSE;
- (6) LOSS OF REGISTERED DATA CAUSED BY ANY FAILURE (INCLUDING INITIALIZATION OF THE PRODUCT DUE TO FORGOTTEN AUTHENTICATION INFORMATION SUCH AS A USERNAME AND PASSWORD).
- (7) ANY PROBLEM, DAMAGE OR COMPLAINT CAUSED BY THE OPERATION BY A MALICIOUS THIRD PARTY.

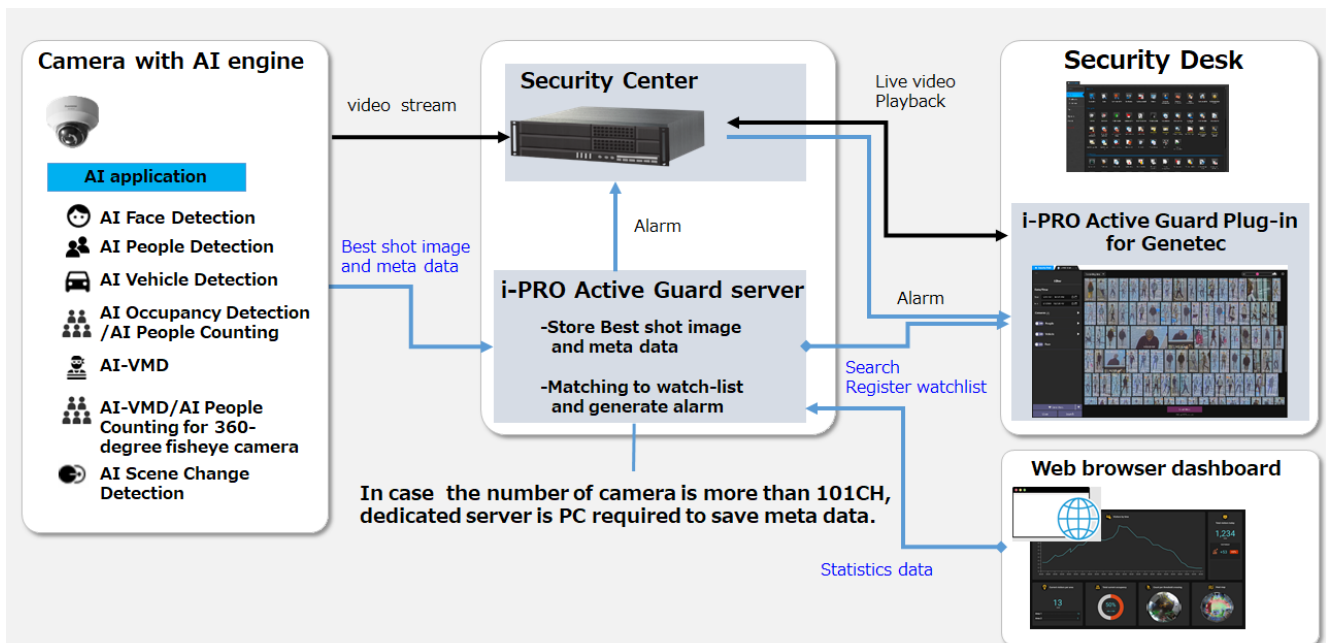
1.2. PREFACE

Setup is required before using the plug-in. Please refer to i-PRO Active Guard Setup Instructions for Genetec.

This operating manual is for dashboard function of i-PRO Active Guard Plug-in.

Regarding the operation of dashboard of i-PRO Active Guard server, please refer to i-PRO Active Guard server dashboard Operating Instructions.

1.3. SYSTEM OVERVIEW



AI application or AI function on cameras transmit video stream to Security Center and transmit Best shot images and meta data to i-PRO Active Guard server.

i-PRO Active Guard server stores those data and also generate alarm when face or people is matched to watchlist.

i-PRO Active Guard Plug-in (hereinafter referred to as "Plug-in") which is the plug-in software for Security Desk can search Best shot images, register watchlist, show live video, recorded video, and alarm.

By visualizing statistics data from AI application on the web browser, it can also be used for business intelligence.

2. i-PRO ACTIVE GUARD PLUG-IN

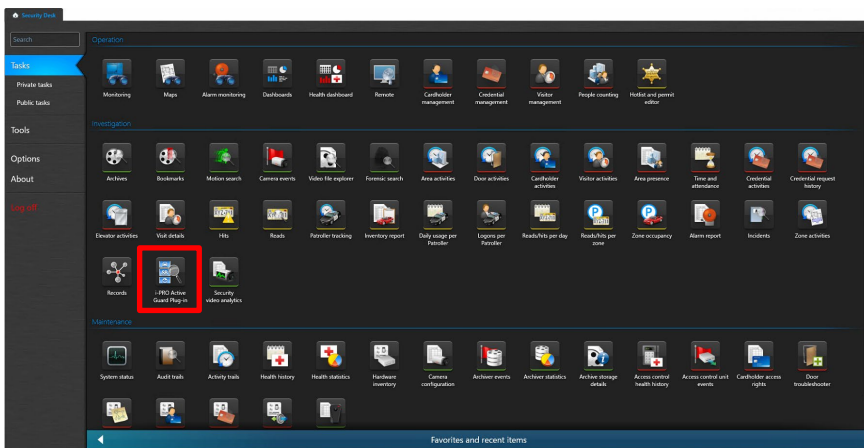
2.1. START-UP AND TERMINATE PLUG-IN

2.1.1. Start-up Plug-in

To open Plug-in, start-up Security Desk and log in first.
For more detail about Security Desk, refer to the Genetec user manual.



If you completed installation for Plug-in, you can find the application Plug-in as below.

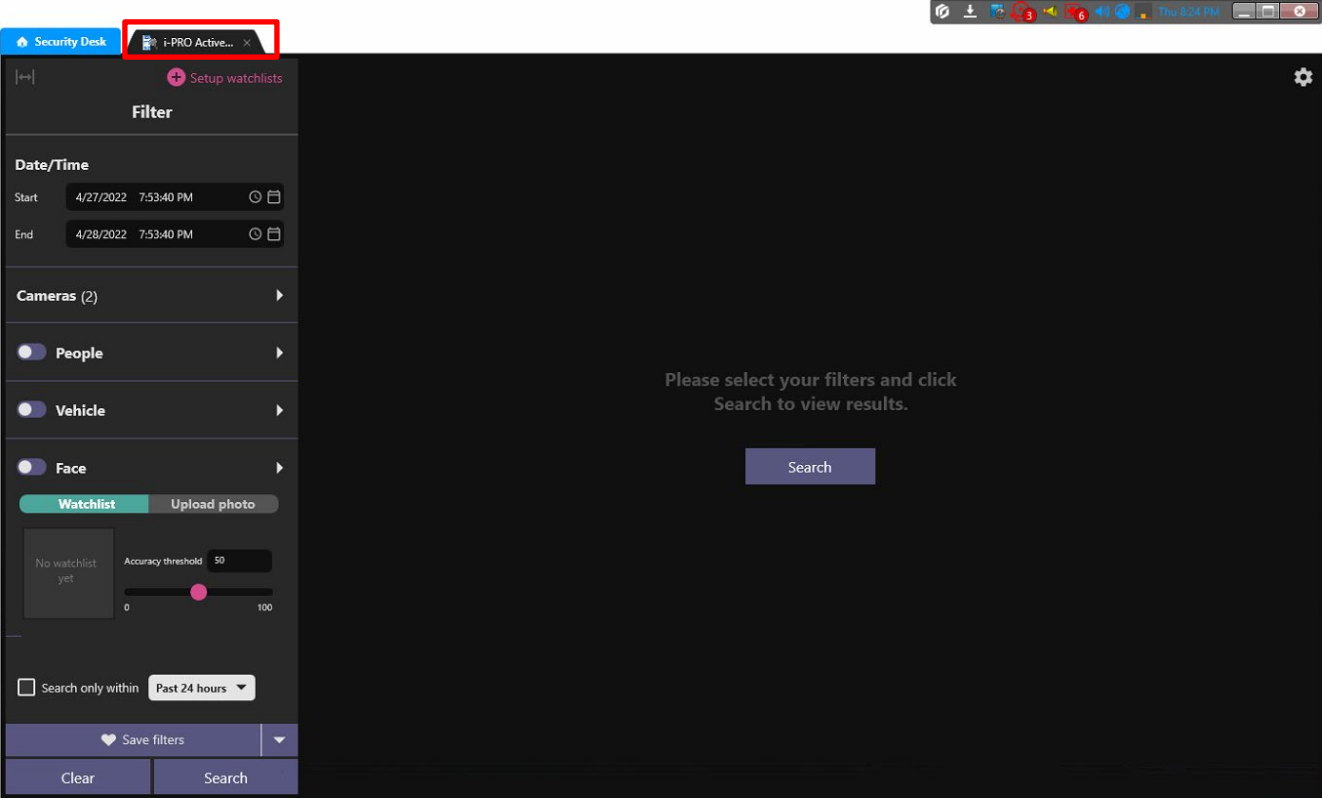


To start-up Plug-in, click the plug-in icon.



2.1.2. Terminate plug-in

To terminate i-PRO Active Guard Plug-in, just close the workspace.



2.2. SEARCH DETECTED OBJECTS

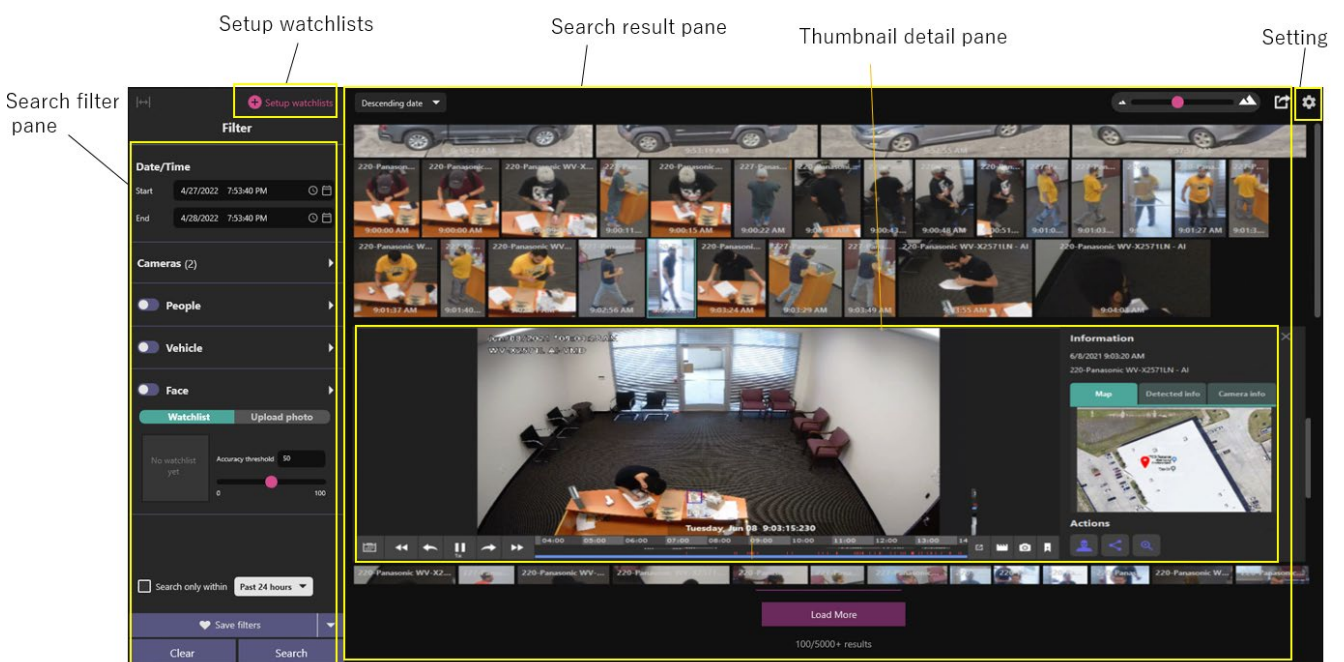
Using i-PRO Active Guard Search, you can quickly find thumbnails of AI Camera detected objects including: person, vehicle and face.

2.2.1. UI Component

i-PRO Active Guard Search has three main parts such as search filter pane, search result pane and thumbnail detail pane, also has watchlists menu and other settings.

2.2.1.1. Overview

In this section, it describes the elements that compose the recording search.



Search filter pane	Date/Time filter	Start time and end time for search objects.
	Cameras filter	Specify AI Cameras for search objects.
	People filter	Specify personal features such as gender, age, hair color, etc.
	Vehicle filter	Specify vehicle features such as type, color, etc.
	Face filter	Specify face image from watchlist or upload photo.
	Search only within	Check and select from Past 24 hours/Past week/Past month. When checked, Date/Time filter are ignored.
	Save filters	Save filter settings with name up to 12.
	Clear	Clear filter settings.
Search result pane	Search	Start thumbnail search.
	Sort	Sort search results by descending, ascending and analysis score.
	Zoom in/out	Zoom in and out thumbnail results area.
	Export	Export search result as HTML.
	Detected thumbnail	Click and open thumbnail detail pane. Right click and save the thumbnail as picture or video clip.

	Results count	Show the thumbnail search results count.
Thumbnail detail pane	Thumbnail detail pane	Video control, information such as camera location, analysis score and camera information. Refer to 2.2.1.3 for detail.
Set up watchlists	Face watchlist	Setup face watchlist.
	People watchlist	Setup people watchlist.
	Vehicle watchlist	Setup vehicle watchlist.
Settings	Preferences	Setup some environments for playback.

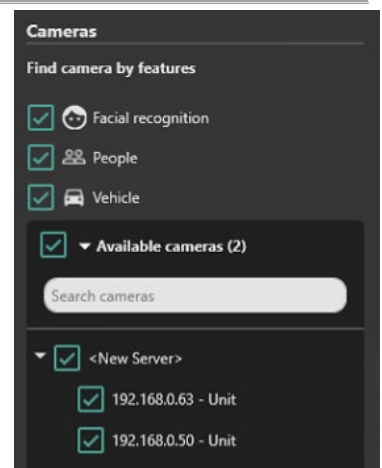
2.2.1.2. About search filters

In this section, it describes search filters that can narrow the search results down.

Please refer to the documentation below regarding setup of cameras and map.
i-PRO Active Guard Setup Instruction for Genetec.pdf

A. Camera filter

Select the cameras to be searched from the available camera list. Using Find camera by features, you can select only cameras which have specific AI capabilities.



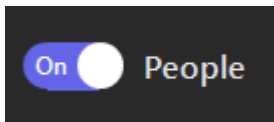
Cameras also can be selected from map. Select target map then select camera icons. The map is optional, setup is required prior to using this function.

When you register or change the map on VMS, terminate plug-in and start again.



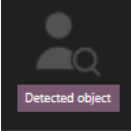
B. People filter

With the People filter enabled, only the thumbnails are shown which AI Camera with people detection app detected.



Also using filter panel, you can apply the search condition.



Features and controls	Description
	Uploading people picture If picture is uploaded, features are automatically detected.
Gender	Male, Female
Age	Child(0~10), Young Adult(11~20), Adult(21~60), Senior(61+)
Hair type	Long-hair, Short-hair, Hat
Hair color	Black, Gray, White, Brown, Gold
Top type	Short-sleeves, Long-sleeves
Top color	Black, Gray, White, Brown, Orange, Yellow, Green, Blue, Purple, Pink, Red
Bottom type	Long, Short
Bottom color	Black, Gray, White, Brown, Orange, Yellow, Green, Blue, Purple, Pink, Red
Sunglasses	Sun Glasses, No Glasses
Beard	Beard, No Beard
Mask	Mask, No Mask
Bag	Bag, No Bag
Bag color	Black, White, Brown, Orange, Yellow, Green, Blue, Purple, Pink, Red
Shoes color	Black, White, Brown, Yellow, Green, Blue, Red
Moving Direction	Up, Up right, Right, Down right, Down, Down left, Left, Up left
Others	Recognizable face only can show person thumbnails with clarify face. Black & White image only(Color image only when unchecked) Note) Black & white images may show in the search results even if only Color images only is specified.
Threshold	There are Low, Average and High.
Exclude searched color	If this selected, the color will exclude from search results.
Include similar color	If this selected, the color similar to the specified color will be automatically selected.

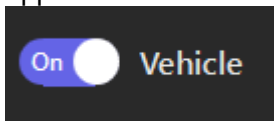
Note)

If the specified color does not appear in the search results, it may be displayed in the search results by selecting and searching for the following similar colors together.

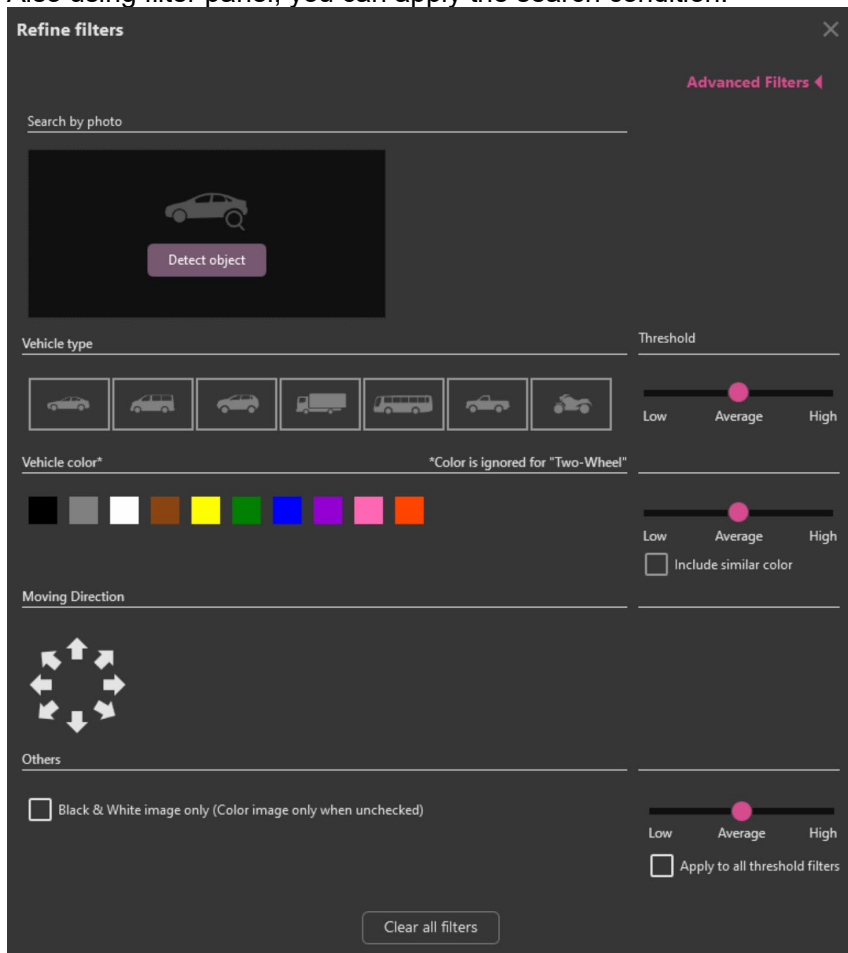
Color to be searched	Similar color (The order is similar from the left)
Black	Gray
Brown	White, Yellow, Orange
White	Gray, Blue, Brown, Yellow, Orange
Gray	Black, White, Blue
Green	Blue, Black, Yellow
Red	Orange, Pink
Blue	Green, Black, Purple
Yellow	Green, White, Brown, Orange
Orange	Red, Brown, Yellow
Purple	Pink, Blue, Black
Pink	Red, Purple

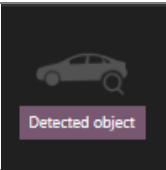
C. Vehicle filter

With the Vehicle filter enabled, only the thumbnails are shown which AI Camera with vehicle detection app detected.



Also using filter panel, you can apply the search condition.



Features and controls	Description
	Uploading vehicle picture If picture is uploaded, features are automatically detected.
Type	Truck, Bus, SUV, Van, Sedan, Pickup Truck, Two-Wheel
Color	Black, Brown, White, Gray, Red, Blue, Yellow, Green, Purple, Pink
Moving Direction	Up, Up right, Right, Down right, Down, Down left, Left, Up left
Others	Black & White image only(Color image only when unchecked) Note) Black & white images may show in the search results even if only Color images only is specified.
Threshold	There are Low, Average and High.
Include similar color	If this selected, the color similar to the specified color will be automatically selected.

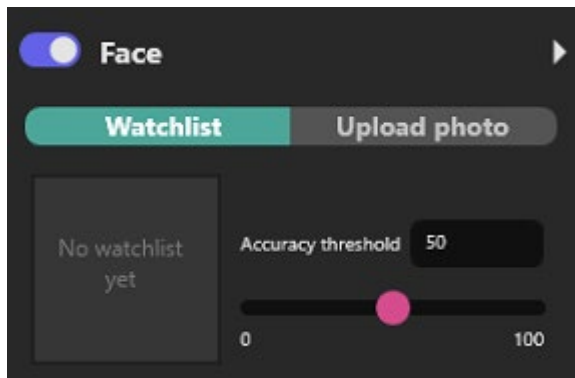
Note)

If the specified color does not appear in the search results, it may be displayed in the search results by selecting and searching for the following similar colors together.

Color to be searched	Similar color (The order is similar from the left)
Black	Gray
Brown	Gray, White
White	Gray, Blue, Brown, Yellow
Gray	Black, White, Blue
Green	Blue, Black, Yellow
Red	Pink
Blue	Green, Black, Purple
Yellow	Green, White, Brown
Purple	Pink, Blue, Black
Pink	Red, Purple

D. Face filter

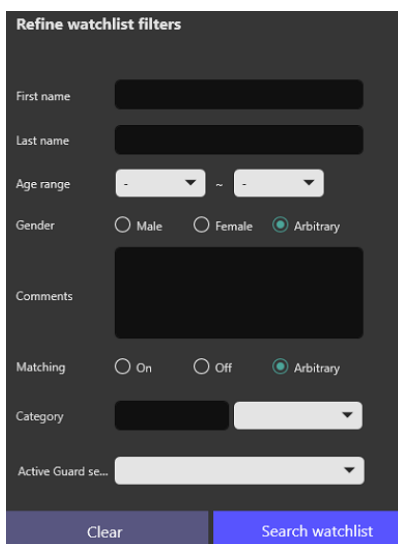
With the Face filter enabled, only the thumbnails are shown which AI Camera with face detection app detected. Also using filter panel, you can apply the search condition.



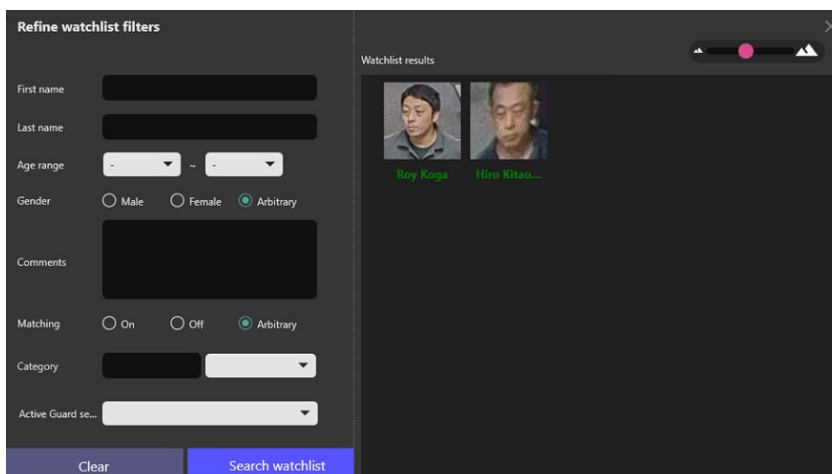
Watchlist

Select face from watchlist and search similar face.

Click [Search watchlist] with search conditions.



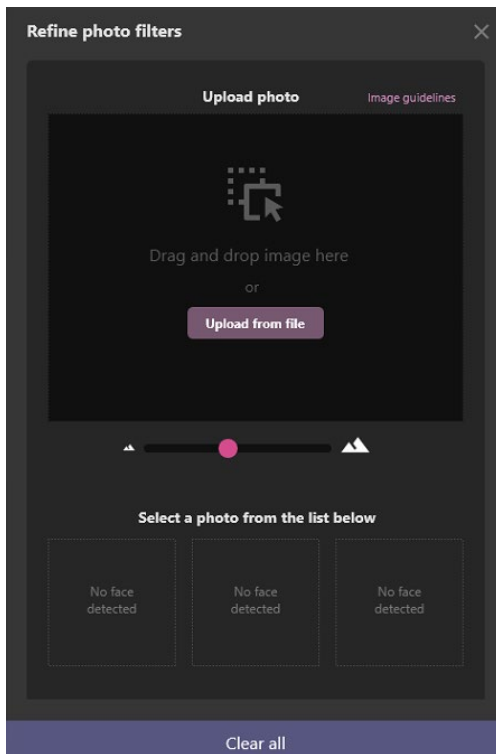
Select face from search result.



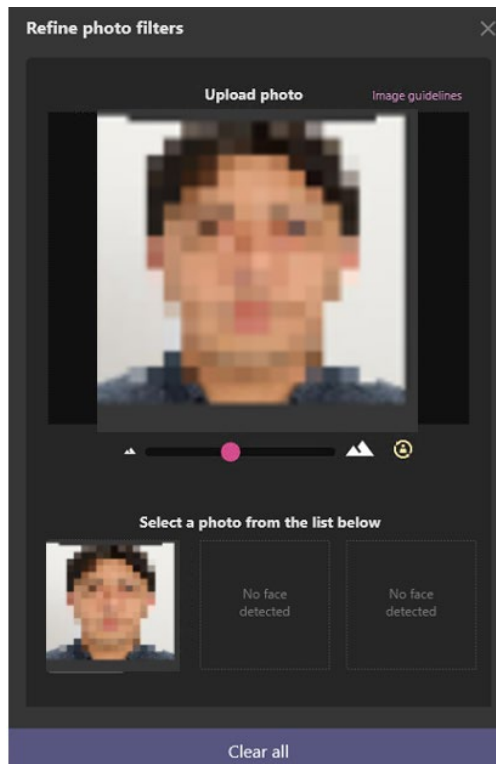
Upload photo

Upload image file that includes face and search similar faces.

Click icon or drag and drop the image file.

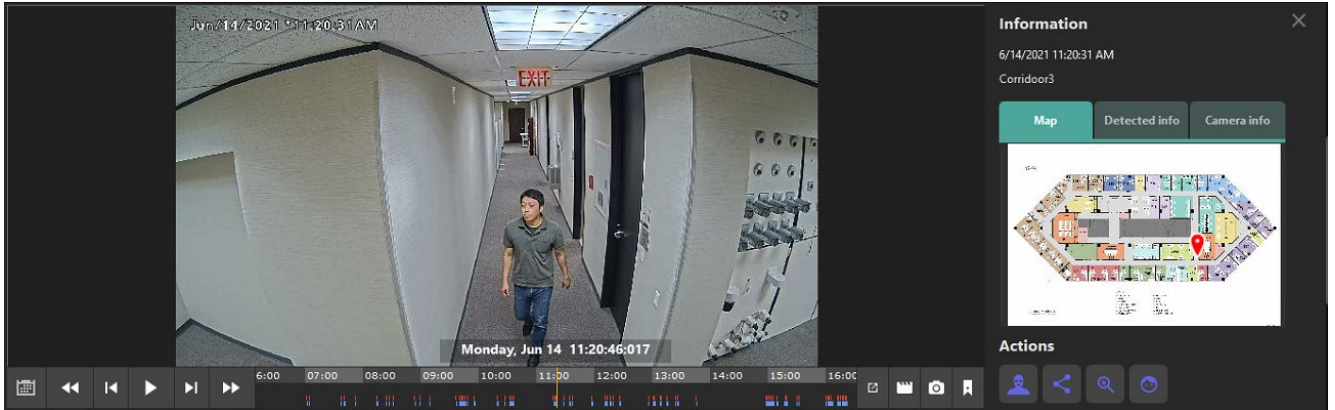


When face is detected from the image, select face and click OK.



2.2.1.3. About thumbnail detail pane

Selecting one of thumbnail search results, you can take various actions such as playback video, check analysis result and register the thumbnail to watchlist and so on. For additional information about playback controls, please refer to 2.3 PLAYBACK VIDEO CONTROL.



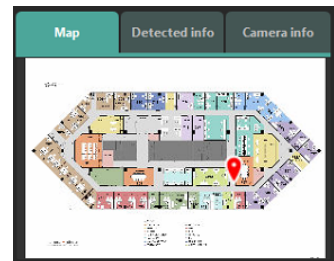
- **Information**

You can see more detail information such as detected place, the analysis information, and camera information.

A. **Map**

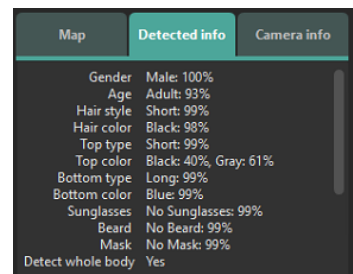
The camera which sent the thumbnail is displayed with map. You can see the camera location on map.

When you register or change the map on VMS, terminate plug-in and start again.



B. **Detected info**

Analysis score information for each feature are displayed.



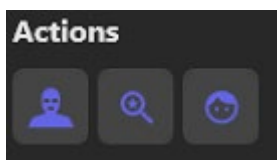
C. Camera info

Camera information is displayed.

Map	Detected info	Camera info
		Manufacturer: Panasonic
		Model: Panasonic WV-S2236L
		IPAddress: 192.168.0.31
		Camera name: Corridor3
		Server: Dev Meeting
		CameraID: 157441743
		WebAccess: 192.168.0.31

● Action buttons

This allows user quick operation such as search for similar characteristics by one click, register watchlists, and sharing other devices.



A. Search for similar characteristics

Quick search is provided to allow for an instant search to detect high score features, which is available for person or vehicle thumbnails.

Search for exactly similar characteristics (less false result)

Selectable when face in people image is recognized.

Search for similar images by searching for cameras that AI People detection is installed.

Search for exactly similar characteristics (less missing result)

In case of people, selectable when whole body in people image is recognized.

Search for similar images by searching for cameras that AI People detection is installed.

This is also applied for vehicle image.

Search for similar images by searching for cameras that AI Vehicle detection is installed.

Search for similar face

Selectable when face in people image is recognized.


This is also applied for face image.

Search for similar images by searching for cameras that AI Face detection is installed.

If you want to go back to previous search results, use Latest search condition in Saved filters.

Note:

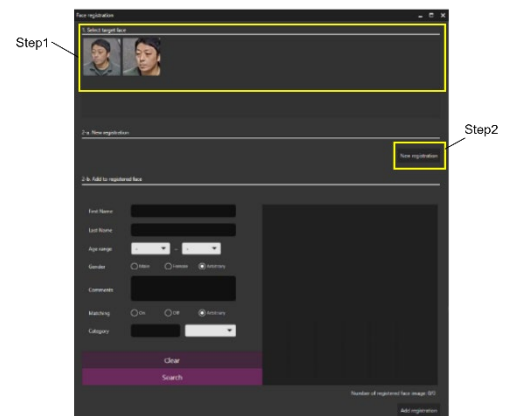
- Similar Search is not applied the Latest search condition in Saved filters.
-

B.  Save facial features to Registered facial detection

Register face image to watchlist. There are options either register detected face newly or add detected face to existing registered face.

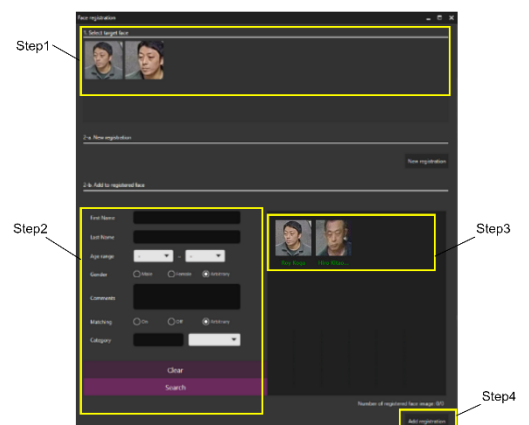
In case of register as new face:

- Step1. Select one of detected faces.
- Step2. Click New registration button.
- Step3. Please follow to 2.4.1 Face Watchlist (Step2)




In case of adding to existing registered face:

- Step 1. Select one of detected faces.
- Step 2. Search existing registered faces by using filters. If not specify any filters, all registered faces are displayed.
- Step 3. Select one of searched faces.
- Step 4. Click Add registration button.
- Step 5. Please follow to 2.4.1 Face Watchlist (Step2)

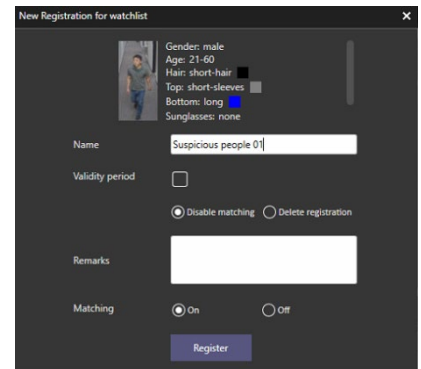


Note:

- Face can be registered up to 1,000.
- Recommended with of face for registration is more than 75 pixel. When the selected face is under the value, message is shown.

C.  Save person's characteristics to Registered Person detection

Register personal features to watchlist. High score items are registered.
Some basic information can be entered from here.



New Registration for watchlist

Gender: male
Age: 21-60
Hair: short-hair
Top: short-sleeves
Bottom: long
Sunglasses: none

Name: Suspicious people 01

Validity period:

Disable matching Delete registration

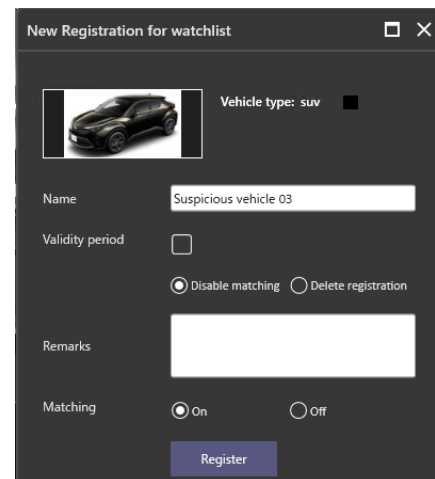
Remarks:

Matching: On Off

Register

D.  Save vehicle's characteristics to Registered Vehicle detection

Register vehicle features to watchlist. High score items are registered.
Some basic information can be entered from here.



New Registration for watchlist

Vehicle type: suv

Name: Suspicious vehicle 03

Validity period:

Disable matching Delete registration

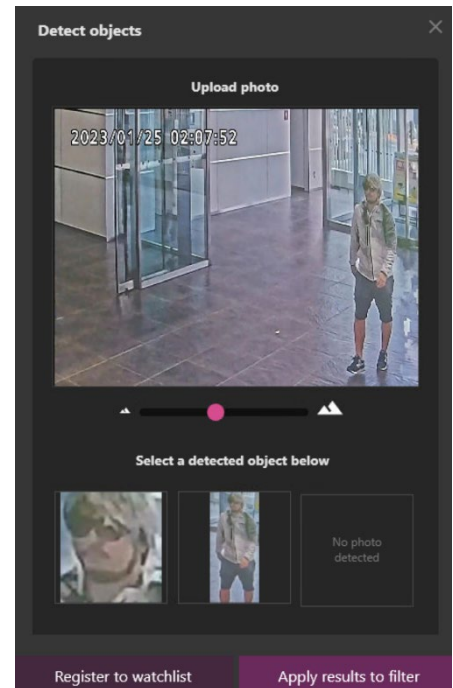
Remarks:

Matching: On Off






Register

E.  Analysis

Detects faces, people, and vehicles from playback video. From the detected objects, you can register it to the watchlists or apply results to filter.

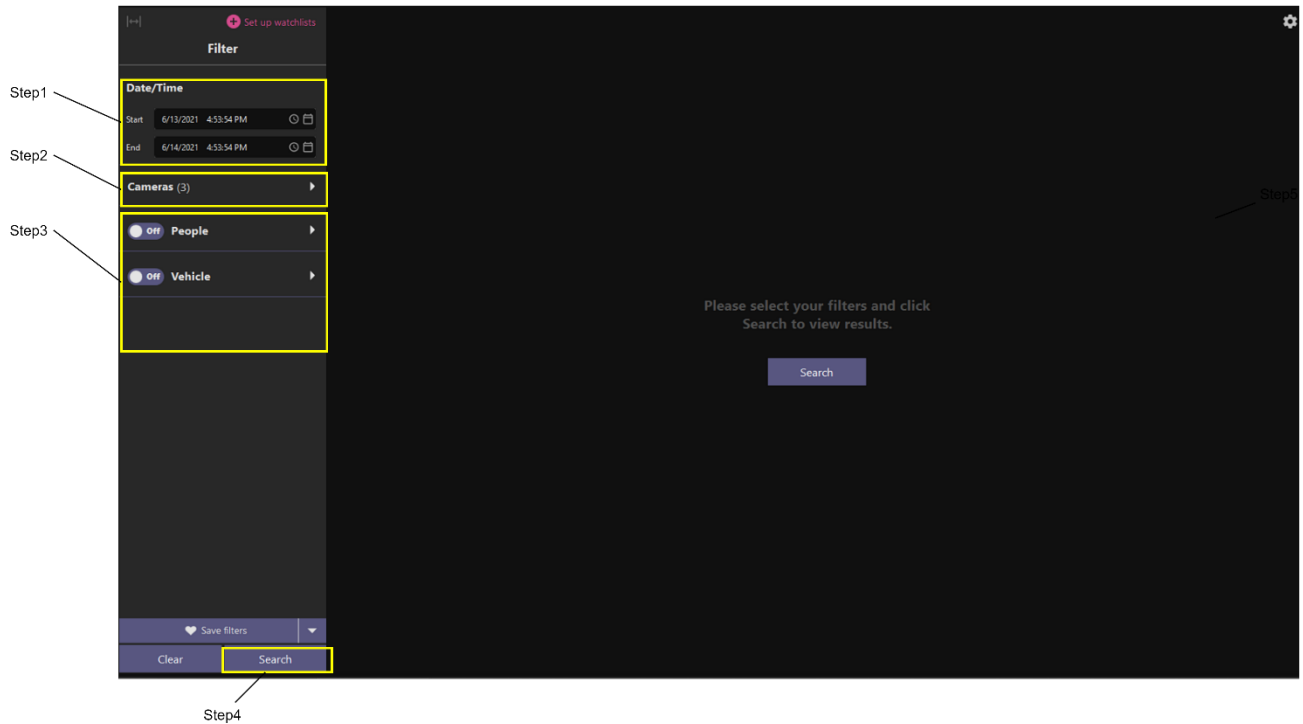


Action buttons can be utilized depending on type of objects.

	Search for similar characteristics	Save facial features to Registered facial detection	Save person's characteristics to Registered Person detection	Save vehicle's characteristics to Registered vehicle detection	Detecting objects from video
					
Face filter	Yes	Yes	No	No	Yes
People filter	Yes	Yes	Yes	No	Yes
Vehicle filter	Yes	No	No	Yes	Yes

2.2.2. Thumbnail search

The following steps provide basic operation for using the thumbnail search. The search filter can find objects that you want to find out from a lot of recorded thumbnails. Then you can take next action such as playback the video, save the picture, and register to watchlist, etc.



Step 1

Specify the start time and end time for search objects.

Step 2

Select AI Cameras.

Step 3

Set up search filters. If no filters are selected, all objects detected by AI Cameras will be displayed.

Step 4

Click "Search".

2.3. PLAYBACK VIDEO CONTROL

When viewing video on a thumbnail/event detail pane, the following a set of video controls appear.



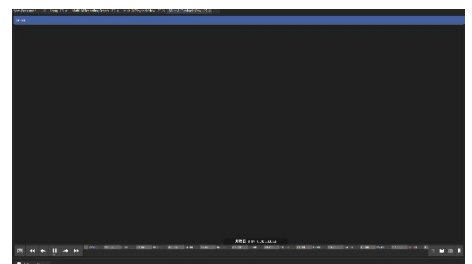
The video operation controls are described below.

		In pause mode, forward and backward navigation through each frame on the timeline.
		Fast playback or fast rewind the video recording.
		Play or pause the video recording.
		In play mode, navigate previous and next motion events on the timeline.
		Open new workspace to playback video.
		Export video from selected the thumbnail.
		Take a snapshot and save as file or clipboard.

Digital zoom is possible by moving the mouse wheel on the image.

View in New Workspace

It displays 1 camera view



2.4. SETTINGS

This section describes how to manage the watchlist and preferences.

To open these settings, click Set up watchlists button for Face watchlist, People watchlist, Vehicle watchlist or click settings icon for Preferences.



2.4.1. Face Watchlist

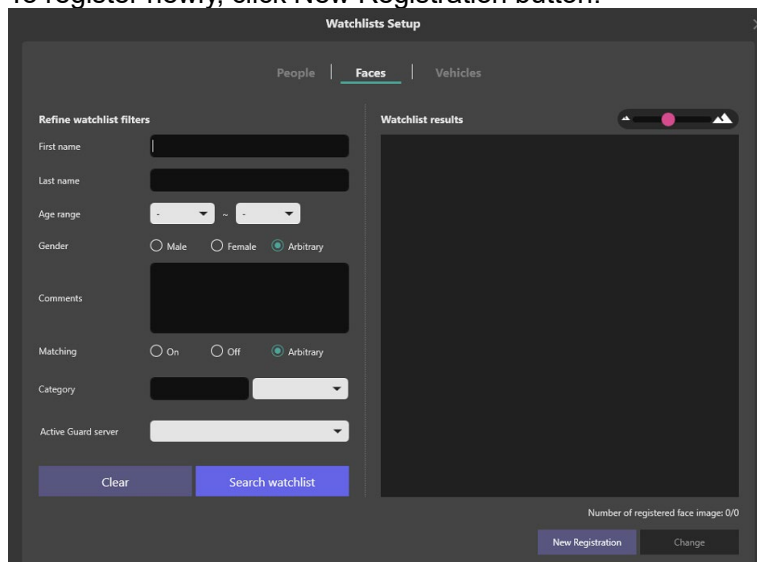
This section describes the operation of add, edit and delete.

If you don't have a permission to access the watchlist or your camera configuration has no AI-Camera which installed face detection application then this function is not available.

- **Add Registration**


Step 1

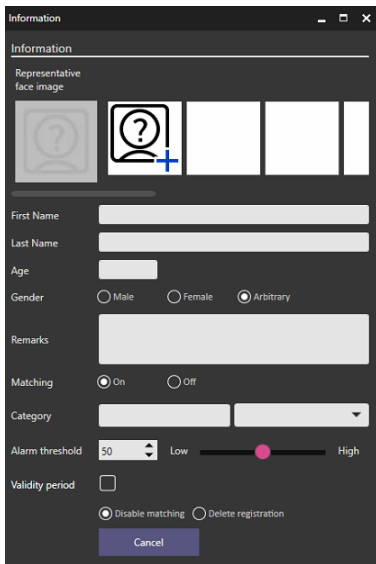
To register newly, click New Registration button.



Step 2

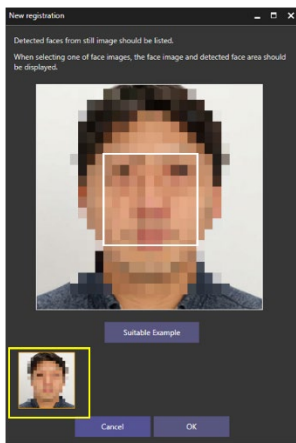
One face image must be registered at least.

Click  icon then select the file you want to use.

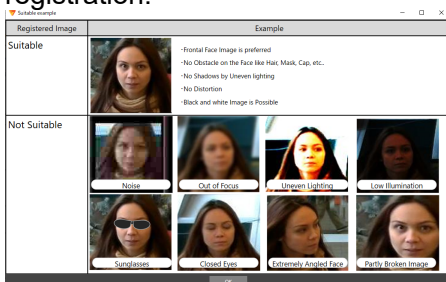


Step 3

Then analysing will begin and the detected faces are displayed. If there are some people on the file, all detected faces are displayed. Select a face (yellow area in below) then white frame will be displayed around the detected face.



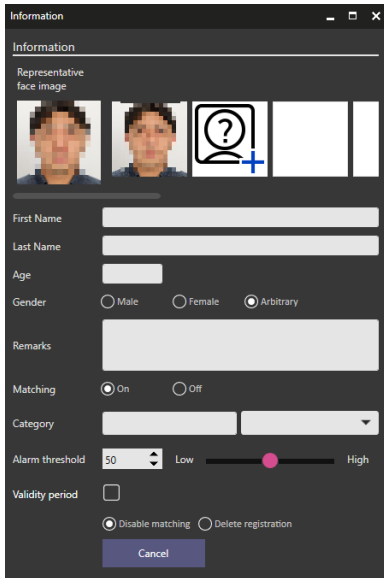
By pressing the Suitable Example button, you can see a sample of face image quality suitable for registration.



Recommended width of face for registration is more than 75 pixel. When the selected face is under the value, message is shown.

Step 4

Input other information then click Save. First Name or Last Name is required.



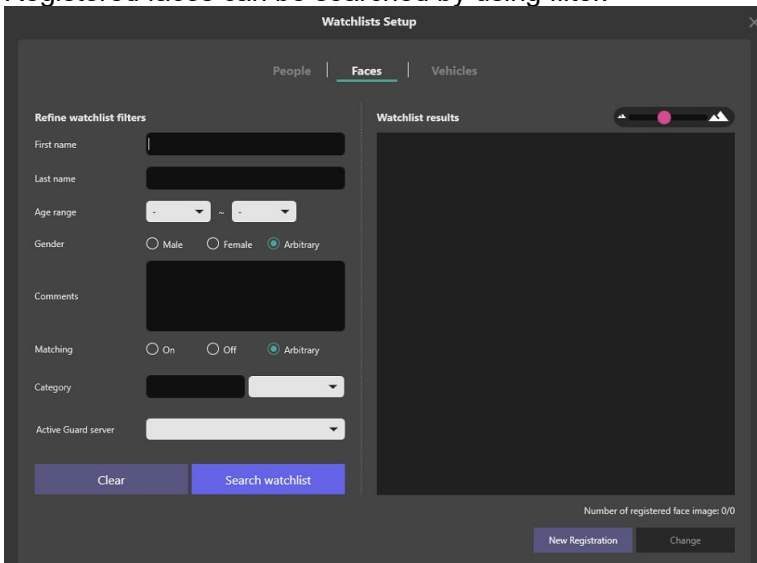
Note:

- The Matching enabled starts matching process.
- The Alarm threshold low means missing faces will be decreased but false alarm may be increase. High means false alarm will be decreased but missing faces may be increased. It can be set for individual person. Please adjust according to your environment and registered face image.
- In Validity Period, two expiration dates can be set.
 Disable matching: After the expiration date, this person’s face will not be detected.
 Delete registration: After the expiration date, we will delete the registration itself of this person.

● **Edit Registration**

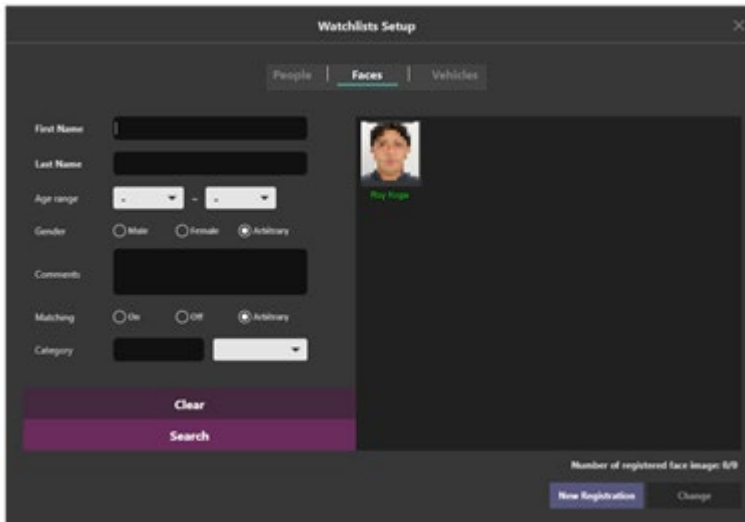
Step 1

First, find registered face you want to edit the information.
 Registered faces can be searched by using filter.



Step 2

Select one of faces from search results, then click Change button.



Step 3

Edit any information then click Save.

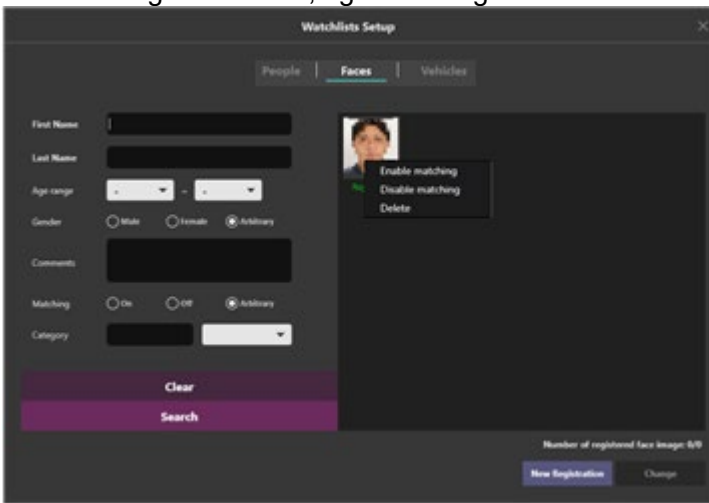


Note:

- The Matching enabled starts matching process.
 - The Alarm threshold low means missing faces will be decreased but false alarm may be increase. High means false alarm will be decreased but missing faces may be increased. It can be set for individual person. Please adjust according to your environment and registered face image.
 - In Validity Period, two expiration dates can be set.
Disable matching: After the expiration date, this person's face will not be detected.
Delete registration: After the expiration date, we will delete the registration itself of this person.
-

- **Delete Registration**

To delete registered face, right click registered face then click Delete.



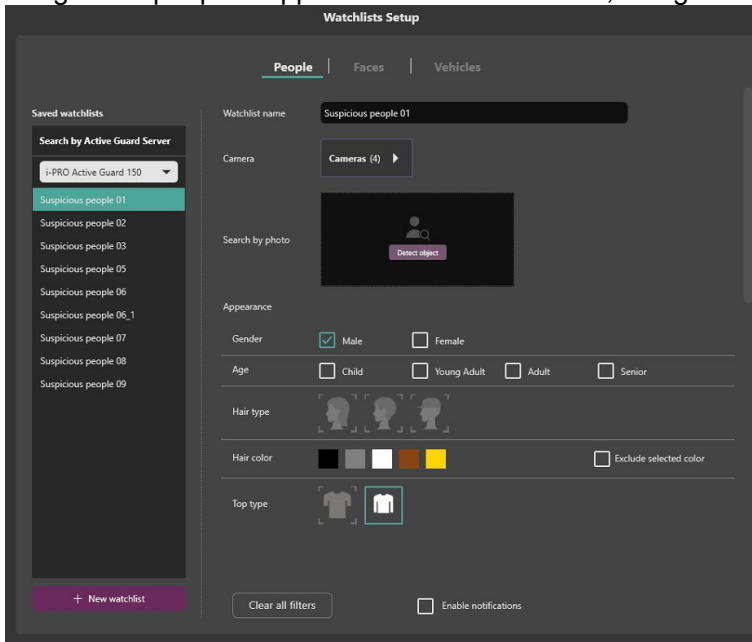
2.4.2. People Watchlist

This section describes the operation of add, edit and delete.

If you don't have a permission to access the watchlist or your camera configuration has no AI-Camera which installed people detection application then this function is not available.

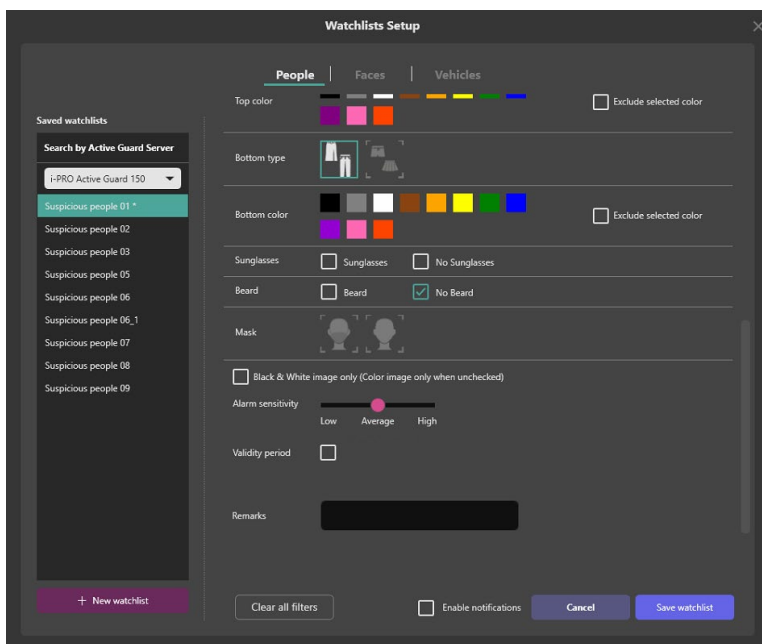
- **Add Registration(To manually select attributes)**

To register a people's appearance to the watchlist, navigate to Set up watchlists button > People tab.



Registered items are listed on left side or upload the people picture.

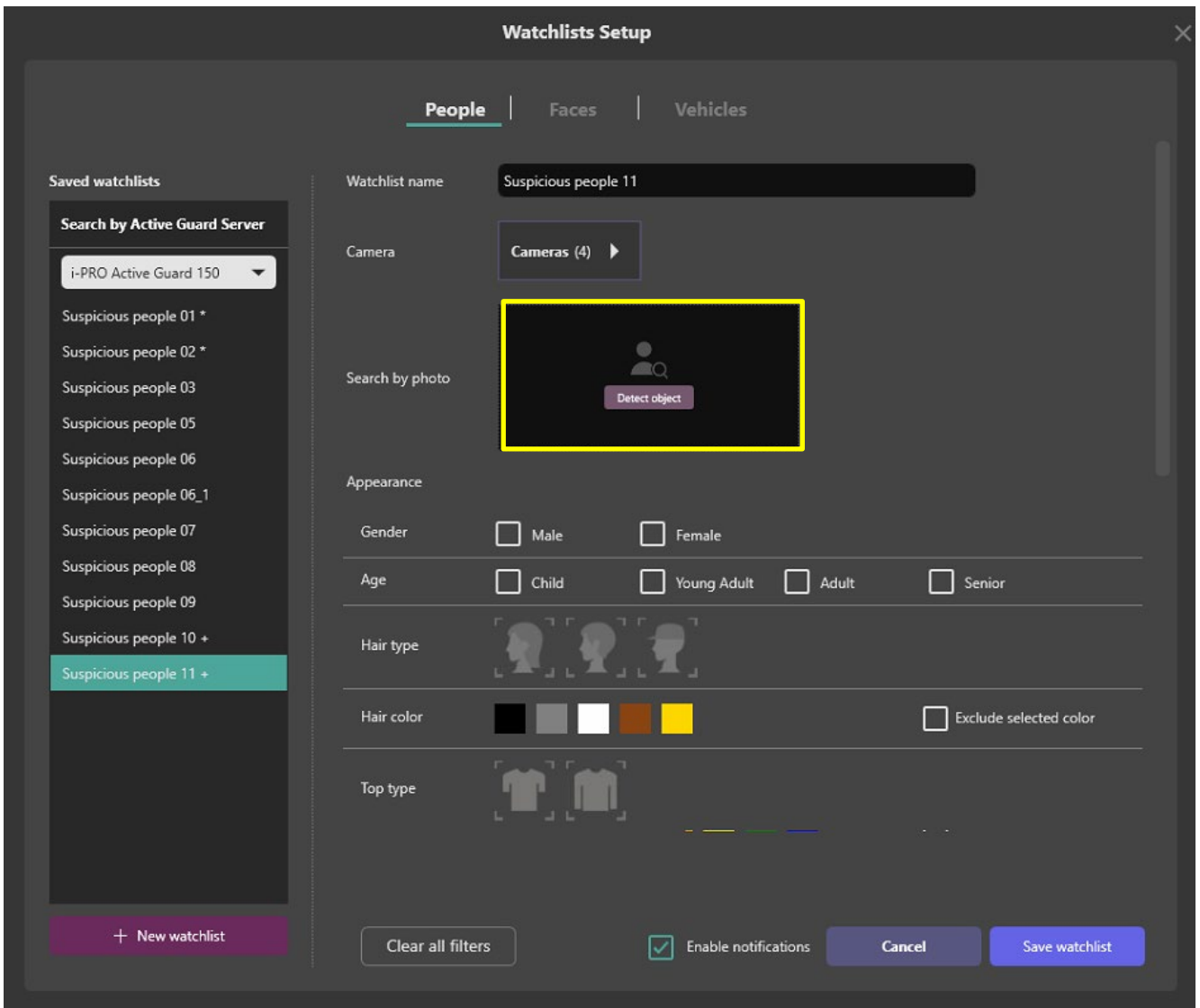
To add new item, click plus button then select appearance items.



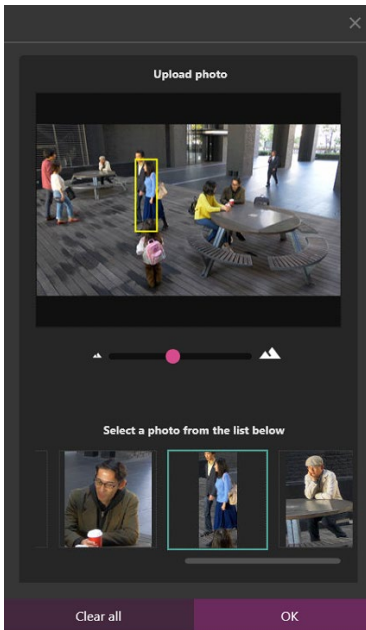
- **Add Registration(To select attributes from an image)**

This procedure automatically selects and registers attributes from an image.

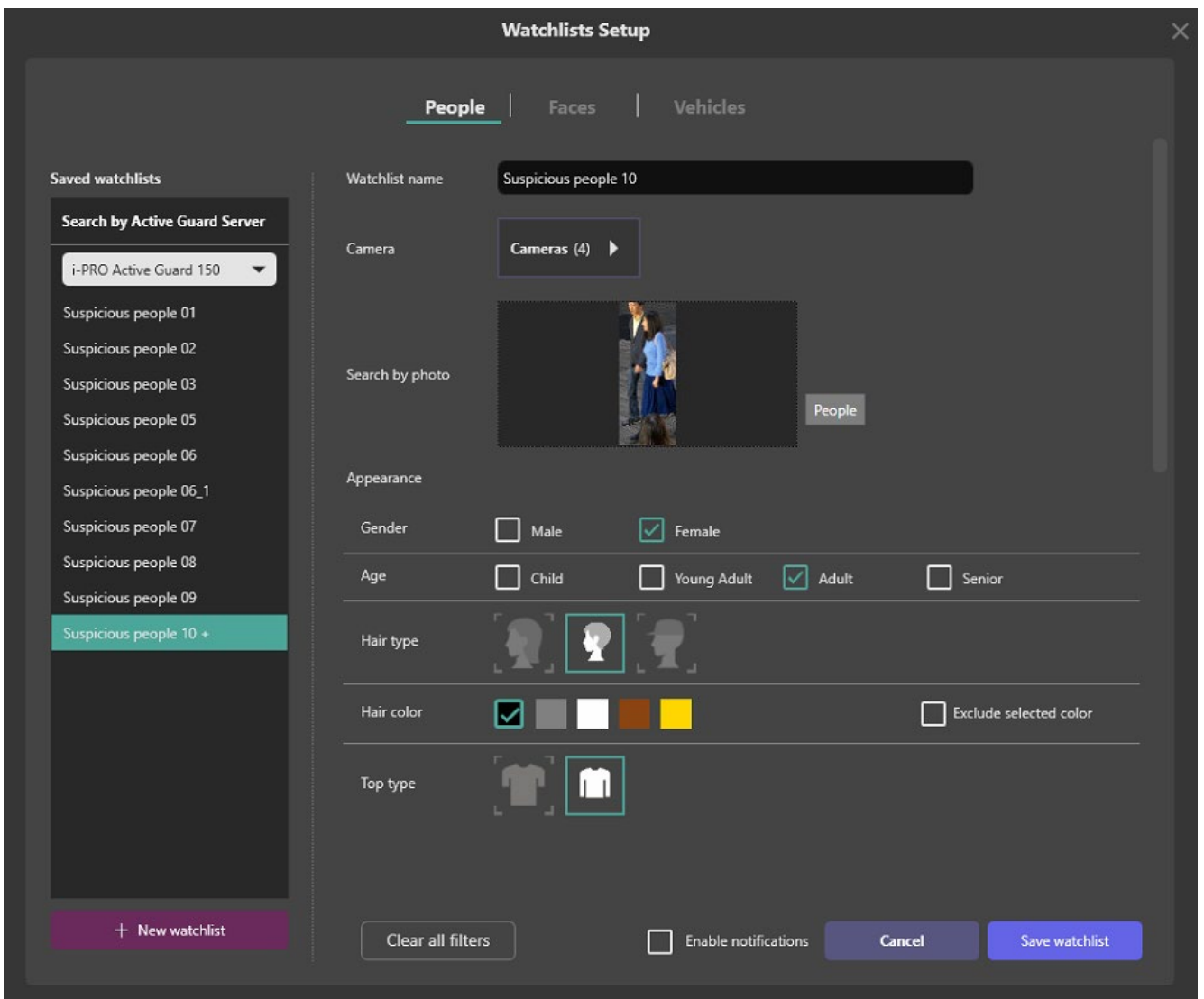
To select attributes from a people image, select the image to be registered from  icon.



Select the people you want to register from the detected list.



Make sure the attribute is automatically selected, and then click "Save".

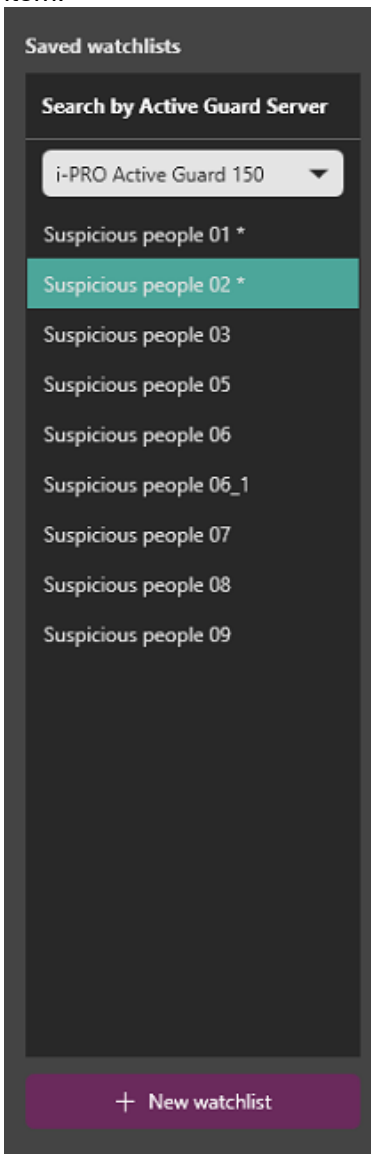


Note:

- Up to 12 people watchlist can be registered.
 - Only one item can be selected from each category. This is because many items register would affect false positives.
 - In Validity Period, two expiration dates can be set.
Disable matching: After the expiration date, this person's face will not be detected.
Delete registration: After the expiration date, we will delete the registration itself of this person.
 - It is impossible to register to multiple i-PRO Active Guard server at the same time.
-

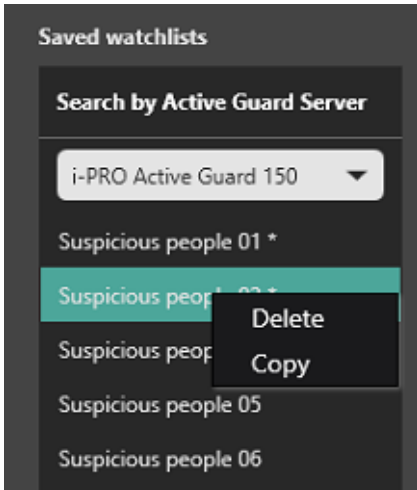
● **Edit Registration**

To edit a registered person appearance, select one of registered item then change selected appearance item.



● **Delete Registration**

To delete a registered person appearance, right click one of registered item.



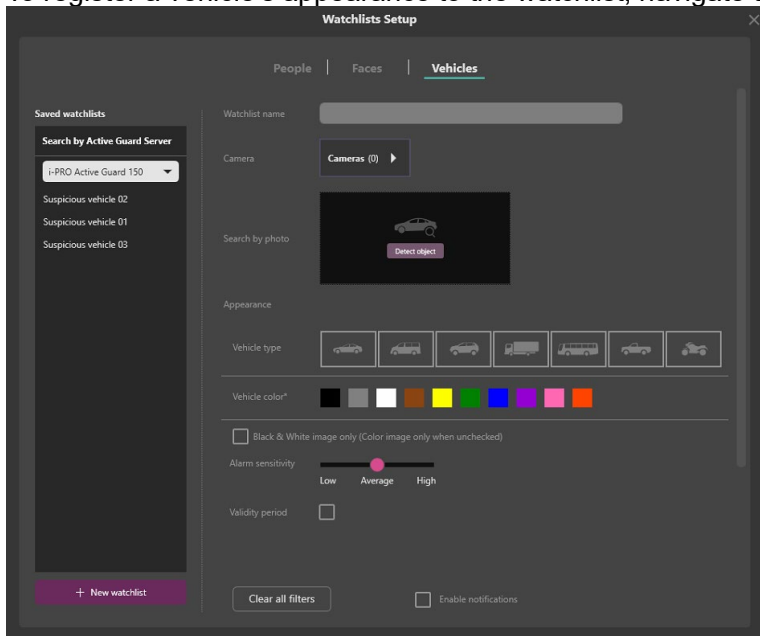
2.4.3. Vehicle Watchlist

This section describes the operation of add, edit, and delete.

If you don't have a permission to access the watchlist or your camera configuration has no AI-Camera which installed vehicle detection application, then this function is not available.

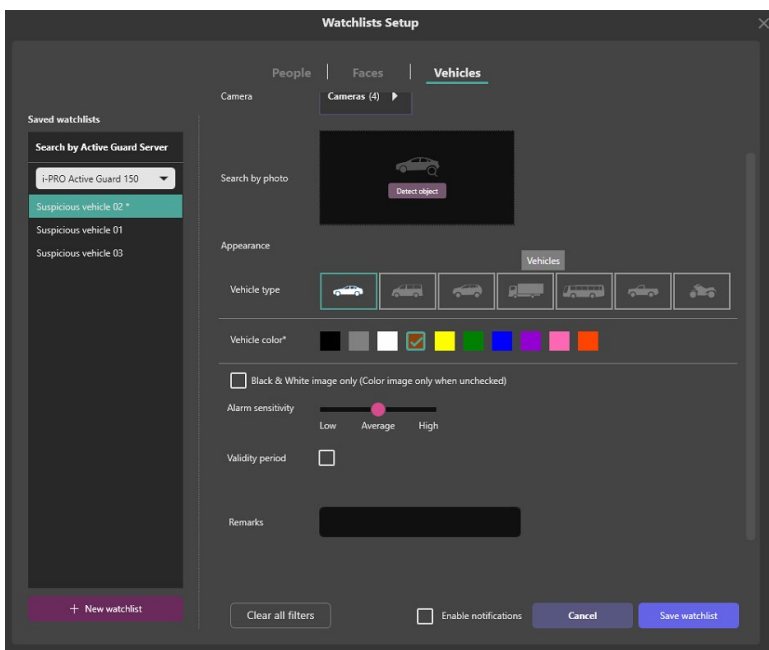
- **Add Registration(To manually select attributes)**

To register a vehicle's appearance to the watchlist, navigate to Set up watchlists button > Vehicle tab.



Registered items are listed on left side or upload the vehicle picture.

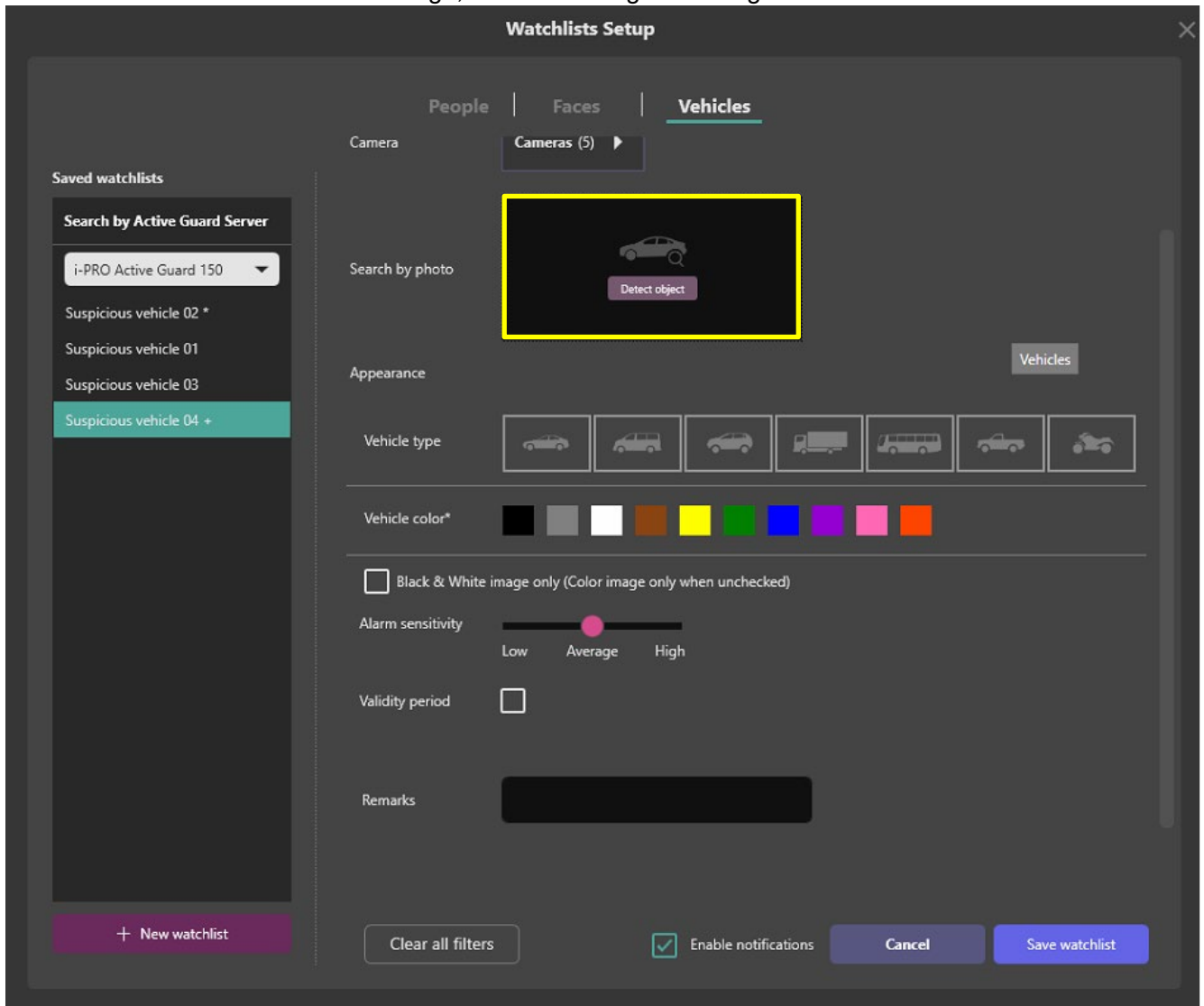
To add new item, click plus button then select appearance items.



- **Add Registration(To select attributes from an image)**

This procedure automatically selects and registers attributes from an image.

To select attributes from a vehicle image, select the image to be registered from  icon.



The following procedure is the same as when registering people watchlists, see 2.5.2.

Note:

- Up to 12 vehicle watchlist can be registered.
 - Only one item can be selected from each category. This is because many items register would affect false positives.
 - In Validity Period, two expiration dates can be set.
Disable matching: After the expiration date, this person's face will not be detected.
Delete registration: After the expiration date, we will delete the registration itself of this vehicle.
 - It is impossible to register to multiple i-PRO Active Guard server at the same time.
-

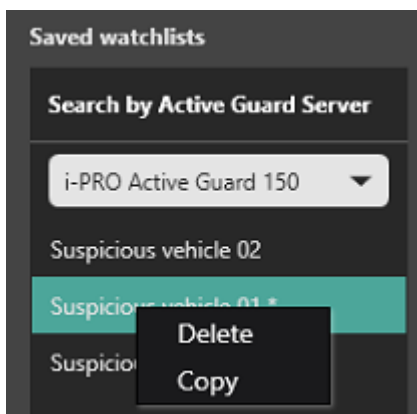
- **Edit Registration**

To edit a registered vehicle appearance, select one of registered item then change selected appearance item.



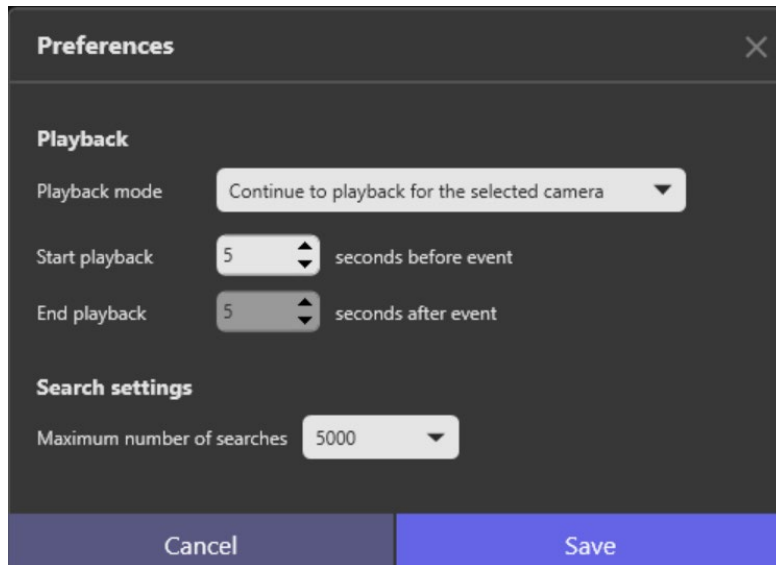
- **Delete Registration**

To delete a registered vehicle appearance, right click one of registered item.



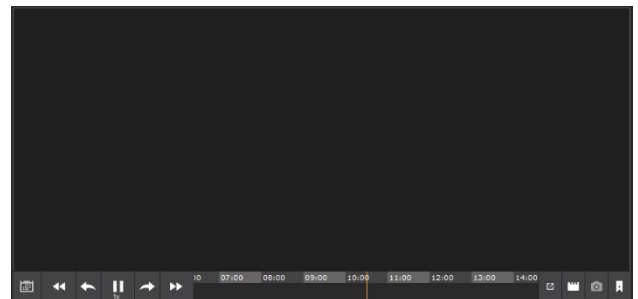
2.4.4. Preferences

Preferences provides some option settings such as playback video mode and so on.



A. Playback

You can select continue to playback mode or repeat playback mode. When using repeat playback mode, it needs to set up Start playback and End playback.

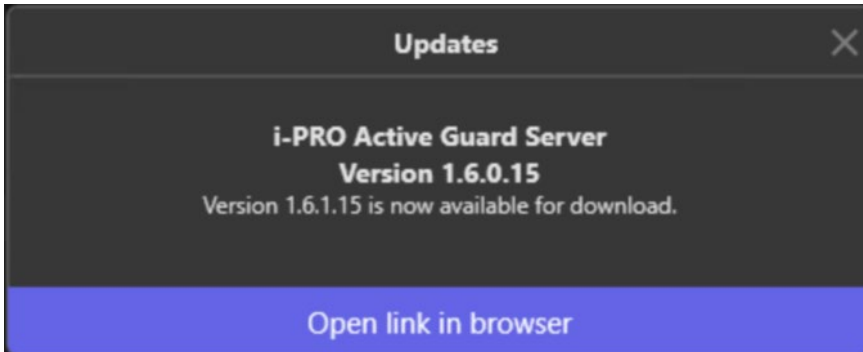
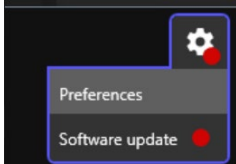


B. Search setting

You can select maximum number of searches from 1000 to 5000.

2.4.5. Software updates

A notification and pop-up will appear as follows when the currently used Sever or Plug-in is available for updating.



Note:

- [Software Update] will not appear in environments without an Internet connection.
-

3. TROUBLESHOOTING

Before asking for repairs, check the symptoms with the following table.

Contact your dealer if a problem cannot be solved even after checking and trying the solution in the table or a problem is not described below.

Symptom	Cause/solution
Face, People or Vehicle images cannot be searched (the number of search result is 0).	Check if schedule setting on camera side for extension software is on. Receiving status from each cameras can be confirmed from i-PRO Active Guard configuration (see Setup instruction manual).
False detection (Not face, people or vehicle is searched)	To avoid false detection, configure mask area using iCT (i-PRO Configuration Tool).
Playback time is incorrect.	Check if PC time of i-PRO Active Guard server and VMS server are synchronized when i-PRO Active Guard server is installed to dedicated server. Also check if time zone setting of VMS server and VMS client are the same.
Detected thumbnail is not attached with alarm.	Detected image will be shown when 1920x1080 or smaller resolution is set for JPEG (2) on camera setting. When higher resolution is set or JPEG (2) is not available, detected image may not be shown.
Failed to register Face	If there are no margin around face image, it may increase encountering failure.
Displaying video is being corrupted.	If you use 4K or more resolution display, change display resolution to 1920 x 1080.
When access the Web setting page after a certain period of time, "A timeout has occurred." is displayed.	For security protection, if you do not operate for a while with the WEB setting page, a timeout will occur and you will not be able to change the settings. In such a case, close the web browser, access it again, and enter the authentication information.
False alarm of face matching.	Please adjust "Alarm threshold" according to your environment and registered face image.

4. Appendices

4.1. Specifications

Please refer to the following URL for details on specifications.

<https://bizpartner.panasonic.net/public/file/i-pro-ai-applications-spec-sheet-letter>

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[Windows Caffe]

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