

# TT SMART VISION

## Face Recognition For Time Attendance Report



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Face detection and recognition system analysis That works with high quality IP Camera CCTV. By working, the system will compare the faces of people. Passed into the camera that has been set and set After that, the face image will be compared with the person's image in the database. After the system compares the person's face with the database, the face will be recorded along with the time to check to confirm the time of attendance. And leave Which the system is suitable for recording, checking the time of attendance and dismissal of employees in offices, companies, organizations or industrial plants etc.





### System features (Software)

- The system can detect faces with more than 95% accuracy.
- Three-face detection system can detect multiple faces simultaneously
- The system can analyze facial similarities from the structure of the face.
- The system can add master face data for comparison.
- The system can determine the level of accuracy in comparison.
- The system can record a person's face and time of attendance. And can stop working
- The system can display similar values
- There is a system to manage face data such as searching, recording, editing.
- There is a system to send image data via File transfer protocol
- Supports SQL database, MySQL, Oracle
- Every recorded face will be collected when entering the door for easy searching.
- The system can record unlimited faces. Depending on the storage area of the computer

### Features of the camera use

- High resolution (Network Camera), resolution not less than 3MP or better
- can change the distance of the lens To get the desired image distance
- Low-pass filter technology for cutting bright light (The area that is very backlit) to get a clear picture
- There is an infrared set For shining images at night
- The camera supports standard IP66 applications in case of external installation.



### Installation equipment

- Camera for capturing, analyzing, detecting and recognizing faces and housing
- Infrared set (in the case of low light and want to see the night image)
- Comprehensive computer set introducing Corei7 Gen6 Speed 2.6GHz, 8GB RAM, 1 TB HDD Windows 7 professional or better or Windows 10 professional or better
- Uninterruptible power supplies for system equipment
- Network Switch device
- Webserver device set (in case of need to manage the central system)
- ADSL Router device (in case of need to link and view data from the center)

### Installation characteristics

- The camera installation position is in the corner of the face, capturing the face directly. Saw both of the two faces and the angle of the face tilted not more than 15 degrees
- The camera's angle of detection must match the face. In the most parallel manner To make the system work as accurately as possible
- In case of mounting the camera to a high ceiling Have to retract the camera in the far corner And zoom the lens into the most visible face of the face
- The size of a person's face image must be large, about 1 in 10 of the whole picture. To make the system work as accurately as possible
- Details and dimensions of individual faces Between the black eyes, the sharpness of the picture is not less than 150 pixels. It helps to make the system work as accurately as possible.

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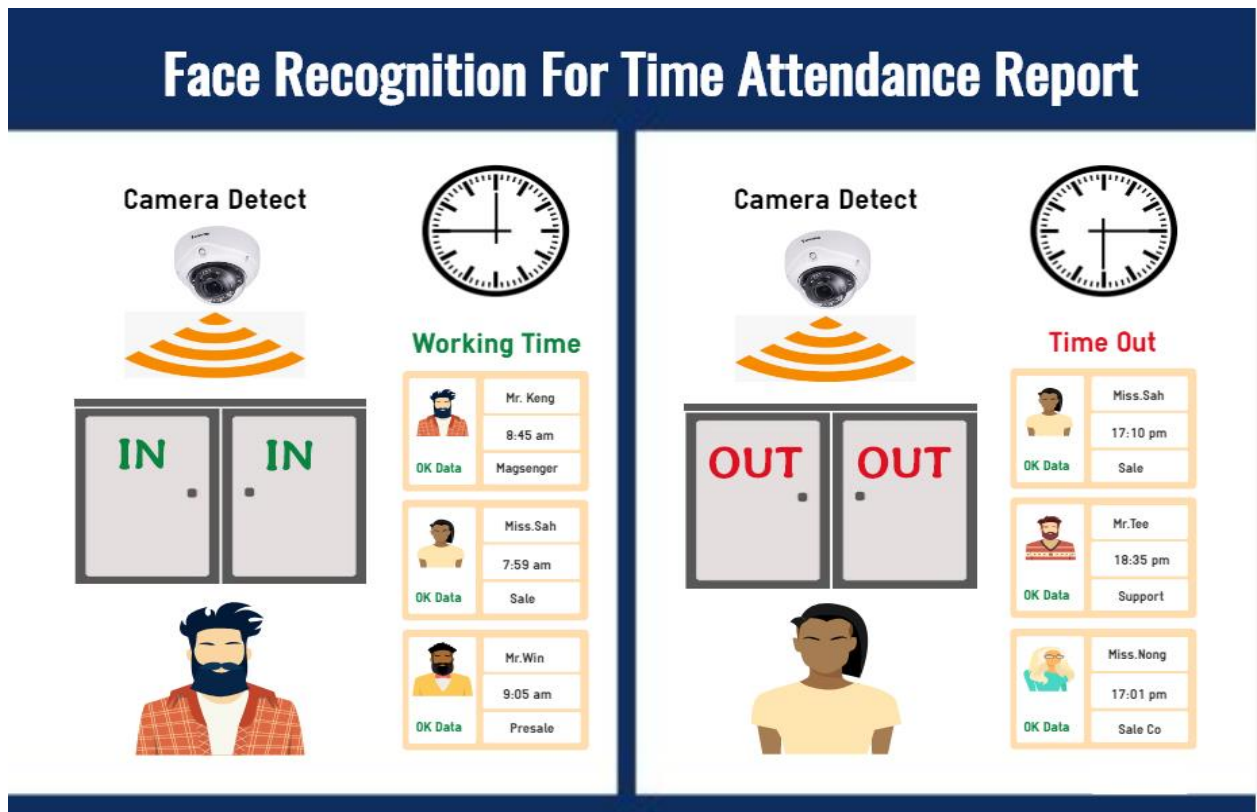
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- In the camera angle for capturing faces, people must not obscure objects. In order to obtain accurate information

System structure





### System installation restrictions

- Network Camera used to be a high resolution camera
- Select the software system that has been tested, installed and used And have clear reference information
- Should check the equipment that is used to support the software system used or not. Prevent problems with compatibility of devices.
- View and position in the camera installation Must be tested before actual installation. For the most accurate and accurate results
- The angle that captures a person's image Must have the characteristics of the image that is not directly tilted more than 15 degrees
- Portrait characteristics must not wear dark glasses. Or wearing a mask covering the mouth and nose completely
- Do not wear a hat in the manner of covering the eyebrows, eyes and eyes that affect the operation of the system.
- The grip area of the camera must not shake. Because it can cause data errors
- In the area where the camera captures, captures, analyzes, and recognizes faces, there must be no obscured objects. Because it will affect the accuracy and accuracy of the system

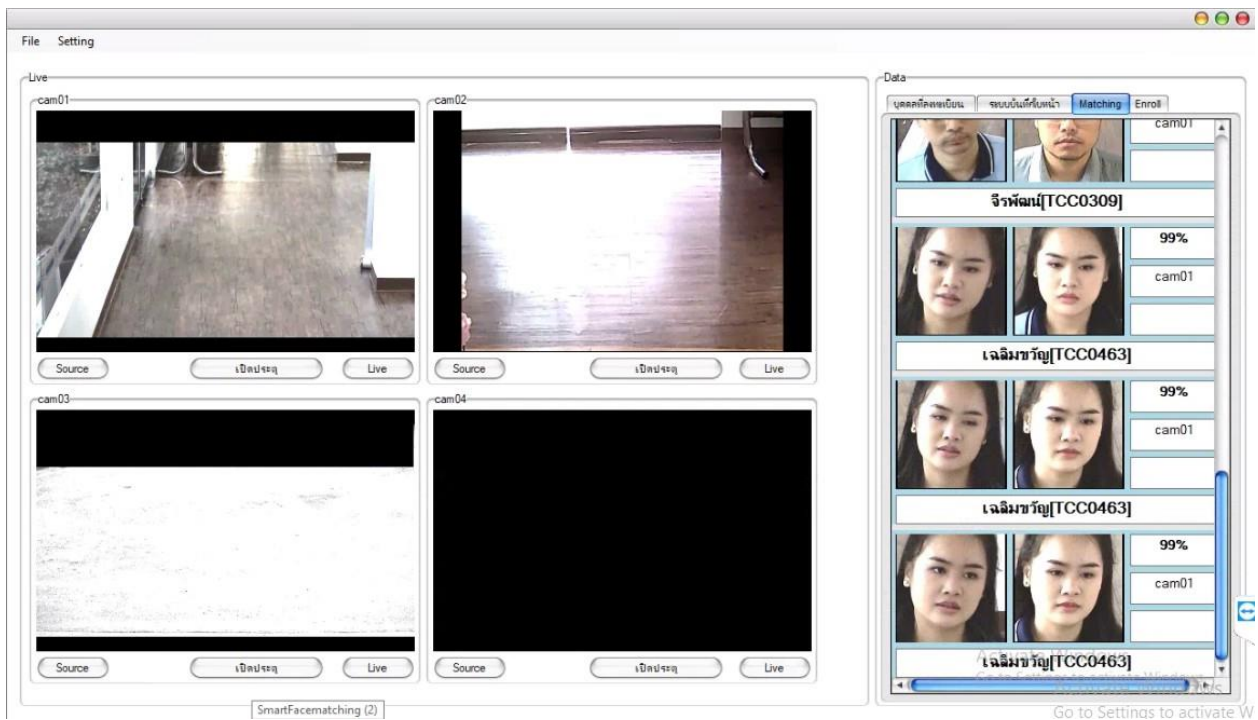
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Example of system operation



Face detection program for recording time attendance

- The program can customize the program to suit the needs of customers.
- Compatible with all brands of CCTV cameras via ONVIF or RTSP standards

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