faceAPI

TroubleShooting

- For common tech support issues please refer to the technical support FAQ at http://www.seeingmachines.com/product/faceapi/technical-support-faq/
- Technical support is provided via **email only** and requires a Development License
- Please refer to http://www.seeingmachines.com/product/faceapi/how-to-submit-a-technical-support-request/

Working With WebCams

- **Introduction**
- **Driver Installation Issues**
- **Software that Installs or Modifies DirectShow filters.**
- **Poor Sensitivity in Dark Rooms.**
- **High CPU Load from the Camera Driver.**

Introduction

The Face Tracking API works with any windows-based webcam. However different model webcams can behave very differently, despite promising the same specifications. This page discusses some of the common pitfalls.

Note: Seeing Machines offers limited support for installing and operating the API with webcams. We do have good general background knowledge of common issues and we are always interested in hearing about the problem, however we cannot guarantee we can fix the issue as it is a system configuration issue beyond our immediate control.

Driver Installation Issues

Camera driver installation programs (from Microsoft and Logitech in particular) usually install additional application software that is unnecessary and can sometimes interfere with the startup of the tracker by holding onto the camera resource whilst running in the background. Ensure you only install the camera driver. This often requires you to run the manufacturers installation program then uninstall the application component leaving only the driver component intact.

Software that Installs or Modifies DirectShow filters.

Applications such as media players and video editing software often replace standard system codecs. Usually this is ok, but sometimes they can interfere with the tracker which requires the default DirectShow filters to be available.

To restore default DirectShow filters run the following commands:

```
regsvr32 /u %SystemRoot%\system32\qedit.dll
regsvr32 %SystemRoot%\system32\qedit.dll
```

Poor Sensitivity in Dark Rooms.

In dimly lit conditions, older (and cheaper) sensors will usually create images with a lot of noise (static) and also often have to limit frame-rate and slow their shutter speeds, thereby creating images with a lot of motion blur. The tracking algorithms are designed to still operate in these conditions, but be aware that tracking robustness and accuracy can be reduced. Lower frame-rates (below 20Hz) in particular increase the measurement latency and will cause problems in any application that requires real-time feedback.

High CPU Load from the Camera Driver.

In many older cameras the drivers have been optimized for 320x240 15Hz, and when run at higher resolutions or frame-rates they can have a big impact on CPU. More modern webcams show better behaviour, however the performance variation between different models of webcams (even from the same

manufacturer) can still vary significantly.

To determine the CPU load from the camera driver, you can run the Engine in IDLE mode (or use the HeadTrackingDemo and turn off the tracking) then observe the CPU load vs the load from the process. Provided there are not other processes running, the difference in load is due to kernel-model activity from the camera driver. Additionally you can view the kernel mode time in the Windows task manager, which appears as a red line. A well implemented camera driver will exhibit below 5% kernel-mode activity at 30Hz VGA (on an Intel Core-2 Duo). Some cameras consume almost 35%.

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