



## 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**

<i>FOURCC</i>	<i>Description</i>
<i>CVID</i>	<i>Cinepak</i>
<i>FMP4</i>	<i>FFMPEG</i>
<i>FLV1</i>	<i>FLV / Sorenson Spark / Sorenson H.263 (Flash Video)</i>
<i>H264</i>	<i>H.264 / AVC / MPEG-4 AVC / MPEG-4 part 10</i>
<i>IV50</i>	<i>Intel Indeo Video Interactive 5</i>
<i>MPG1</i>	<i>MPEG-1 video</i>
<i>MP43</i>	<i>MPEG-4 part 2 Microsoft variant version 3</i>
<i>MJPG</i>	<i>Motion JPEG</i>
<i>SVQ1</i>	<i>Sorenson Video 1</i>
<i>WMV1</i>	<i>Windows Media Video 7</i>
<i>WMV2</i>	<i>Windows Media Video 8</i>
<i>WMV3</i>	<i>Windows Media Video 9</i>
<i>VP80</i>	<i>On2 VP8</i>

### **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