

# **Affdex Technical Specification Sheet**

## **Head pose**

The performance is best with frontal head pose. The system performs well with head rotations (pitch, yaw and roll) up to 25 degrees from frontal. We have not extensively evaluated performance beyond these limits. If possible, we suggest encouraging the subject to position the camera/hold the mobile device such that their face is roughly center and frontal.

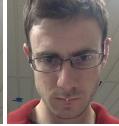
The position of the head (x and y coordinates) within the images is not very important - as long as the eye corners, eyebrows and lips are all visible. If any of these features are occluded that will impede the face tracking and may lead to only partial results.

#### EXAMPLES OF ~25 DEGREE HEAD POSES:









## Lighting

The Affdex algorithms are very stable in diverse lighting conditions. However, for best results have the subjects lit uniformly and avoid strong lights in the background.

### Cameras

Recommended: RGB camera, min resolution 320x240, frame rate = 10 frames per second

We have found that the classification performance is good as long as the subject's face occupies at least 30x30 pixel within an image. Ideally the larger the face the better (assuming that the whole face - including eyebrows, lips and eye corners - is within view of the camera).

### Video formats

Affdex uses FFmpeg code licensed under the LGPLv2.1 for video decoding. FFmpeg supports decoding many video codecs. The following video codecs were tested and are known to work:

#### **Video Containers**

.MOV, .WMV, .FLV, .AVI, .MP4, .WEBM

#### Video Codecs

FOURCC Description
CVID Cinepak
FMP4 FFMPEG

FLV1 FLV / Sorenson Spark / Sorenson H.263 (Flash Video)

H264 H.264 / AVC / MPEG-4 AVC / MPEG-4 part 10

IV50 Intel Indeo Video Interactive 5

MPG1 MPEG-1 video

MP43 MPEG-4 part 2 Microsoft variant version 3

MJPG Motion JPEG SVQ1 Sorenson Video 1 WMV1 Windows Media Video 7 WMV2 Windows Media Video 8 WMV3 Windows Media Video 9

VP80 On2 VP8

# Software requirements

Android SDK

Android v4.4 and above

Windows SDK

Visual C++ Redistributable runtime for VS 2013
Microsoft .NET framework v 4.0 (.NET SDK only)
Windows 7 and above

## **Hardware requirements (recommended)**

Windows SDK

Processor, 2 GHz

RAM, 1 GB

Disk Space (min): 950 MB