



Ayonix Milestone Plugin v1.4 Operation Manual



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1. Versions of this document:

Date	Author	Description
2016-12-05	JFLR	Initial version
2017-01-24	JFLR	Updates for version 1.2
2017-05-04	JFLR	Updates to version 1.3

2. Basic Setup

2.1 Person Categories

All persons enrolled into system must belong to a category. By Default, system comes with two categories: "User" and "Unknown". This section is prepared to create new Categories

Creating a new Category - Accessing Setup Screen

Ayonix Faceld Plugin - Enrollment

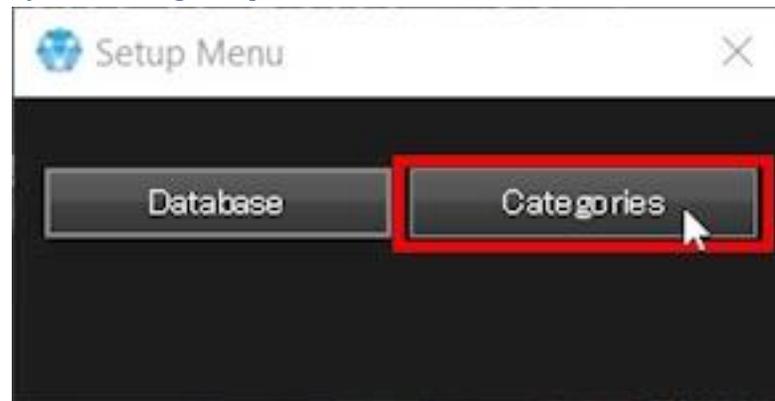
Current Enrollments Page 31 of 31 (Total Records: 1539)

Enroll Mugshot	Name/Surname	Category	Gender
	Sylvia_Maestrini/	User	FEMALE
	maurice_dupont/	User	MALE
	giselle_mardure/	User	FEMALE
	francis_ford/	User	MALE
	ana_carenina/	User	FEMALE

Cameras:
 Using Local Properties
Setup

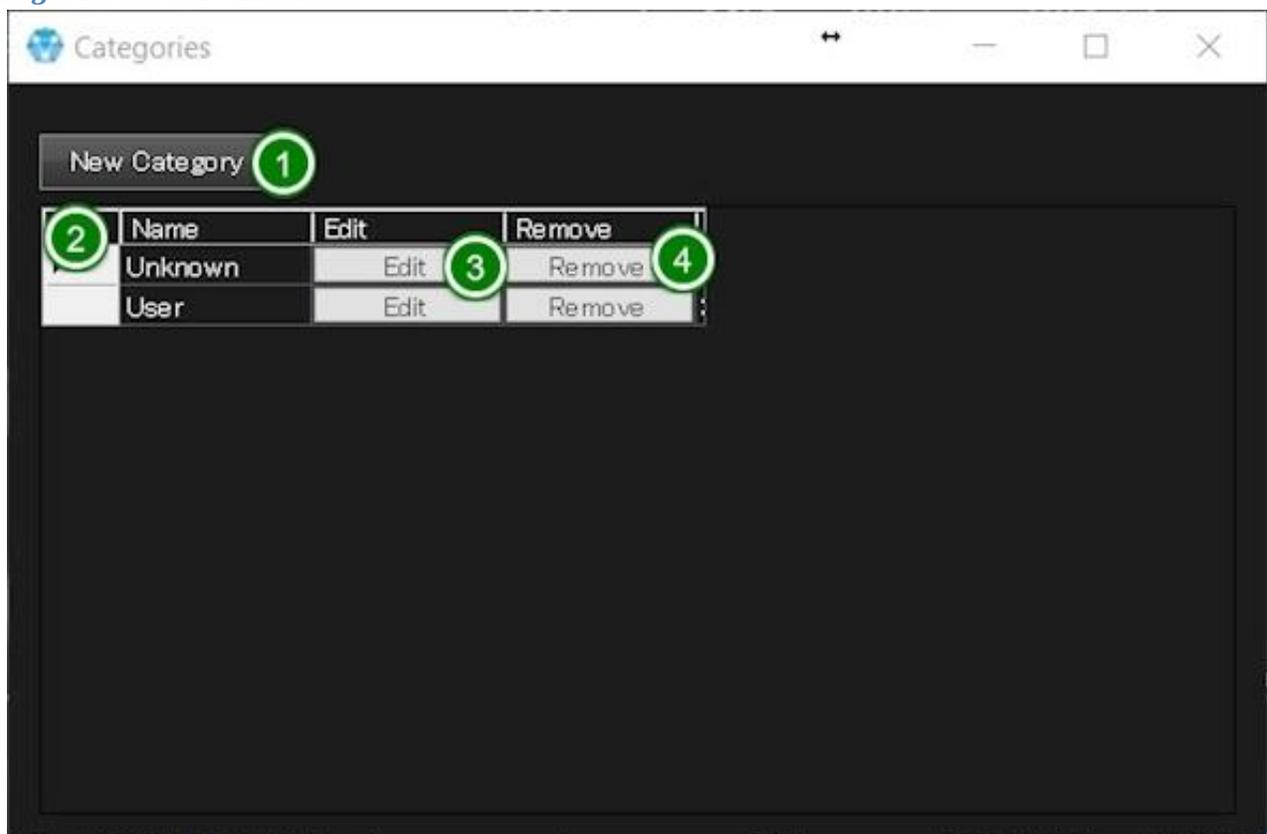
Double click on "Ayonix" Icon .

Click on "Setup" button. Type administrator password. By default, it is "ayonix", but it might have been changed by System Administrators.



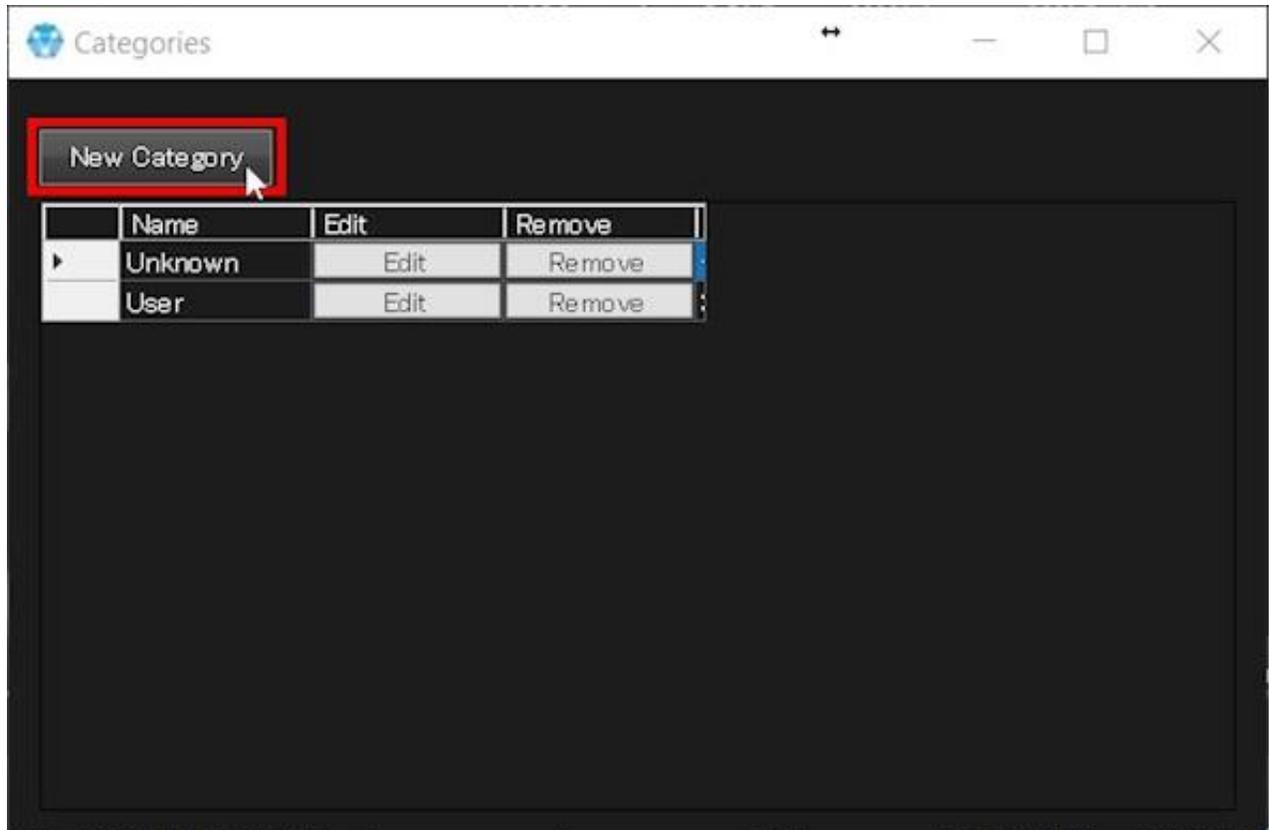
Click on "Categories" button. Following window will open.

Categories Screen – Elements



No	Item	Meaning
1	Create New Category button	This access the Create New Category Screen
2	Categories List	Shows all available categories and its names
3	Edit Category	This button allows to edit category names
4	Remove Category	Using this button, it is possible to remove the determined category

Categories Screen - Create New Category



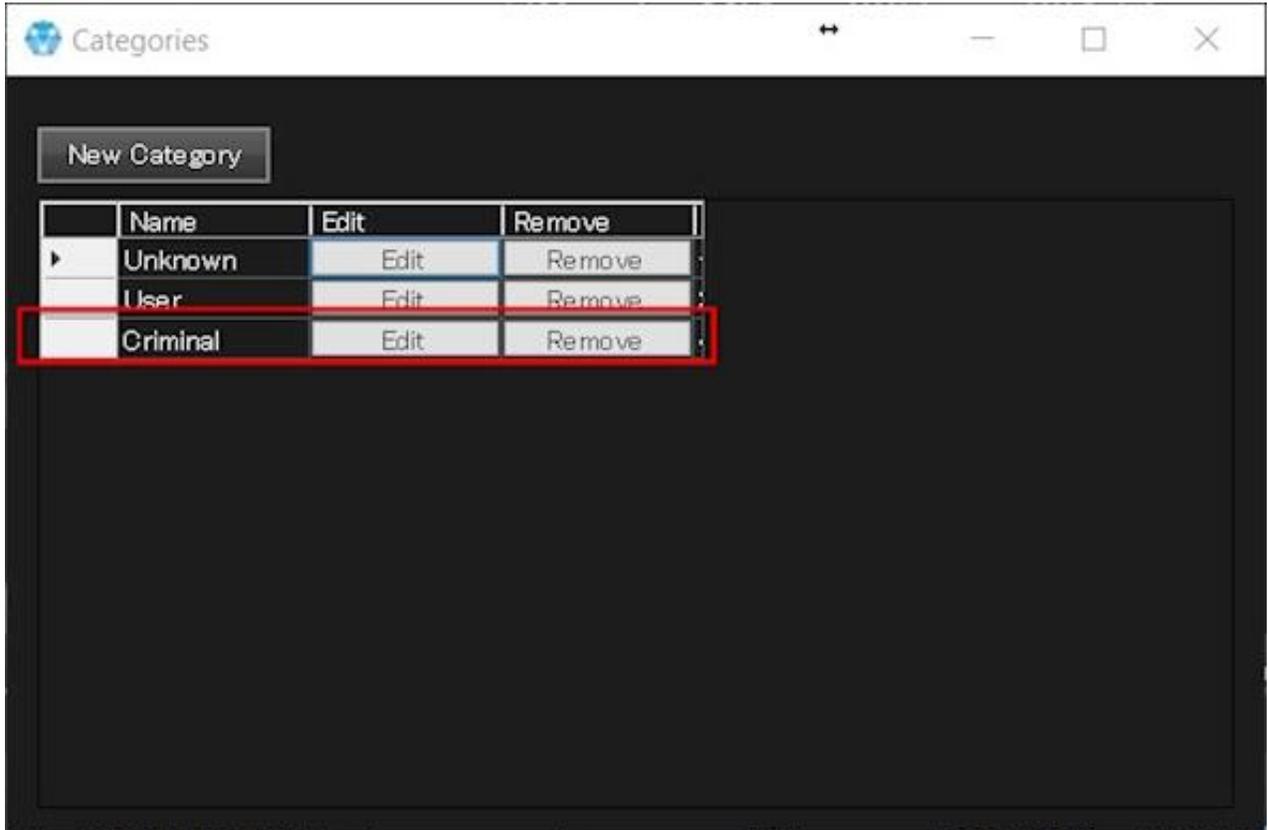
Click on "New Category" button

Categories Screen - Create New Category



Type new category name and click on "Save" button

Categories Screen - Create New Category



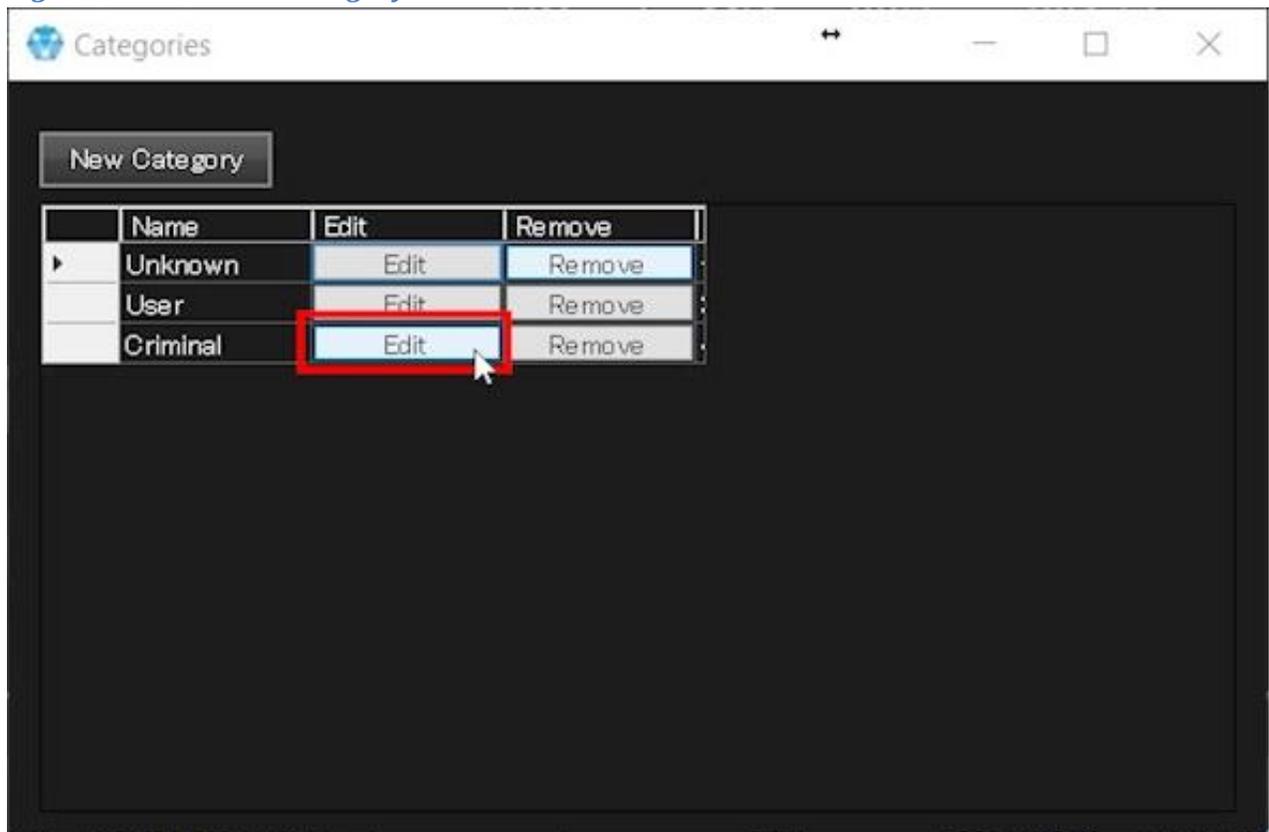
The screenshot shows a web application window titled "Categories". At the top left, there is a "New Category" button. Below this button is a table with the following data:

	Name	Edit	Remove
▶	Unknown	Edit	Remove
	User	Edit	Remove
	Criminal	Edit	Remove

The "Criminal" row is highlighted with a red border, indicating it is the newly created category.

New category will be displayed on list.

Categories Screen - Edit Category



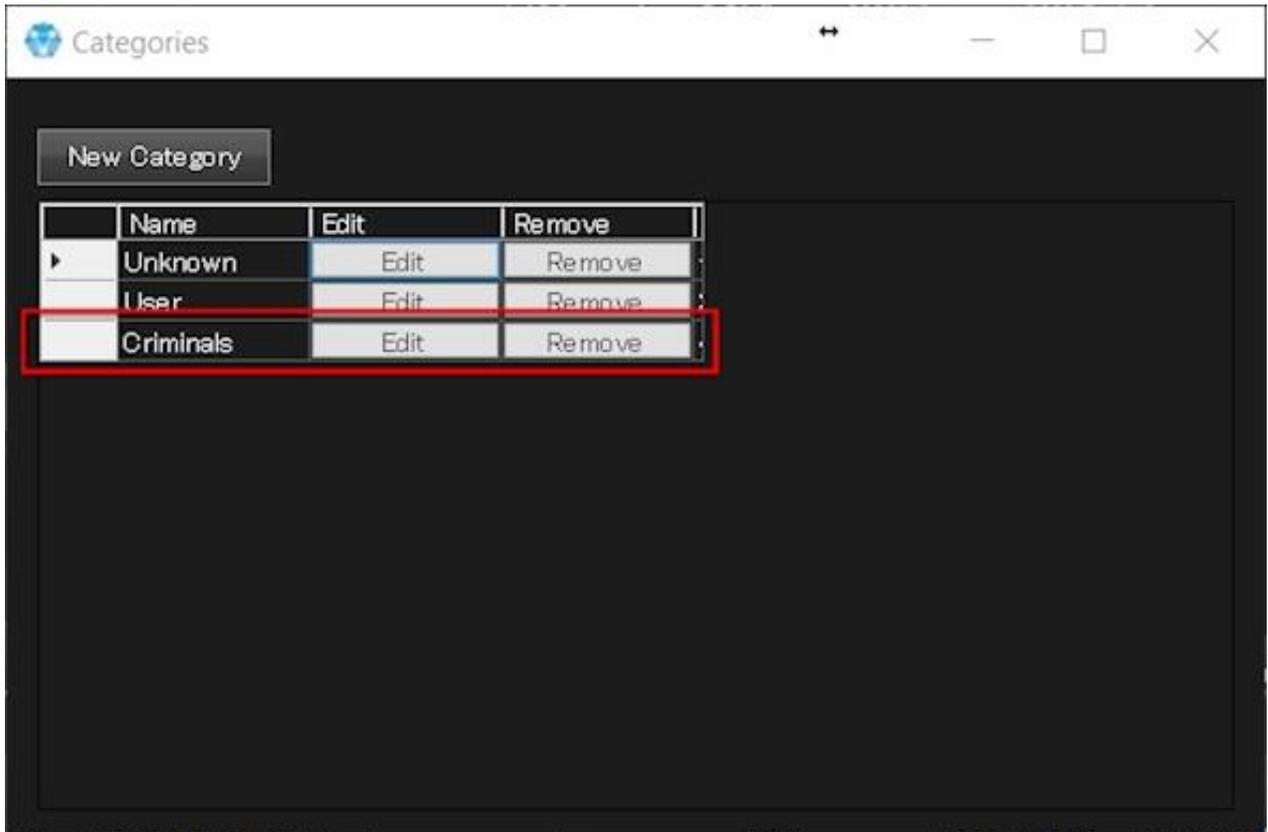
Select a category from screen and click on "Edit" button

Categories Screen - Edit Category



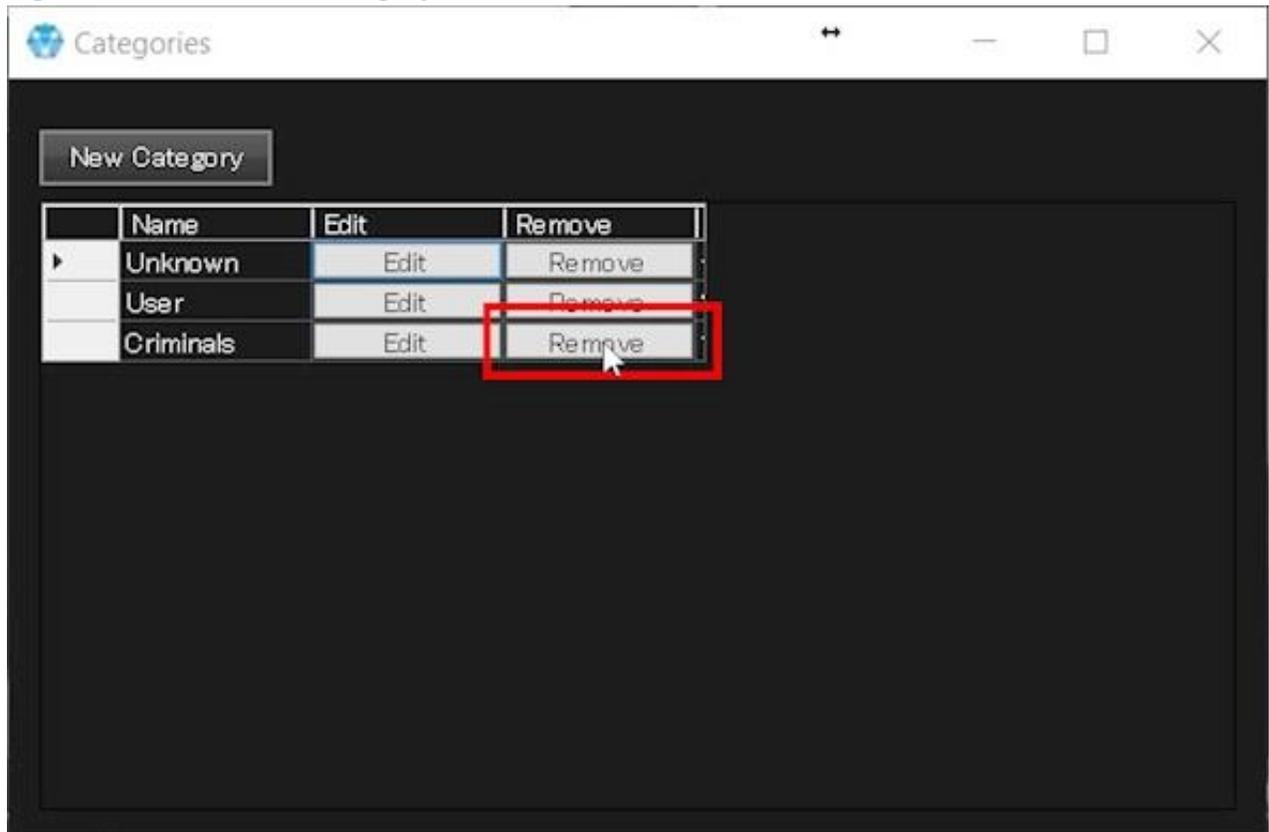
Change category name and click on "Save"

Categories Screen - Edit Category



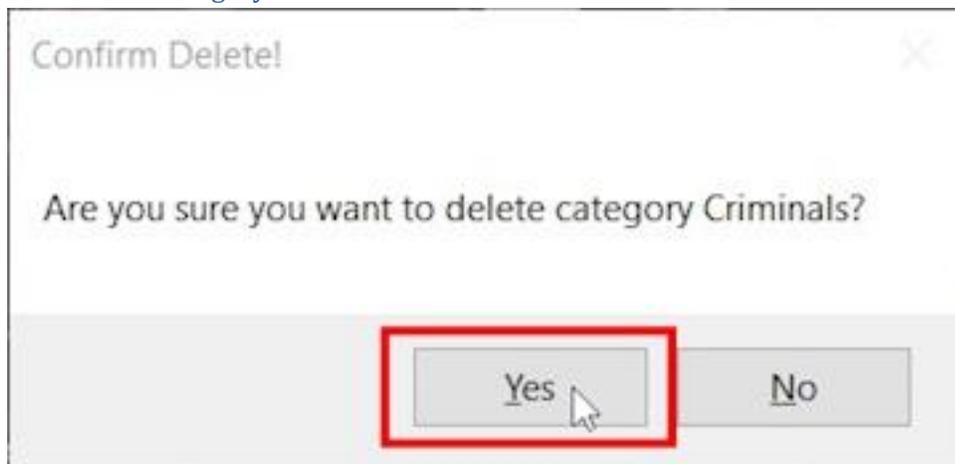
Edited category will be shown on the Categories list

Categories Screen - Delete Category

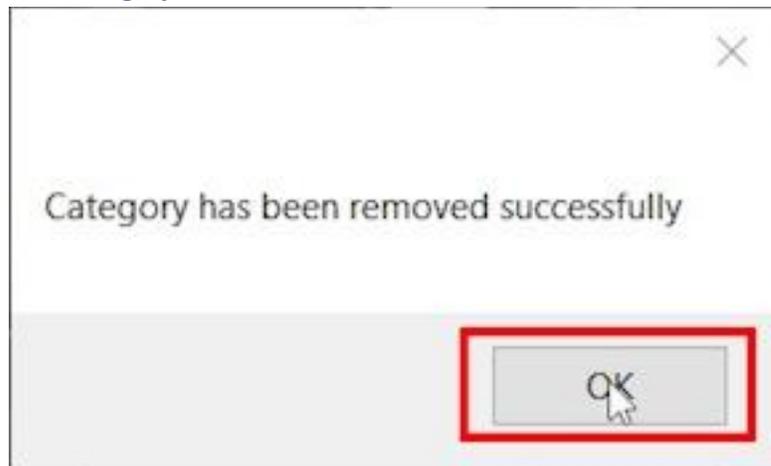


Find category to be excluded and click on "Remove" button

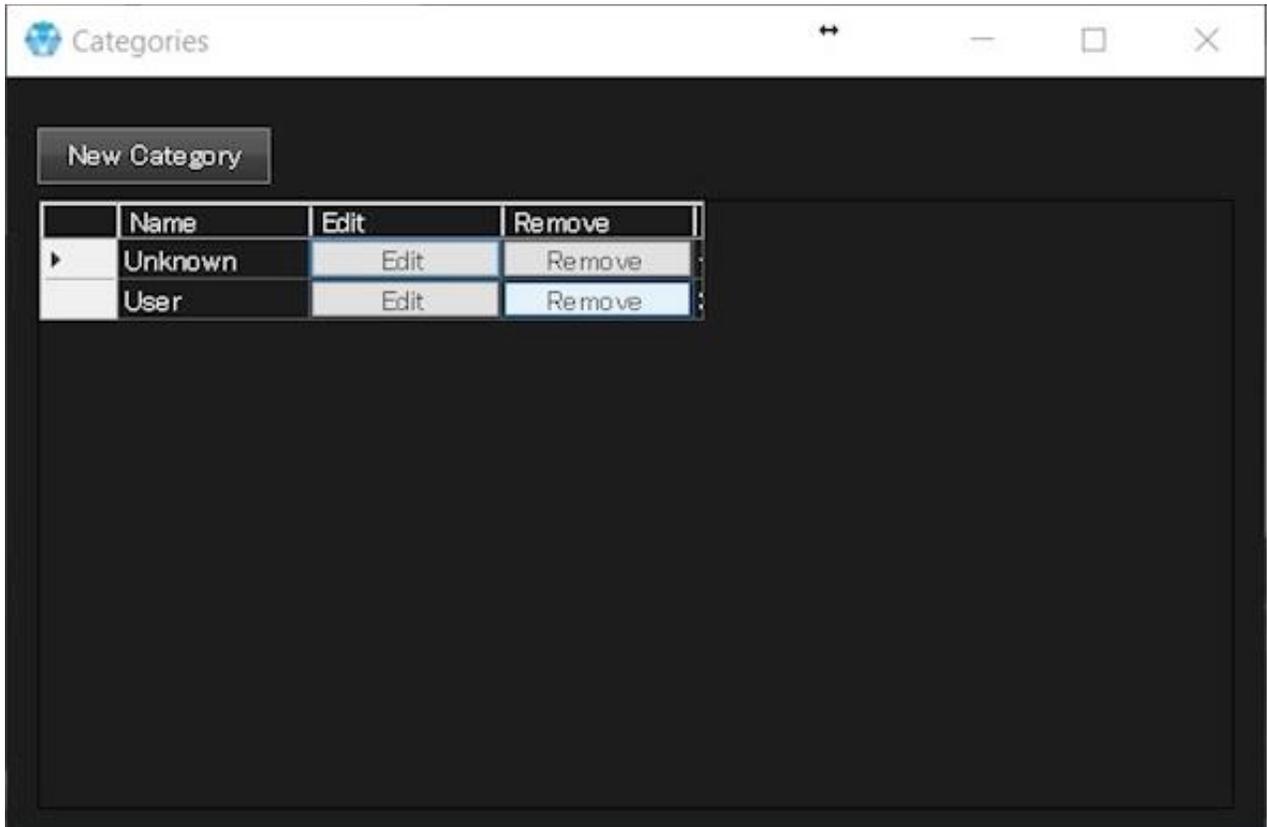
Categories Screen - Delete Category



Click on "Yes" to confirm category deletion.



Click "OK" on the confirmation message.



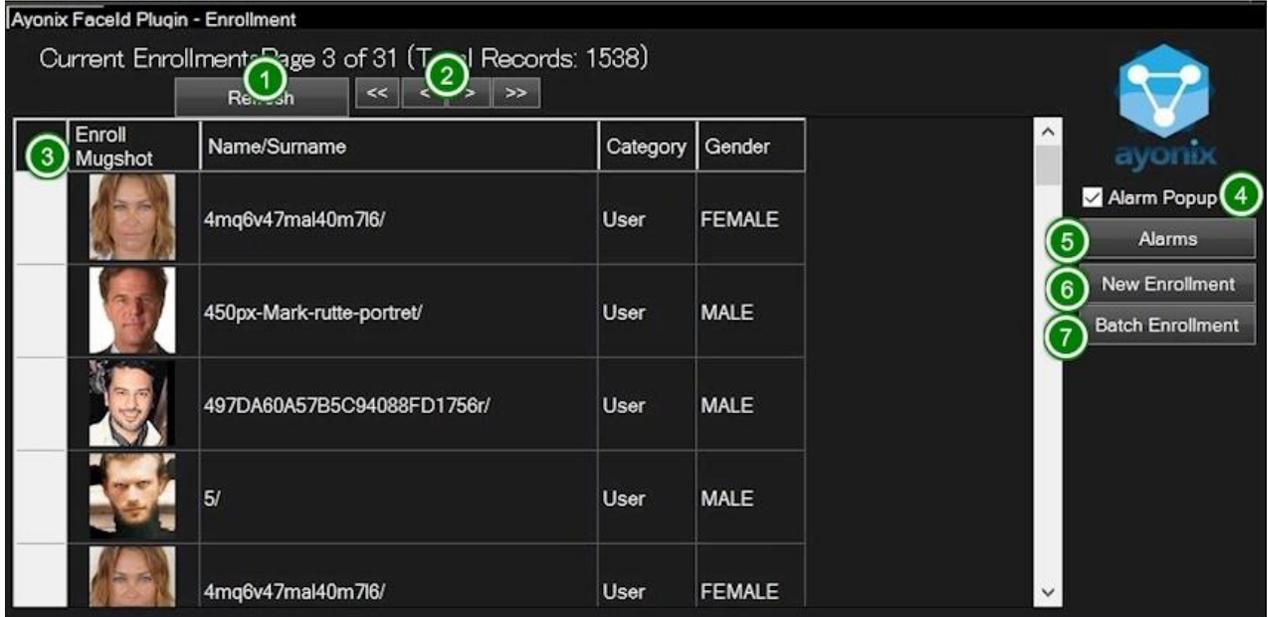
Category will disappear from categories list

3. Enrollment

3.1 Single Enrollment

System Provides a way to enroll persons based on multiple pictures.

Main Plugin Screen - Elements



Ayonix Faceld Plugin - Enrollment

Current Enrollments Page 3 of 31 (Total Records: 1538)

Refresh << < > >>

Enroll Mugshot	Name/Surname	Category	Gender
	4mq6v47mal40m716/	User	FEMALE
	450px-Mark-rutte-portret/	User	MALE
	497DA60A57B5C94088FD1756r/	User	MALE
	5/	User	MALE
	4mq6v47mal40m716/	User	FEMALE

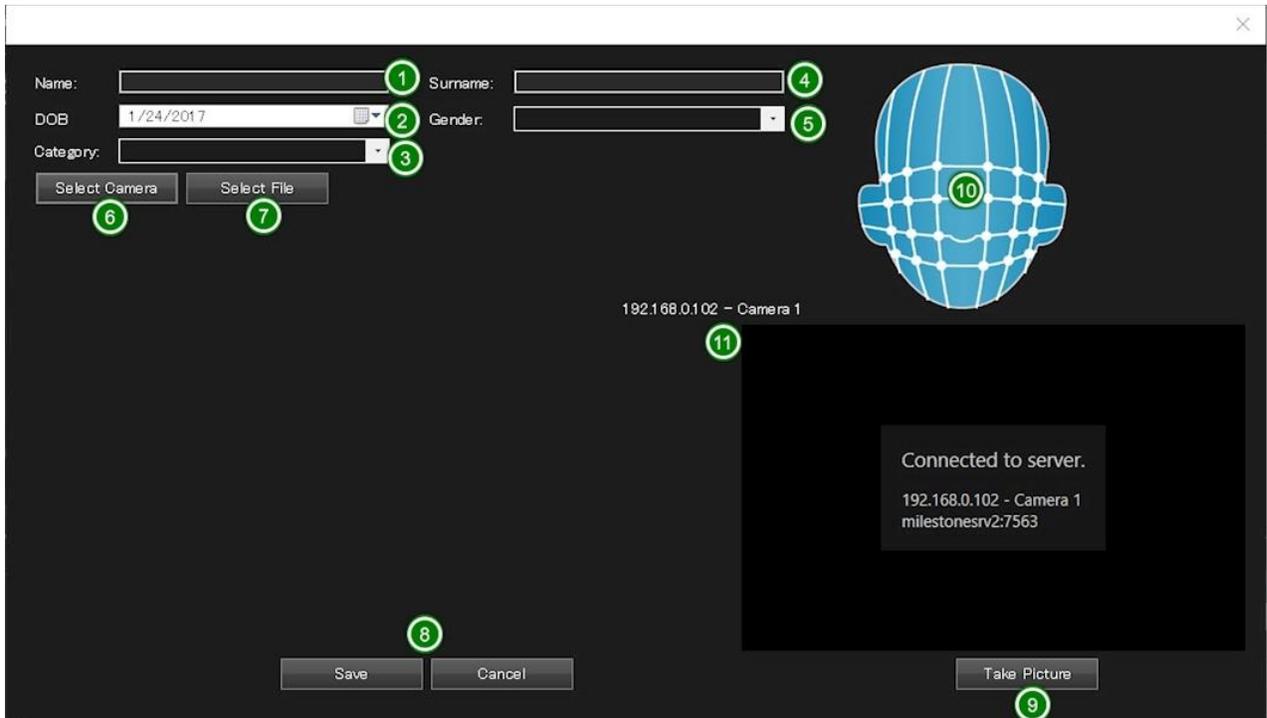
Alarm Popup

Alarms

New Enrollment

Batch Enrollment

No	Item	Meaning
1	Enrollment List Refresh button	Refreshes the enrollment list
2	Enrollment List navigation buttons	Navigates the enrollment list
3	Enrollment List	List of the enrollment data
4	Alarm popup	If this option is selected, every time there is a new alarm an alert popup will appear.
5	Alarms	Open alarms screen button. This button goes to the Alarms screen
6	New enrollment	this button goes to the Single Enrollment Screen
7	Batch Enrollment	Opens Batch Enrollment Screen



No	Item	Meaning
1	Name	Must be filled with person's name
2	DOB (Date of birth)	Birthday in the order of Month/day/year
3	Category	- All users must belong to a category. System default categories are "User" and "Unknown". It is possible to create more categories (please refer to "Creating new categories" session)
4	Person Surname	optional
5	Person gender	One gender must be selected
6	Select camera	Get Enrollment pictures from camera
7	Select file	Get Enrollment pictures from pictures on file system
8	Save or Cancel buttons	Saves or cancel the modifications/changes.
9	Take Picture	Checks the camera connectivity and camera image acquisition
10	Thumbnail image	Thumbnail image of the enrolled person. All enrollments must have a main pose (the picture that will be shown as main picture)
11	Camera name / image	Capture enrollment images in case of enrollment from camera

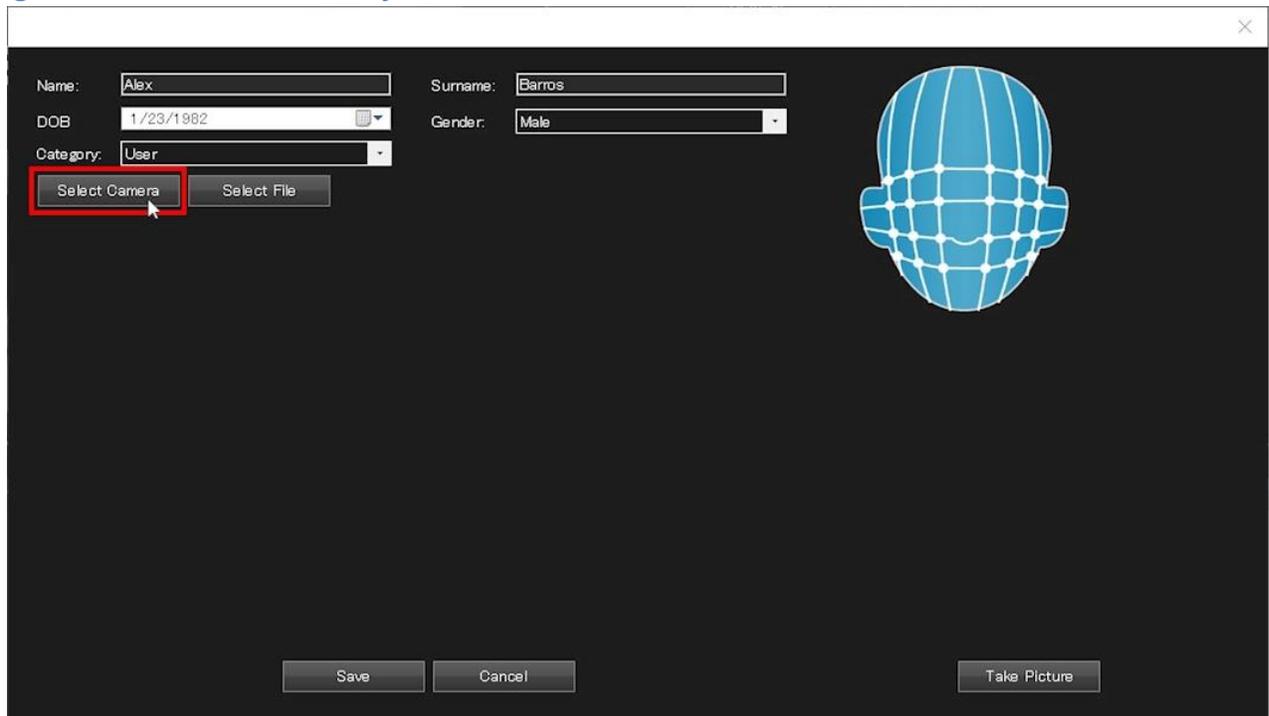


Single Enrollment - Steps



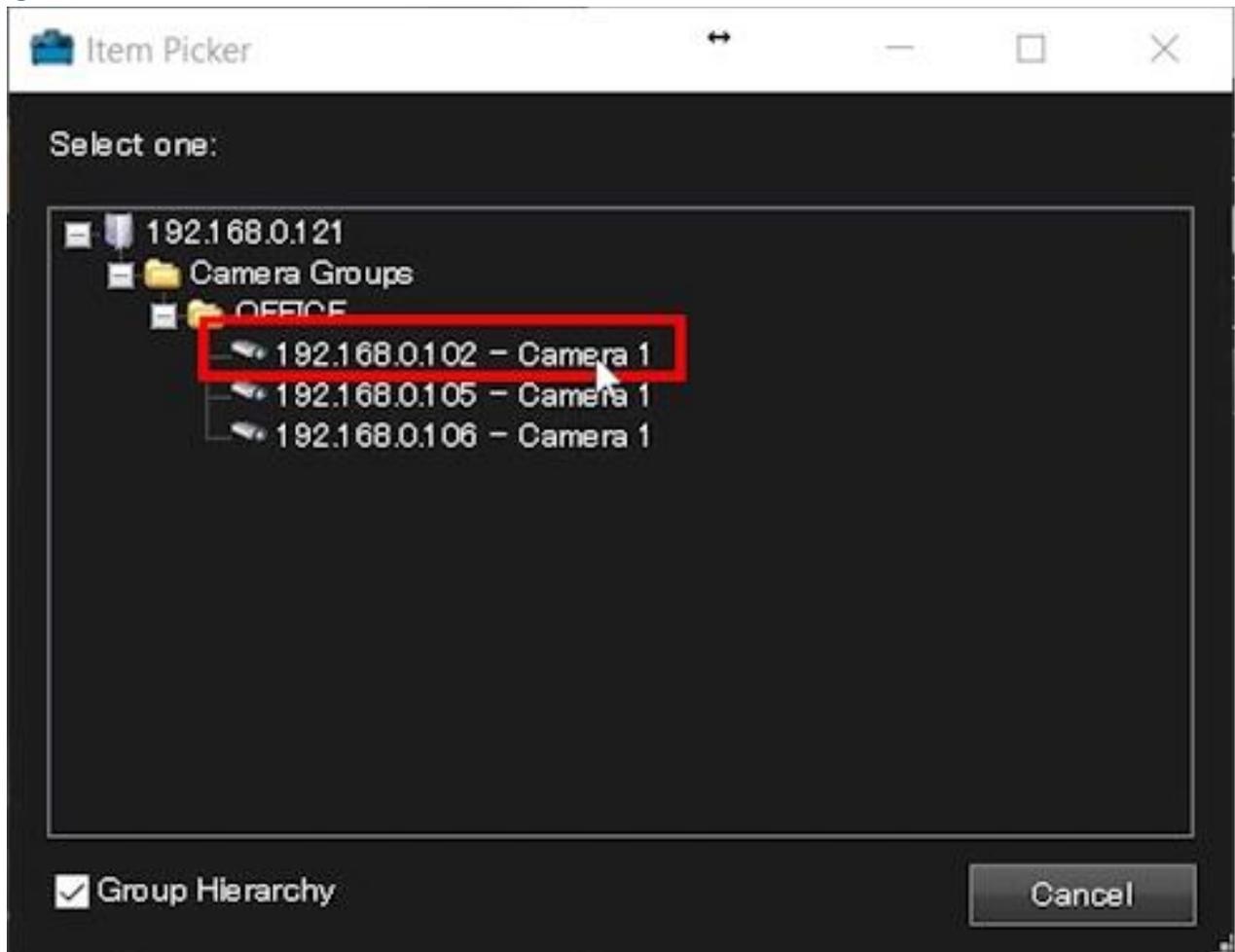
From main plugin screen, click on "New Enrollment" button

Single Enrollment - Enrollment from Camera



Fill up Name , Surname, Date of Birth, Category and Gender.

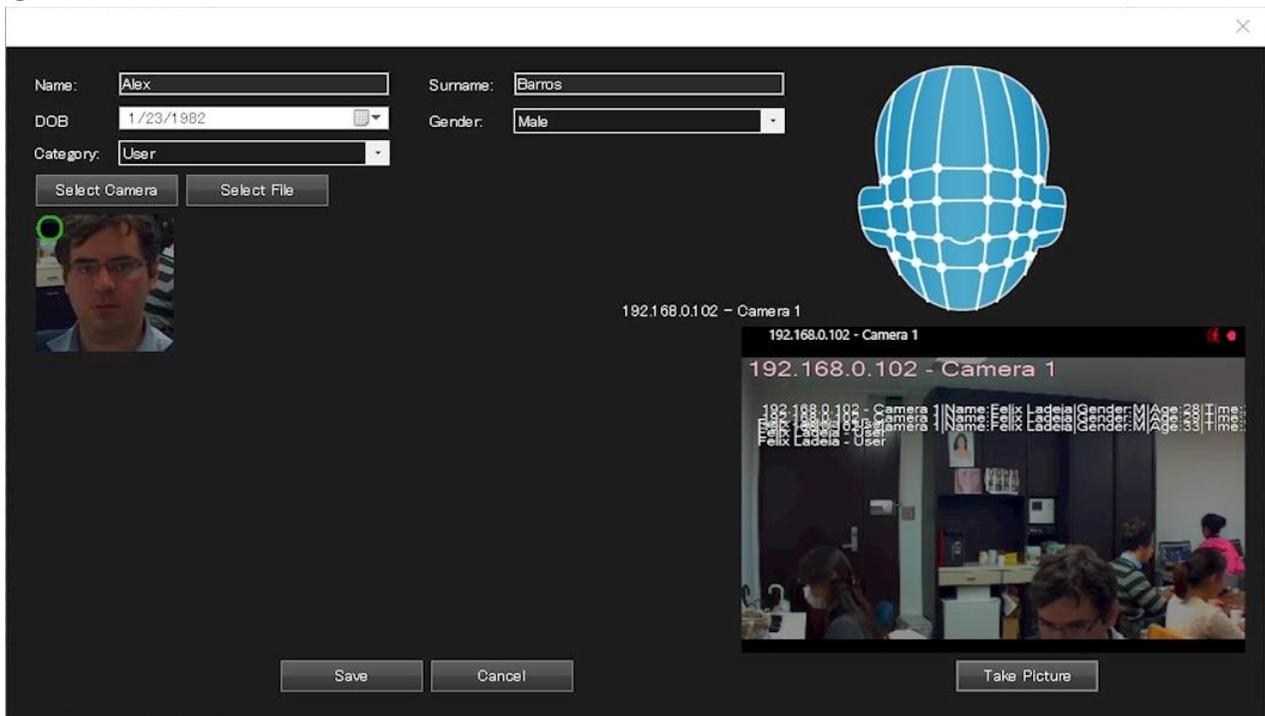
Click on "Select Camera" screen



Select desired camera (camera from which you want to capture images)

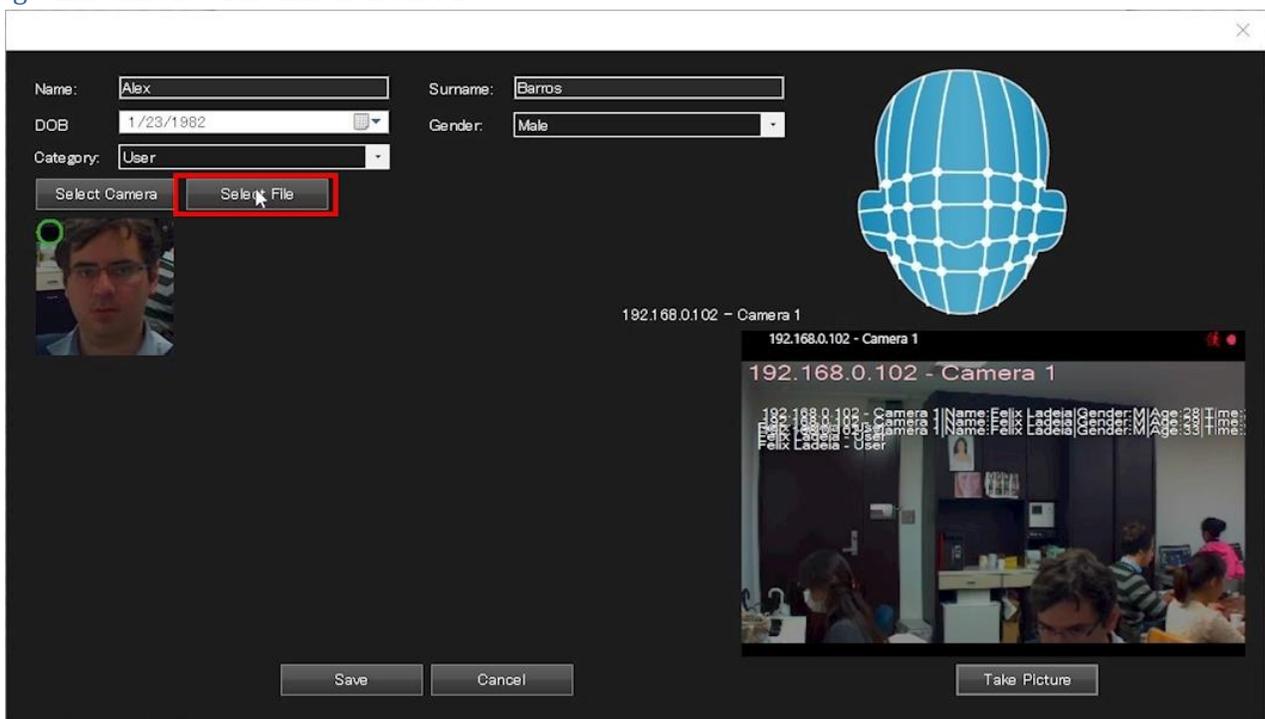


Single Enrollment - Enrollment from Camera

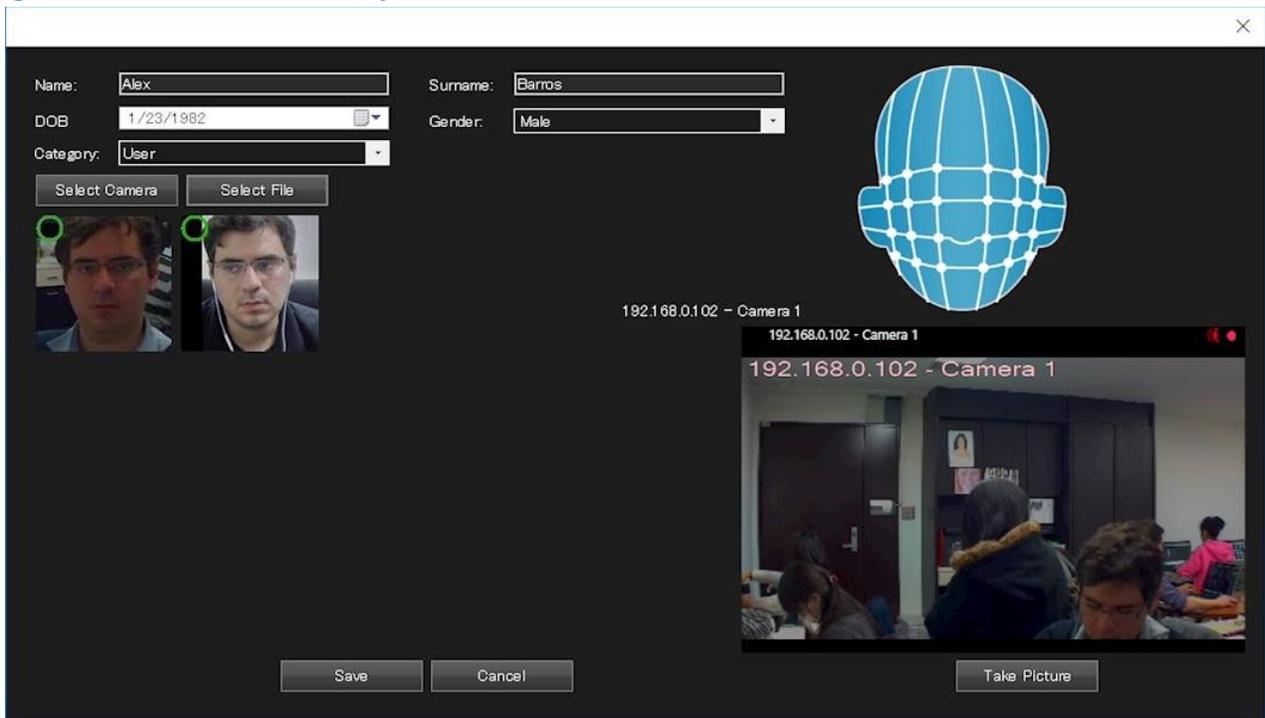


Picture from the biggest detected face will be shown in the left part of the screen. if the face was properly detected, a green circle will appear over the picture.

Single Enrollment - Enrollment from File

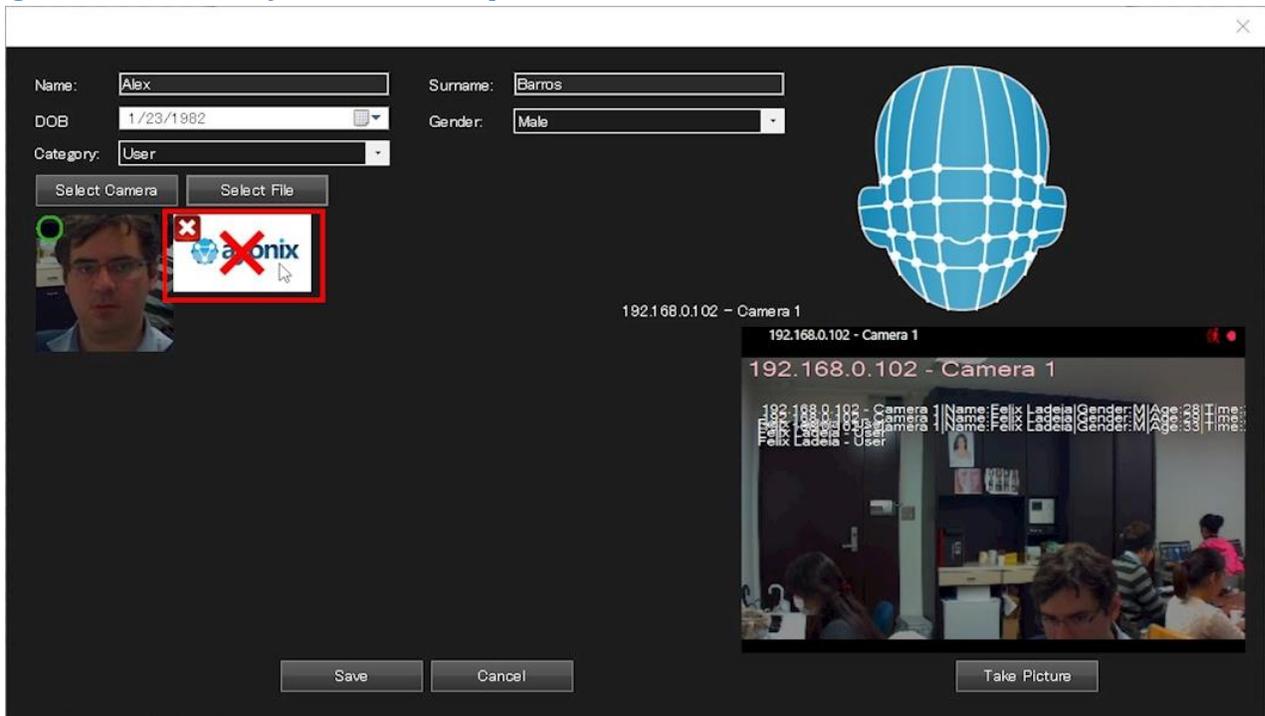


Click on "Select Picture" button. Browse folders for a picture file. It will be displayed beside current pictures.



System correctly detected face on picture file and inserted a green circle over it.

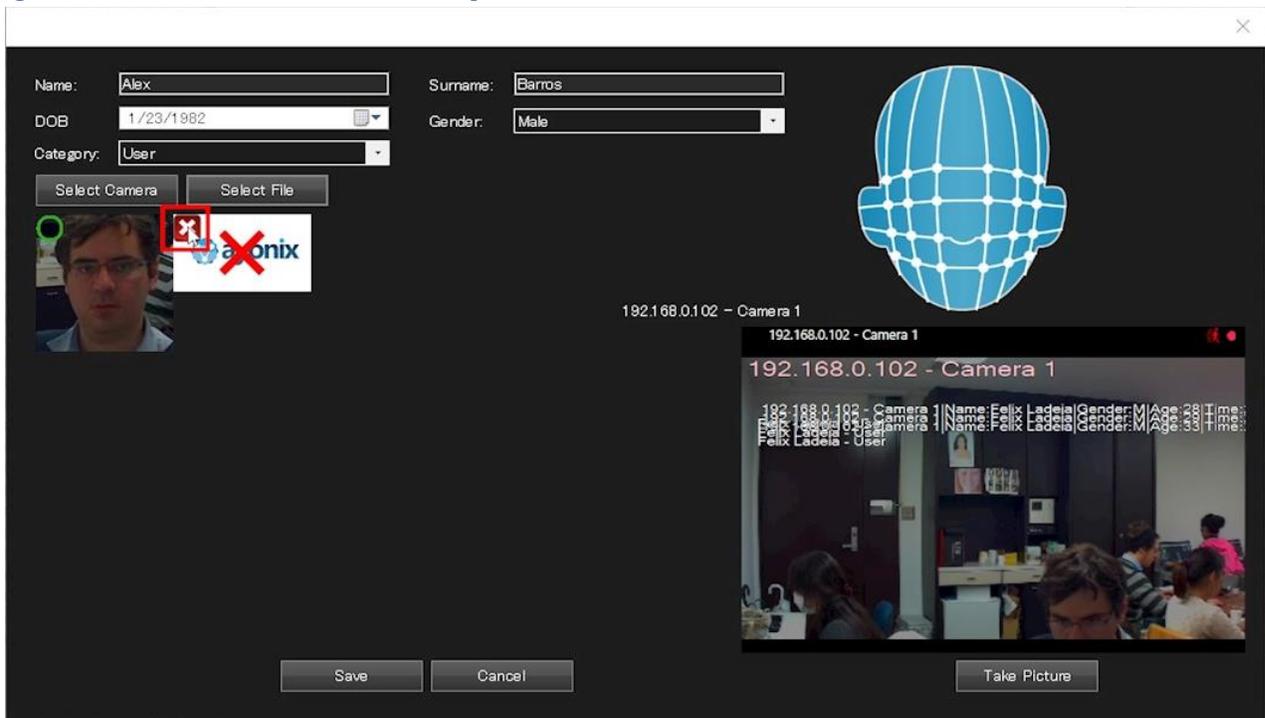
Single Enrollment - No face detected on picture



If no face is detected in the picture, a red cross will be displayed over the image

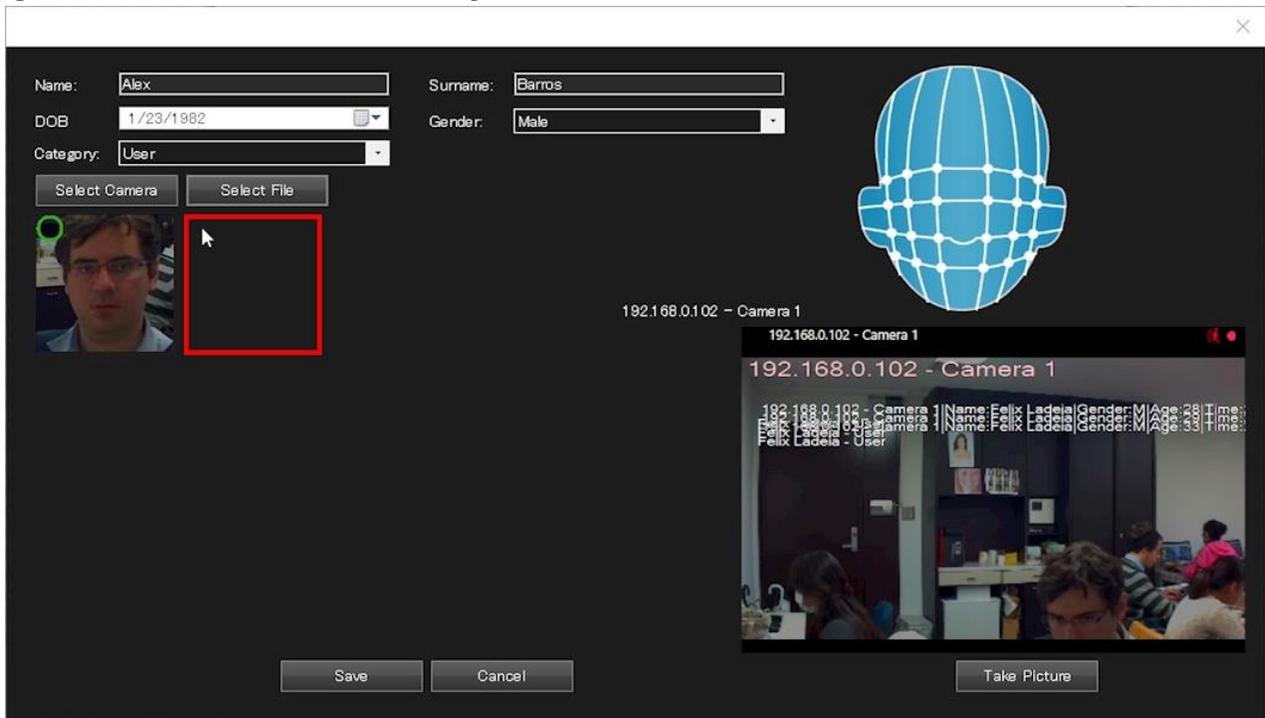


Single Enrollment - No face detected on picture

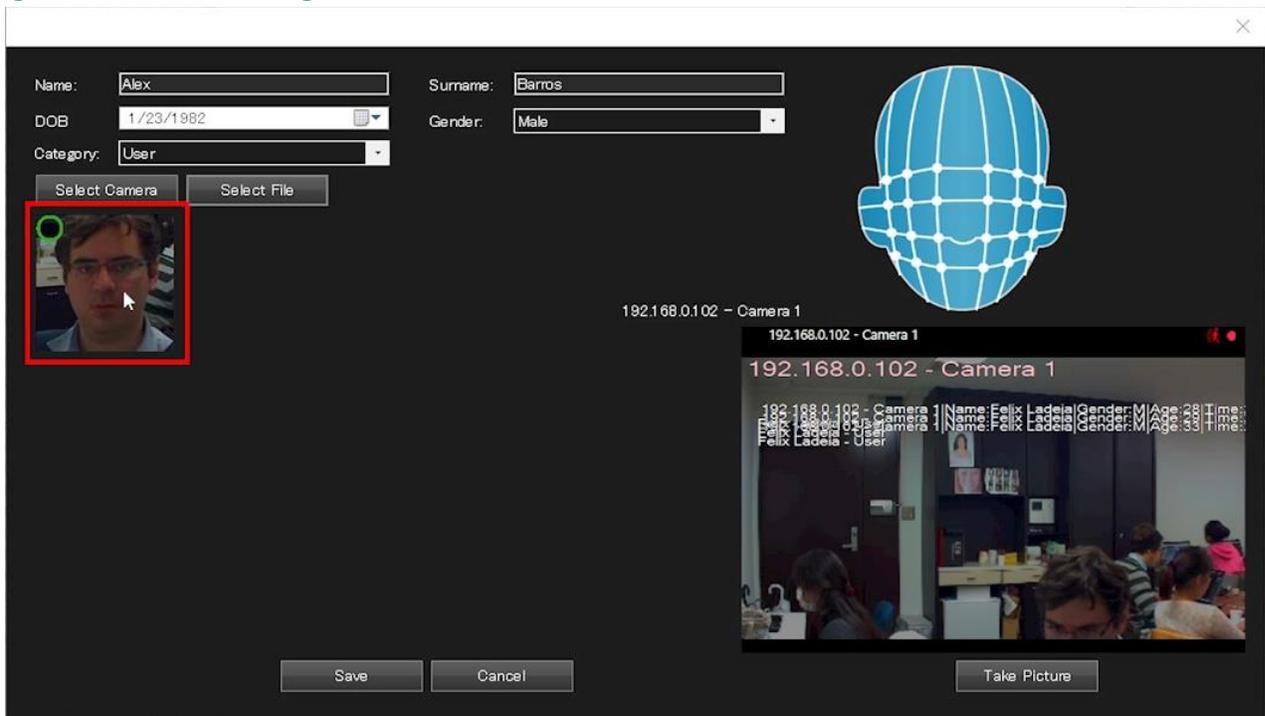


To exclude this image, click on the red cross on the left upper side of the picture

Single Enrollment - No face detected on picture

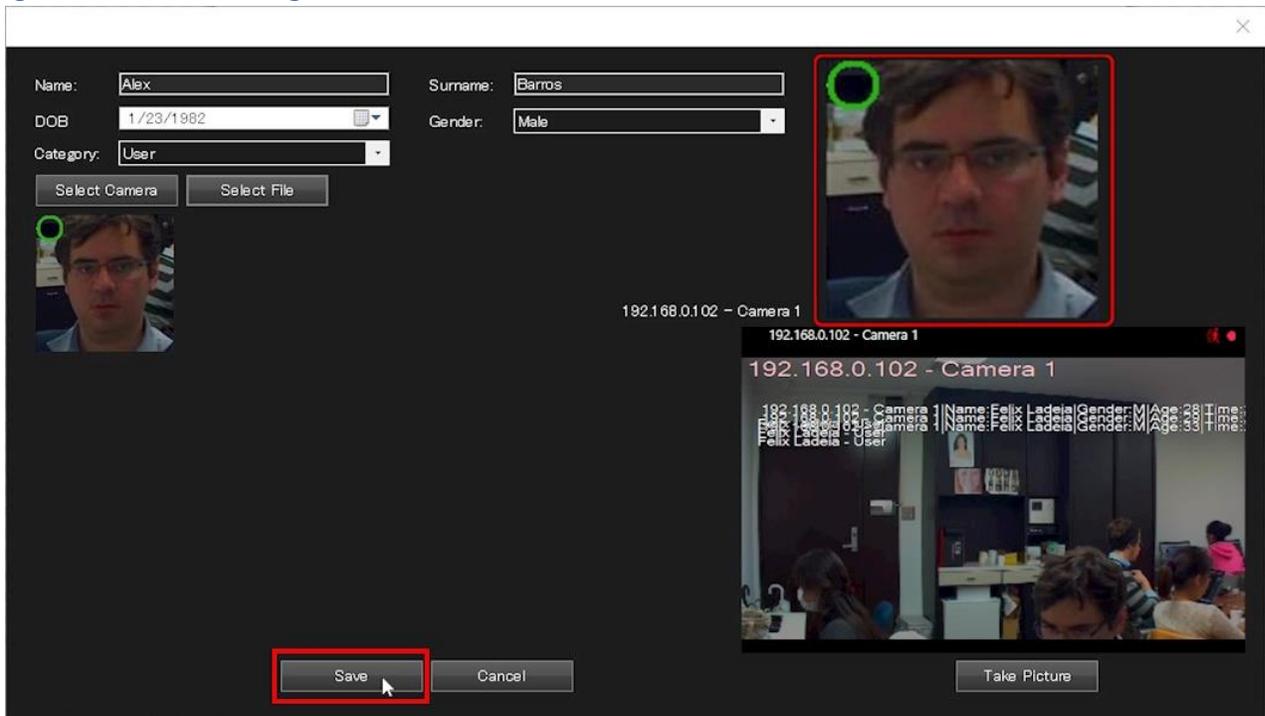


The picture will be deleted from the system.



Click on one of the picture used for enrollment. It will be selected as Main Pose.

Single Enrollment - Saving New Enrollment



User picture will appear on the upper right corner of the screen. Click on "Save" button to save enrollment.



Single Enrollment - Saving New Enrollment



A confirmation message will appear. Click on "OK" to proceed.

Single Enrollment - Saving New Enrollment

Ayonix FaceId Plugin - Enrollment

Current Enrollments Page 31 of 31 (Total Records: 1540)

Refresh << < > >>

Enroll Mugshot	Name/Surname	Category	Gender
	Alex/Barros	User	Male
	Sylvia_Maestrini/	User	FEMALE
	maurice_dupont/	User	MALE
	giselle_mardure/	User	FEMALE
	francis_ford/	User	MALE

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Alarm Popup

Alarms

New Enrollment

Batch Enrollment

Cameras:

Using Local Properties

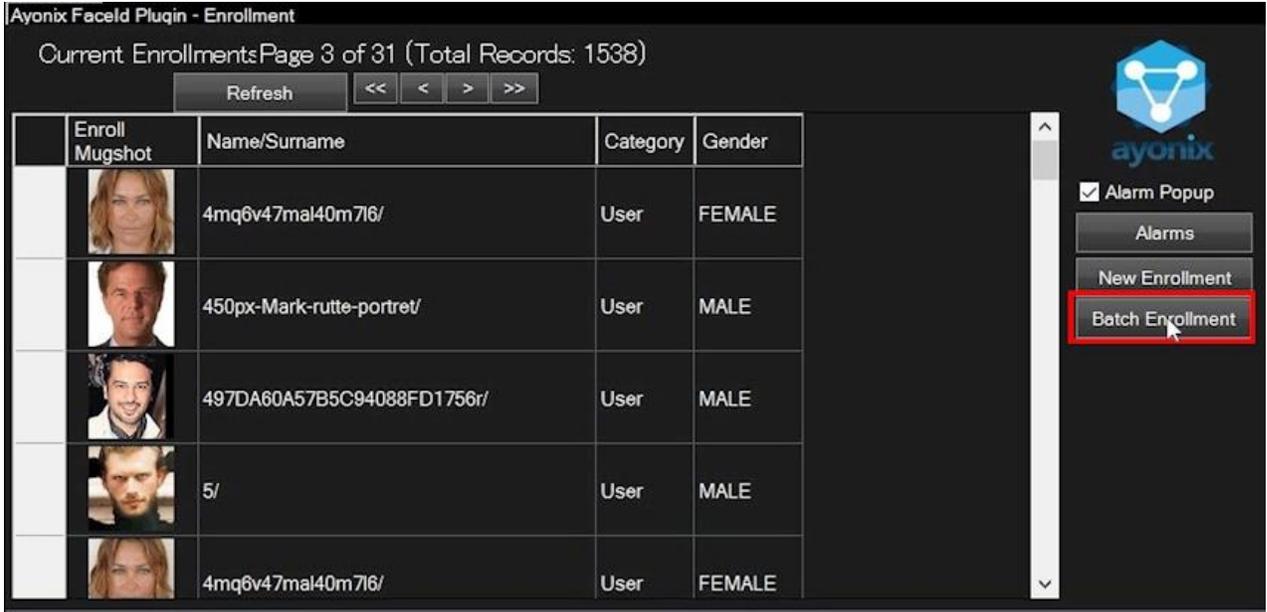
Setup

Enrolled person will appear on Enrollments List

3.2 Batch Enrollment

Sometimes it is necessary to enroll multiple persons based on multiple images. Ayonix Milestone Plugin provides an easy way to do this: Batch Enrollment

Batch Enrollment - Steps



Enroll Mugshot	Name/Surname	Category	Gender
	4mq6v47mal40m716/	User	FEMALE
	450px-Mark-rutte-portret/	User	MALE
	497DA60A57B5C94088FD1756r/	User	MALE
	5/	User	MALE
	4mq6v47mal40m716/	User	FEMALE

Batch Enrollment Screen- Elements

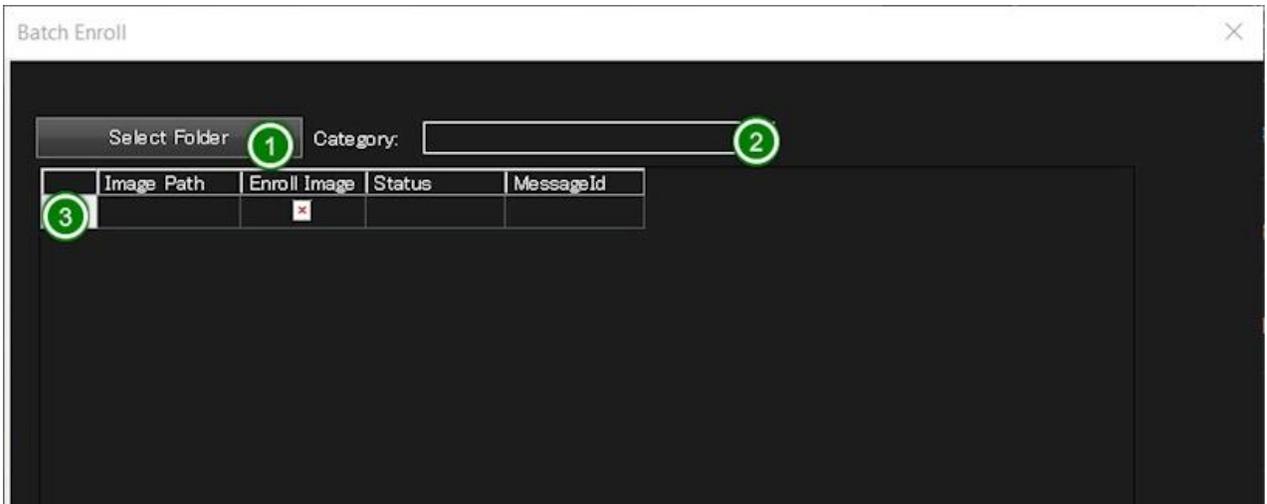
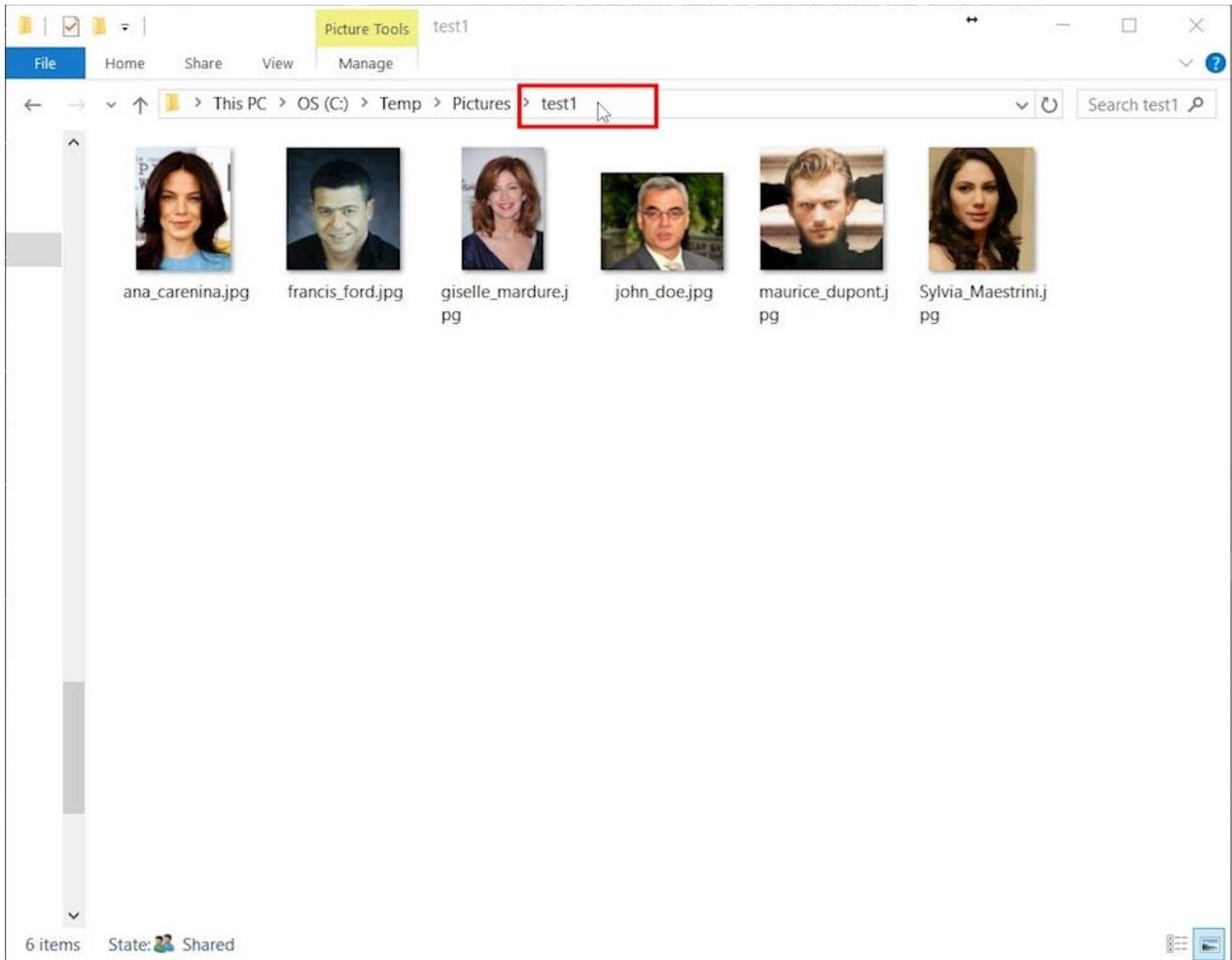


Image Path	Enroll Image	Status	MessageId
			

No	Item	Meaning
1	Select Folder	With this button is possible to select a folder from which the pictures will be enrolled
2	Category	Category selection. User must select a category in order to properly do batch enrollment
3	Person Enrollment list	Once the pictures are selected and sent for enrollment, they appear in this list





Batch Enrollment Screen - Images List loaded into system

Batch Enroll ✕

Select Folder Category: User 6 Files loaded successfully

Image Path	Enroll Image	Status	MessageId
C:\Temp\Pictures\test1\Sylvia_Maestrini.jpg		Sending...	17542
C:\Temp\Pictures\test1\maurice_dupont.jpg		Sending...	17541
C:\Temp\Pictures\test1\john_doe.jpg		Sending...	17540
C:\Temp\Pictures\test1\giselle_mardure.jpg		Sending...	17539
C:\Temp\Pictures\test1\francis_ford.jpg		Sending...	17538
C:\Temp\Pictures\test1\ana_carenina.jpg		Sending...	17537



Persons enrolled into system showing on the main Screen.

Ayonix FaceId Plugin - Enrollment

Current Enrollments Page 31 of 31 (Total Records: 1541)

Refresh << < > >>

Enroll Mugshot	Name/Surname	Category	Gender
	Sylvia_Maestrini/	User	FEMALE
	maurice_dupont/	User	MALE
	john_doe/	User	MALE
	giselle_mardure/	User	FEMALE
	francis_ford/	User	MALE

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Alarm Popup

Alarms

New Enrollment

Batch Enrollment

3.3 Deleting an Enrollment

Proceed according to the following in order to delete an enrollment

Person Enrollments - Delete Enrollment

Ayonix FaceId Plugin - Enrollment

Current Enrollments Page 1 of 31 (Total Records: 1540)

Refresh << < > >>

Enroll Mugshot	Name/Surname	Category	Gender
	12345-20131013-a-b-female-celebrity/	User	FEMALE
	1031-annalynne-mccord-makeup_bd/	User	FEMALE
	121234633/	User	MALE
	10155501_740459015976143_1004643677_n/	User	FEMALE
	121232706/	User	MALE

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Alarm Popup

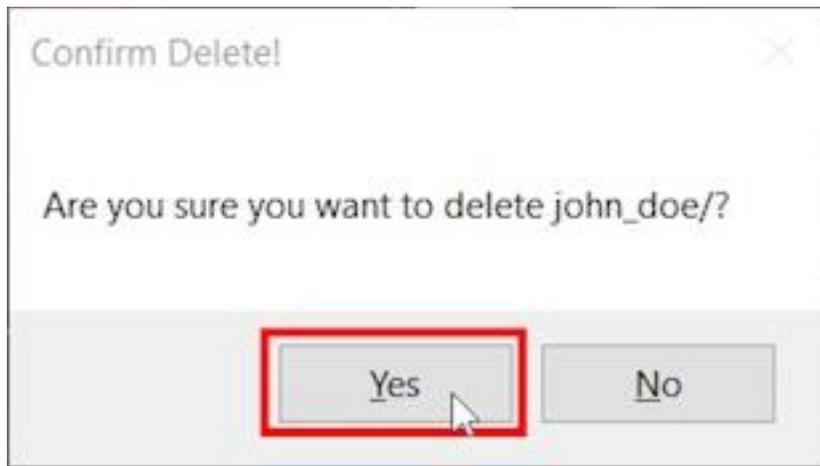
Alarms

New Enrollment

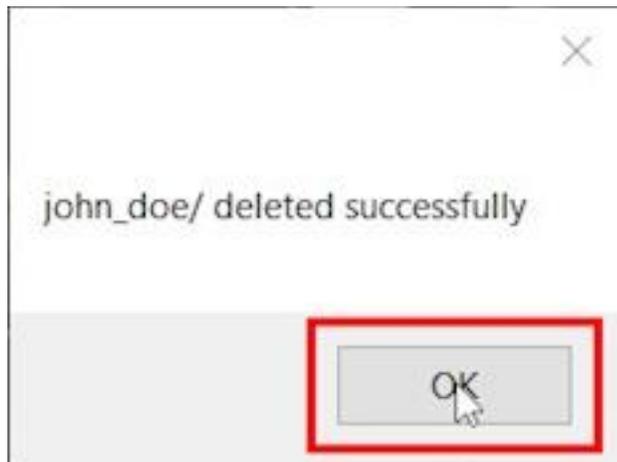
Batch Enrollment

Delete

On the Main Enrollments screen, right click on an enrollment and choose "Delete"



Click on the confirmation screen



A confirmation screen will appear. Click on "Ok" button to proceed.



Person Enrollments - Delete Enrollment

Ayonix FaceId Plugin - Enrollment

Current Enrollments Page 31 of 31 (Total Records: 1539)

Refresh << < > >>

Enroll Mugshot	Name/Surname	Category	Gender
	Sylvia_Maestrini/	User	FEMALE
	maurice_dupont/	User	MALE
	giselle_mardure/	User	FEMALE
	francis_ford/	User	MALE
	ana_carenina/	User	FEMALE

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Alarm Popup

Alarms

New Enrollment

Batch Enrollment

Enrollments Screen will be reloaded with the remaining records.





4. Face Matching

4.1 Alarms Screen

Alarms Screen is a tool by which it is possible to get all alarms from faces detected into cameras, and to match faces based on alarms and pictures. To access it, click on "Alarms" button

Ayonix FaceId Plugin - Enrollment

Current Enrollments Page 31 of 31 (Total Records: 1541)

Refresh << < > >>

Enroll Mugshot	Name/Surname	Category	Gender
	Sylvia_Maestrini/	User	FEMALE
	maurice_dupont/	User	MALE
	john_doe/	User	MALE
	giselle_mardure/	User	FEMALE
	francis_ford/	User	MALE

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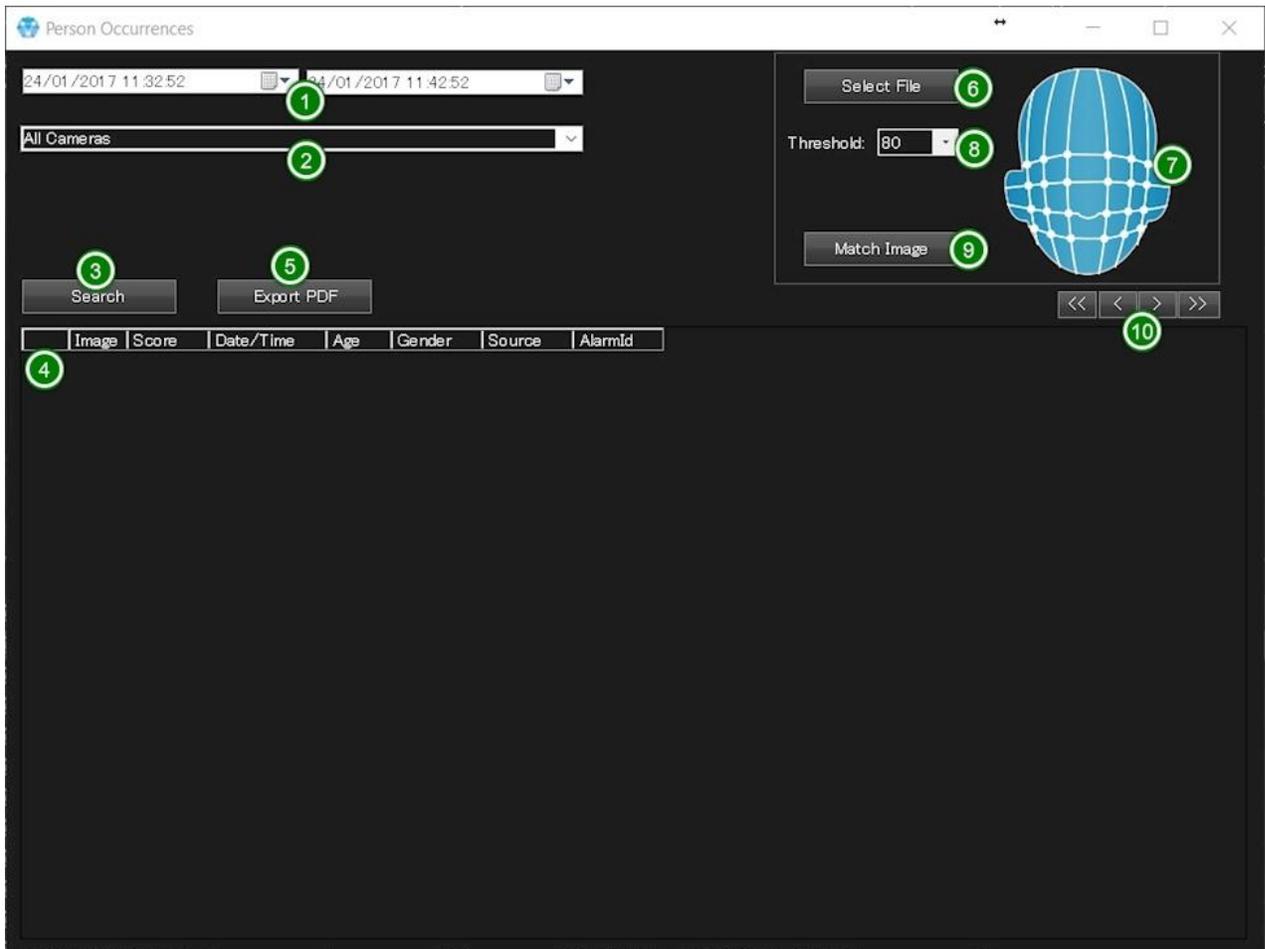
Alarm Popup

Alarms

New Enrollment

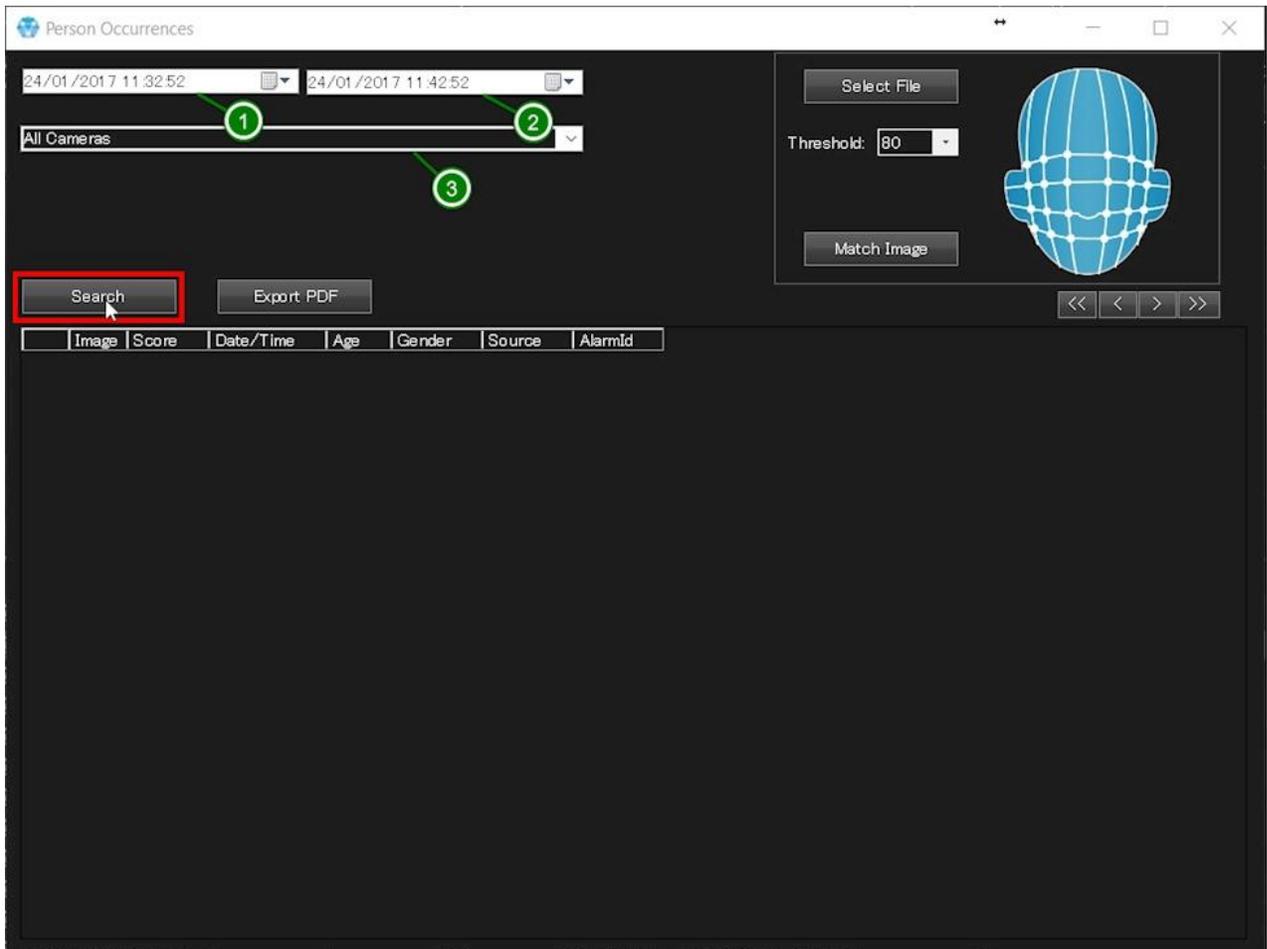
Batch Enrollment

4.1.1 Elements



No	Item	Meaning
1	Start Date and End Date criteria	for alarms selection
2	Camera Selection Combo Box	To select from all cameras, select "All Cameras" option
3	Search button	System will search for alarms provided by cameras selected inside the determined interval
4	Search result or match result screen	It shows the alarms searched or the match results based on the picture selected
5	Export PDF button	It exports the search or the image match results to a document in PDF format
6	Image Matching Select File button	It is possible to search for similar faces on the determined interval based on Start Date and End Date parameters and a Threshold
7	Selected picture for image match	This element displays the picture obtained from file or from a current alarm, to be used on face Matching option
8	Threshold selection option	Ayonix Image match function matches pictures based on a threshold. Default threshold is 80. If it is lowered, more results will come but there will be a higher chance to obtain a false match
9	Match Image button	This button starts Image matching based on the parameters provided
10	Navigation buttons	Alarm Search or Image matching search results navigation buttons

4.1.2 Search button



1 - Select Start Date

2 - Select an End Date

3 - Select from which camera desired alarms must be obtained from

4 - Click on "Search" button

Person Occurrences

24/01/2017 07:32:52 24/01/2017 12:42:52

All Cameras

Select File

Threshold: 80

Match Image

Search Export PDF

Page 1 of 36 (Total Records: 1079)

Image	Score	Date/Time	Age	Gender	Source	AlarmId
		1/24/2017 11:56:43 AM	37	MALE	192.168.0.102 - Camera 1	15153
		1/24/2017 11:56:43 AM	45	FEMALE	192.168.0.102 - Camera 1	15152
		1/24/2017 11:56:41 AM	33	MALE	192.168.0.102 - Camera 1	15150
		1/24/2017 11:56:40 AM	45	FEMALE	192.168.0.102 - Camera 1	15151
		1/24/2017 11:56:40 AM	33	MALE	192.168.0.102 - Camera 1	15149
		1/24/2017 11:56:34 AM	40	FEMALE	192.168.0.102 - Camera 1	15148
		1/24/2017 11:56:13 AM	43	FEMALE	192.168.0.102 - Camera 1	15147
		1/24/2017 11:56:03 AM	41	FEMALE	192.168.0.102 - Camera 1	15146

Search button

Resulting alarms will be displayed ordered by Alarm Date.

Table parameters	Explanation
Image	Face detected in alarm
Score	Used for Image Matching results
Date/Time	Alarm date and time
Gender	Detected person gender
Source	Camera or source element detected
AlarmId	System internal Id



4.1.3 Image Matching using System Alarm

Person Occurrences

24/01/2017 07:32:52 24/01/2017 12:42:52

All Cameras

Select File

Threshold: 80

Match Image

Search Export PDF

Page 1 of 36 (Total Records: 1079)

Image	Score	Date/Time	Age	Gender	Source	AlarmId
		1/24/2017 11:56:43 AM	37	MALE	192.168.0.102 - Camera 1	15153
		1/24/2017 11:56:43 AM	45	FEMALE	192.168.0.102 - Camera 1	15152
		1/24/2017 11:56:41 AM	33	MALE	192.168.0.102 - Camera 1	15150
		1/24/2017 11:56:40 AM	45	FEMALE	192.168.0.102 - Camera 1	15151
		1/24/2017 11:56:40 AM	33	MALE	192.168.0.102 - Camera 1	15149
		1/24/2017 11:56:34 AM	40	FEMALE	192.168.0.102 - Camera 1	15148
		1/24/2017 11:56:13 AM	43	FEMALE	192.168.0.102 - Camera 1	15147
		1/24/2017 11:56:03 AM	41	FEMALE	192.168.0.102 - Camera 1	15146

On Results screen, click on the picture on an Alarm.



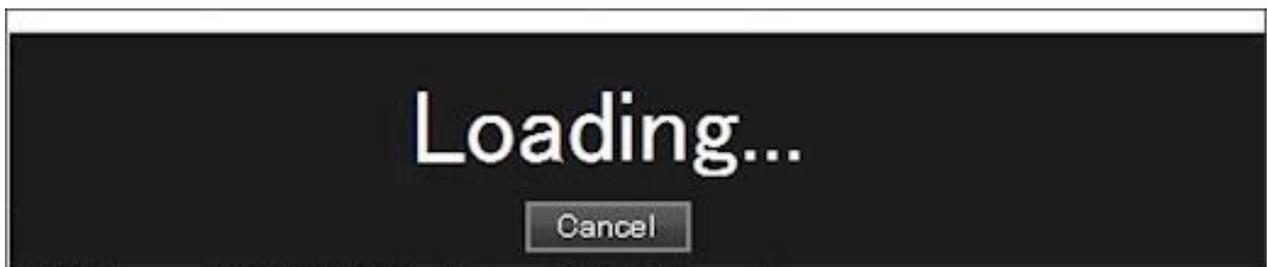
Image Matching using System Alarm

Image	Score	Date/Time	Age	Gender	Source	AlarmId
		1/24/2017 11:56:43 AM	37	MALE	192.168.0.102 - Camera 1	15153
		1/24/2017 11:56:43 AM	45	FEMALE	192.168.0.102 - Camera 1	15152
		1/24/2017 11:56:41 AM	33	MALE	192.168.0.102 - Camera 1	15150
		1/24/2017 11:56:40 AM	45	FEMALE	192.168.0.102 - Camera 1	15151
		1/24/2017 11:56:40 AM	33	MALE	192.168.0.102 - Camera 1	15149
		1/24/2017 11:56:34 AM	40	FEMALE	192.168.0.102 - Camera 1	15148
		1/24/2017 11:56:13 AM	43	FEMALE	192.168.0.102 - Camera 1	15147
		1/24/2017 11:56:03 AM	41	FEMALE	192.168.0.102 - Camera 1	15146

Alarm image will be displayed on the "Selected picture for image match" field.

Select a proper Threshold and click on the "Match Image" button.

Image Matching using System Alarm



A loading screen will appear. It can take some seconds to display a result.

Image Matching using System Alarm

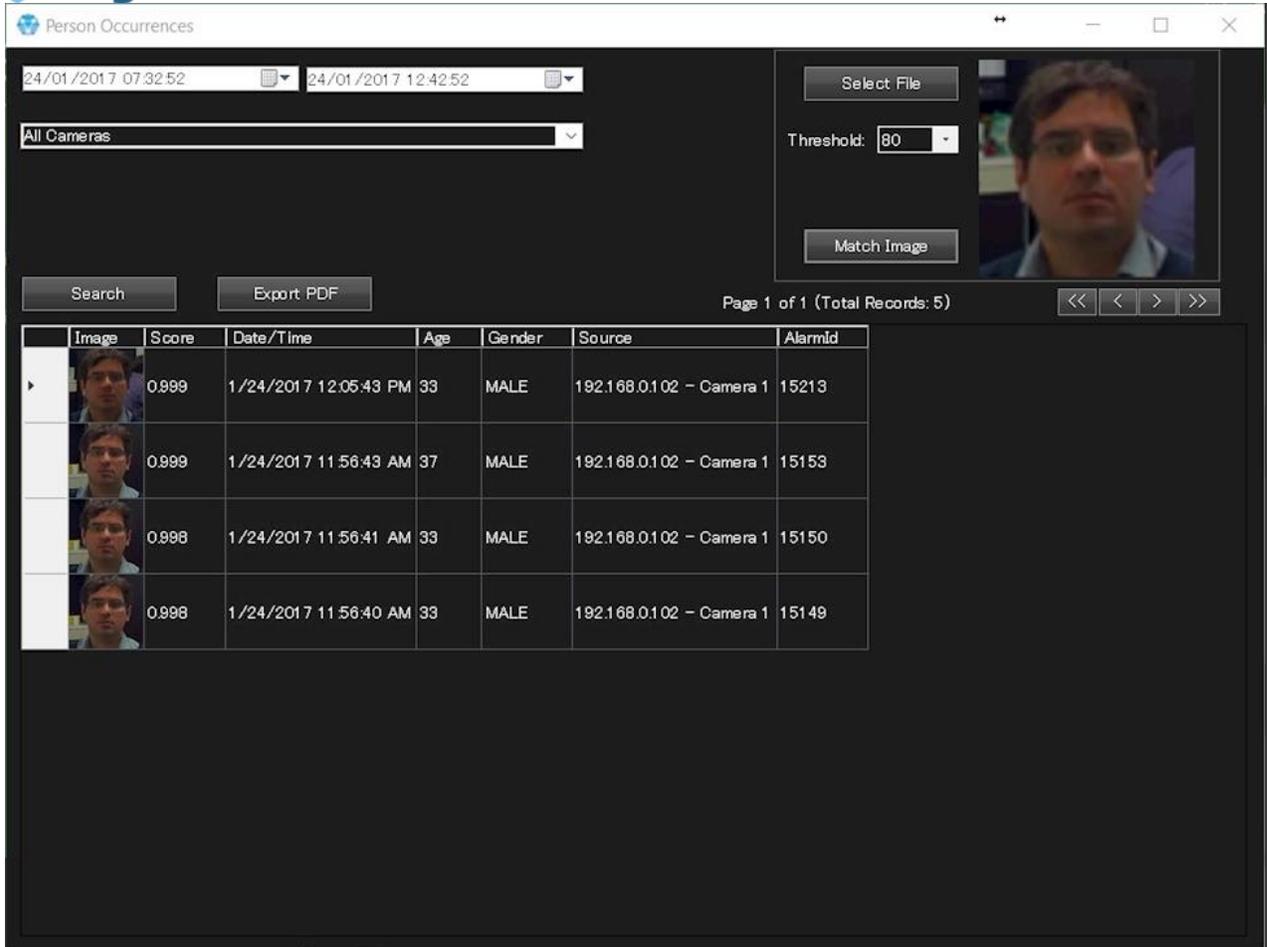


Image	Score	Date/Time	Age	Gender	Source	AlarmId
	0.999	1/24/2017 12:05:43 PM	33	MALE	192.168.0.102 - Camera 1	15213
	0.999	1/24/2017 11:56:43 AM	37	MALE	192.168.0.102 - Camera 1	15153
	0.998	1/24/2017 11:56:41 AM	33	MALE	192.168.0.102 - Camera 1	15150
	0.998	1/24/2017 11:56:40 AM	33	MALE	192.168.0.102 - Camera 1	15149

Similar faces (the ones that matched with a threshold above the determined value) will appear.

Resulting alarms will be displayed ordered by Alarm Date.

Image - Face detected in alarm.

Score - Used for Image Matching results. It goes from 0.0 to 1.0. The closest to 1.0 , the most possible it is that the pictures correspond to the same person.

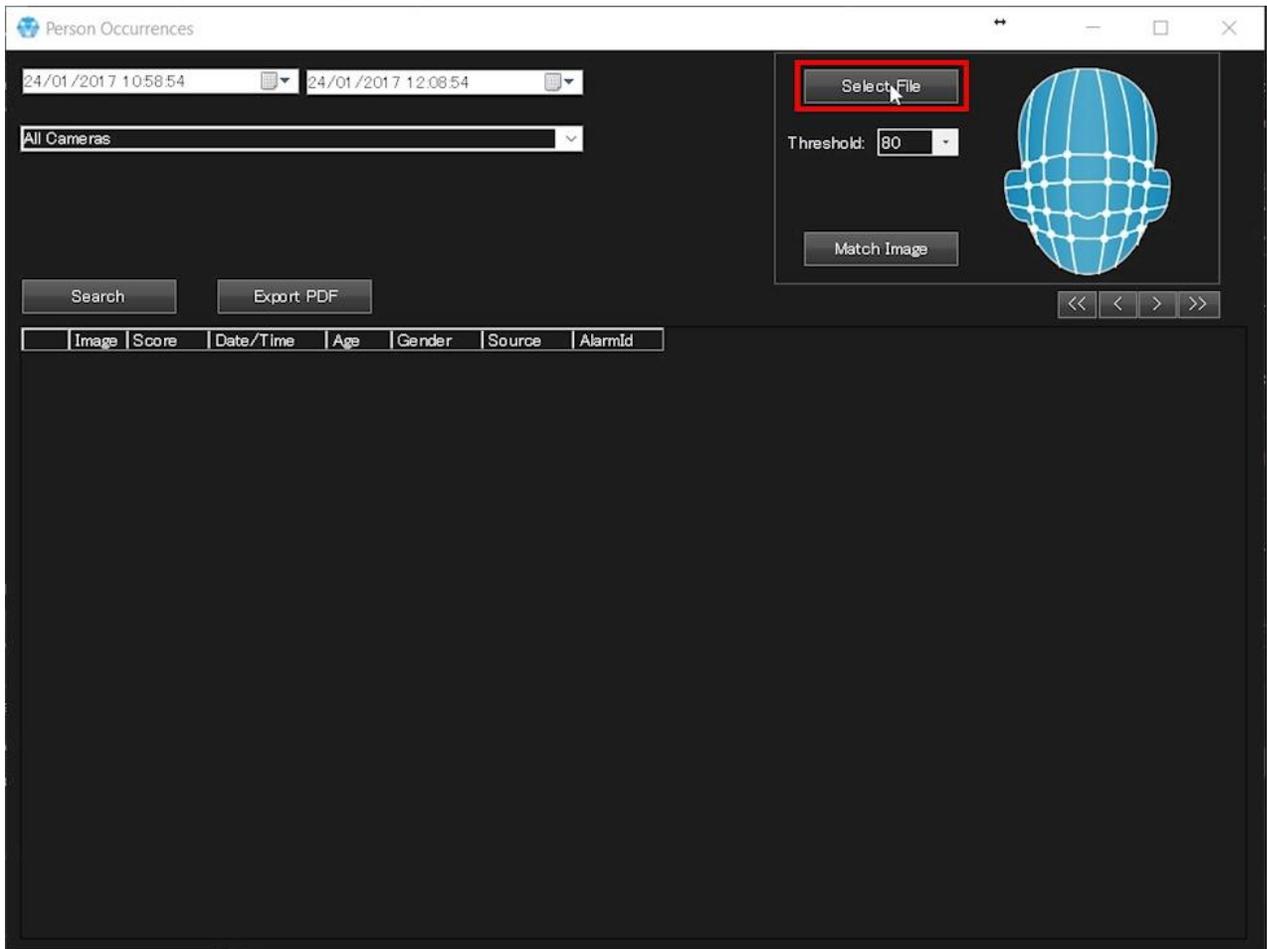
Date/Time - Alarm date and time.

Gender - Detected person Gender.

Source - Camera or source element detected.

AlarmId - System internal Id

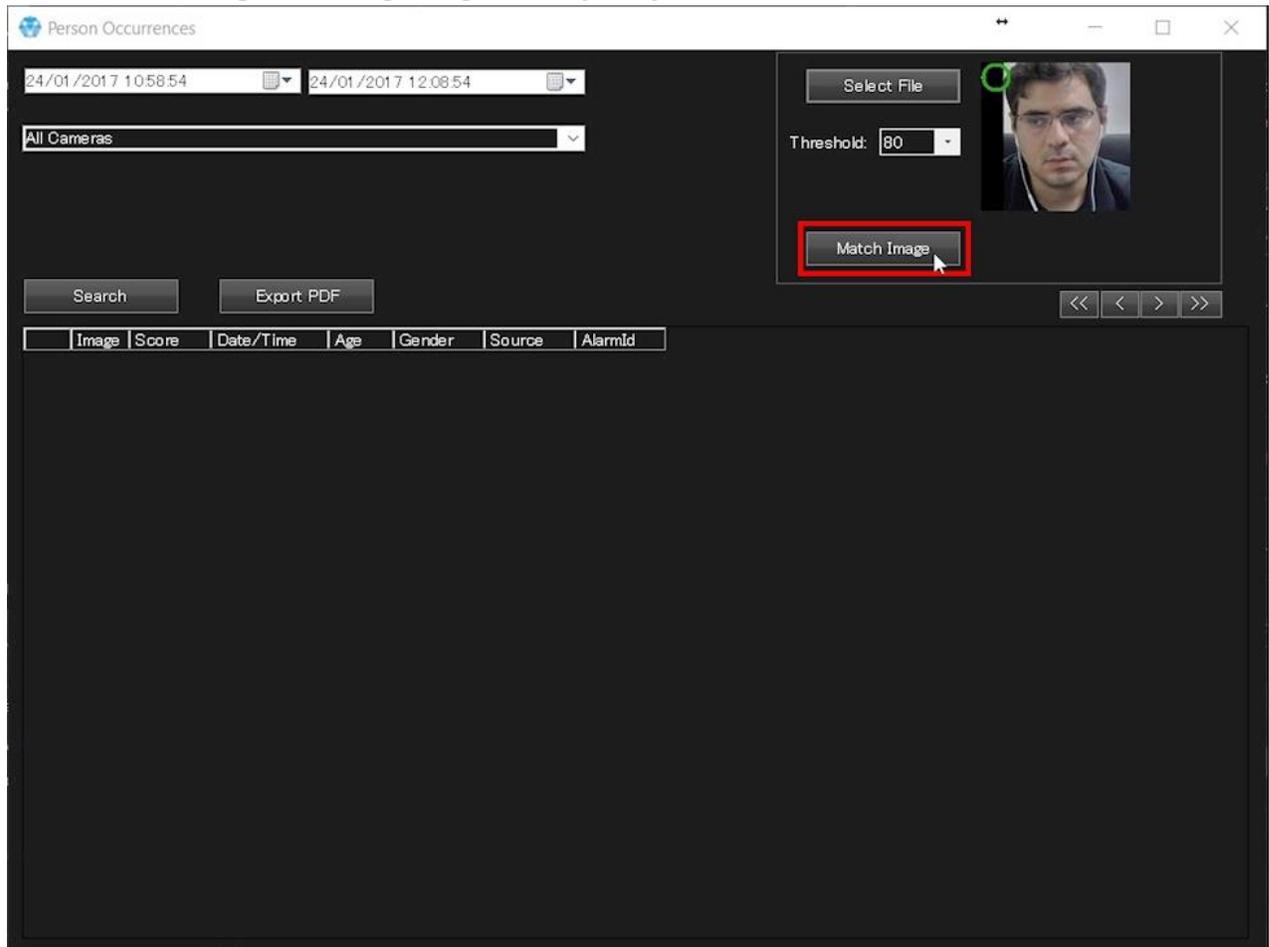
4.1.4 Image Matching using Picture from file



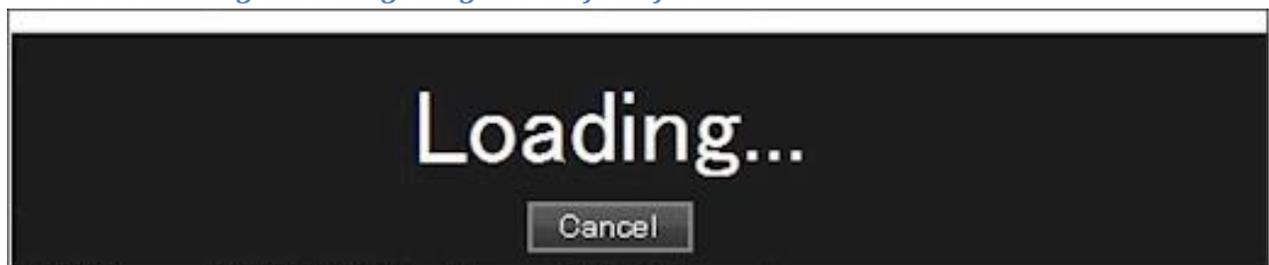
The screenshot displays the 'Person Occurrences' application window. The interface includes a search bar with two date-time filters set to '24/01/2017 10:58:54' and '24/01/2017 12:08:54', and a dropdown menu for 'All Cameras'. Below these are 'Search' and 'Export PDF' buttons. On the right side, there is a 'Select File' button (highlighted with a red box), a 'Threshold' dropdown set to '80', and a 'Match Image' button. A blue wireframe head icon is positioned to the right of the threshold control. At the bottom, a table header is visible with columns: Image, Score, Date/Time, Age, Gender, Source, and AlarmId.

Image	Score	Date/Time	Age	Gender	Source	AlarmId
-------	-------	-----------	-----	--------	--------	---------

Alarms Screen - Image Matching using Picture from file

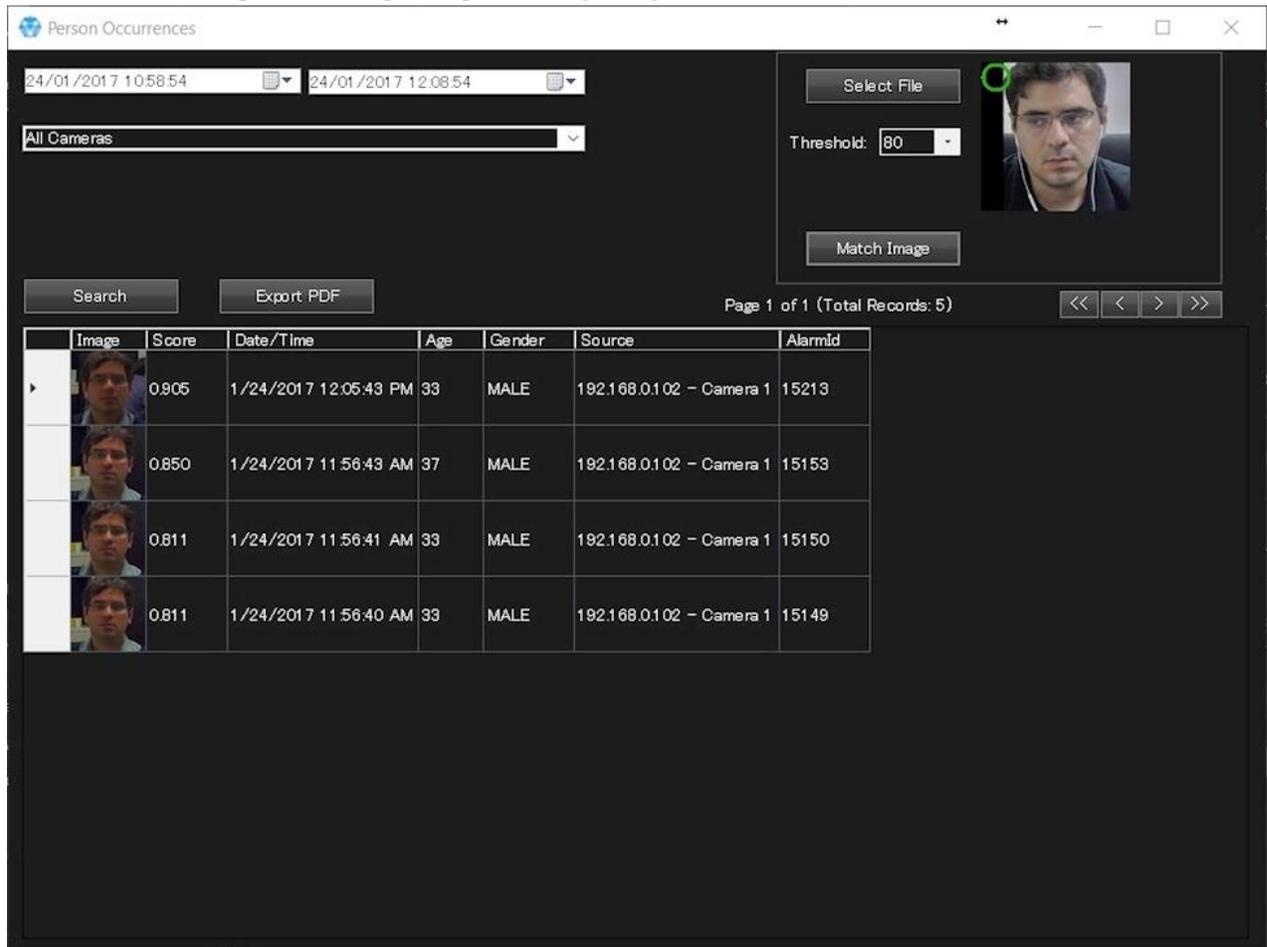


Alarms Screen - Image Matching using Picture from file



A loading screen will appear. It can take some seconds to display a result.

Alarms Screen - Image Matching using Picture from file



The screenshot shows the 'Person Occurrences' application window. At the top, there are two date/time pickers set to 24/01/2017 10:58:54 and 24/01/2017 12:08:54, and a dropdown menu for 'All Cameras'. On the right, there is a 'Select File' button, a 'Threshold' dropdown set to 80, and a 'Match Image' button. A small image of a man's face is shown next to the threshold control. Below these controls are 'Search' and 'Export PDF' buttons. The main area displays a table of results with 5 records. The table has columns for Image, Score, Date/Time, Age, Gender, Source, and AlarmId. The first record is highlighted with a mouse cursor.

Image	Score	Date/Time	Age	Gender	Source	AlarmId
	0.905	1/24/2017 12:05:43 PM	33	MALE	192.168.0.102 - Camera 1	15213
	0.850	1/24/2017 11:56:43 AM	37	MALE	192.168.0.102 - Camera 1	15153
	0.811	1/24/2017 11:56:41 AM	33	MALE	192.168.0.102 - Camera 1	15150
	0.811	1/24/2017 11:56:40 AM	33	MALE	192.168.0.102 - Camera 1	15149

Similar faces (the ones that matched with a threshold above the determined value) will appear.

Resulting alarms will be displayed ordered by Alarm Date.

Image - Face detected in alarm.

Score - Used for Image Matching results. It goes from 0.0 to 1.0. The closest to 1.0 , the most possible it is that the pictures correspond to the same person.

Date/Time - Alarm date and time.

Gender - Detected person Gender.

Source - Camera or source element detected.

AlarmId - System internal Id



4.1.5 Export Results to PDF

Person Occurrences

24/01/2017 10:58:54 24/01/2017 12:08:54

All Cameras

Select File

Threshold: 80

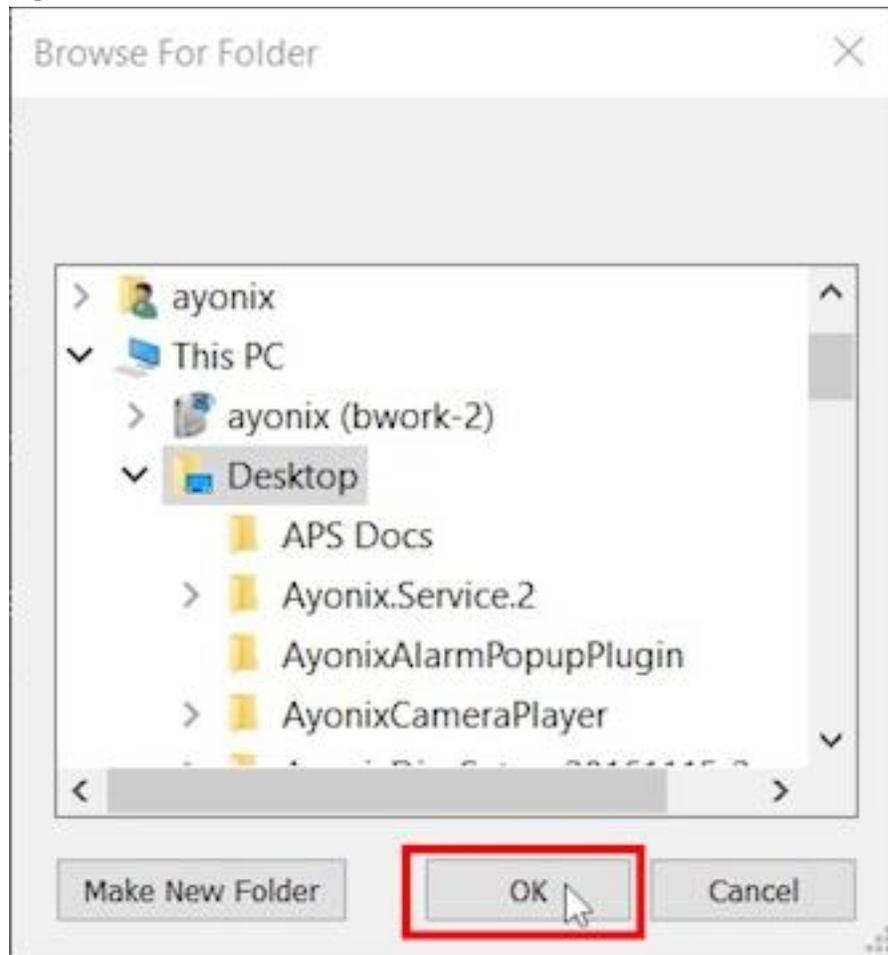
Match Image

Search

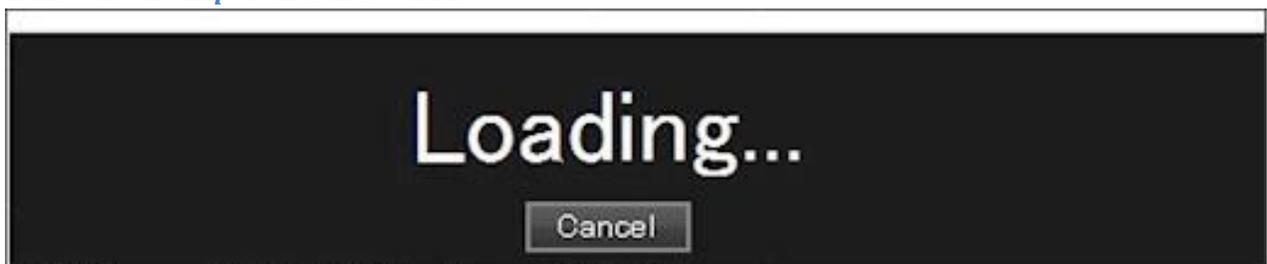
Export PDF

Page 1 of 1 (Total Records: 5)

Image	Score	Date/Time	Age	Gender	Source	AlarmId
	0.905	1/24/2017 12:05:43 PM	33	MALE	192.168.0.102 - Camera 1	15213
	0.850	1/24/2017 11:56:43 AM	37	MALE	192.168.0.102 - Camera 1	15153
	0.811	1/24/2017 11:56:41 AM	33	MALE	192.168.0.102 - Camera 1	15150
	0.811	1/24/2017 11:56:40 AM	33	MALE	192.168.0.102 - Camera 1	15149



Select a folder and click on "OK" button.



A loading screen will appear. It can take some seconds.

Person Detection Chart

Start Date: 2017-01-24 10:58:54
End Date: 2017-01-24 12:08:54

Threshold: 80



Image	Score	Date / Time	Age	Gender	Source
	0.811	1/24/2017 12:05:44 PM	37	MALE (-1.000)	192.168.0.102 - Camera 1
	0.905	1/24/2017 12:05:43 PM	33	MALE (-1.000)	192.168.0.102 - Camera 1
	0.850	1/24/2017 11:56:43 AM	37	MALE (-1.000)	192.168.0.102 - Camera 1
	0.811	1/24/2017 11:56:41 AM	33	MALE (-1.000)	192.168.0.102 - Camera 1
	0.811	1/24/2017 11:56:40 AM	33	MALE (-1.000)	192.168.0.102 - Camera 1

Results are shown on PDF file created on the desired folder.