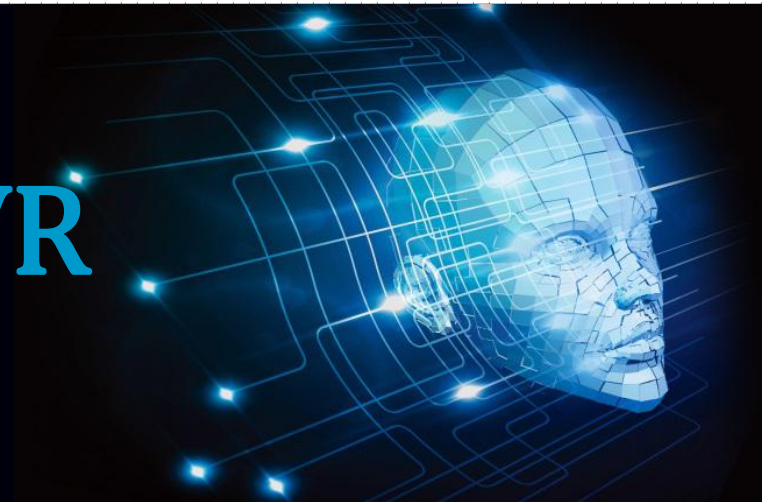


# Face Recognition NVR



# Face Recognition NVR



- Build black / white list
- Face detection
- Face matching
- Linkage alarm
- Face searching
- Access statistics

## ➤ Application scenarios



### Luxury shopping malls

Widely used in shopping malls, gold stores etc. places. By setting the VIP customers white list, it will audio remind automatically when a VIP customer coming, do VIP customer visit frequency statistics, and record the customers shopping process, improve shops management level.



### Convenience stores

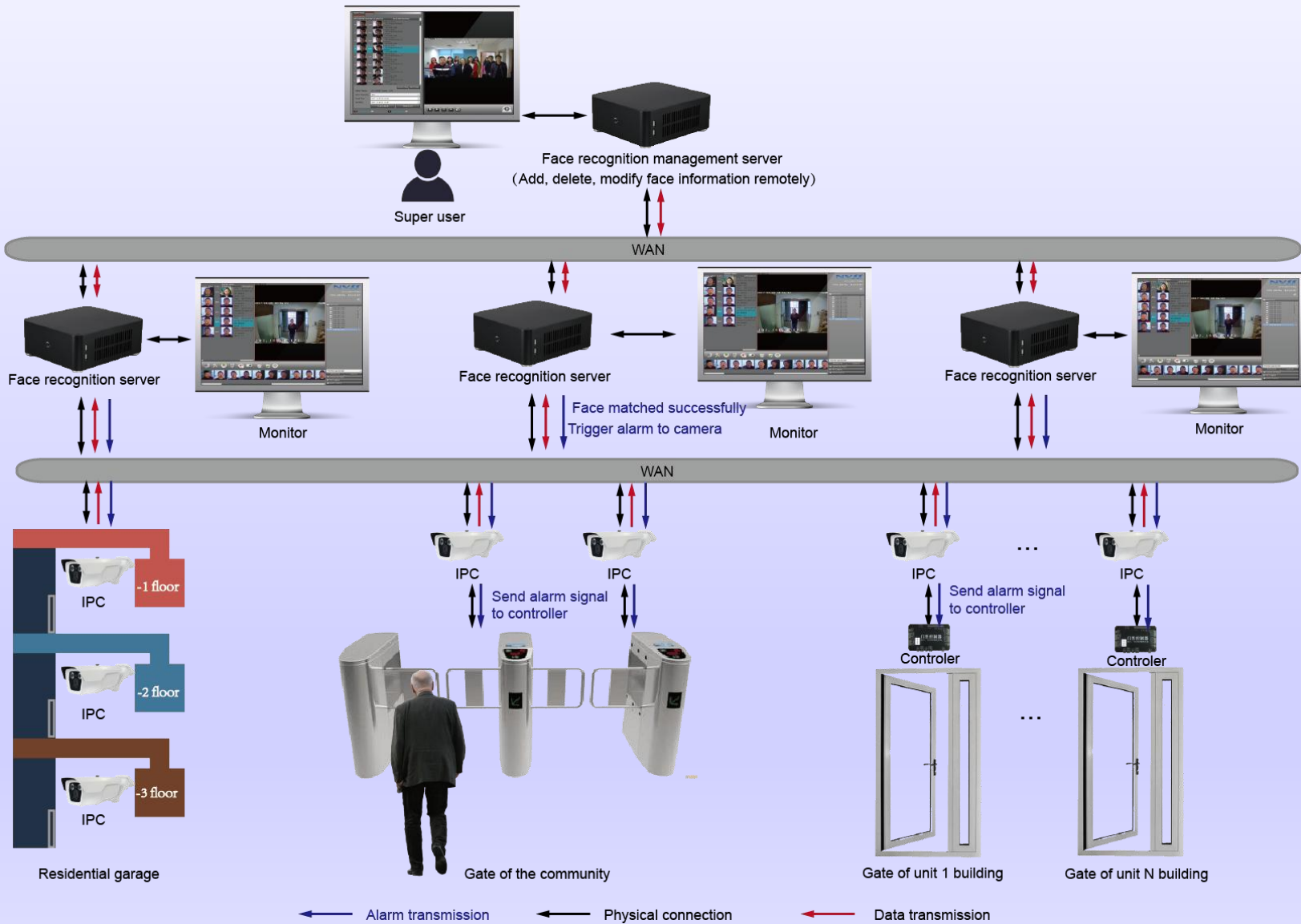
Supermarkets and convenience stores can set the unpopularity black list, when such customers come in, audio alarm will be triggered to remind security personnel to pay attention, it helps avoiding loss.



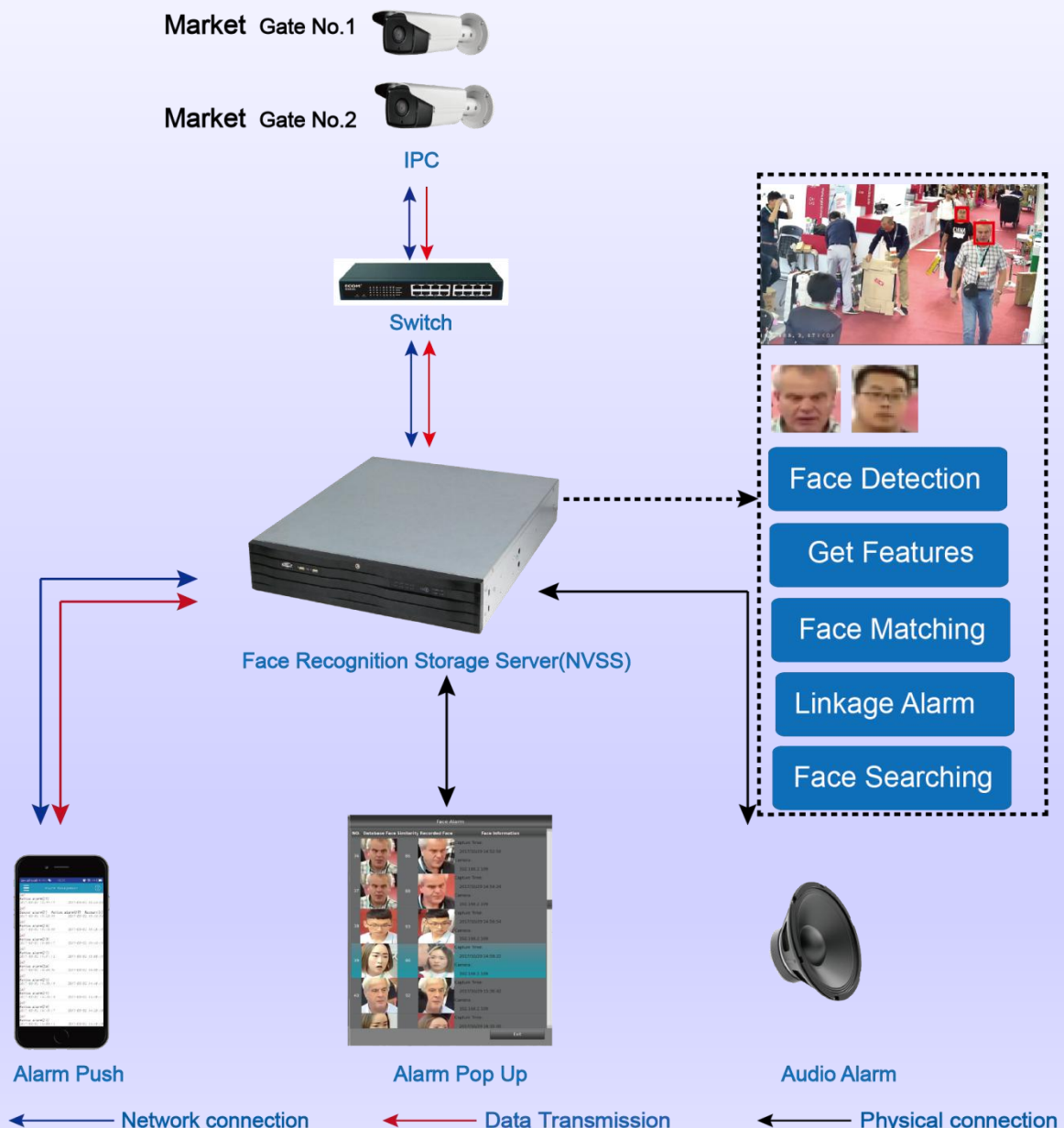
### Residential entrance guard

Linkage entrance guard when face matching. For higher security purpose, by setting white list for village owners faces in advance, it will only allow them to access automatically after recognition matching. Meanwhile it supports to set habitual thieves black list, it will call police automatically when they show up.

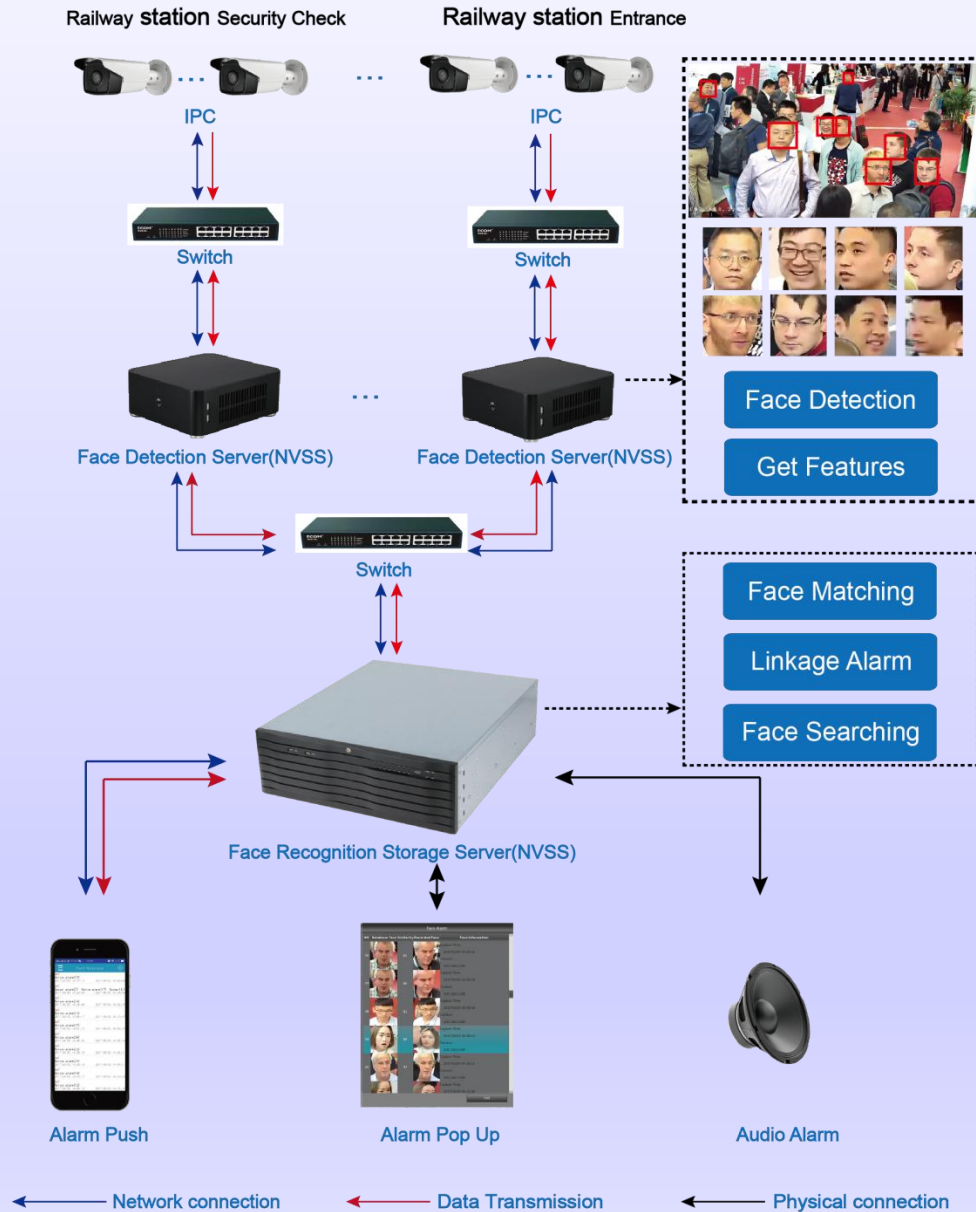
# Application scenarios of road gate



# Face recognition of medium application

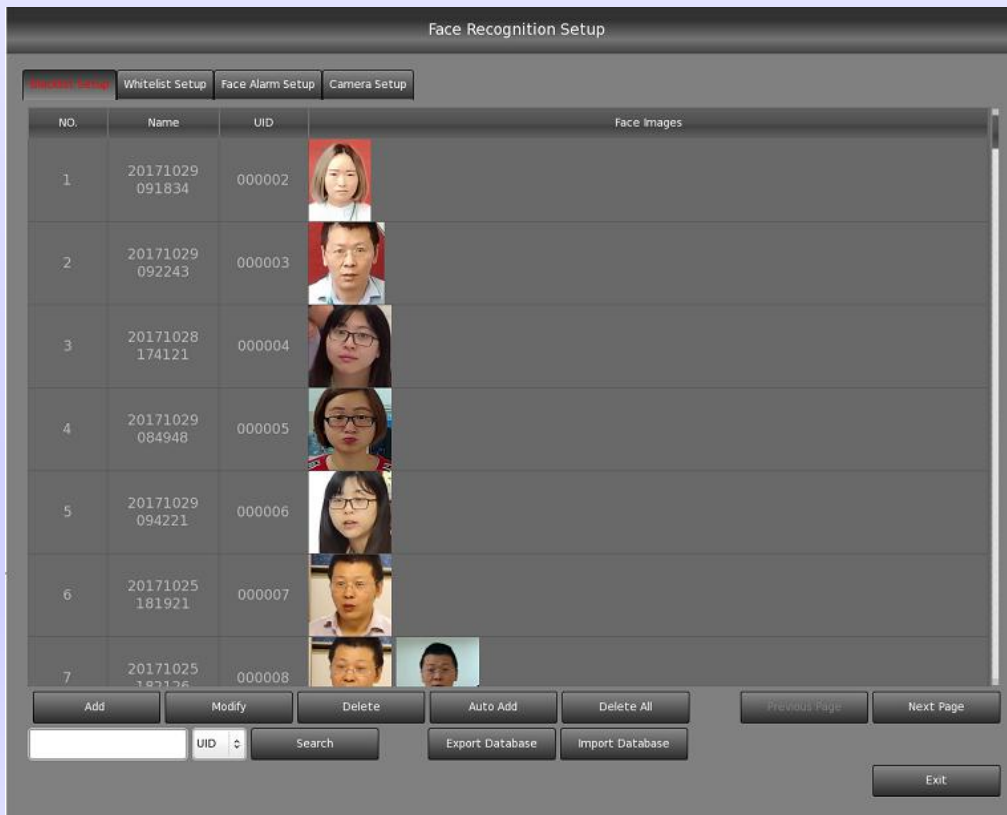


# Face recognition of large application



## ➤ Build white/black list

You can choose a picture which is captured in NVSS or exported from USB to detect faces and save into database manually, also you can choose a directory to detect and add all faces automatically. NVSS supports to add faces pictures from live view or record into white/black list directly. NVSS support to add several faces for one person. Everyone will have only one sole UID.



- Add faces one by one manually or add many faces automatically
- Modify a face information
- Delete a certain face or all faces
- Search a certain face by UID or name
- Export / import face database file
- Add/modify/delete face via network API or NVMS client

## ➤ Face detection

Users first need to set which camera to be used to capture faces. It can be normal cameras (NVSS can capture faces from live view locally, but it will use a lot CPU resource), or special face capture cameras (remote devices). Normal cameras setting includes face detection zone, filter threshold, detection frame per second, and face score. The detected faces will be showed on the bottom of live view interface.

Face Recognition Setup

Blacklist Setup | Whitelist Setup | Face Alarm Setup | **Face Recognition Setup**

Select Device	Channel Name	Face Detection	Iter T
192.168.0.99	192.168.0.99	Local Device	70
192.168.0.171	192.168.0.171	Local Device	70
192.168.0.181	192.168.0.181	Remote Device	

Select Device: 192.168.0.99

Channel Name: 192.168.0.99

Face Detection: Local Device

Filter Threshold: 85%

Frame Rate: 2

Detection Mode: Max Face

Detection Area Setting

Add | Modify | Delete

Save | Exit

192.168.0.99 | 2017-11-21 PM 04:08:26

**NVSS**

11-21-2017 Tuesday  
CPU:54.3% 16:08:26

Device List

- 192.168.0.99
- 192.168.0.112
- 192.168.0.171
- 192.168.0.181

Preview Sub Stream

Preview All | Close All

Color/Audio Adjust

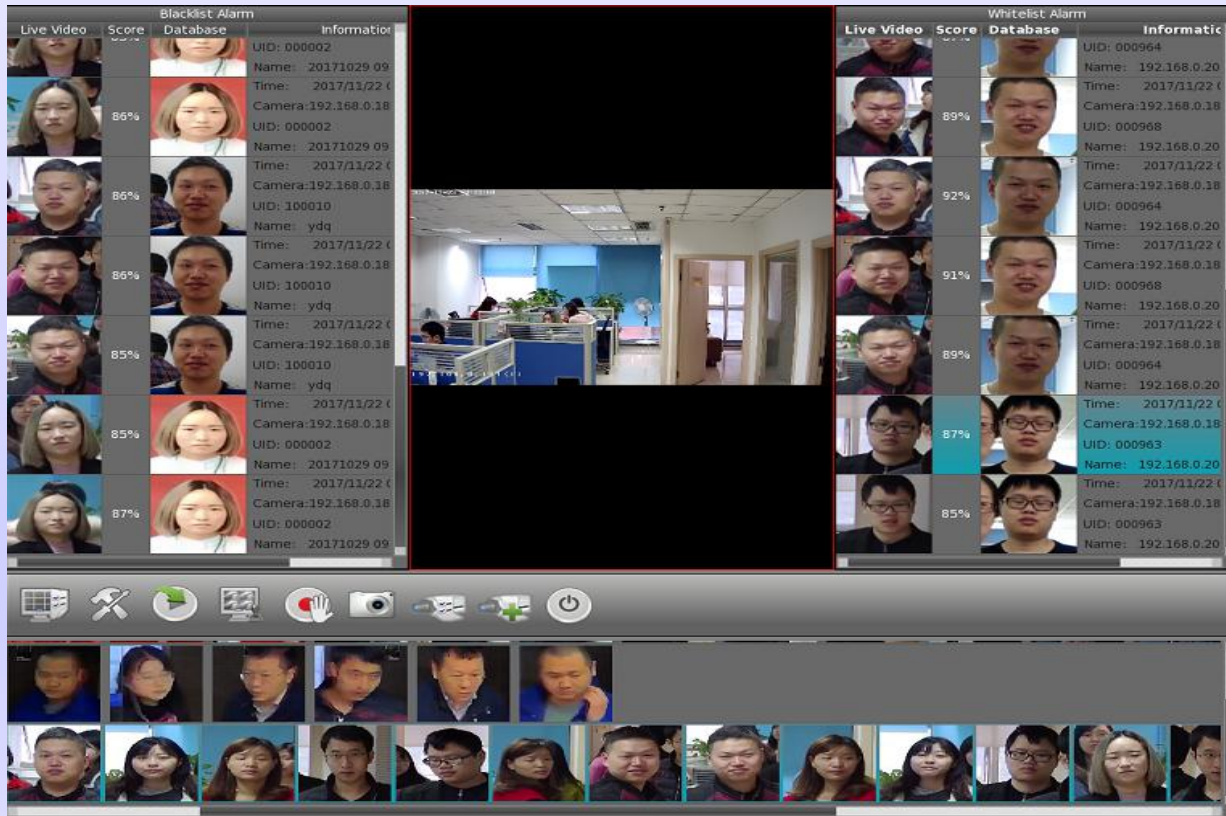
PTZ Control

D/DO Control



# ➤ Face alarm

1. The alarm filter threshold of white list and black list can be different, when compare the face pictures which are captured from live view with the database face pictures, and the similarity of highest score face is more than or equal to the filter threshold, it will trigger the alarm (audio, push messages, and relay controller optional).



2. Enable alarm linkage function, there are several alarm linkage modes optional, including audio alarm, email alarm, push alarm message to APP, and trigger output for certain alarm.

Face Recognition Setup

Face List Setup WhiteListSetup **Face Alarm Setup** Camera Setup

Face Alarm	Enable
AlarmMonitorWidthLevel	Level 5
Alarm Threshold	85
WhiteAlarmScore	85
FaceExpand	50%
Alarm Filter Second	20 sec
Linkage En	Enable
Linkage Type	Stranger
Audio Alarm	Beep
Email Alarm	<input checked="" type="checkbox"/> EmailComments
Push Alarm	<input checked="" type="checkbox"/> Push Alarm
Alarm Out	<input checked="" type="checkbox"/> BtnSelectAlarmout

Save Exit

## ➤ Face searching

All detected faces can be searched out from the live view, including face information. Also it can search the corresponding face from white/black list. Double click the searched face picture will playback the corresponding video. Select the face picture, it can be exported to USB or added into white/black list.

The screenshot displays a software interface for face searching. On the left, a list of detected faces is shown with their respective capture times and camera IDs. The current search parameters are: Current Search: 17/11/21 15:52:58, Current Search: UID:006049 Name:ZX, Filter Threshold: 80%, Start Time: 2017-11-15 00:00:00, and End Time: 2017-11-23 10:07:31. The main area shows a live video feed of a person walking through a doorway. The bottom of the interface features playback controls and a search button.

No.	Similarity	Capture Time	Camera
1	86%	2017/11/27 15:14:52	192.168.0.171
2	80%	2017/11/27 15:21:56	192.168.0.171
3	85%	2017/11/27 15:21:57	192.168.0.171
4	82%	2017/11/20 09:08:16	192.168.0.171
5	83%	2017/11/20 13:13:33	192.168.0.171
6	82%	2017/11/20 13:35:26	192.168.0.99
7	83%	2017/11/20 13:35:37	192.168.0.99
8	90%	2017/11/20 13:35:41	192.168.0.99

The screenshot shows a 'Search Face' dialog box. The 'Facelist Type' is set to 'Blacklist' and the 'Search Type' is 'Name'. The 'Search Keyword' is 'ZX'. The search results are displayed in a table with columns for 'Image', 'Face UID', and 'F.'. The first result has a Face UID of 006043 and the second has 006049. The 'Search' button is highlighted, and 'OK' and 'Exit' buttons are at the bottom.

Image	Face UID	F.
	006043	
	006049	

## ➤ Face Capture IP Camera



NVJ552FP



NVJ542FP

- 1/1.8 inch 2MP CMOS, SONY image sensor
- **Support** to select face detection zone, multiple parameter setting, face parameters setting, professional capture rate
- **Support** to capture face under the light complex conditions, support face tracking, face exposure mode, face auto filter
- Using the latest standard H.265+ video compression technology, the compression ratio is high, the stream control is accurate and stable
- Built-in automatic day and night double filter switch mechanism, with manual or automatic color turn black and other switching modes
- **Support** network disconnection, mobile detection, video intelligent occlusion, intelligent defocus detection and alarm
- **Support** to set up to 4 ROI
- **Support** DWDR, 3D DNR

## ➤ Difference between Face Capture IPC and Normal IPC

Sides	Face capture IPC	Normal IPC	Reason
Face picture	clear for active face	fuzzy for active face	Face capture IPC use multi-frame interfusion to get a face, but normal IPC just capture a frame to get face
CPU usage for NVSS	less	more	Face capture IPC track all face in live video and send a clear face picture to NVSS directly, but normal IPC just send video stream with face, NVSS need to decode video stream and get a face from image

## ➤ Performance index based Normal IPC

CPU	Analysis channels	Frame per second	Max faces in per camera
Intel Celeron	1	2	$\leq 2$
Intel Core i3	2	1	$\leq 4$
	2	2	$\leq 2$
	3	1	$\leq 4$
	3	2	$\leq 2$
Intel Core i7	2	3	$\leq 2$
	2	2	$\leq 3$
	2	1	$\leq 7$
	4	3	$\leq 2$
	4	2	$\leq 3$
	4	1	$\leq 7$

## ➤ Performance index based Face Capture IP Camera

CPU	Total faces analyzed per second	Analysis channels	Average Max Faces in per camera
Intel Celeron	4	1	$\leq 3$
		2	$\leq 2$
Intel Core i3	16	2	$\leq 5$
		4	$\leq 4$
		6	$\leq 3$
		8	$\leq 2$
Intel Core i7	32	4	$\leq 8$
		6	$\leq 5$
		8	$\leq 4$
		10	$\leq 3$
		16	$\leq 2$



ChongQing NetVision Technology Co.,Ltd

TEL: (86)023—68633643    FAX:(86)23-68639816

[www.netvisiondvr.com](http://www.netvisiondvr.com)