# Ayonix FaceID SDK

Our vision is to enhance people's standard of living and to transform industries through our face recognition technology. Ayonix's FaceID SDK can be use by developers as a tool to easily build applications based on our technology.

Ayonix FaceID SDK detects human faces from all digital media types (image or video) and quickly matches identity if there is a record of the person. Ayonix FaceID SDK is a cutting-edge facial recognition software which is especially designed to be integrated into existing or new applications.

The SDK covers enrollment, verification, and identification. It runs multiple algorithms for detecting faces and eyes in images, for tracking faces in video streams and for analyzing and checking face characteristics to support a *total face recognition solution.*

## Unique Benefits

### Ayonix FaceID Face Detection
Ayonix face detection technology returns the cropped face coordinates in the given image. Minimum face detection criteria are 20 x 20 pixels or 15 pixels between the eyes.

### Ayonix FaceID Identification
Creates face templates (AFID) and recognizes faces against templates with one-to-many matching. Minimum face size is limited to 64 x 64 pixels, or 25 pixels between the eyes.

### Demo Application Available
A working example of face detection, enrollment and identification is implemented in C, C#. Sample sources are available to our customers.

## SDK Features

✓ Speedy gender, age, smile analytics

✓ Powerful 3D engine

✓ Multiple face detection - up to 20 people

✓ Face pose support (30 degree)

✓ Stable recognition in backlit environments

✓ 99.6% accuracy on Feret Database

✓ 100ms fast matching (world's fastest engine)

## SDK Functions

### Face Detection Module

Face detection finds faces in an image or IP camera stream. Input image size is normally more than VGA size (640x480). Supported image formats are Jpg, Jp2, Bmp, Png, Pgm.

### Age Estimation Module

This module gives the age information of a person by analyzing face images. Age estimation is available for Asian and Global. Asian module is for Asian people and Global is for the rest of the world.

### Gender Estimation Module

It finds the gender of a person from an image or IP cameras. Gender information is given in numbers in daily, weekly, or monthly graphs.

### Sunglass Module

By using Ayonix's 3D-Spine technology, sunglass-wearing people are detected in real time.

### Feature Extraction Module

The Ayonix engine runs 3D face recognition technology in background. First, 7 points (eyes, nose, mouth) is determined, then 100 points are automatically generated, then 10,000 points are created.

### Smile Module

All face images are analyzed, and happiness level is computed from face images. Happiness is measured not only by the corner of mouths, but also mimics.

### Face Recognition Module

Person biometrics template (AFID) is created and used for matching in database. Face verification and recognition are completed by this module. Recognition speed is <100ms.

### Face Comparison Module

This module compares face features with database images. For large numbers of enrollments, comparison plays an important role. Ayonix's engine performs comparison in a smart way by advanced indexing.

## SDK Versions

|  | Windows | Linux | Android |
|---|---|---|---|
| **OS** | Windows 7/8 Windows 2008/2012 server | Kernel2.6 | Android 4.4.2 |
| **Bit** | 32bit/64bit | 32bit/64bit | 64bit |
| **CPU** | Intel Atom/Celeron i3/i5/i7/Xeon | Intel Atom/Celeron i3/i5/i7/Xeon | ARM |
| **Template** | 1KB | 1KB | 1KB |
| **Samples** | C/C++/C# | C/C++ | Java |
| **License** | Dongle/Software | Dongle/Software | Software |