UCL MotionInput v3 Non-commercial Use

A gestures and speech-based recognition layer for interacting with operating systems, applications and games via a webcam.

- MotionInput3 (MI3) In-Air MultiTouch with Speech
- MotionInput3 (MI3) Facial Navigation with Speech

TO DOWNLOAD THE SOFTWARE, PLEASE REGISTER YOUR ACCEPTANCE OF THE FREE OF CHARGE NON-COMMERCIAL USE LICENCE BY SELECTING THE "ORDER NOW" BUTTON AND FOLLOWING THE CHECK-OUT PROCESS.

Gestures and motions using hands, head, face and full body, with the added option of speech, are converted into the equivalent mouse, keyboard and joypad signals that your existing PC software expects to receive.

The software was developed by academics and students at University College London's Department of Computer Science and is made freely available under licence for non-commercial use. Please review the **terms** for a full description of permitted uses under this licence which are also summarised here:

Non-commercial Use means Non-commercial Academic Research and/or Personal Use. Non-commercial Use expressly excludes any profit-making or commercial activities, including without limitation the sale, license, manufacture or development of commercial products, use of the Software in commercially-sponsored research or its use in the provision of any consulting service.

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Personal Use means any non-commercial use of the Software by an individual to enable touchless operation of programs installed on a computer for their personal use which may include:

- *Individuals undertaking hobbies or management of personal affairs;*
- *healthcare professionals wishing to interact in a touchless manner with software installed on clinical computers that they use on a regular basis (for the avoidance of doubt, this licence does not extend to installations undertaken by system administrators of such healthcare organisations);*
- *school teachers and lecturers within a classroom setting (for the avoidance of doubt, this licence does not extend to installations undertaken by the educational establishment's external system administrators).*

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For embedded solutions, the system has a core API that will be soon made available for licensing.

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WE WILL SOON RELEASE A FREE OF CHARGE, 3 MONTH COMMERCIAL EVALUATION LICENCE. PLEASE CHECK BACK HERE IN A FEW DAYS.

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The software is still in development and your feedback is welcome!

Windows Applications

Requirements:

- Windows 10/11
- 4GB+ RAM
- A webcam with microphone
- 1GB free space per application
- The latest Windows updates installed
- If necessary, install ViGEMB us from here

>> As these solutions are still being developed, having more than one webcam plugged in at a time can cause errors (current version 3.02)

Running this software

Unzip the downloaded compressed folder. If you selected the Installer, run the installer and follow the instructions.

If these steps are not successful for you, please see this FAQ and if that doesn't help, please use the Community Feedback Form and we will try to help.

Features

The first two Technical Preview applications made available here, In-Air Multitouch and Facial Navigation, will enable the majority of touchless controls on Windows PCs. Both have speech capability by default. These two preview builds do not come with a GUI to change settings, and have values preset.

Speech Transcribe and Commands Modes were made possible with UCL Ask-KITA software, which is based on VOSK engine.

The speech capability allows custom spoken phrases to be mapped to shortcut keys in any application on a Windows computer. It allows live captioning and transcription and handles mouse and keyboard events such as "click", "double click", "left arrow", "right arrow", "page up", "page down" and other commands. For more information on the speech commands available, see the FAQ.

Some of the Speech Commands currently available in English:

- Say "click", "double click" and "right click" for those mouse buttons.
- In any editable text field, including in Word, Outlook, Teams etc; say "transcribe" and "stop transcribe" to start and stop transcription. Speak with short English sentences and pause, and it should appear.
- In any browser or office app, "page up" and "page down". "Cut", "Copy", "Paste", "left arrow", "right arrow" work as well.
- In powerpoint you can say "next", "previous", "show fullscreen" and "escape".
- "Windows run" will bring up the Windowskey+R dialog box.
- With the June 2022 3.01+ microbuild releases, you can say "hold left" to drag in a direction and hold the left mouse button. Say "release left" to let go.
- "Minimize" minimizes the Window in focus.
- "Maximize" maximizes the Window in focus.
- "Maximize left" or "maximize right" maximizes the Window size in focus, at 50% of the screen on either side.
- "Files" opens a file explorer window.
- "Start menu" opens the Window menu and, when said a second time, it closes the menu.
- "Screenshot" is another useful command to try along with "paste" into MS Paint.

MotionInput uses the following opensource libraries

- MediaPipe Licence
- dlib C++ Licence
- openVino Licence
- pynput Licence
- pydirectinput Licence
- Pywin32 api Licence
- OpenCV-python Licence
- numpy Licence
- ViGEmBus Licence
- vosk-api Licence
- tesseract Licence
- PyImageSearch Licence
- Nuitka Licence
- python-sounddevice Licence
- vgamepad Licence
- scipy Licence
- pandas Licence