AxxonSoft

Face Intellect Software Package

Administrator's Guide

Version 1.0.4

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axxon

Video Surveillance and Security Solutions

Contents

1 Introduction

1.1 The purpose and structure of the Guide

The Administrator's Guide is a reference and information handbook designed for system administrators, installation and configuration technicians and users with administrator rights to products based on Face Intellect software.

This Guide contains the following materials:

1. general description of Face Intellect software;
2. main software/hardware components of the Face Intellect system;
3. hardware and software requirements;
4. personnel skills requirements;
5. installation of Face Intellect system components;
6. configuration of Face Intellect software and its components;
7. Appendix 1. Interfaces.

1.2 Purpose of Face Intellect software

Face Intellect software is designed for automated identification of people by comparing a face displayed on a surveillance video frame with reference images for which the face recognition database contains information.

Face Intellect software provides the following functional capabilities:

1. detects human faces in a video frame;
2. registers facial biometric parameters;
3. compares a face displayed in a video frame with reference images stored within the "<Face Intellect installation directory\Bmp\person>" folder based on biometric parameters;
4. maintain a face database used for face recognition;
5. creates a photo- and video archive.

1.3 Recommendations for using the Face Intellect software package

Face Intellect software is installed as an extension to the Intellect software package.

The following is recommended for correct application of Face Intellect software:

1. carefully follow instructions;
2. use the Software only for its intended purpose;
3. do not use third party software on computers installed with Face Intellect unless that software is a component of the Face Intellect software package.

2 Software and hardware requirements

2.1 Host computer requirements

The Face Intellect software package has the same requirements as the Intellect (base) software package - see “Intellect Software Package: Administrator’s Guide”.

2.2 Operating system requirements

The Face Intellect software package has the same operating system requirements as the Intellect (base) software package - see “Intellect Software Package: Administrator’s Guide”.

2.3 Video camera requirements

Use of high-resolution video surveillance cameras is recommended for correct application of the Face Intellect software package. Video surveillance cameras used with the Face Intellect software package must satisfy the following conditions:

1. surveillance camera resolution of over 480 TV lines;
2. the video surveillance camera must support color video.

Apart from the above-listed requirements, the Face Intellect software package has the same requirements as the Intellect (base) software package - see “Intellect Software Package: Administrator’s Guide”.

3 Personnel skills requirements

The Face Intellect software package requires the same personnel skills as the Intellect (base) software package - see “Intellect Software Package: Administrator’s Guide”.

4 General description of the Face Intellect software package

4.1 Structure of the Face Intellect software package

The Face Intellect software package includes the following components:

1. Base version of the Intellect software package;
2. Face recognition module.

The base version of Intellect serves as the software platform for installing the face recognition module. The face recognition module performs the following functions:

1. activates the "Face detector" module (installed with the base version of Intellect);
2. performs face recognition;
3. maintains a database of faces used for face recognition (creation of a database, connection of external databases, use of databases).

4.1.1 Interaction between Face Intellect software modules

The face recognition module operates through the interaction of the following Face Intellect objects:

1. “Face Detector” system object;
2. “Face Recognition Server” system object;
3. "Face Monitor" interface object;
4. "Recognized Faces Monitor" interface object.

The interaction of Face Intellect components is aimed at performing two main functions: detection of faces in a video frame and their recognition.

The “Face Detector” module, which is installed together with components of the base Intellect platform, is used to detect faces in video frames. Images of detected faces are sent to a "Face Recognition Server" for recognition.

Detected and recognized faces are displayed in the “Face Monitor” window. The “Recognized Faces Monitor” window displays data from the Recognized Faces Viewer and Recognized Faces Archive.

Operation of the Face Recognition Module results in the formation of an internal Face Intellect database. This Face Recognition Database is contained in the file fir.mdf.

Reference facial images used to recognize detected faces are stored in the folder “<Face Intellect installation directory>Bmp\Person”, and information on those images is added to the file fir.mdf. Biometric parameters of the reference facial images are stored in files with the .fir extension in the folder “<Face Intellect installation directory>Modules\FRS\FIRs”.

The directory used to store the archive of recognized faces is selected on the “Face Recognition Server” object settings panel.

4.1.2 General structure of a video surveillance system based on Face Intellect software

Some general structures of a digital video surveillance system based on Face Intellect software are displayed in Fig. 4.1-1 and Fig. 4.1-2.

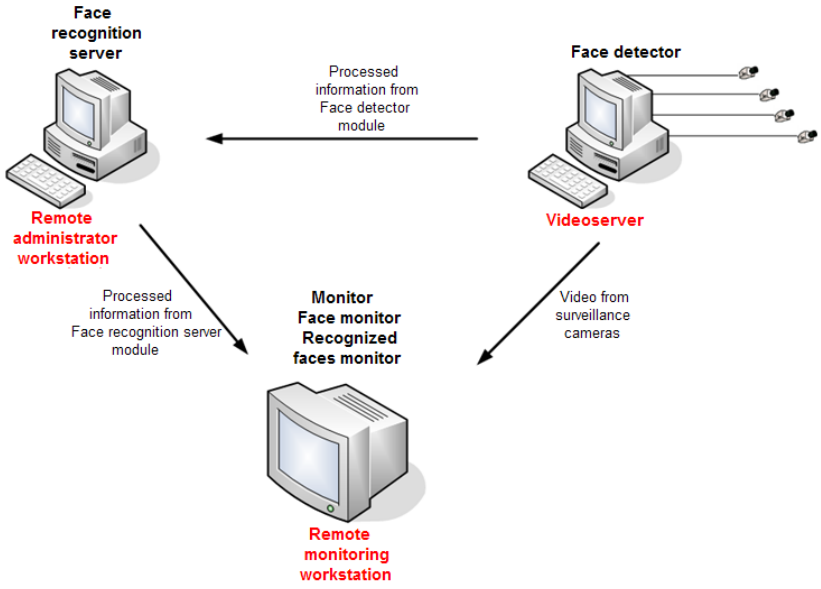

Fig. 4.1-1 Standard configuration of the Face Intellect software package in a distributed network

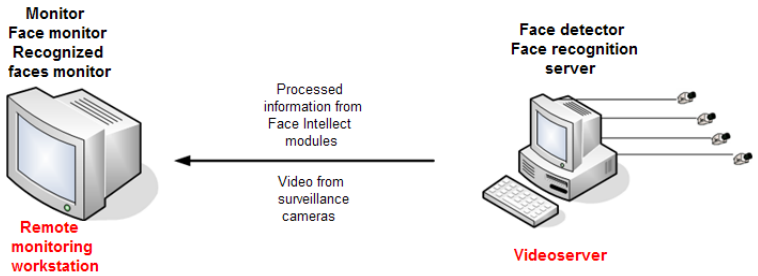

Fig. 4.1-2 Standard configuration of the Face Intellect software package in a distributed network

4.2 Functionality of the Face Detector software module

The Face Detector software module is designed to perform face detection functions in video frames.

4.3 Functionality of the Face Recognition Server module

The Face Recognition Server software module is designed to perform the following functions:

1. record a frame displaying a detected face;
2. register biometric parameters of a detected face;
3. recognize detected faces;
4. maintain a face database used for face recognition;
5. keep statistics.

5 Main software/hardware components of the Face Intellect system

5.1 Software

5.1.1 Operating system

Face Intellect works with operating systems from the Microsoft Windows family (see the “Operating system requirements” section).

5.1.2 Software kernels

The Face Intellect software package can be implemented with the following software kernels (installation options):

1. Full-featured Intellect software kernel (this option requires the intellect.exe software module). The full-featured software kernel provides Server and Client functions.

2. Software kernel with minimized functionality supporting Client functions (this option requires the slave.exe software module).

Client software does not support system administration functions (creating, deleting, configuring system objects, registering users, user rights administration) or local database management (the Client uses a remote database managed by the intellect.exe kernel and owned by the video server).

Intellect.exe, the fully functional software kernel, is the central software component of the system. The system kernel interacts with the functional program modules, which form the software basis for the functional subsystems.

Integration of the distributed digital video surveillance system is provided through data exchange between software kernels.

5.1.3 Functional software modules

The functional software modules support direct interaction with hardware and also serve as a source of data on the status of controlled objects. The software kernel of the system processes the data coming in from various program modules and provides for their integration.

The list of functional program modules available for operations depends on the configuration option of the system. The executable files corresponding to the functional subsystems are automatically launched by the kernel according to the system’s configuration. For instance, if a “Face recognition server” object is created, then the executable file firserver.run is launched automatically upon confirmation of the new settings.

5.1.4 Internal Server database

The internal Server database contains the following information:

1. system settings (objects created in the system, their attributes, users and user rights and other additional data);

2. events registered by the system within the time period defined at the system configuration stage (event logs).

The internal Server database is maintained in MS SQL format. The list of MS SQL Server editions supported by Face Intellect is presented in Table 5.1-1.

Table 5.1-1

MS SQL Server Version	Supported edition
MS SQL Server 2005 - see http://www.microsoft.com	Express Edition
	Workgroup Edition
	Standard Edition
	Enterprise Edition

Attention! The Database Management Systems (DBMS) of MS SQL Server 2000 and MS SQL Server 2008 are not supported in the Face Intellect software package. Technical support will not be provided for the specified DBMS.

NOTE. The free version of MS SQL Express is installed by default with the Intellect (base) software package. For information on the specifications and limitations of the free version, please refer to the manufacturer's website at http://www.microsoft.com.

Information about the objects and settings of the digital video surveillance system and event logs can be automatically replicated from the Server database to databases of other system Servers. Communication between full-featured program kernels of the Intellect system is supported by a TCP/IP environment (if the system configuration defines certain program kernels, between which communication should be provided).

Information about system objects and their settings is initially stored in the database of the particular Server to which the objects belong. Replication is initiated automatically whenever data is changed, the kernel is launched or communication is restored.

Replication is used to create a common event environment within the distributed digital video surveillance system. The replication process is hidden from the user.

5.1.5 Internal database of the Face Intellect software package

The file fir.mdf, which is the internal database of the Face Intellect software package, contains the following information:

1. data on reference images used to recognize detected faces;
2. full information on face recognition events;
3. statistical data for face recognition events.

5.1.6 Workstation software

A digital video surveillance system based on Face Intellect software can be comprised of the following types of workstations:

1. Remote Operator Workstation;
2. Remote Administrator Workstation;
3. Video server supporting Operator and Administrator workstation functions.

5.1.7 Face Intellect Software Key Protection

A key file activates and enables the functional capabilities of the system.

Replacement of the existing key file with a new key file updates the set of functions for the software during the next startup of the system.

In order to obtain a software key, perform the following steps:

1. Launch the file hwkey.bat, which is located in the folder "<Face Intellect installation directory>\Modules\FRS". This will generate the file lic.txt, which contains information on the specific computer's configuration.

Attention! The hwkey.bat file should be launched on the same computer on which the Face Recognition Server module will be used.

2. Send the lic.txt file to your Face Intellect supplier.

3. Receive the license.cfg file from your Face Intellect supplier.

4. Copy the obtained license.cfg file into the folder "<Face Intellect installation directory>\Modules\FRS".

5. Launch the cognitec_license.exe file, which is located in the folder "<Face Intellect installation directory>\Modules\FRS". A window titled "Cognitec license" will then open. Click the "Generate" button (see Fig. 5.1-1).

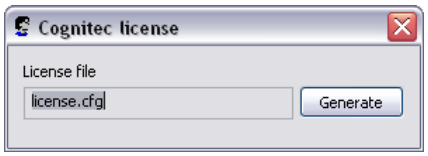

Fig. 5.1-1 Generating a software key for Face Intellect

6. This will generate the file frsdk.cfg, which is the software key for the Face Intellect software package.

The Face Intellect software key obtainment process is now complete.

5.2 Hardware

A distributed video surveillance system based on the Face Intellect software package may be deployed using the following base hardware and software components:

1. Remote Monitoring Workstations or Remote Administrator Workstations, additionally supporting the functions of PC-based operator workstations.

2. PC-based video servers with pre-installed specialized hardware (audio and video capture cards), additionally supporting the functions of operator and system administrator workstations.

3. Administrator workstations (remote administrator workstation) supporting video server functions using network IP audio and video input devices.

4. Network video hubs (WaveHub, Linux Hub, etc.).

5. Network video servers (Matrix, etc.).

6. Analog and network video cameras.

7. TCP/IP communication environment.

5.3 Communication environment

The communication resources of Face Intellect software enable the creation of an automated system for monitoring large, multifunctional sites. System components automatically interact with each other, forming a unified security system at these sites.

Data exchange and communication between system components is supported by local access networks (LAN), Internet (WAN), telephone lines (Dial-Up) and leased communication channels if the TCP/IP protocol is used.

6 Installation of Face Intellect system components

6.1 Face Intellect software distribution disk

The Face Intellect software package is delivered in the form of an installation CD (see Fig. 6.1-1).

Fig. 6.1-1 Face Intellect installation disk

The CD contains the installation utility and all software components required for installing the Face Intellect system onto a computer.

You must have administrator rights to install Face Intellect.

6.2 Installing the Face Intellect software package

To install Face Intellect, the Intellect (base) software package must already be installed on the computer. The procedure for installing the Intellect (base) software package is described in "Intellect Software Package: Administrator's Guide".

To install Face Intellect, perform the following sequence of steps:

1. Launch the Face Intellect installation program. Insert the Face Intellect installation CD into the CD/DVD drive and run the Setup.exe file.

2. Select your preferred interface language from the list of available languages (see Fig. 6.2-1).

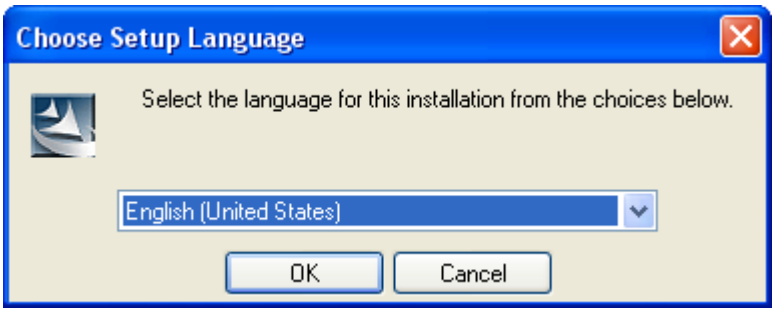

Fig. 6.2-1 Selecting the interface language

3. Wait until the InstallShield Wizard finishes initialization, then click the "Next" button in the installation program's welcome window (see Fig. 6.2-2 and Fig. 6.2-3).

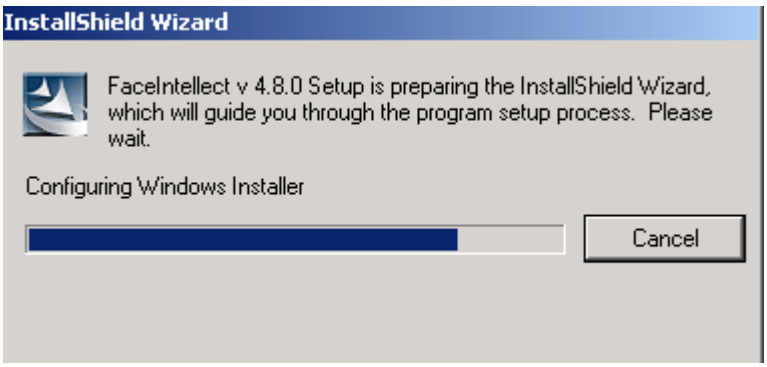

Fig. 6.2-2 InstallShield Wizard initialization

Fig. 6.2-3 Installation Program Welcome

4. Read the license agreement. Then select the “I accept the terms of the license agreement” radio button to confirm that you agree with the conditions of the license agreement and click “Next” (see Fig. 6.2-4).

Fig. 6.2-4 License Agreement

5. Review the installation settings and click “Next” to start the installation process (see Fig. 6.2-5).

Fig. 6.2-5 Installation parameters

6. Wait until the installation completes, then click “Finish” (see Fig. 6.2-6 and Fig. 6.2-7).

Fig. 6.2-6 Face Intellect installation progress

Fig. 6.2-7 Face Intellect installation complete

Face Intellect installation is now complete.

6.3 Repairing the Face Intellect software

To repair the installed Face Intellect software, perform the following sequence of steps:

1. Launch the Face Intellect installation program. Insert the Face Intellect installation CD into the CD/DVD drive and run the Setup.exe file.

2. Select your preferred interface language from the list of available languages (see Fig. 6.3-1).

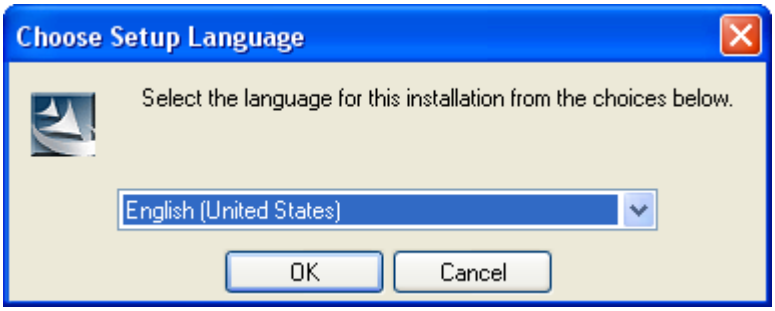

Fig. 6.3-1 Selecting the interface language

3. Wait until the InstallShield Wizard finishes initialization, click the “Repair” radio button and then click the “Next” button in the installation program’s welcome window (see Fig. 6.3-2 and Fig. 6.3-3).

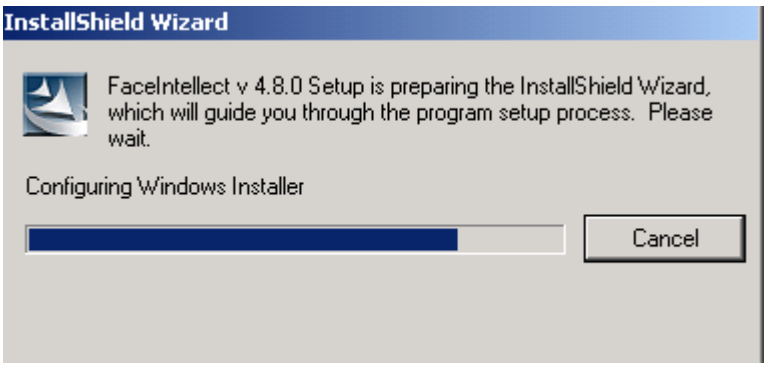

Fig. 6.3-2 InstallShield Wizard initialization

Fig. 6.3-3 Selecting the repair option

4. Wait until the Face Intellect repair process completes and then click “Finished” (see Fig. 6.3-4 and Fig. 6.3-5).

Fig. 6.3-4 Face Intellect repair progress

Fig. 6.3-5 The Face Intellect repair process is complete

The Face Intellect repair process is now complete.

6.4 Updating Face Intellect software

Updating is required in order to install a newer version of the Face Intellect software package by replacing (update) the necessary components. The Face Intellect update procedure is identical to the installation procedure (see the “Installing the Face Intellect software package” section).

6.5 Removing Face Intellect software

To remove the Face Intellect software package, perform the following sequence of steps:

1. Launch the Face Intellect installation program. Insert the Face Intellect installation CD into the CD/DVD drive and run the Setup.exe file.

2. Select your preferred interface language from the list of available languages (see Fig. 6.5-1).

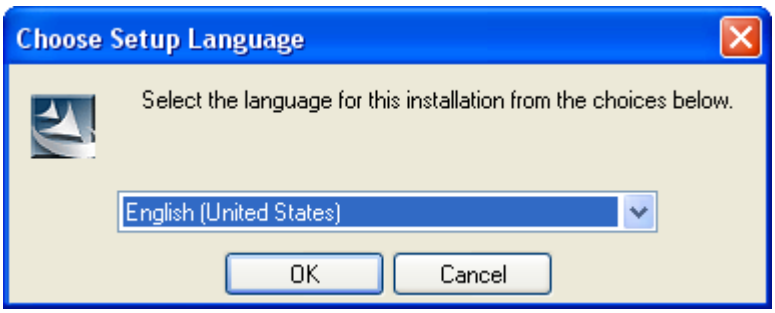

Fig. 6.5-1 Selecting the interface language

3. Wait until the InstallShield Wizard finishes initialization, click the “Remove” radio button and then click the “Next” button in the installation program’s welcome window (see Fig. 6.5-2, Fig. 6.5-3).

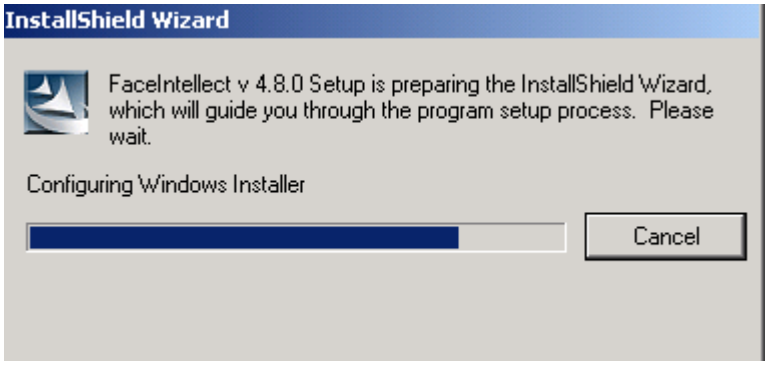

Fig. 6.5-2 InstallShield Wizard Initialization

Fig. 6.5-3 Selecting the removal option

4. Click “Yes” in the dialog window that opens to confirm the removal of Face Intellect. (see Fig. 6.5-4).

Fig. 6.5-4 Face Intellect removal confirmation

5. Check the “Yes, I want to remove the database” checkbox to delete the Face Intellect face recognition database (see Fig. 6.5-5).

Fig. 6.5-5 Removal of the face recognition database

6. Wait until the Face Intellect software removal is complete, then click “Finish” (see Fig. 6.5-6, Fig. 6.5-7).

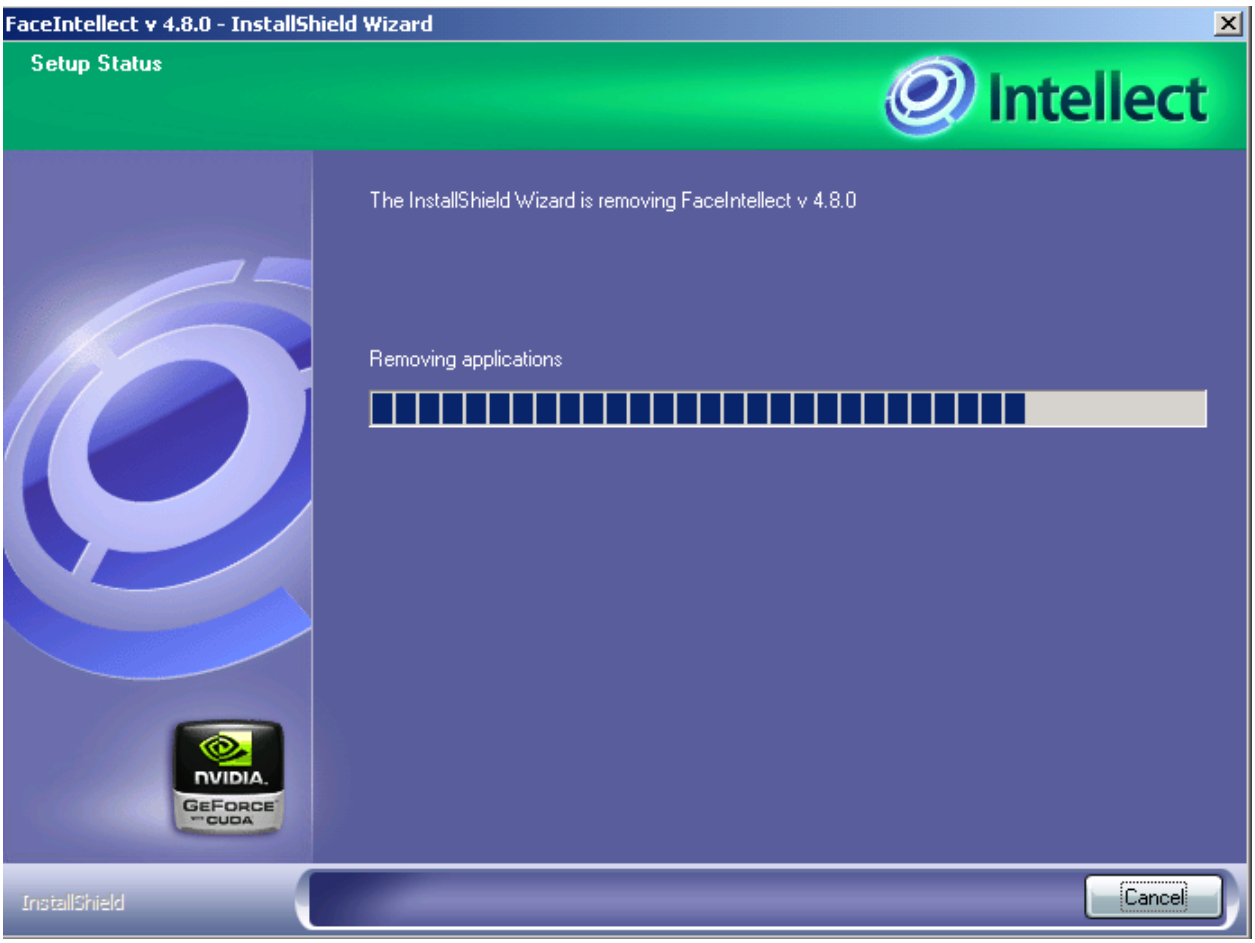

Fig. 6.5-6 Face Intellect removal progress

Fig. 6.5-7 Face Intellect removal is complete

The Face Intellect removal process is now complete.

7 Configuring Face Intellect software and its components

7.1 Face Intellect configuration and setup procedure

Configuration of the Face Intellect software package includes the following stages:

1. create and configure "Face capture camera" objects for video cameras used for face detection;
2. create and configure the Face Recognition Server object;
3. create and configure the Face Monitor window;
4. create and configure the Recognized Faces Monitor window.

7.2 Configuring a Face capture camera object

A face detector recognizes the presence of "human face" elements within an area under surveillance. When a human face is detected in a frame:

1. the face is dynamically outlined;
2. it is possible to record the frame with the facial image to a file in .bmp format to the folder "<Face Intellect installation directory>\Bmp\Person\".

NOTE. No additional detection zones are created when a "Face capture camera" object is created. Camera arming is disabled when using the face detector.

To configure the face detector, perform the following steps:

1. Go to the "Hardware" tab in the "System Setup" dialog box (see Fig. 7.2-1, 1).
2. On the "Hardware" tab in the objects tree, select the "Face capture camera" object corresponding to the relevant detector (see Fig. 7.2-1, 2). The settings panel for the selected object will open in the right-hand part of the "Hardware" tab.

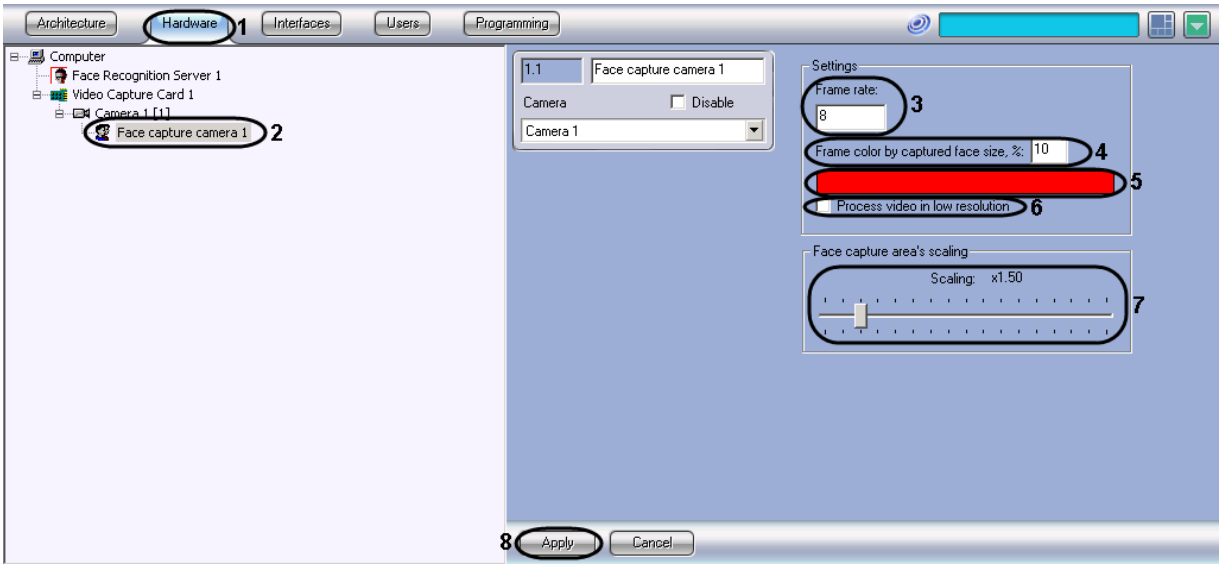

Fig. 7.2-1 Configuring Face capture camera

3. Enter the number of frames per second processed by the face detector software module. This parameter is used to decrease the Server load (see Fig. 7.2-1, 3).

4. Enter the face size (relative to the camera window size) that requires a dynamic border (see Fig. 7.2-1, 4).

5. If the dynamic border color needs to be changed, click on the “Color” field (see Fig. 7.2-1, 5). Select a color in the standard Windows color selection dialog box and click OK.

6. By default, the face detector processes the video image in the resolution set for the parent “Camera” object. To process a video image in 320x240 resolution, check the “Process video in low resolution” checkbox (see Fig. 7.2-1, 6). Estimate the percentage of faces detected during video image processing in the 320x240 pixel resolution. If the percentage is not sufficiently high, then uncheck “Process video in low resolution”.

NOTE. Setting this option reduces the load on the Server’s processor. However, this lowers the probability of detecting a face.

Attention! The "Process video in low resolution" setting is irrelevant if high resolution is set for the parent “Camera” object.

7. Move the “Face Capture Area Scale” slide to the location corresponding to the desired face image scale in the recording frame (see Fig. 7.2-1, 7). The current scale value is displayed in the field above the scale slider and varies from 1 (only the facial image is recorded) to 5 (the complete frame is recorded).

8. To save changes, click “Apply” (see Fig. 7.2-1, 8).

Face detector setup is now complete.

7.3 Configuring the Face Recognition Server object

7.3.1 Setup procedure for the Face Recognition Server object

To configure the Face Recognition Server, perform the following steps:

1. select a face database to be used for recognition;

2. set parameters for the Recognized Faces Archive;

3. select the “Face Detector” objects corresponding to the relevant face detection video cameras;

4. set parameters for recognition of detected faces.

7.3.2 Selecting a face database to be used for recognition

To select a face recognition database, perform the following steps:

1. Go to the “Hardware” tab in the “System Setup” dialog box (see Fig. 7.3-1, 1).

2. Select the “Face Recognition Server” object in the objects tree (see Fig. 7.3-1, 2).

3. Select the necessary face recognition database from the list of databases (see Fig. 7.3-1, 3).

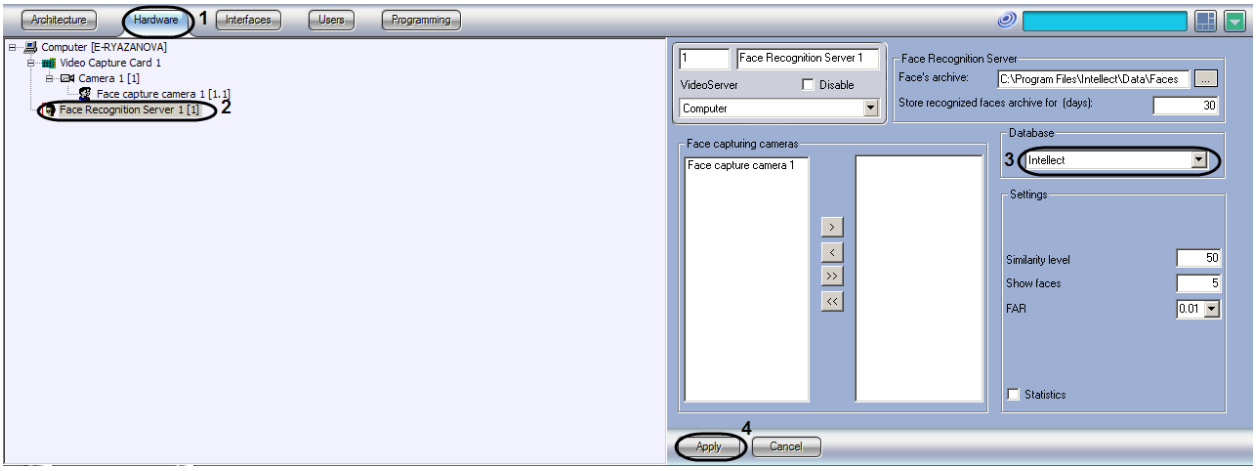

Fig. 7.3-1 Selecting a database for the face recognition module

4. To save changes, click “Apply” (see Fig. 7.3-1, 4).

Selection of a face recognition database is now complete.

7.3.3 Setting parameters for the Recognized Faces Archive

To set parameters for the Recognized Faces Archive, perform the following:

1. Go to the “Hardware” tab in the “System Setup” dialog box (see Fig. 7.3-2, 1).
2. Select the “Face Recognition Server” object in the objects tree (see Fig. 7.3-2, 2).
3. Click the [...] button (see **Ошибка! Источник ссылки не найден.**, 3) to select the directory in which images of recognized faces are to be saved in .jpg format. In the standard Windows “Browse for folders” dialog box, select the desired directory and click “OK”. The full path to the archive will then appear in the "Face Archive" field (see Fig. 7.3-2, 3).

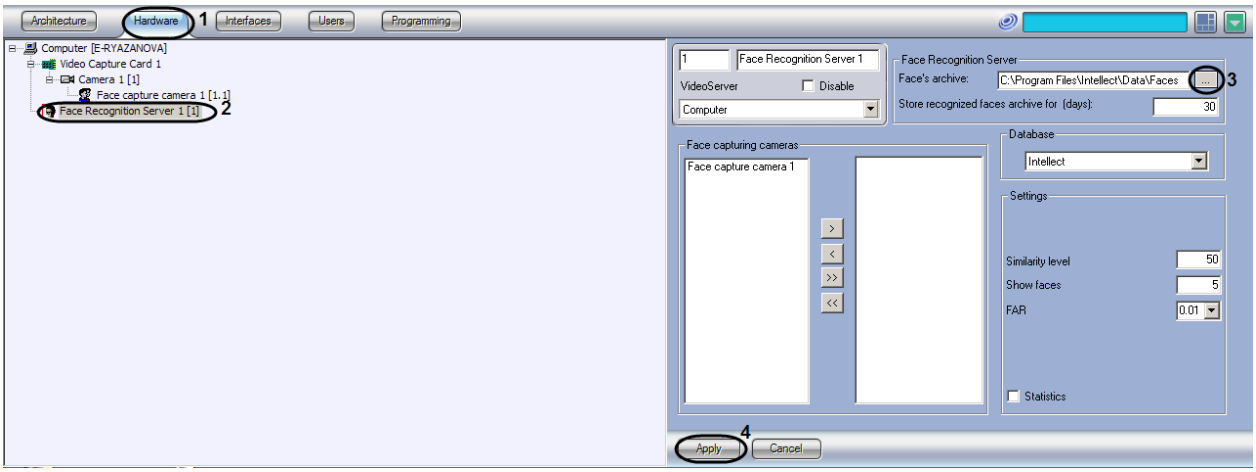

Fig. 7.3-2 Setting parameters for the recognized faces archive

4. In the “Store recognized faces archive for (days)”, enter the time period (in days) for which the recognized faces archive is to be saved (see Fig. 7.3-2, 4).
5. To save changes, click “Apply” (see Fig. 7.3-2, 5).

Setting of parameters for the recognized faces archive is now complete.

7.3.4 Selecting “Face capture camera” objects

Selection of “Face capture camera” objects corresponding to the relevant face detection video cameras is done as follows:

1. Go to the “Hardware” tab in the “System Setup” dialog box (see Fig. 7.3-3, 1).
2. Select the “Face Recognition Server” object in the objects tree (see Fig. 7.3-3, 2).
3. Select the necessary “Face capture camera” objects in the left-hand list of the “Face Capture Cameras” group (see Fig. 7.3-3, 3).
4. Move the selected “Face capture camera” objects to the right-hand list of the “Face Capture Cameras” group and then click the > button (or the >> button to move all objects from the list) (see Fig. 7.3-3, 4).

NOTE. The right-hand list is a list of “Face capture camera” objects selected to work with the “Face Recognition Server” object.

The < and << buttons are used to reverse the previous actions, i.e. to move the selected face detectors or all face detectors from the right-hand list to the left-hand list (see **Ошибка! Источник ссылки не найден.***, 4).*

5. The selected “Face capture camera” objects will then be displayed in the right-hand list of the “Face Capture Cameras” group (see Fig. 7.3-3, 5).

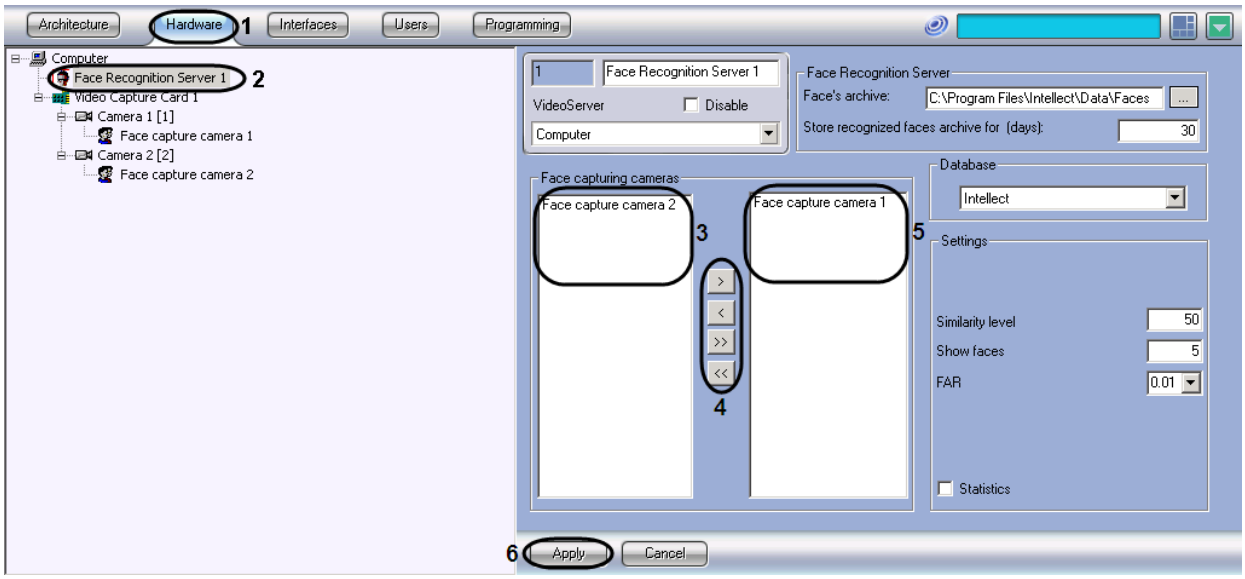

Fig. 7.3-3 Face capture camera selection

6. To save changes, click “Apply” (see Fig. 7.3-3, 6).

Selection of “Face capture camera” objects corresponding to the relevant face detection video cameras is now complete.

7.3.5 Setting parameters for detected faces recognition

To set parameters for detected faces recognition, perform the following:

1. Go to the “Hardware” tab in the “System Setup” dialog box (see Fig. 7.3-4, 1).

2. Select the “Face Recognition Server” object in the objects tree (see Fig. 7.3-4, 2).

3. In the “Similarity level” field, enter the match percentage of the detected face and the reference image that will be considered a recognized match (see Fig. 7.3-4, 3). The “Similarity” parameter is expressed as a percentage.

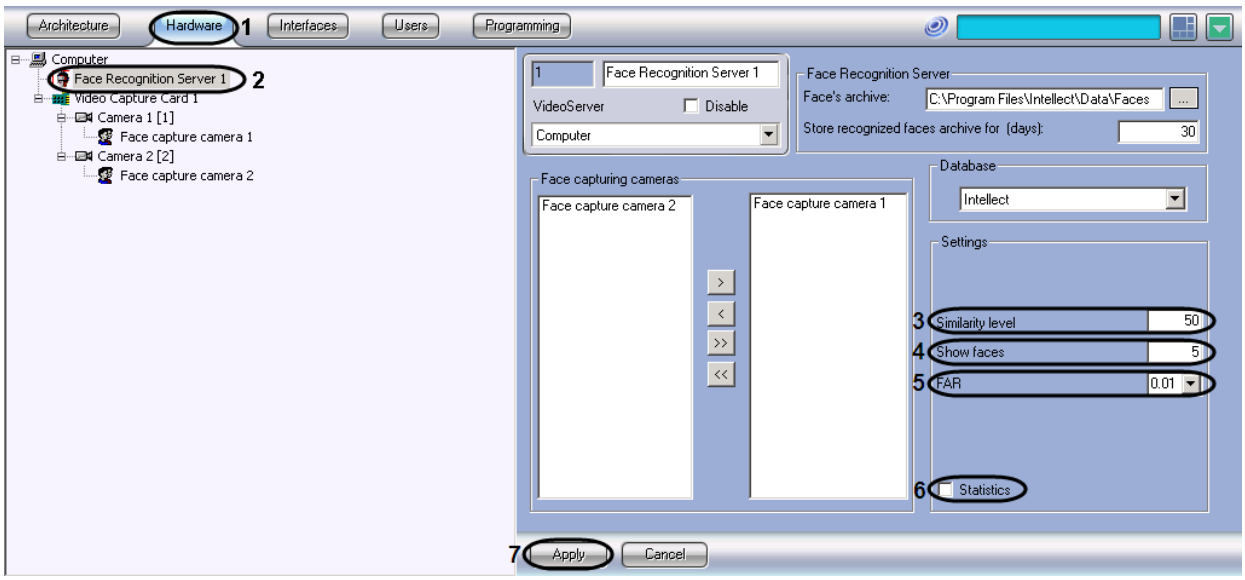

Fig. 7.3-4 Setting parameters for face recognition

4. In the “Show faces” field, enter the maximum number of matching reference images that can be displayed for one frame of a detected face (see Fig. 7.3-4, 4).

5. In the “FAR” list, select a value for the maximum permissible error during recognition of detected faces (type 1 error) (see Fig. 7.3-4, 5).

6. Check “Statistics” to activate statistics collection (see Fig. 7.3-4, 6).

7. To save changes, click “Apply” (see Fig. 7.3-4, 7).

Setting parameters for detected faces recognition is now complete.

7.4 Configuring the Face Monitor window

7.4.1 Configuration procedure for the Face Monitor window

To configure the Face Monitor window, perform the following:

1. set parameters for the Face Monitor window;

2. select the Face Detector objects that will interoperate with the Face Monitor window;

3. select the Face Recognition Server objects that will interoperate with the Face Monitor window;

4. set the percent match of a detected face with a reference image that will trigger visual emphasis on a recognized face;

5. select a Monitor window for video archive playback;

6. when necessary, activate the “Show eyes” function;

7. when necessary, activate display of the percent match of the detected face with the reference image.

7.4.2 Setting parameters for the Face Monitor window

The following parameters of the Face Monitor window can be configured:

1. window coordinates;
2. window dimensions.

To set parameters for the Face Monitor window, perform the following:

1. Go to the “Interfaces” tab in the “System Setup” dialog box (see Fig. 7.4-1, 1).
2. Select the Face Monitor object in the objects tree (see Fig. 7.4-1, 2).
3. Assign coordinates for the top-left corner of the Face Monitor window: X represents the horizontal indent relative to the left border of the computer screen and Y represents the vertical indent relative to the upper border of the computer screen (see Fig. 7.4-1, 3). The coordinates are expressed as a percentage of the horizontal and vertical screen sizes, respectively.
4. Assign dimensions for the Face Monitor window: W (window width) and H (window height) (see Fig. 7.4-1, 4). The dimensions are expressed as a percentage of the horizontal and vertical screen sizes, respectively.

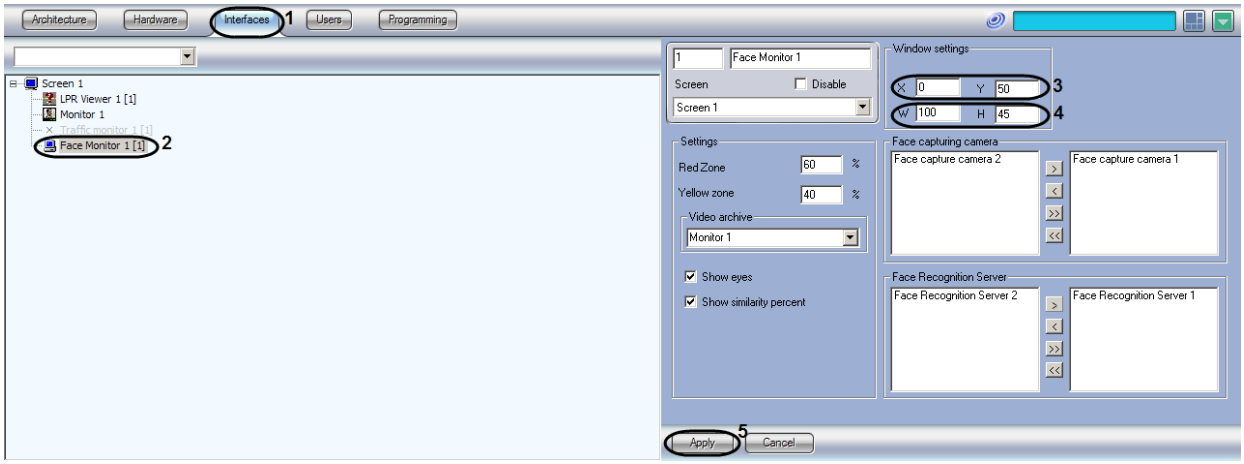

Fig. 7.4-1 Setting parameters for the Face Monitor window

5. To save changes, click “Apply” (see Fig. 7.4-1, 5).

Setting of parameters for the Face Monitor window is now complete.

7.4.3 Selecting Face capture camera objects that will interoperate with the Face Monitor window

To select Face capture camera objects that will interoperate with the Face Monitor window, perform the following steps:

1. Go to the “Interfaces” tab in the “System Setup” dialog box (see Fig. 7.4-2, 1).
2. Select the Face Monitor object in the objects tree (see Fig. 7.4-2, 2).

3. Select the necessary “Face capture camera” objects in the left-hand list of the “Face Capture Cameras” group (see Fig. 7.4-2, 3).

4. Move the selected “Face capture camera” objects to the right-hand list of the “Face Capture Cameras” group and then click the > button (or the >> button to move all objects from the list) (see Fig. 7.4-2, 4).

NOTE. The right-hand list is a list of “Face capture camera” objects selected to work with the Face Monitor object.

The < and << buttons are used to reverse the previous actions, i.e. to move the selected face detectors or all face detectors from the right-hand list to the left-hand list (see Fig. 7.4-2, 4).

5. The selected “Face capture camera” objects will then be displayed in the right-hand list of the “Face Capture Cameras” group (see Fig. 7.4-2).

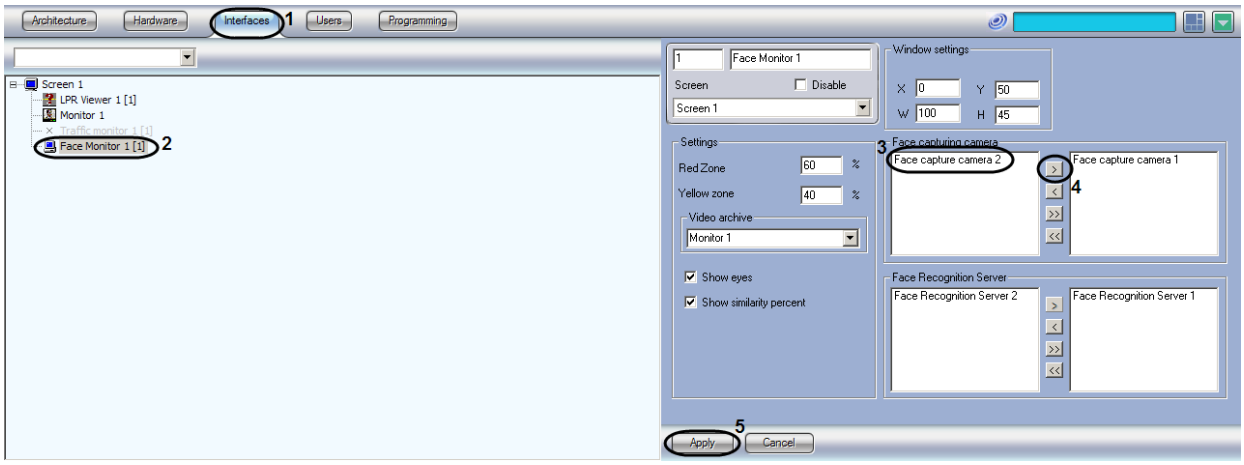

Fig. 7.4-2 Selecting Face capture camera objects

6. To save changes, click “Apply” (see Fig. 7.4-2, 5).

Selection of Face capture camera objects that will interoperate with the Face Monitor window is now complete.

7.4.4 Selecting Face Recognition Server objects that will interoperate with the Face Monitor window

To select Face Recognition Server objects that will interoperate with the Face Monitor window, perform the following steps:

1. Go to the “Interfaces” tab in the “System Setup” dialog box (see Fig. 7.4-3, 1).

2. Select the Face Monitor object in the objects tree (see Fig. 7.4-3, 2).

3. Select the necessary “Face Recognition Server” objects in the left-hand list of the “Face Recognition Server” group (see Fig. 7.4-3, 3).

4. Move the selected “Face Recognition Server” objects to the right-hand list of the “Face Recognition Server” group and then click the > button (or the >> button to move all objects from the list) (see Fig. 7.4-3, 4).

NOTE. The right-hand list is a list of "Face Recognition Server" objects selected to work with the Face Monitor window.

The < *and* << *buttons are used to reverse the previous actions, i.e. to move the selected face detectors or all face detectors from the right-hand list to the left-hand list (see Fig. 7.4-3).*

5. The selected "Face Recognition Server" objects will then be displayed in the right-hand list of the "Face Recognition Server" group (see Fig. 7.4-3).

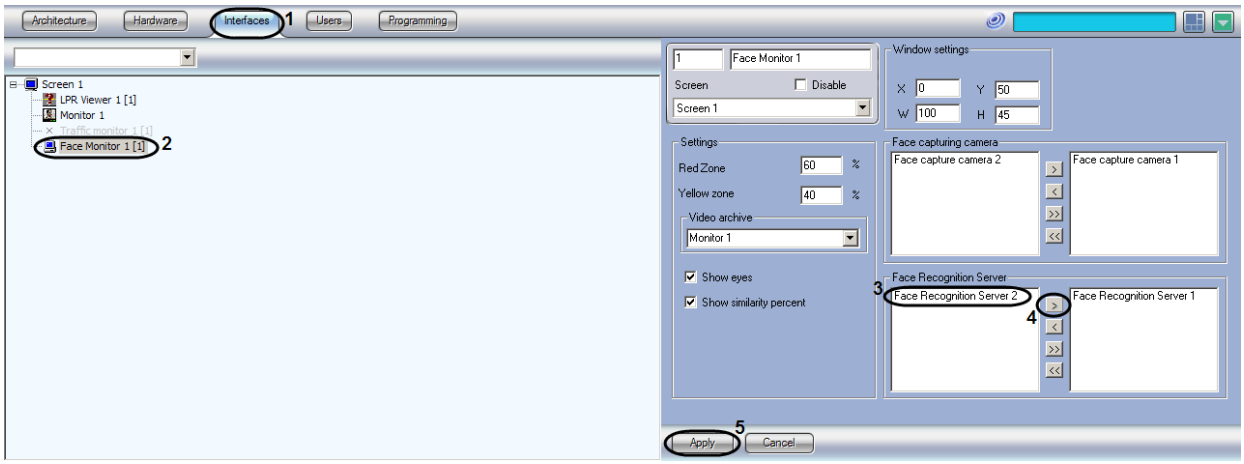

Fig. 7.4-3 Selecting Face Recognition Server objects

6. To save changes, click "Apply" (see Fig. 7.4-3, 5).

Selection of Face Recognition Server objects that will interoperate with the Face Monitor window is now complete.

7.4.5 Setting the percent match values that will trigger specific outlines of a recognized face

To set a percent match value for a detected face and a reference image that will trigger a specific outline on a recognized face, perform the following:

1. Go to the "Interfaces" tab in the "System Setup" dialog box (see Fig. 7.4-4, 1).

2. Select the Face Monitor object in the objects tree (see Fig. 7.4-4, 2).

3. Enter the percent match values for the "red" and "yellow" zones (see Fig. 7.4-4, 3). The "Red zone" corresponds to the highest match in terms of percentage. It is recommended that the "red zone" be assigned a value of no less than a 60% match between the detected face and the reference images of faces that contain data in the face recognition database. The percent match value for the "yellow zone" is set in the interval between the "similarity percent" parameter value (setting for the Face Recognition Server object) and the parameter value for the "Red zone".

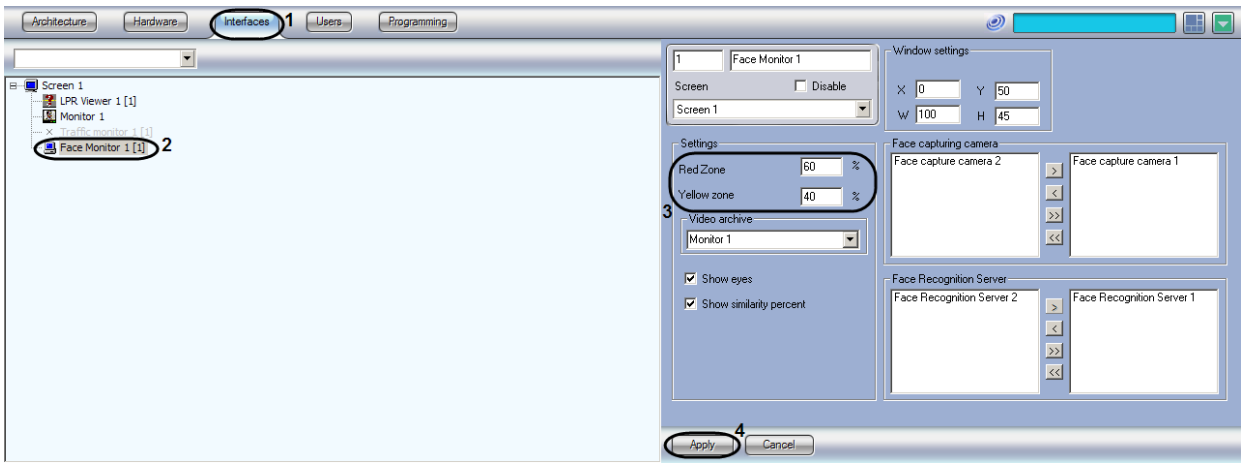

Fig. 7.4-4 Setting match percentages

4. To save changes, click “Apply” (see Fig. 7.4-4, 4).

Assignment of similarity percentages for visual emphasis of a recognized face is now complete.

7.4.6 Selecting a Monitor window for video archive playback

To select a Monitor window for video archive playback, perform the following steps:

1. Go to the “Interfaces” tab in the “System Setup” dialog box (see Fig. 7.4-5, 1).
2. Select the Face Monitor object in the objects tree (see Fig. 7.4-5, 2).
3. Select the necessary Monitor object from the video archive list for playback of the video archive (see Fig. 7.4-5, 3).

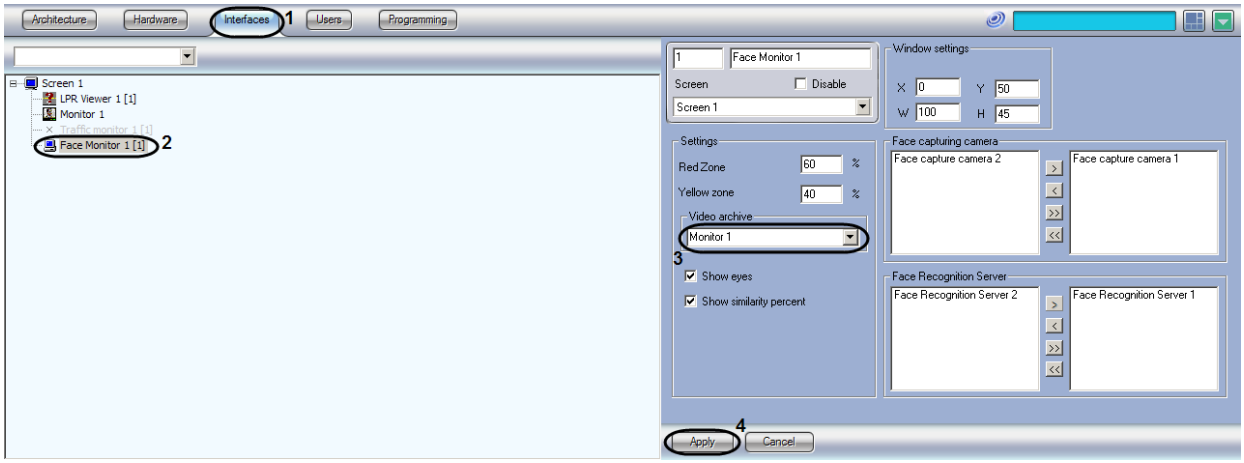

Fig. 7.4-5 Selecting a Monitor object

4. To save changes, click “Apply” (see Fig. 7.4-5, 4).

Selection of a Monitor window for video archive playback is now complete.

7.4.7 Activating the “Show eyes”

To activate the eye emphasis function for recognized faces, perform the following steps:

1. Go to the “Interfaces” tab in the “System Setup” dialog box (see Fig. 7.4-6, 1).
2. Select the Face Monitor object in the objects tree (see Fig. 7.4-6, 2).

3. Put a check in the “Show eyes” checkbox (see Fig. 7.4-6, 3).

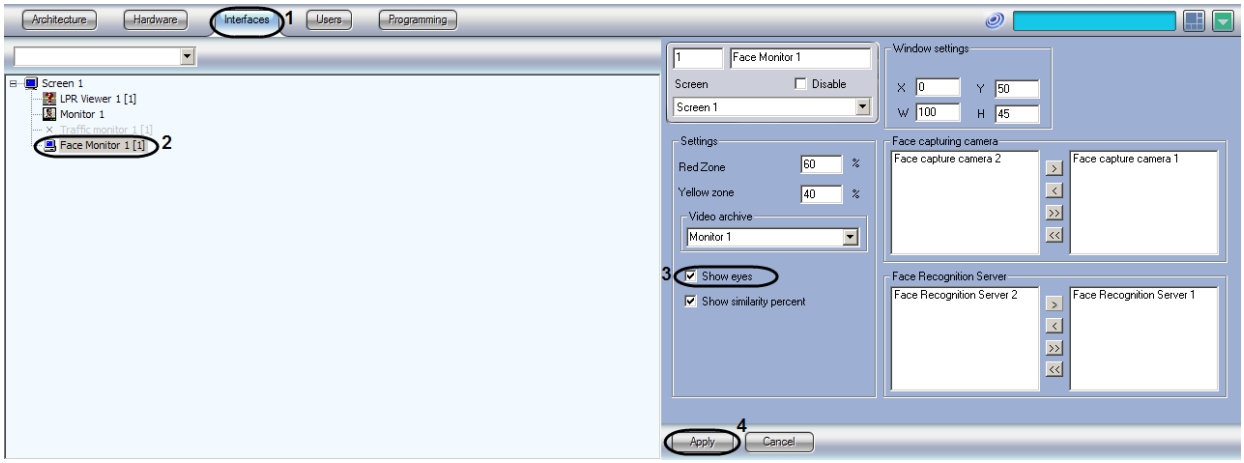

Fig. 7.4-6 Configuring eye marking on recognized faces

4. To save changes, click “Apply” (see Fig. 7.4-6, 4).

Activation of the eye emphasis function for recognized faces is now complete.

As a result, the eyes on recognized faces in the Face Monitor window will be marked (see Fig. 7.4-7).

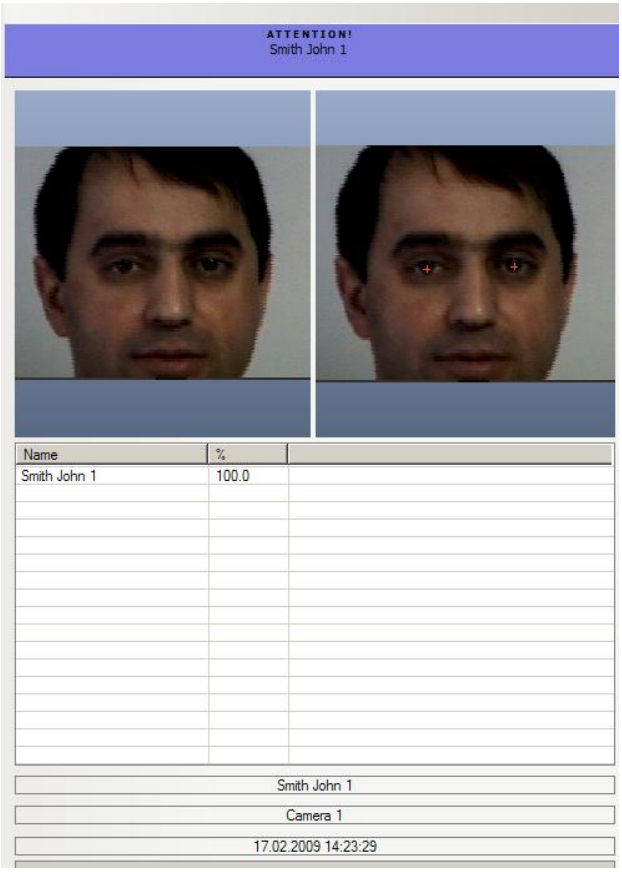

Fig. 7.4-7 Marking the eyes on a recognized face

7.4.8 Activating display of the similarity percent of a detected face and a reference image

To activate display of the similarity percentage of a detected face and a reference image, take the following steps:

1. Go to the “Interfaces” tab in the “System Setup” dialog box (see Fig. 7.4-8, 1).

2. Select the Face Monitor object in the objects tree (see Fig. 7.4-8, 2).

3. Put a check in the “Show similarity percent” checkbox (see Fig. 7.4-8, 3).

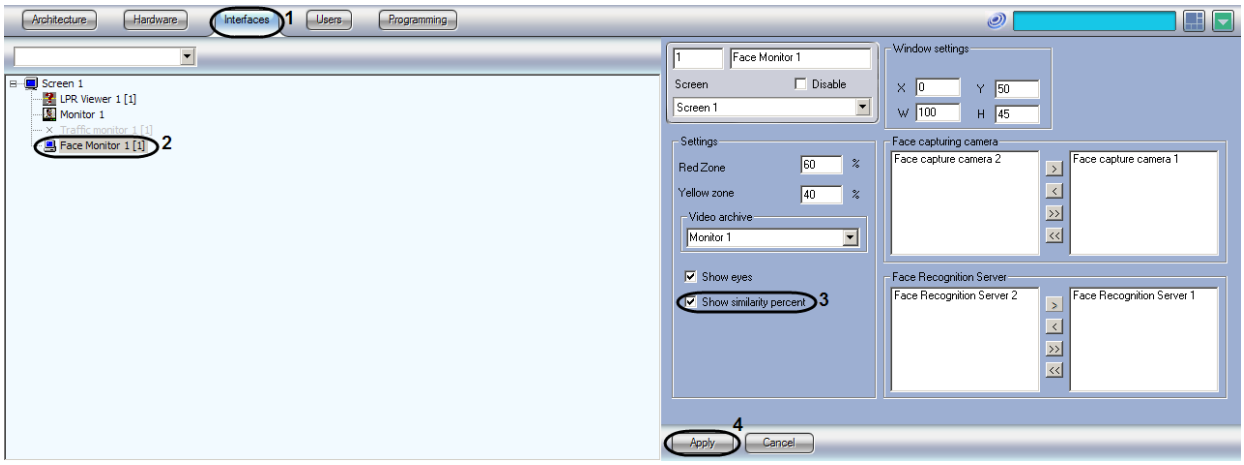

Fig. 7.4-8 Configuring the similarity percent value to be displayed

4. To save changes, click “Apply” (see Fig. 7.4-8, 4).

Setting the similarity percent value to be displayed for a detected face and a reference image is now complete.

7.5 Configuring the Recognized Faces Monitor window

7.5.1 Configuration procedure for the Recognized Faces Monitor window

To configure the Recognized Faces Monitor window, perform the following steps:

1. set parameters for the Recognized Faces Monitor window;

2. select the Face Recognition Server objects that will interoperate with the Recognized Faces Monitor window;

3. select a color in which to outline the recognized faces based on their department;

4. configure how recognized faces are displayed in the Recognized Faces Monitor window;

5. select a Monitor window for video archive playback.

7.5.2 Setting parameters for the Recognized Faces Monitor window

To set parameters for the Recognized Faces Monitor window, perform the following steps:

1. Go to the “Interfaces” tab in the “System Setup” dialog box (see Fig. 7.5-1, 1).

2. Select the Recognized Faces Monitor object in the objects tree (see Fig. 7.5-1, 2).

3. Assign coordinates for the top-left corner of the Recognized Faces Monitor window: X represents the horizontal indent relative to the left border of the computer screen and Y represents the vertical indent relative to the upper border of the computer screen (see Fig.

7.5-1, 3). The coordinates are expressed as a percentage of the horizontal and vertical screen sizes, respectively.

4. Assign dimensions for the Recognized Faces Monitor window: W (window width) and H (window height) (see Fig. 7.5-1, 4). The dimensions are expressed as a percentage of the horizontal and vertical screen sizes, respectively.

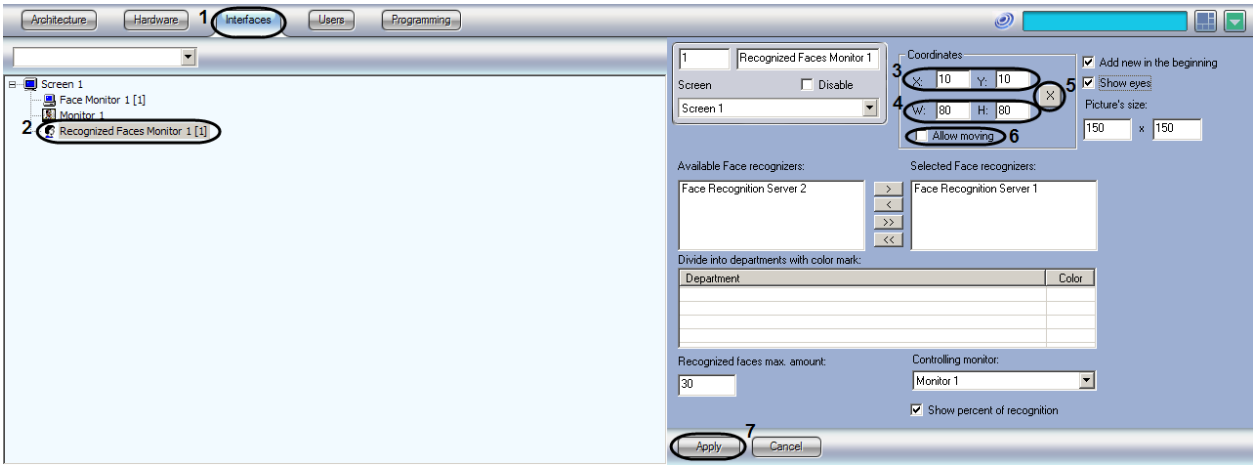

Fig. 7.5-1 Setting parameters for the Recognized Faces Monitor window

NOTE. For convenience, it is recommended that the coordinates and dimensions of the Recognized Faces Monitor window be set up using the visual method. To do this, click the  *button and use the mouse to set the location and size of the sample window, then click OK. (see Fig. 7.5-1, 5, Fig. 7.5-2). The coordinates of the sample window will be automatically calculated and copied into the X, Y, W and H fields.*

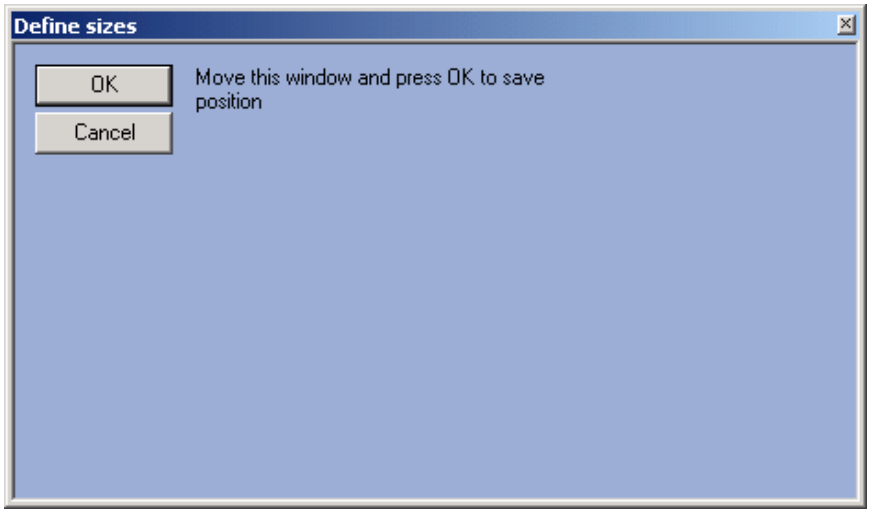

Fig. 7.5-2 Visual method for assigning coordinates

5. If the Recognized Faces Monitor window requires repositioning, check the “Allow Moving” checkbox (see Fig. 7.5-1, 6).

6. To save changes, click “Apply” (see Fig. 7.5-1, 7).

Setting of parameters for the Recognized Faces Monitor window is now complete.

7.5.3 Selecting Face Recognition Server objects that will interoperate with the Recognized Faces Monitor window

To select Face Recognition Server objects that will interoperate with the Recognized Faces Monitor window, perform the following steps:

1. Go to the “Interfaces” tab in the “System Setup” dialog box (see Fig. 7.5-3, 1).
2. Select the Recognized Faces Monitor object in the objects tree (see Fig. 7.5-3, 2).
3. Select the necessary “Face Recognition Server” objects in the list of “Available Face Recognizers” group (see Fig. 7.5-3, 3).
4. Move the selected “Face Recognition Server” objects to the “Selected Face Recognizers” list and then click the > button (or the >> button to move all objects from the list) (see Fig. 7.5-3, 4).

NOTE 1. The right-hand list is a list of “Face Recognition Server” objects selected to work with the Face Monitor window.

NOTE 2. The < and << buttons are used to reverse actions, i.e. to move the selected objects or all Face Recognition Server objects from the “Selected Face Recognizers” list back to the “Available Face Recognizers” list (see Fig. 7.5-3, 4).

5. The selected “Face Recognition Server” objects will then be displayed in the “Selected Face Recognizers” list (see Fig. 7.5-3, 5).

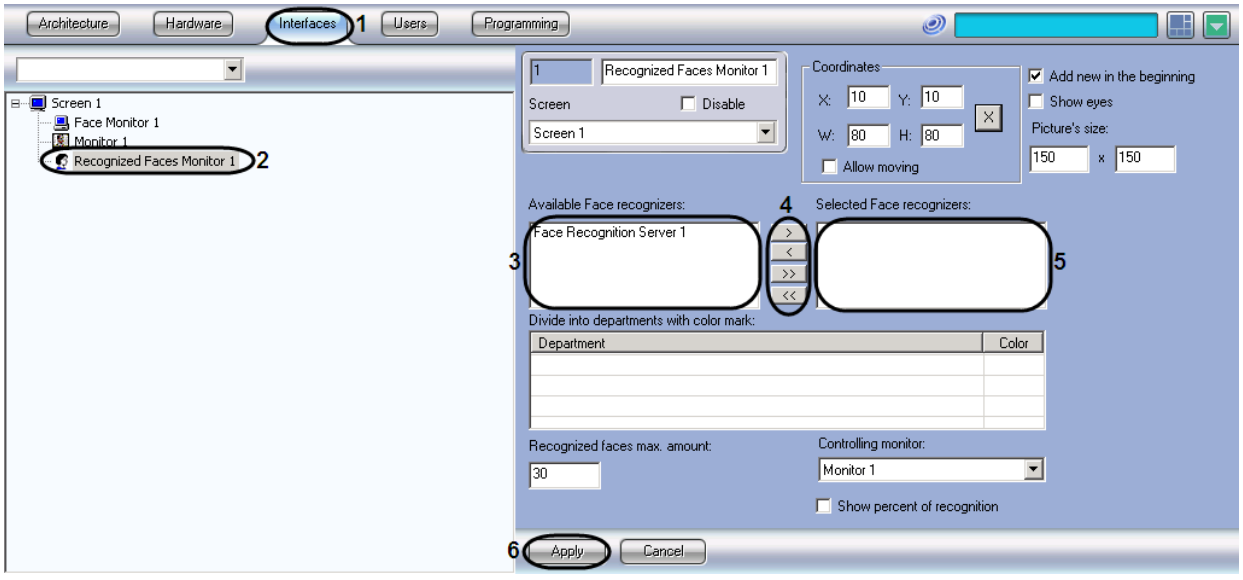

Fig. 7.5-3 Selecting Face Recognition Server objects

6. To save changes, click “Apply” (see Fig. 7.5-3, 6).

Selecting Face Recognition Server objects that will interoperate with the Recognized Faces Monitor window is now complete.

7.5.4 Selecting colors used to outline recognized faces based on their department

To select the colors used to outline recognized faces based on their department, perform the following steps:

1. Go to the “Interfaces” tab in the “System Setup” dialog box (see Fig. 7.5-4, 1).

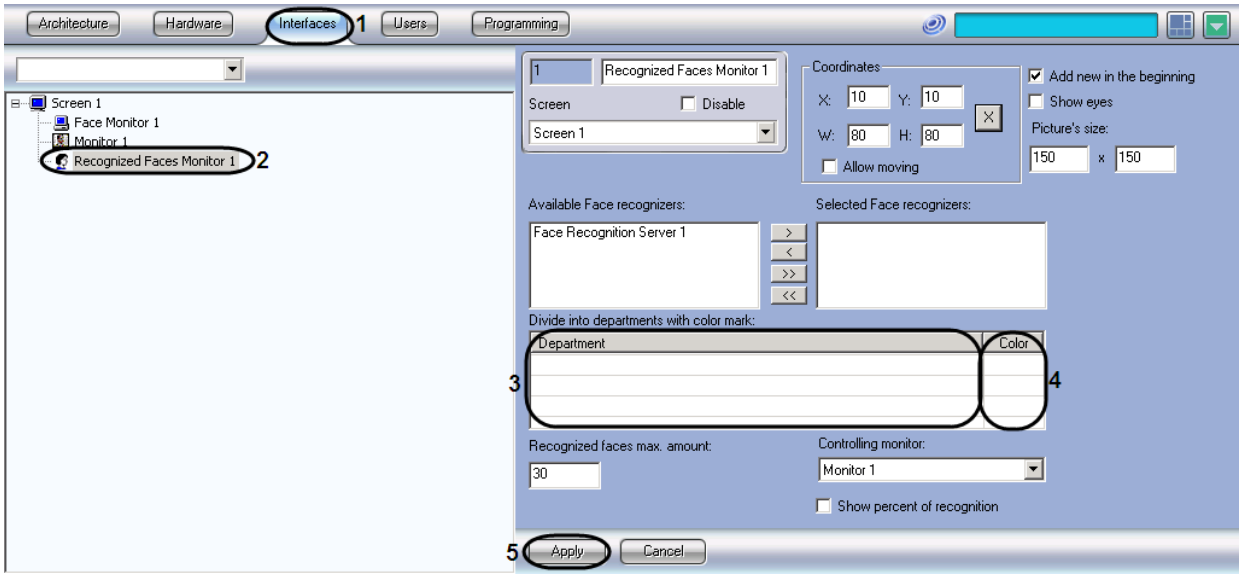

Fig. 7.5-4 Color coding

2. Select the Recognized Faces Monitor object in the objects tree (see Fig. 7.5-4, 2).

3. Right-click on the “Department” field and select “Add” in the appearing window (see Fig. 7.5-4, 3).

4. On the drop-down list in the “Add” dialog box, select the department for which recognized faces requires emphasis (see Fig. 7.5-5).

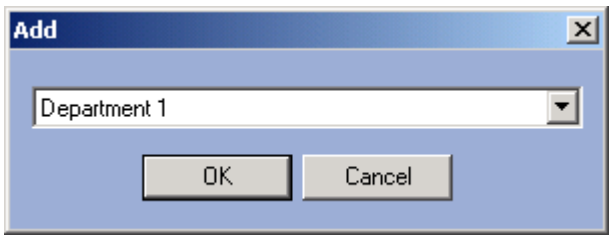

Fig. 7.5-5 Selecting a department for color coding

5. Click “OK” (see Fig. 7.5-5). As a result, the selected department will be added to the “Highlight these departments” table (see Fig. 7.5-4, 3).

6. Assigning a color to recognized faces belonging to a certain department. To do this, double-click the Color field opposite the corresponding department. In the standard Windows “Color” dialog box, select the desired color and click “OK” (see Fig. 7.5-4, 4).

NOTE. For operations within the table, it is convenient to use the context menu (double-click the necessary department).

7. To save changes, click “Apply” (see Fig. 7.5-4, 5).

Selection of color codes for recognized faces based on their department is now complete.

7.5.5 Configuring the display of recognized faces

To configure how recognized faces are displayed in the Recognized Faces Monitor window, perform the following steps:

1. Go to the “Interfaces” tab in the “System Setup” dialog box (see Fig. 7.5-6, 1).

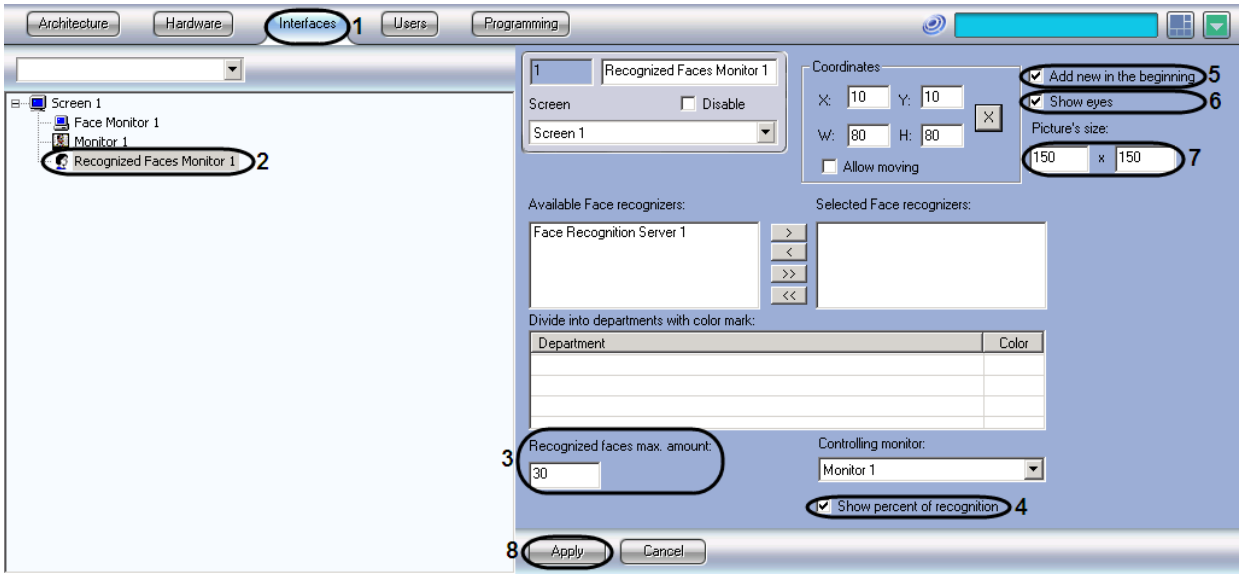

Fig. 7.5-6 Configuring how recognized faces are displayed

2. Select the Recognized Faces Monitor object in the objects tree (see Fig. 7.5-6, 2).
3. In the “Recognized faces max. amount” field, enter the maximum number of recognized faces to be displayed in the viewer (see Fig. 7.5-6, 3).
4. To display the percent match of a recognized face and a reference image, check the “Show percent of recognition” checkbox (see Fig. 7.5-6, 4).
5. If the most recent recognized face needs to be displayed at the beginning of the list in the Recognized Faces Viewer, check the “Add new in the beginning” checkbox (see Fig. 7.5-6, 5).
6. To activate eye emphasis for a recognized face, check the “Show eyes” checkbox (see Fig. 7.5-6, 6).

NOTE. If the eye emphasis function is activated, then the eyes will be marked on recognized faces (see Fig. 7.5-7).

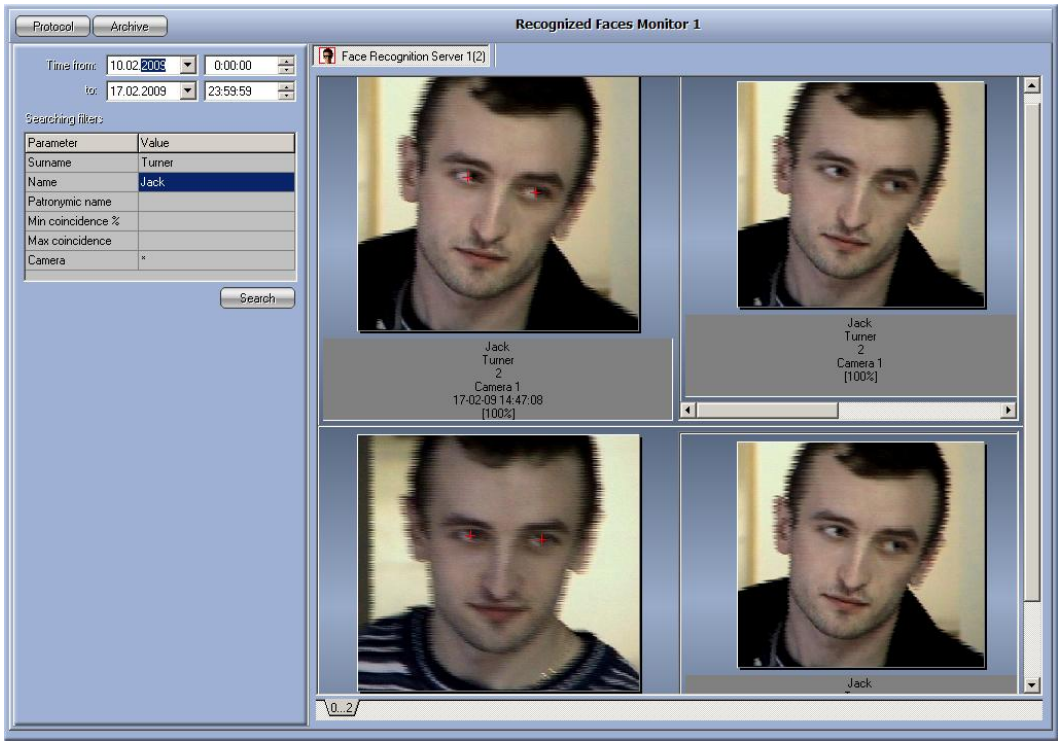

Fig. 7.5-7 Marking the eyes on recognized faces

7. In the “Photo size” field, assign dimensions, in pixels, for the area of the video frame containing the face in the “Recognized Faces Monitor” window (see Fig. 7.5-6, 7).

8. To save changes, click “Apply” (see **Ошибка! Источник ссылки не найден.**, 8).

Configuration of how recognized faces are displayed in the Recognized Faces Monitor is now complete.

7.5.6 Selecting a Monitor window for video archive playback

To select a Monitor window for video archive playback, perform the following steps:

1. Go to the “Interfaces” tab in the “System Setup” dialog box (see Fig. 7.5-8, 1).

2. Select the Recognized Faces Monitor object in the objects tree (see Fig. 7.5-8, 2).

3. Select the necessary “Monitor” object from the "Control Monitor” list for playback of a video archive (see Fig. 7.5-8, 3).

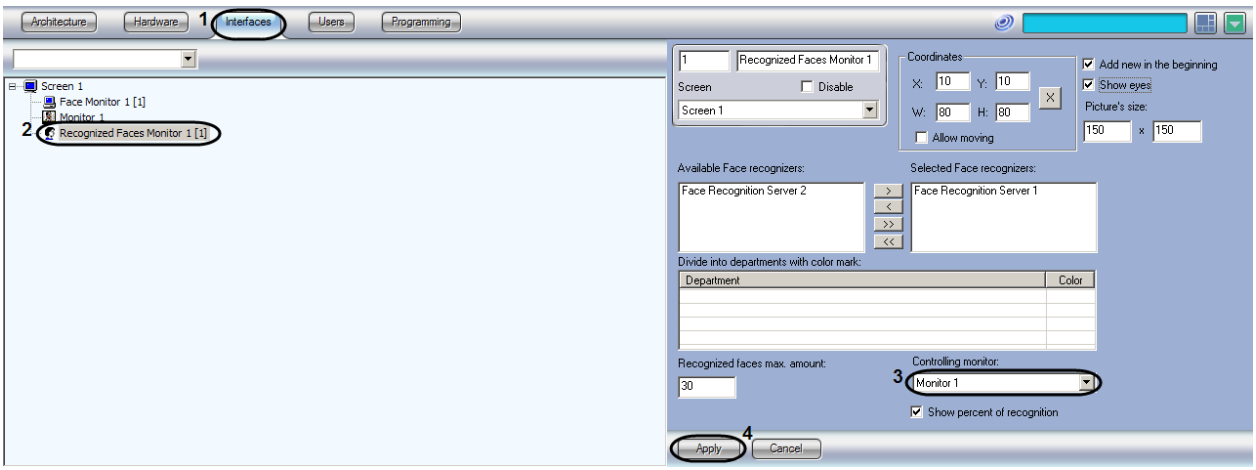

Fig. 7.5-8 Selecting a Monitor object for video playback

4. To save changes, click “Apply” (see Fig. 7.5-8, 4).

Selection of a Monitor window for video archive playback is now complete.

8 Appendix 1. Interfaces

8.1 Settings panel for a Face Detector object

Fig. 8.1-1 shows the settings panel for the Face Detector object.

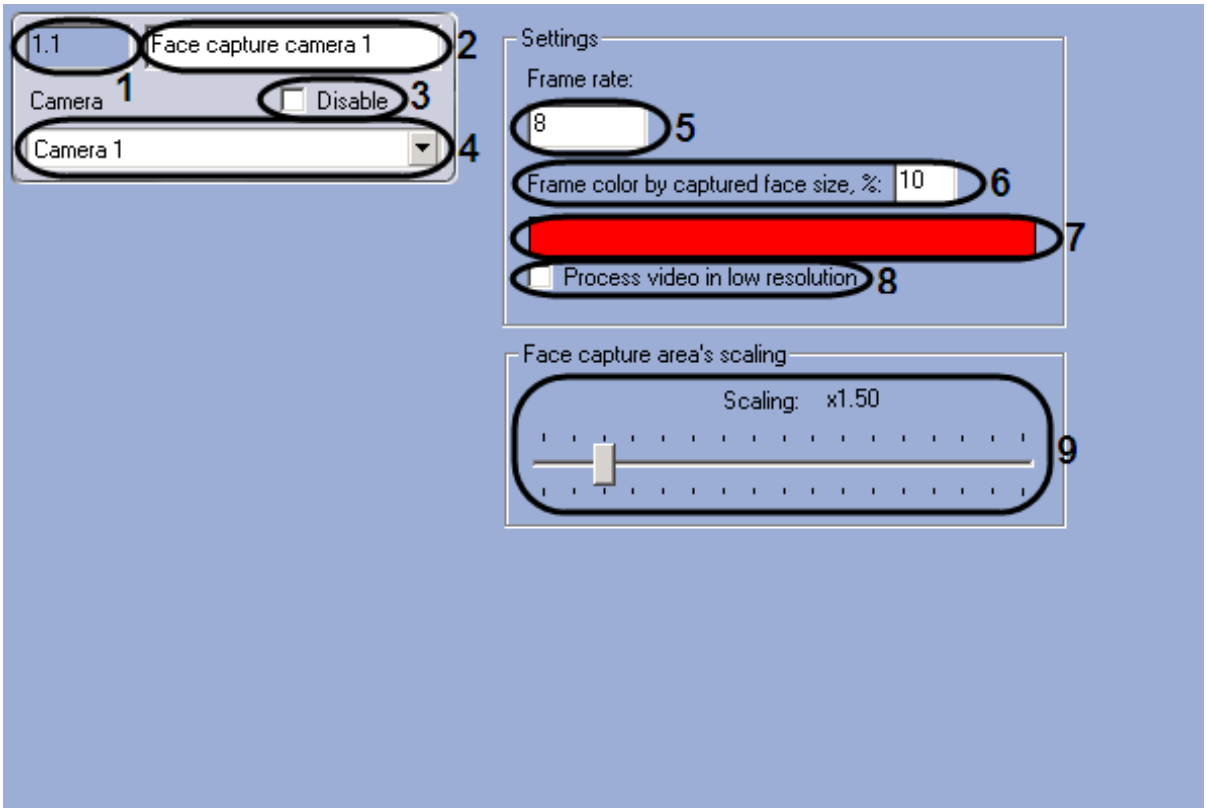

Fig. 8.1-1 Settings panel for the Face Detector object

Table 8.1-1 provides descriptions of the parameters for configuring the Face Detector.

Table 8.1-1

№	Parameter	Method for entering the parameter value	Parameter description	Symbols used	Default value	Value range
1	Number	Automatic	Identification number of the Face Detector object in the system	Sequence of numbers	-	Depends on the number of Face Detector objects in the system
2	Name	Enter the value into the field	Name of the Face Detector object in the system	Latin, Cyrillic and service characters	Face detector	A line containing a sequence of any symbols (letters, digits, service characters), regardless of the register Number of symbols – from 1 to 60.
3	Disable	Checkbox	Sets the status (on or off) of the Face Detector object in the	Boolean type	No	Yes – the Face Detector object is disconnected and is not in use

№	Parameter	Method for entering the parameter value	Parameter description	Symbols used	Default value	Value range
			system			No – the Face Detector object is connected and is in use.
4	Camera	Select the value from the list	Assigns the parent "Camera" object to a particular "Face Detector" object	Name of the Camera objects registered in the system	Name of parent camera	Depends on the number of Camera objects in the system
"Settings" Group						
5	Processing speed	Enter the value into the field	Enters the number of frames per second processed by the Face Detector module. This parameter is used to decrease the server load	Frames/sec	-	From 1 to the frequency of frames allocated for processing the video signal of each specific video camera
6	Border color for a face size of more than, %	Enter the value into the field	Sets the face size at which the face requires a dynamic border	% of the video surveillance camera window area	-	From 1 to 100
7	Color	Double-click	Selects the color of the dynamic border (via the standard Windows dialog box)	-	-	-
8	Process video in low resolution	Checkbox	Activates the option to have the Face Detector module process video images in the 320x240 pixel resolution.	Boolean type	No	Yes – video image is processed in the 320x240 pixel resolution No – video image is processed in the resolution set by the parent Camera object
"Face Capture Area Scaling" Group						
9	Scale	Move slider bar to position	Sets the scale of the face image within the frame to be recorded	-	1.5	From 1 to 5 1 – only the face image is recorded 5 – entire frame is recorded

8.2 Settings panel for the Face Recognition Server

Fig. 8.2-1 shows the settings panel for the Face Recognition Server.

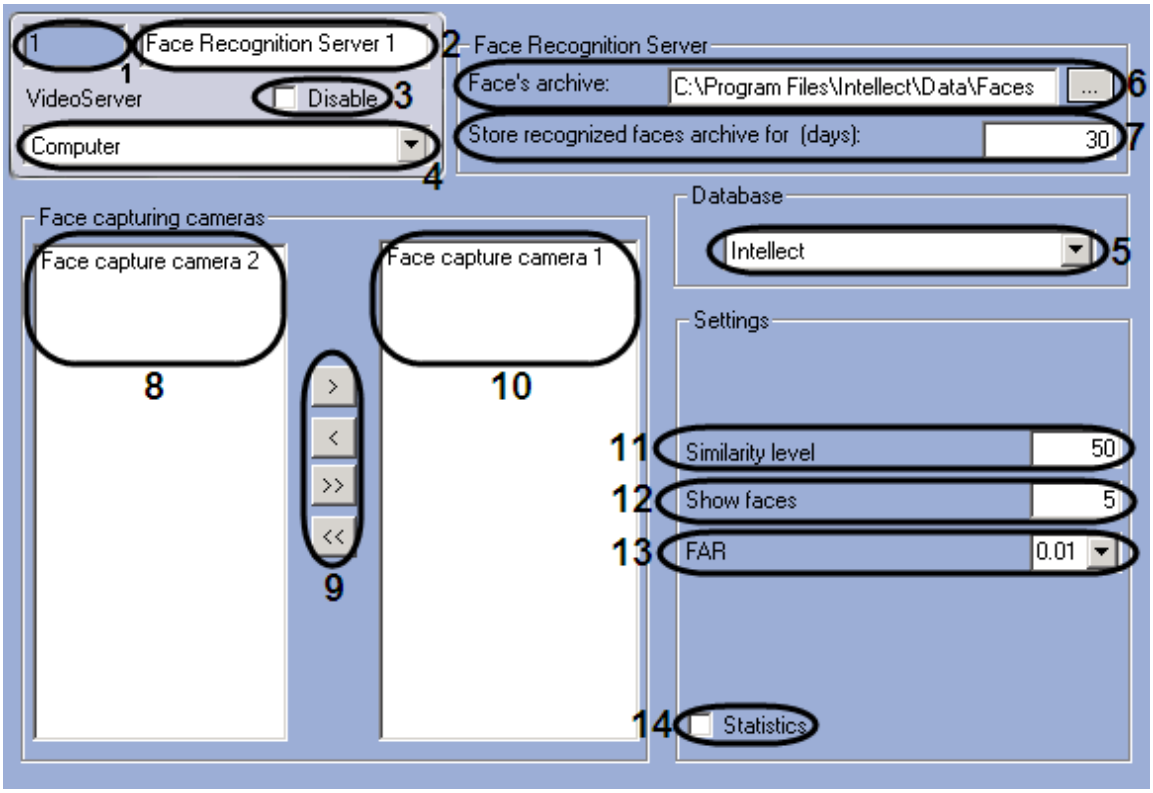

Fig. 8.2-1 Settings panel for the Face Recognition Server object

Table 8.2-1 provides descriptions of the parameters for configuring the Face Recognition Server object.

Table 8.2-1

№	Parameter	Method for entering the parameter value	Parameter description	Symbols used	Default value	Value range
1	Number	Automatic	Identification number of the Face Recognition Server object in the system	Sequence of numbers	-	Depends on the number of Face Recognition Server objects in the system
2	Name	Enter the value into the field	Name of the Face Recognition Server object in the system	Latin, Cyrillic and service characters	Face recognition server	A line containing a sequence of any symbols (letters, digits, service characters), regardless of the register Number of symbols – from 1 to 60.
3	Disable	Checkbox	Sets the status (on or off) of the Face Recognition Sever object in the system	Boolean type	No	Yes – the Face Recognition Server object is disconnected and is

№	Parameter	Method for entering the parameter value	Parameter description	Symbols used	Default value	Value range
						not in use No – the Face Recognition Server object is connected and is in use.
4	Computer	Select the value from the list	Assigns the parent “Computer” object to a particular “Face Recognition Server” object	Name of the “Computer” objects registered in the system	Name of the parent “Computer” object.	Depends on the number of “Computer” objects in the system
“Database” group						
5	Database	Select the value from the list	Sets a face database to be used for recognition	Names of available databases	Intellect	Intellect - fir.mdf is used as the face recognition database External database – an external database is used as the face recognition database
“Face recognition server” group						
6	Face archive with « ... » button	Click the button	Selects the directory in which images of recognized faces are to be saved in .jpg format	Directory path	<Face Intellect installation directory>\Data\Faces.	-
7	Save Recognized Faces Archive (days)	Enter the value into the field	Sets the storage period for the Recognized Faces Archive	days	30	From 1 to 9999
“Face capture cameras” group						
8	List of available face detectors	Automatic	Displays the list of available “Face detector” objects	-	-	-
9	« > », « < », « >> », « << »	Click the button	Selecting Face Detector objects to work with the Face Recognition Server object	-	-	-

№	Parameter	Method for entering the parameter value	Parameter description	Symbols used	Default value	Value range
	buttons					
10	List of available face detectors	Automatic	Displays the list of Face Detector objects selected to work with the Face Recognition Server object	-	-	-
“Settings” group						
11	Percent match	Enter the value into the field	Sets the match percentage of a detected face and a reference image that, if exceeded, is considered recognized	%	50	From 0 to 100
12	Show faces	Enter the value into the field	Sets the maximum number of facial reference images similar to the detected face that are entered into the recognition viewer for one frame	units	5	From 1 to 20
13	FAR	Select the value from the list	Sets the maximum permissible probability of an error in recognition (type 1 error)	Unit of measure	0,01	From 0.01 to 0.9
14	Keep statistics	Checkbox	Activates the mode for keeping face recognition statistics	Boolean type	Yes	Yes – statistics are kept Net – statistics are not kept

8.3 Settings panel for the Face Monitor window

Fig. 8.3-1 shows the settings panel for the Face Monitor window.

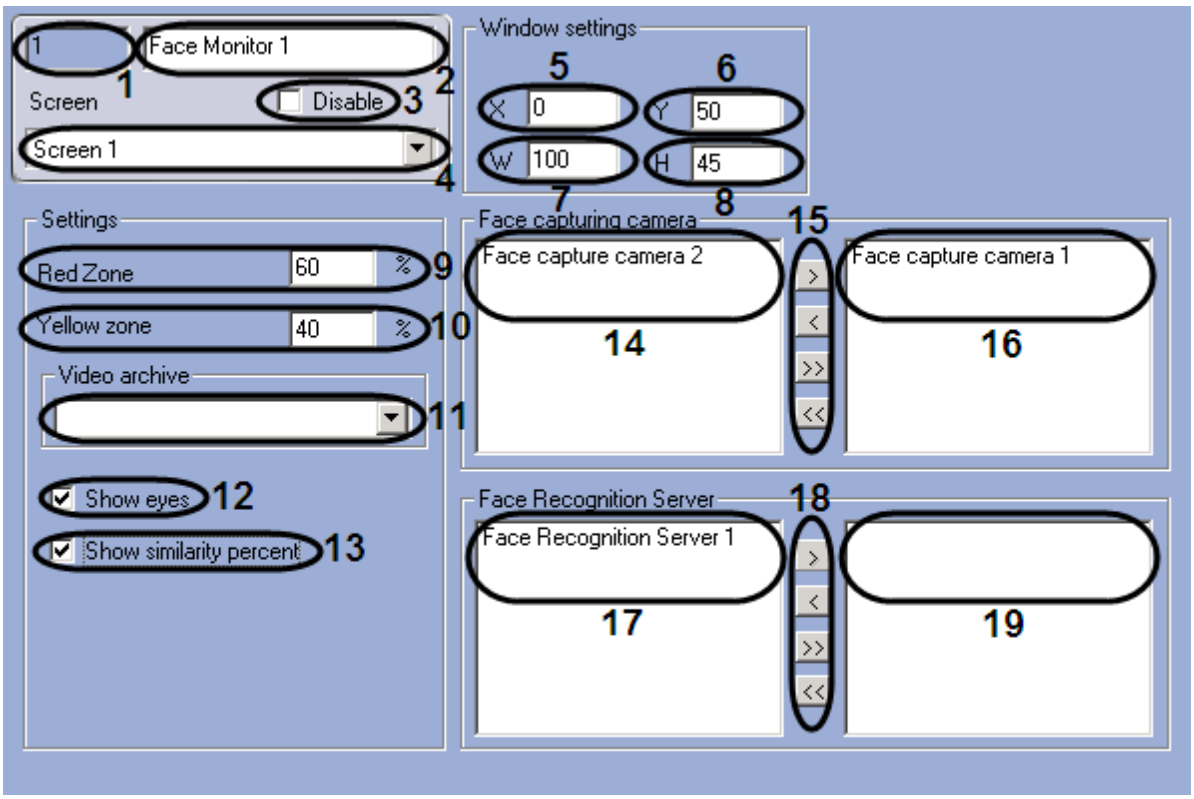

Fig. 8.3-1 Settings panel for the Face Monitor object

Table 8.3-1 provides descriptions of the parameters for configuring the Face Monitor window.

Table 8.3-1

№	Parameter	Method for entering the parameter value	Parameter description	Symbols used	Default value	Value range
1	Number	Automatic	Identification number of the Face Monitor object in the system	Sequence of numbers	-	From 1 and above. Depends on the number of Face Monitor objects in the system
2	Name	Enter the value into the field	Name of the Face Monitor object in the system	Latin, Cyrillic and service characters	Face monitor	A line containing a sequence of any symbols (letters, digits, service characters), regardless of the register Number of symbols – from 1 to 60.
3	Disable	Checkbox	Sets the status (on or off) of the Face Monitor object in the system	Boolean type	No	Yes – the Face Monitor object is disconnected and

№	Parameter	Method for entering the parameter value	Parameter description	Symbols used	Default value	Value range
						is not in use. No – the Face Monitor object is connected and is in use.
4	Screen	Select the value from the list	Sets the parent “Screen” object to a particular “Face Monitor” object	Names of the “Screen” objects registered in the system	Name of the parent “Screen” object	Depends on the number of Screen objects in the system
“Window settings” group						
5	X	Enter the value into the field	Defines a coordinate in the horizontal X-axis for the upper left corner of the Face Monitor window on the screen.	% of the computer screen width.	-	0 to M*100, where M – number of installed video surveillance monitors
6	Y	Enter the value into the field	Defines a coordinate in the vertical Y-axis for the upper left corner of the Face Monitor window on the screen.	% of the computer screen height.	-	0 to M*100, where M – number of installed video surveillance monitors
7	W	Enter the value into the field	Assigns a width to the Face Monitor window	% of the computer screen width.	-	From 0 to M*100, where M is the number of installed video surveillance monitors
8	H	Enter the value into the field	Assigns a height to the Face Monitor window	% of the computer screen height.	-	0 to M*100, where M – number of installed video surveillance monitors
“Settings” Group						
9	Red zone	Enter the value into the field	Sets the lower boundary value of the red zone If the face recognition match percentage is equal to or higher than the specified value, then information under the recognized image will be highlighted in red	%	60	From 0 to 100

№	Parameter	Method for entering the parameter value	Parameter description	Symbols used	Default value	Value range
10	Yellow zone	Enter the value into the field.	Sets the lower boundary value of the yellow zone If the face recognition match percentage is equal to or higher than the specified value but does not exceed the lower boundary of the red zone, then information under the recognized image will be highlighted in yellow	%	40	From 0 to 100
11	Video archive	Select the value from the list	Selects a Monitor window for video archive playback from a face detection camera	Names of “Monitor” objects registered in the system	-	Depends on the number of “Monitor” objects in the system
12	Show eyes	Checkbox	Activates the mode for marking eyes on a recognized face	Boolean type	No	Yes – eye marking is turned on No – eye marking is turned off
13	Show percent match	Checkbox	Activates display of the match percentage of a detected face and a reference image	Boolean type	No	Yes – match percentage is displayed No – match percentage is not displayed
“Face capture camera” group						
14	Available face detectors	Automatic	Displays the list of available “Face detector” objects	-	-	-
15	« > », « < », « >> », « << » buttons	Click the button	Selects Face Detector objects that will work with the Face Monitor object	-	-	-
16	Selected face detectors	Automatic	Displays the list of Face Detector objects selected to work with the Face Monitor object	-	-	-
“Face recognition server” group						
17	Available face recognition	Automatic	Displays the list of available “Face Recognition Server”	-	-	-

№	Parameter	Method for entering the parameter value	Parameter description	Symbols used	Default value	Value range
	servers		objects			
18	« > », « < », « >> », « << » buttons	Click the button	Selects Face Recognition Server objects that will work with the Face Monitor object	-	-	-
19	Selected face recognition servers	Automatic	Displays the list of Face Recognition Server objects selected to work with the Face Monitor object	-	-	-

8.4 Settings panel for the Recognized Faces Monitor window

Fig. 8.4-1 shows the settings panel for the Recognized Faces Monitor window.

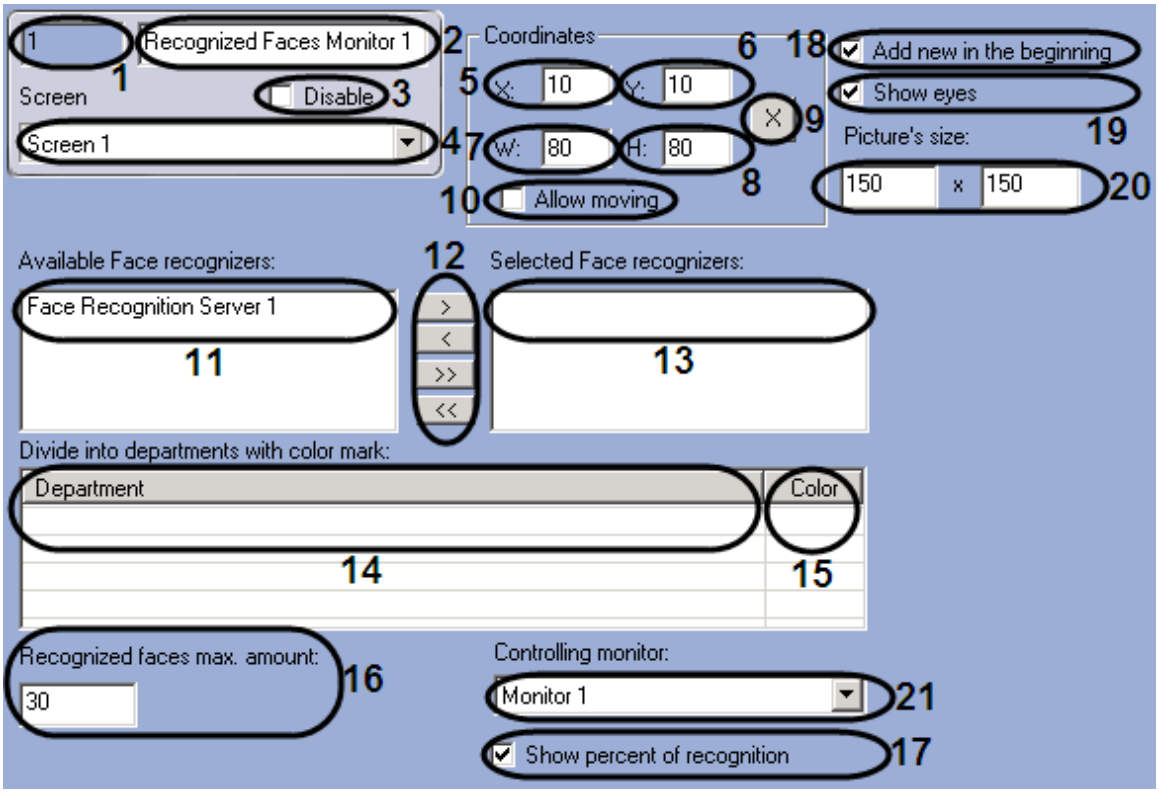

Fig. 8.4-1 Settings panel for the Recognized Faces Monitor window

Table 8.4-1 provides descriptions of the parameters for configuring the Recognized Faces Monitor window.

Table 8.4-1

№	Parameter	Method for entering the parameter value	Parameter description	Symbols used	Default value	Value range
1	Number	Automatic	Identification number of the Recognized Faces Monitor object in the system	Sequence of numbers	-	From 1 and above. Depends on the number of Recognized Faces Monitor objects in the system
2	Name	Enter the value into the field	Name of the Recognized Faces Monitor object in the system	Latin, Cyrillic and service characters	Recognized Faces Monitor	A line containing a sequence of any symbols (letters, digits, service characters), regardless of the register Number of symbols – from 1 to 60.
3	Disable	Checkbox	Sets the status (on or off) of the Recognized Faces Monitor object in the system	Boolean type	No	Yes – the Recognized Faces Monitor object is disconnected and is not in use. No – the Recognized Faces Monitor object is connected and is in use.
4	Screen	Select the value from the list	Assigns the parent “Screen” object to a particular “Recognized Faces Monitor” object	Names of the “Screen” objects registered in the system	Name of the parent “Screen” object	Depends on the number of Screen objects in the system
“Coordinates” Group						
5	X	Enter the value into the field	Defines the horizontal X-axis coordinate for the upper left corner of the Recognized Faces Monitor window on the screen.	% of the computer screen width.	10	From 0 to M*100, where M is the number of installed video surveillance monitors
6	Y	Enter the value into the field	Defines the vertical Y-axis coordinate for the upper left corner of the	% of the computer screen height.	10	From 0 to M*100, where M is the number of installed video

№	Parameter	Method for entering the parameter value	Parameter description	Symbols used	Default value	Value range
			Recognized Faces Monitor window on the screen.			surveillance monitors
7	W	Enter the value into the field	Assigns a width to the Recognized Faces Monitor window	% of the computer screen width.	80	From 0 to M*100, where M is the number of installed video surveillance monitors
8	H	Enter the value into the field	Assigns a height to the Recognized Faces Monitor window	% of the computer screen height.	80	From 0 to M*100, where M is the number of installed video surveillance monitors
9	Click  .	Click the button	Displays a sample window to visually assign a size and coordinates to the Recognized Faces Monitor window	-	-	-
10	Allow moving	Checkbox	Sets the capability to move the Recognized Faces Monitor window	Boolean type	No	Yes – re-positioning of the Recognized Faces Monitor window is allowed. No – re-positioning of the Recognized Faces Monitor window is forbidden.
Others						
11	Available face recognizers	Automatic	Displays the list of available “Face Recognition Server” objects	-	-	-
12	«  », «  », «  », «  » buttons	Click the button	Selects Face Recognition Server objects that will work with the Recognized Faces Monitor object	-	-	-
13	Selected face recognizers	Automatic	Displays the list of Face Recognition Server objects	-	-	-

№	Parameter	Method for entering the parameter value	Parameter description	Symbols used	Default value	Value range
			selected to work with the Recognized Faces Monitor object			
“Color coded according to department” group						
14	Department	Select the value from a list in the **Add** dialog box (via the **Add** context menu)	Select the department for which a detected face is to be color coded	Names of the “Department” objects registered in the system	Department 1	Depends on the number of “Department” objects in the system
15	Color	Double-click the field (uses the standard Windows “Color” dialog box)	Selects a color in which to highlight a recognized face according to its department	Windows color palette		Depends on the system color palette
Others						
16	Maximum number of recognized faces	Enter the value into the field	Sets the number of recognized faces that will be displayed in the Face Viewer	Sequence of numbers	30	No restrictions
17	Show percent match	Checkbox	Activates display of the match percentage of a detected face and a reference image	Boolean type	No	Yes – match percentage is displayed No – match percentage is not displayed
18	Add new to beginning	Checkbox	Activates display of the most recently recognized face at the beginning of the recognized faces viewer	Boolean type	Yes	Yes - displays the most recently recognized face at the beginning of the list No – does not display the most recently recognized face at the beginning of the list
19	Show eyes	Checkbox	Activates the mode for marking eyes on a recognized face	Boolean type	No	Yes – eye marking mode is turned on No – eye marking

№	Parameter	Method for entering the parameter value	Parameter description	Symbols used	Default value	Value range
						mode is turned off
20	Photo size	Enter values into the field	Sets the size of the frame area containing the face in the Recognized Faces Monitor window	pixels	150x150	No restrictions
21	Control Monitor	Select the value from the list	Selects a Monitor window for video archive playback from a face detection camera	Names of “Monitor” objects registered in the system	-	Depends on the number of “Monitor” objects in the system