OBJECT DETECTION PLUGIN

Incoresoft VEZHA Milestone





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Object Detection Plugin is developed to detect an object in a zone (person, animal, vehicle, thing). If the object is in the zone beyond the permissible time, the system sends a notification.



Plugin Features

- Create your own rules for any situation (presence or absence) of the object by period intervals and the selected area.
- Tracking and classification of over 50 objects. Previous analytics classified objects only when they were moving, now objects are additionally classified if they remain stationary.
- Expanded Object Classification: Our video analytics go beyond people and vehicles to include cars, trucks, buses, motorcycles, and bicycles.



Installation

Launch the installer by double-clicking on the downloaded file VEZHA_Object_Detection_Setup.

In the window that opens, select the language that will be used during the installation process. To go further, click **OK**. To abort the installation, click **Cancel**.

Select the language to use duri installation.	ing the
English	~

In the new window, read the installation recommendations and click **Next** to continue the installation, or the **Cancel** button to abort the installation.



In the **Select Destination Location** window using the **Browse** button, specify the location where you want to install the plugin. The plugin must be installed in the **Milestone** folder with other plugins. After selecting the desired folder, click **Next** to continue the installation or **Cancel** to abort the installation.



elect D	estination Lo	ocation				
Where	e should VEZHA	Object Detection	be installed?			V
1	Setup will in	stall VEZHA Object	t Detection into the	following fold	ler.	
To cor	ntinue, dick Nex	xt. If you would lik	e to select a differ	ent folder, die	:k <mark>Brows</mark> e	:.
C: VPr	ogram Files∖Mile	estone (MIPPlugins)	VEZHA Object Det	tection	Brows	e
At lea	st 11,7 MB of fi	ree disk space is re	equired.			
Atlea	st 11,7 MB of fi	ree disk space is re	equired.			
Atlea	st 11,7 MB of fi	ree disk space is re	equired.			<u></u>

In this window, for the program to work correctly, you need to fill in all the fields correctly and click **Next** to continue the installation or **Cancel** to abort the installation.

Setup - VEZHA Object Detection			_		
					VE2
Host:					
L					
Milestone server address:					
	< 1	Back	Next >	Ca	ncel

Click Install to start the installation.



eady to Install			V
Setup is now ready to begin ins	stalling VEZHA Object Detectio	n on your comput	ter. Y
Click Install to continue with the change any settings.	e installation, or <mark>cl</mark> ick Back if yo	ou want to review	/ or
Destination location: C:\Program Files\Milestone	e\MIPPlugins\VEZHA Object De	etection	^
			v

After the installation is completed, click **Finish**.

Setup - VEZHA Object Det	ection	1000		\times
	Completing the VEZH Detection Setup Wiz Setup has finished installing VEZHA O computer.	IA Obj ard	ject	our
vę́zỳv	Click Finish to exit Setup.			
7) 23		Finish		



Log In

To enter the system you need to go through authorization. To do this, enter the **Login** and **Password** in the appropriate fields of the modal window and click **Login**.

	Authorization)
Login		
Password		



Settings



I in the upper right corner of the screen. Choose and In way to find VEZHA settings click the icon click Settings. In the opened window choose VEZHA Object Detection.

Settings			-8		×
Application	Host	192.168.0.53			
Panes	Port	2001			
	Portal	2001			
Functions	Websocket port	2081			
Timeline	Milestone video server address	192.168.0.248			
Export	Language	English			-
Search				Арр	oly
Joystick					
Keyboard					
Access Control					
Alarm					
VEZHA ALPR					
VEZHA Face Recognition					
VEZHA Hard hats					
VEZHAObjectDetection					
Help				Clo	se

To change the server settings in the VEZHA Object Detection tab, you can edit the following fields: Host, Port, Portal, Websocket port, Milestone video server address.

To change the language, use the **Language** field and select from the list the most convenient for you.

To save the changes, click **Apply** and restart the plugin.

User Guide Contents:

- Object Detection Analytics (see page 10)
- Object Detection Events (see page 17)
- Plugin Features (see page 4)
- Installation (see page 5)
- Log In (see page 8)
- Settings (see page 9)



Object Detection - Analytics

This tab is intended for adding, editing, viewing, deleting, and changing the status of analytics.

Analytics VE Obje		nalytics			7086	
Camera		tatus		ĩ		
		ui	Search Reset		Add analytic	
ID	Status		Camera			
273	Stopped		Axis camera	Edit		
272	Stopped		Serioga face			
271	Stopped		Serioga 1	Edit		
270	Stopped		Serioga face			
255	Stopped		Office Dahua (8MP)	Edit		
249	Stopped		Serioga 1	Edit	Start	
247	Stopped		Номера Зулинка Лісопарк 2		Start	

Analytics Search

At the top of the **Analytics** page are located search fields.

Object dete	ction analytics			
Camera	Status			
	All	-	Search	Reset

To find the analytics you need, enter the name of the camera or select the analytics status.

To start the search, click the Search button. Click Reset to return to the initial list.

Analytics Adding

To add new analytics for Object Detection, click **Add analytics** in the upper right corner of the screen. In the opened window, fill the fields:



Adding analytics



FIELD NAME	RECOMMENDED VALUE
Stream	Click on the field and select a camera name from the drop- down list. The video stream will be used to create analytics.
Send notifications if object is detected	Fill out the Send notifications checkbox if an object is found to create your own event for sending notifications.
Events	The event tab is available when the checkbox for sending notifications in the add analytics window is checked. Select an event from the dropdown list. This event will receive notifications for the services indicated in the event.
Extra parameters	If necessary, you can add additional parameters for their further use when creating an event. Fill in the parameter fields. To add parameters, click the "+" button. To remove the parameters press "-".

To edit the video stream click the **Editor** icon right of the name of a video stream. In a way, to create a new video stream click **Add video stream**.



Editing video stream		8 <u>—</u>		×
Name	Турнікет праве крило (63.73) Прозорий (офіс пр.Косм.		
Login				
Password				
Camera				
Camera address				
Kosmonavtiv Ave, 30, Vinn	ytsia, Vinnyts'ka oblast, Ukraine, 21000			
Camera direction				÷
			Ар	ply

In the opened window fill the next fields:

FIELD NAME

DESCRIPTION



Name	Enter the name of the video stream in the field. This field will be displayed in all components of the program that use video streams
Username	Enter the name of the current Milestone user in the field
Password	Enter the password of the current Milestone user
Camera	Select a camera from the drop-down list
Camera Address	Enter the address in the field, or select on the map below the location of the camera (drag the camera icon). The system will automatically determine the location coordinates
Camera Direction	Drag the slider to change the camera direction. Indication of camera rotation helps in determining the direction of movement of a person

To apply changes click **Apply**.

Adding an Area of Interest

- Add a camera into a field Stream.
- A frame from the added camera will appear below the Video Stream field.
- Add an object definition area.

a) Click on the frame from the added video with the left mouse button. By clicking more than two times in different places on the frame, click the right mouse button. Thus, you will create an area in which the definition of objects will be carried out. You can create an area of any shape by clicking in different places on the frame, any number of times with the left mouse button and, if necessary, pressing the right button.





b) A form will appear on the right side of the screen with the Waiting time, sec field, and images of objects. In the field, specify the number of seconds how many objects are allowed to be in the created object definition area. Check the checkboxes of those objects that should be defined in the specified area.

Recog	nition opti	ions			
Waiting	time, sec	0			×
* -	₫ ® ⊡	~		20	

You can create more areas for object detection by repeating steps a) and b).

In the way to create analytics click Save.

Analytics Editing, Changing Status, and Deletion

To edit the video stream, click the **Editor** button on the right side of the recording.

In the opened window, fill the fields:

FIELD NAME	RECOMMENDED VALUE



Send notifications if object is detected	Fill out the Send notifications checkbox if an object is found to create your own event for sending notifications.
Events	The event tab is available when the checkbox for sending notifications in the add analytics window is checked. Select an event from the dropdown list. This event will receive notifications for the services indicated in the event.
Extra parameters	If necessary, you can add additional parameters for their further use when creating an event. Fill in the parameter fields. To add parameters, click the "+" button. To remove the parameters press "-".

Editing an Area of Interest

a) Click on the frame from the added video with the left mouse button. By clicking more than two times in different places on the frame, click the right mouse button. Thus, you will create an area in which the definition of objects will be carried out. You can create an area of any shape by clicking in different places on the frame, any number of times with the left mouse button and, if necessary, pressing the right button.



b) A form will appear on the right side of the screen with the Waiting time, sec field, and images of objects. In the field, specify the number of seconds how many objects are allowed to be in the created object definition area. Fill in the checkboxes of those objects that should be defined in the



specified area.

cognition o Recogn	^{ptions} ition opti	ons				
Waiting t	ime, sec	1				×
* ☑	3 6⊡	~	2		20	

You can create more areas for defining objects by repeating steps a) and b).

In the way to create analytics click Save.

To start/stop analytics click Start/Stop.

To remove analytics, click imes .

- Analytics Search (see page 10)
- Analytics Adding (see page 10)
- Analytics Editing, Changing Status, and Deletion (see page 14)



Object Detection - Events

This section is intended for viewing the history of notifications about detected objects (person, animal, transport, things).

Analytics Events						
vę́zӈ҇ѵ						7086
Events						
Camera	Period					
All		Search Reset				
<< < 1 of 357 > >>	1 То раде					
Camera	Date	Period in zone	Video	Accepted by		16-03-2020 17-45-27
🔊 Office Dahua (8MP)	16-03-2020 17:52:35	00:00:26		Accept		
Source Dahua (8MP)	16-03-2020 17:52:25	00:00:16		Accept		
S Office Dahua (8MP)	16-03-2020 17:49:41	00:00:41		Accept		
ST Office Dahua (8MP)	16-03-2020 17:46:30	00:00:27		Accept		5.2
Source Dahua (8MP)			•		Camera name	КЛ
S Office Dahua (8MP)	16-03-2020 17:45:30	00:00:15		Accept	Office Dahua (8MP)	
Source Dahua (BMP)	16-03-2020 17:45:08	00:00:24		Accept		
Source Dahua (8MP)	16-03-2020 17:44:47	00:02:04		Accept		

Event Search

At the top of the screen is located search field.

Events						
Camera		Period				
All	•				Search	Reset
< < 1 of 357	> >>	1	To page			

In order to find the necessary notifications you can use these fields:

FIELD NAME	DESCRIPTION
Camera	Click on the field and select the desired camera
Period	Click on the field and select the desired time period

Click Search to display the search results. Click Reset to clear the input fields.

Work with Records

To change the records format click

The list of notification records consists of the fields: Camera, Date, Time in the Zone, Video, Accepted By.



Click on the button , in a way to receive a video with the detected object.

To accept changes click Accept.

- Event Search (see page 17)
- Work with Records (see page 17)

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