Create Natural User Interfaces with the Intel® RealSense™ SDK Beta 2014
The Intel® RealSense™ SDK

Free Tools and APIs for building natural user interfaces. Public Beta for Windows available Q3 2014

- Accessible for beginners. Open and extensible for experts.
- Support for Windows 8.1 today. Android support coming.
- Reach a broad-base of customers by writing apps for the Intel® RealSense™ 3D Camera.
- Stand out in a crowded market. Delight your customers.
- Works with languages, frameworks, and game engines you already use
The Intel® RealSense™ SDK understands 4 basic types of input

<table>
<thead>
<tr>
<th>Categories of Input</th>
<th>Capabilities</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hands</td>
<td>• Hand and Finger Tracking</td>
<td>• 22-point Hand and Finger Tracking</td>
</tr>
<tr>
<td></td>
<td>• Gesture Recognition</td>
<td>• 9 static and dynamic mid-air gestures</td>
</tr>
<tr>
<td>Face</td>
<td>• Face Detection and Tracking</td>
<td>• Multiple Face Detection and tracking</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 78-point Landmark Detection (facial features)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Emotion Recognition (7 emotions, coming post-Beta)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Face Recognition (Coming post-beta)</td>
</tr>
<tr>
<td>Speech</td>
<td>• Speech Recognition</td>
<td>• Command and Control</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Dictation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Text to Speech</td>
</tr>
<tr>
<td>Environment</td>
<td>• Segmentation</td>
<td>• Background Removal</td>
</tr>
<tr>
<td></td>
<td>• 3D Scanning</td>
<td>• 3D Object / Face</td>
</tr>
<tr>
<td></td>
<td>• Augmented Reality</td>
<td>• 2D/3D Object Tracking</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Scene Perception (coming post-beta)</td>
</tr>
</tbody>
</table>
The Developer Kit

When we roll out the public beta SDK in Q3 of 2014, we’ll release a developer kit to help you get started

- Kit includes
  - The Intel® RealSense™ SDK Beta for Windows
  - Peripheral depth camera
  - Full VGA depth resolution
  - 1080p RGB camera
  - 0.2 – 1.2 meter range
  - USB 3.0 interface
  - Requires 4th generation Intel® Core™ processor (or later)

Available for purchase at intel.com/software/realsense
What Kinds of Applications can Intel® RealSense™ Technology Enable?

Innovate on top of our application categories. YOU will come up with the next big thing.
## SDK Supported Features

<table>
<thead>
<tr>
<th>Required Hardware</th>
<th>A system with a minimum of a 4th generation Intel® Core™ processor (codenamed Haswell), either IA-32 or Intel® 64, with integrated depth camera</th>
</tr>
</thead>
</table>
| Required OS       | Microsoft* Windows 8.1 OS (32- and 64-bit)  
                        Microsoft* Windows 8.1 Metro (coming soon) |
| Supported Programming Languages | C++, C#, JavaScript, Java (JDK 1.7.0_11 or later for face, voice, and gesture) |
| Supported IDE     | Microsoft* Visual Studio C++ 2010-2013 with service pack 1 or newer  
                        Eclipse.org IDE |
| Supported Development Tools | -Microsoft*.NET 4.0 Framework for C# development  
                                -Unity* PRO 4.0.0 or later for Unity game development  
                                -Processing* 2.0.7 or later for Processing framework development  
                                -Havok* Vision SDK 2012.2.1 or later for Havok Vision SDK development  
                                -Intel® Media SDK 2014  
                                -Intel® SDK for OpenCL Applications 2013 |

* Other names and brands may be claimed as the property of others
# Additional SDK Features

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input Device Manager</strong></td>
<td>Multiple applications can access data from the Camera simultaneously</td>
</tr>
<tr>
<td><strong>Multi-Mode Support</strong></td>
<td>Support multiple usage modes within a single app (e.g. finger tracking + speech + face tracking) or between apps</td>
</tr>
<tr>
<td><strong>Power Management State</strong></td>
<td>Apps can manage battery life</td>
</tr>
<tr>
<td><strong>Extensible Framework</strong></td>
<td>Developers can plug in their own algorithms. New usage modes can be added. New devices can be supported.</td>
</tr>
<tr>
<td><strong>Privacy Notification Tool</strong></td>
<td>Notifies user when camera is turned on by an app</td>
</tr>
</tbody>
</table>
Web / HTML5

- Gestures and Facial Analysis
- Unity* Web Player games
- HTML5 / JavaScript (interactive websites)

Trigger face and gesture events, just like in C# applications
Switch to the web player platform for deployment

* Other names and brands may be claimed as the property of others
Unity* Productivity Extension

A set of scripts that provides configurable actions/rules based on the capabilities provided in the SDK.

- Programming: Associate your game objects with the action scripts.
- Programming: Create rules. Associate your game objects with rules.

Drag and drop programming
Write less code!

* Other names and brands may be claimed as the property of others
Q&A
Backup
The Intel® Perceptual Computing SDK 2013 was ...

- Finger/Hand Tracking
- Facial Analysis
- Background Subtraction
- Speech Recognition
- Evolved & enhanced algorithms
- Depth camera integrated in OEM devices
- 3D Scanning
- Depth-enhanced Augmented Reality
- And more ....

Make your apps immersive, intuitive and engaging with Intel® RealSense™ Technology

Free download at software.intel.com/realsense

Coming in 2014!
Intel® RealSense™ SDK

All products, software, computer systems, dates and figures specified are preliminary based on current expectations, and are subject to change without notice.
What’s New in the Intel® RealSense™ SDK 2014?

New Modalities
- 3D Scanning
- 3D Augmented Reality
- 3D Hand Skeleton
- Grammar for Speech

Enhanced Algorithms
- Enhanced Hand/Finger tracking
- 3D Facial Analysis

Extended Reach
- Next Generation Integrated Depth Camera
- Windows® 8.1 Desktop & Metro®

Developer Tools
- Gesture Authoring Tool
- Unity* ToolKit
- Perceptual Productivity Extensions
Enabling the broad ecosystem through contests and investments

Intel® Perceptual Computing SDK 2013 has been downloaded more than 35,000 times

Submissions from 17 countries

Contest winners including 25+ scaling apps

UX Documentation, Tools, Samples, and Tutorials

App Discovery Portal

Contest Part 2

Intel RealSense Online Developer Resource center