Mill Mouse
User Guide

Ver. 8.4

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Introduction

Thank you for using **Mill Mouse**.

Mill Mouse controls mouse with eye tracking by Tobii Eye Tracker 4C.
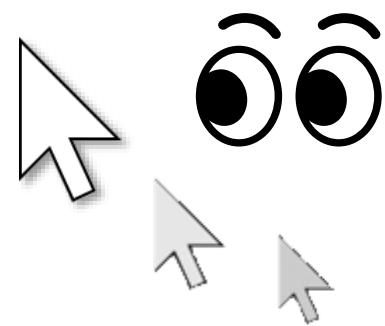
You can move the pointer to where you are looking at.
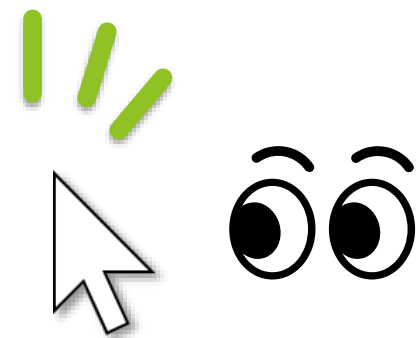
You can click when you keep gazing at the same place or close eyes.

Features

▶ **Support scroll operations**

Mill Mouse supports scroll operations on the start menu, Web browsers, etc. You can scroll up by looking at the top of them and scroll down by looking at the bottom.
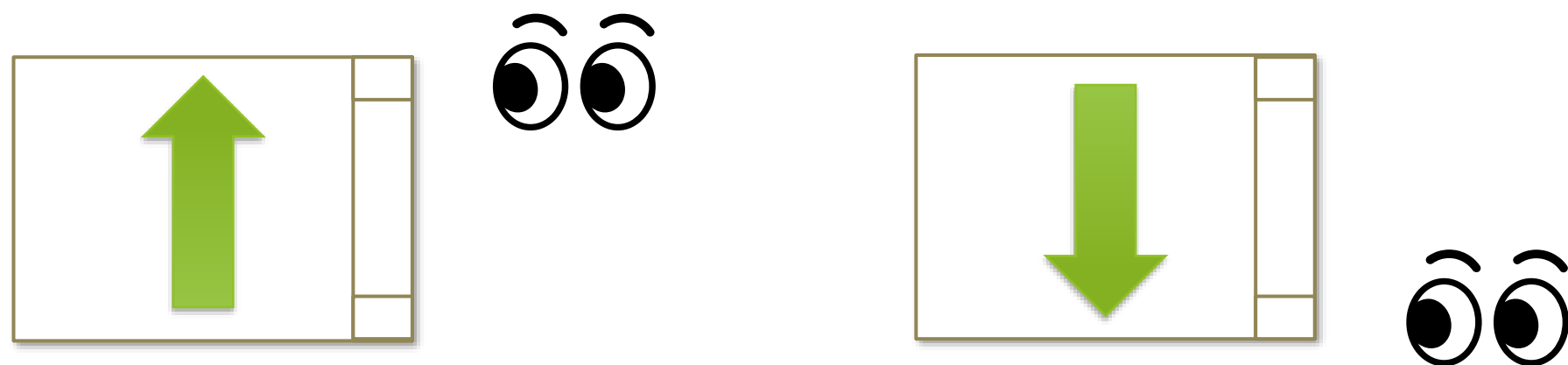
▶ **Adjust against the involuntary shaking of eyes**

Mill Mouse controls the mouse pointer not to be protruded from the frames of the buttons or other objects in order to make it easier to click them.

OK
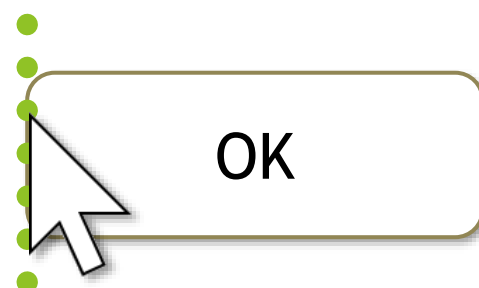
Features

▶ **Support operations on User Account Control dialog**

Mill Mouse also makes User Account Control dialog clickable by eye tracking, which appeared when you install apps or run apps as administrator.
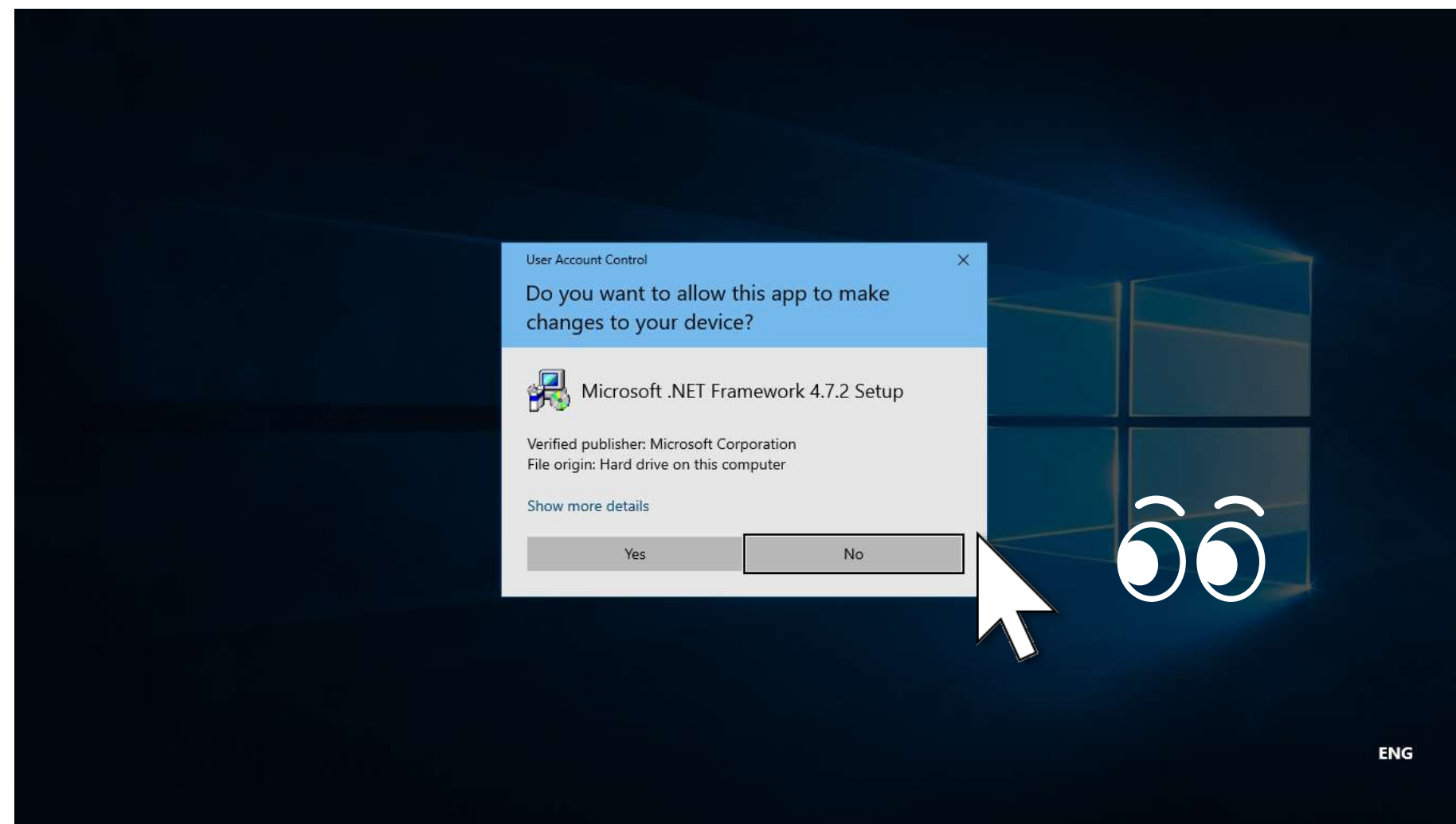
System requirements

Any combination of the following is required to use Mill Mouse:

▶ **Eye and head tracking**

Device	OS	Software
Tobii Eye Tracker 5	Windows 11, Windows 10	Tobii Experience

System requirements

(Continued)

▶ **Eye tracking**

Device	OS	Software
Tobii Eye Tracker 4C	Windows 10, Windows 8.1, Windows 7	Tobii Experience (Windows 10 only) or Tobii Eye Tracking Core Software
Tobii EyeX, SteelSeries Sentry	Windows 10, Windows 8.1, Windows 7	Tobii Eye Tracking Core Software
Irisbond Duo	Windows 10, Windows 8.1, Windows 7	Irisbond Duo Drivers
EyeTech TM5	Windows 10, Windows 8.1, Windows 7	(No additional software required)

System requirements

(Continued)

▶ **Head tracking**

Device	OS	Software
TrackIR 5	Windows 10, Windows 8.1, Windows 7	OptiTrack Camera SDK and TrackIR Software
Built-in camera, Webcam	Windows 11, Windows 10, Windows 8.1	VSeeFace

Guide to click action

You can select the input method in the settings of Mill Mouse from the following.

1. Click when you keep gazing at the same place
2. Click when you close your eyes
3. Click when you press button on game controller
4. Click when you speak into a microphone
5. Use head tracking

The default setting is 1. This guide is based on 1.

For the usage when you select 2, please change the description of "keep gazing" to "close eyes" in this guide. Similarly, please change the description to "press button on game controller while gazing" for 3, "speak into a microphone while gazing" for 4, and "change your head pose while gazing" for 5.

Installation

Please extract the ZIP file of Mill Mouse to any location.

Mill Mouse folder and the following 2 items will be extracted.

Mill_Mouse_84.exe	Installer
UserGuide.pdf	This file

※   .exe or .pdf is not displayed in some cases.

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Installation

Run Mill_Mouse_84.exe.

If the SmartScreen like following is displayed, click 'More Info' and 'Run anyway'.

※ If you have installed Mill Mouse, Publisher will be displayed as topolo-Z.
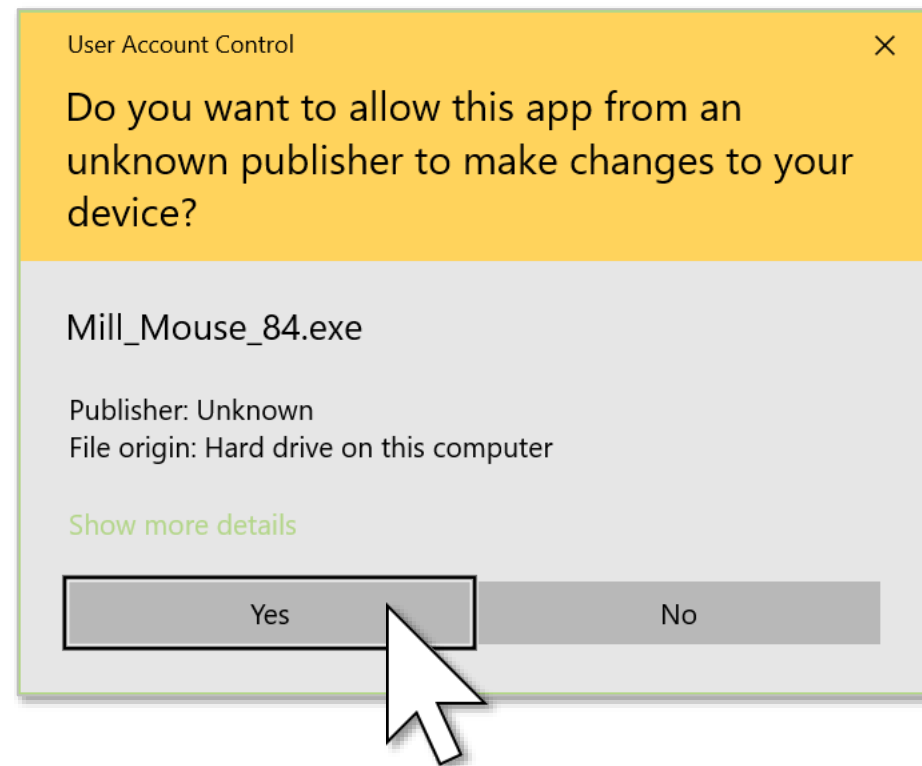
Installation

Click Yes on the User Account Control dialog.

※   If you have installed Mill Mouse, Publisher will be displayed as topolo-Z.

Installation

Click Next once or twice.
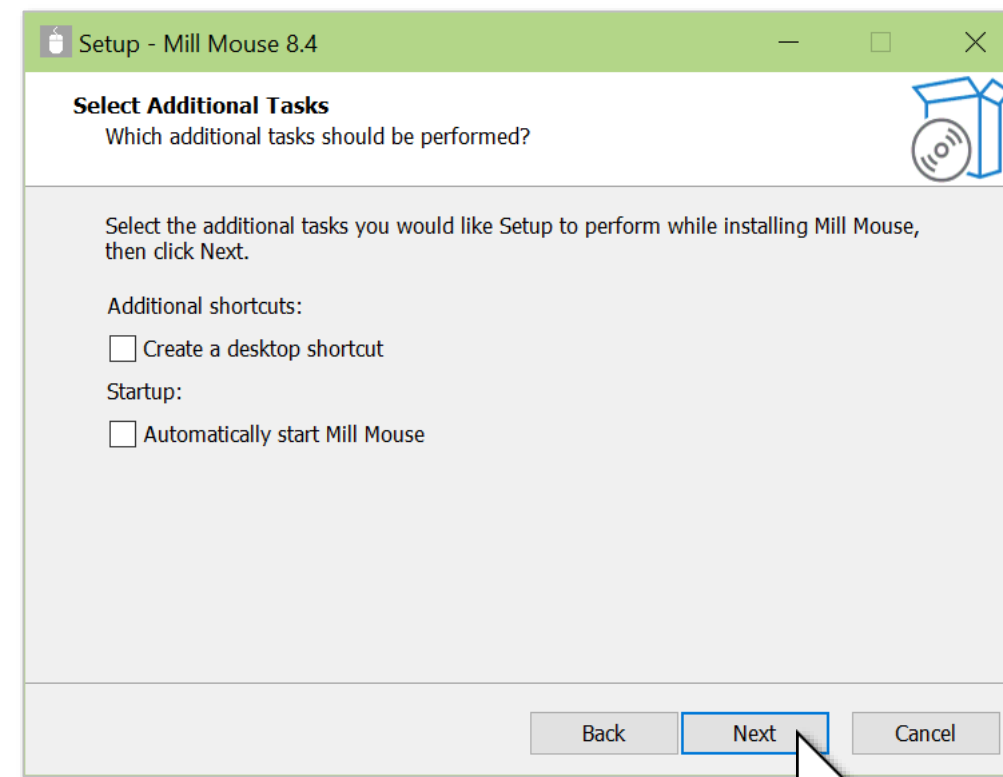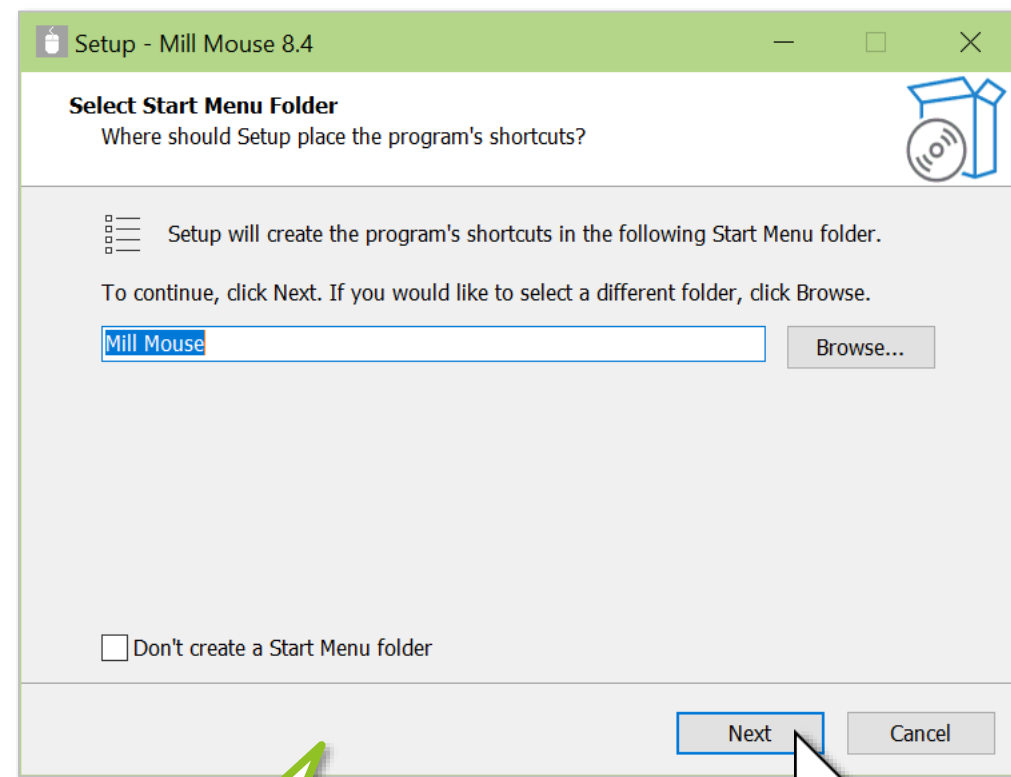
If you have installed Mill Mouse, this screen will be skipped.

Installation

Click Install and Finish.

To complete the installation of Mill Mouse, sign out from Windows once and sign in again.
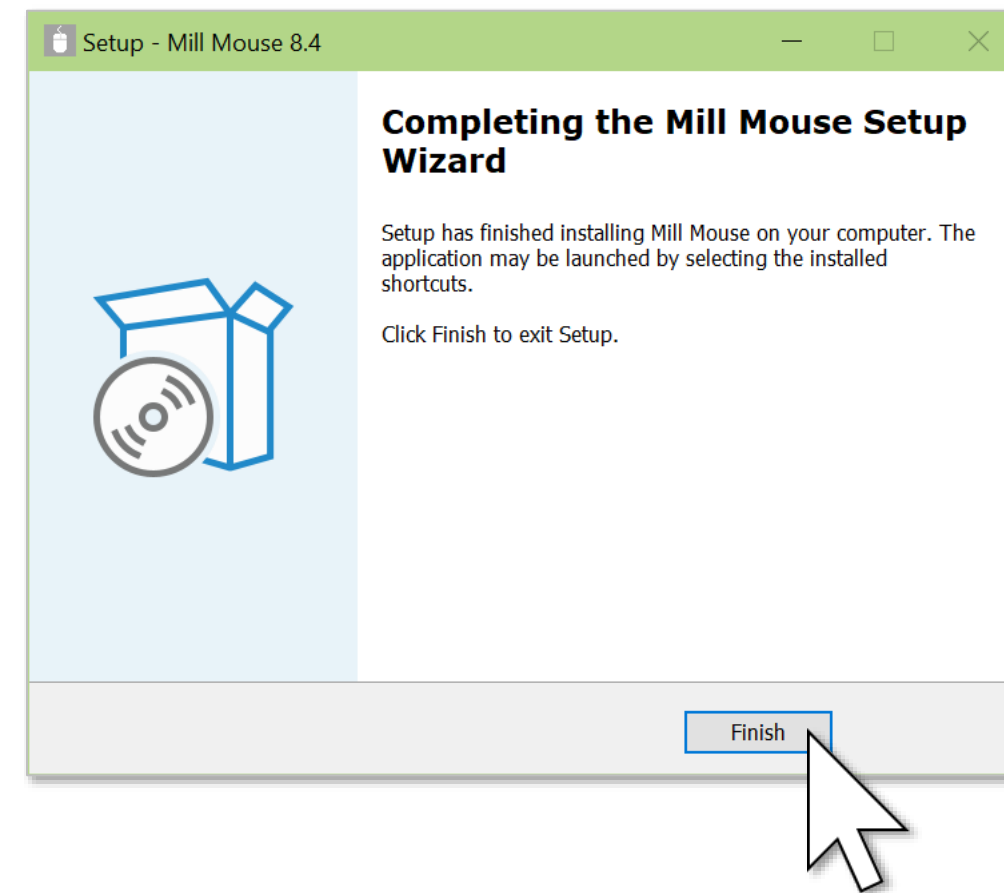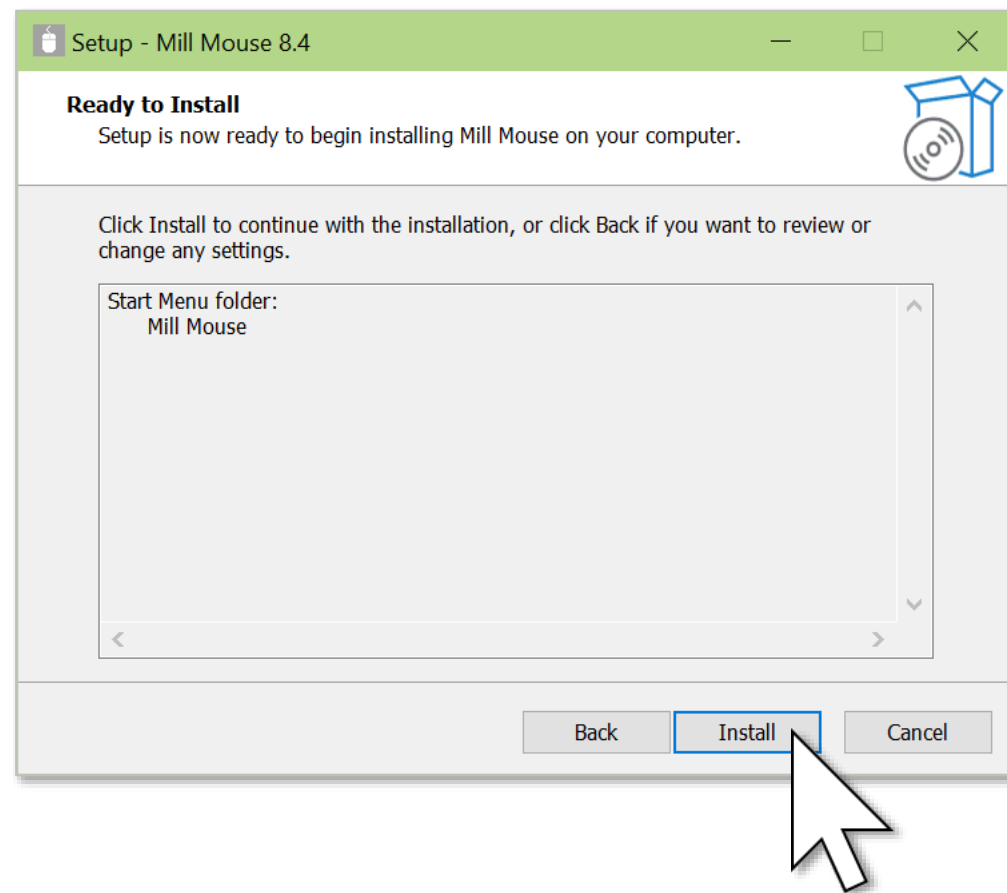
Installing Tobii Experience

If you want to use Tobii Eye Tracker 5 but have not yet installed Tobii Experience, please install it with the following steps.

1. Access the following URL.
   https://gaming.tobii.com/getstarted/?bundle=tobii-et5

2. Scroll down the screen a little. Click 'DOWNLOAD DRIVER' to download the installer and run it.

3. Connect Tobii Eye Tracker 5 to your PC.

4. Click icon in the notification area of the taskbar.

5. The Tobii Experience window will open. Click the gear icon in the upper right corner, click 'Set up display', and follow the instructions on the screen to make the settings.

Installing Tobii Core Software

If you want to use Tobii Eye Tracker 4C, Tobii EyeX, or SteelSeries Sentry but have not yet installed Tobii Eye Tracking Core Software, please download and install it from the following URL.

https://gaming.tobii.com/getstarted/?bundle=tobii-core&autodownload=true

Installing Irisbond Duo Drivers

If you want to use Irisbond Duo but have not yet installed Irisbond Duo Drivers, please access the following URL, click Download of Drivers, and install it.

https://www.irisbond.com/en/support-service/downloads-system-software-and-third-party-apps/

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Installing OptiTrack Camera SDK

If you want to use TrackIR 5 but have not yet installed OptiTrack Camera SDK, please access the following URL, click Download, and install it.

https://www.optitrack.com/support/downloads/developer-tools.html#camera-sdk

Additionally, if you have not yet installed TrackIR Software, please access the following URL, click Download, and install it.

https://www.trackir.com/downloads/

To use TrackIR 5 with TrackClip Pro, change the setting described on page 45 of this guide after launching Mill Mouse.

Installing VSeeFace

If you want to use VSeeFace, please install it with the following steps.

1. Access the following URL and click Download to download the ZIP file.
   https://www.vseeface.icu/#download

2. Extract the downloaded ZIP file to any location.

3. Run VSeeFace.exe in the extracted folder.

4. Proceed through the tutorial, select Camera and click Start.

5. Click 'Settings' > 'General settings' and check 'Face tracking'. Scroll down the settings screen and check both 'Send data with OSC/VMC protocol' and 'Disable packet bundling'.

6. Enable 'Mirror motion'. This setting is not required, but enabling it allows you to move the mouse pointer more intuitively.

7. If you want to use 'Click when you close your eyes' in Mill Mouse, Click 'Settings' > 'Expression settings' and check 'Enable eye blinking' in VSeeFace.

8. After launching Mill Mouse, configure the settings described on page 46 of this guide.

How to use

Launch Mill Mouse

Connect Tobii Eye Tracker 4C or other eye tracking device to your PC.

From Start menu, click Mill Mouse folder > Mill Mouse.

Mill Mouse starts up and the window will be appeared at the top left of the desktop screen.
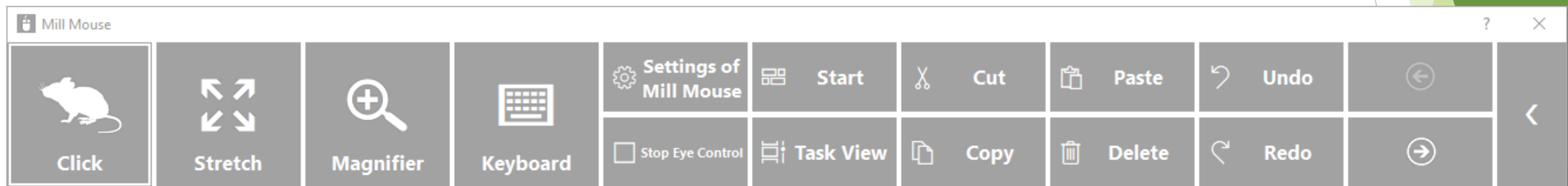
※   The number of buttons on the right side of the window depends on the size of the desktop screen.

※   When the task bar is placed to the top or the left, the window will be appeared at the bottom right.

Basic functions

The each functions are as follows:
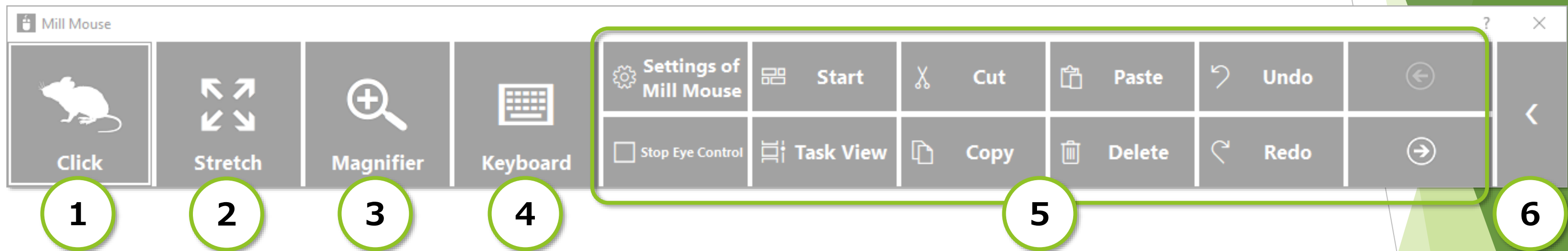
①	Change click actions	⑤	Perform shortcuts and show next/previous
②	Zoom to apps	⑥	Expand/collapse window
③	Switch magnifier		
④	Switch touch keyboard		

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Change click actions

You can change the click action performed when you keep gazing at the same place. Each time you look at the button on the far left of the window, the action will be changed.

You can change between seven types of actions by default: Click, Double click, Drag, Right click, Tap, Choose, and No click.

You can change the settings of Mill Mouse to use only certain click actions.

※ Tap action is not supported on Windows 7.

※ If 'Switch primary and secondary buttons' is enabled for the mouse, it will be left click rather than right click.

To change click actions frequently

By changing the click action to Choose, you can select the action each time you keep gazing at the same place.

Mill Mouse

Choose | Stretch | Magnifier

Click | Right Click

Double Click | Drag

①Change to Choose.

②When you keep gazing at the same place, the action panels will be displayed around.

③When you keep gazing at any panel, that action will be done. If you do not want to action anything, keep gazing at anywhere other than the panels or close your eyes.

※ If you keep gazing on the touch keyboard or the on-screen keyboard, the click action will be done without displaying the action panels.
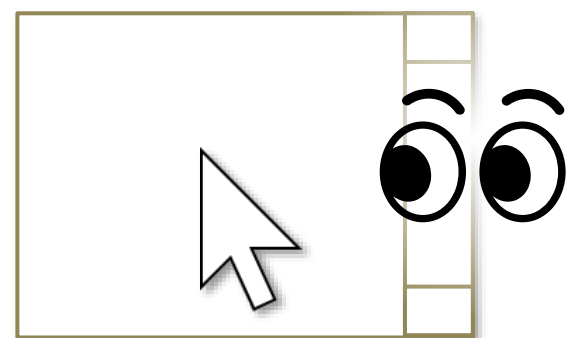
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Zoom on apps

You can zoom the Web browsers or some other apps by using Stretch or Shrink on the second from the left of the window.
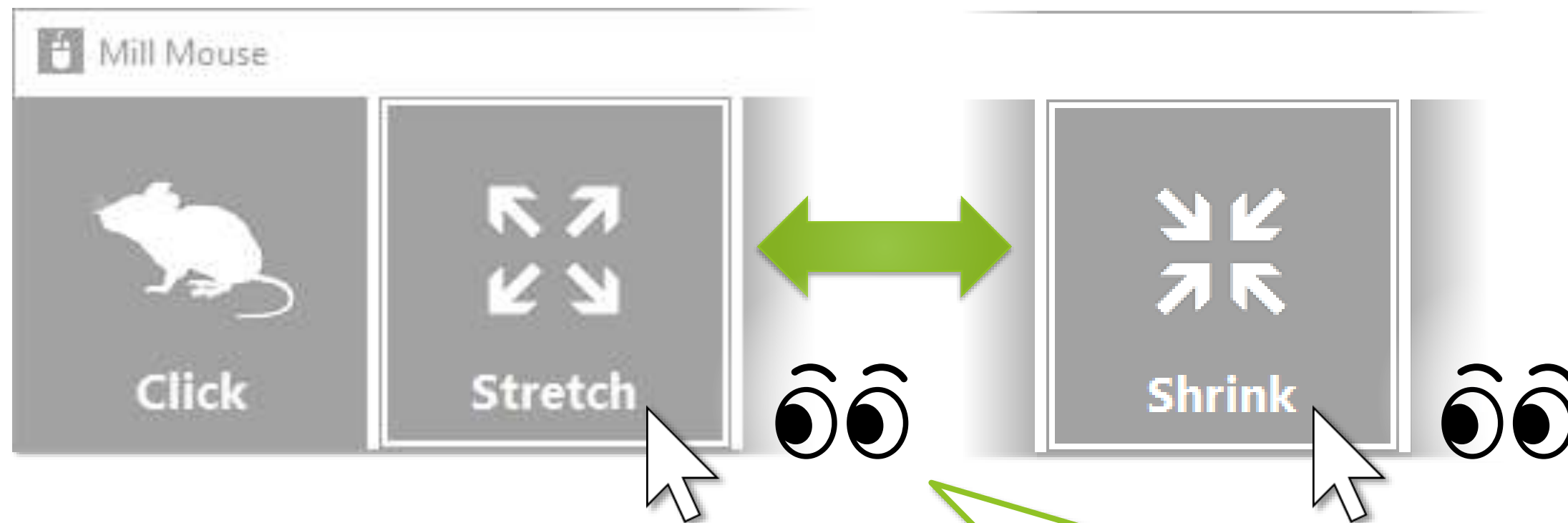
①Change to Stretch or Shrink.

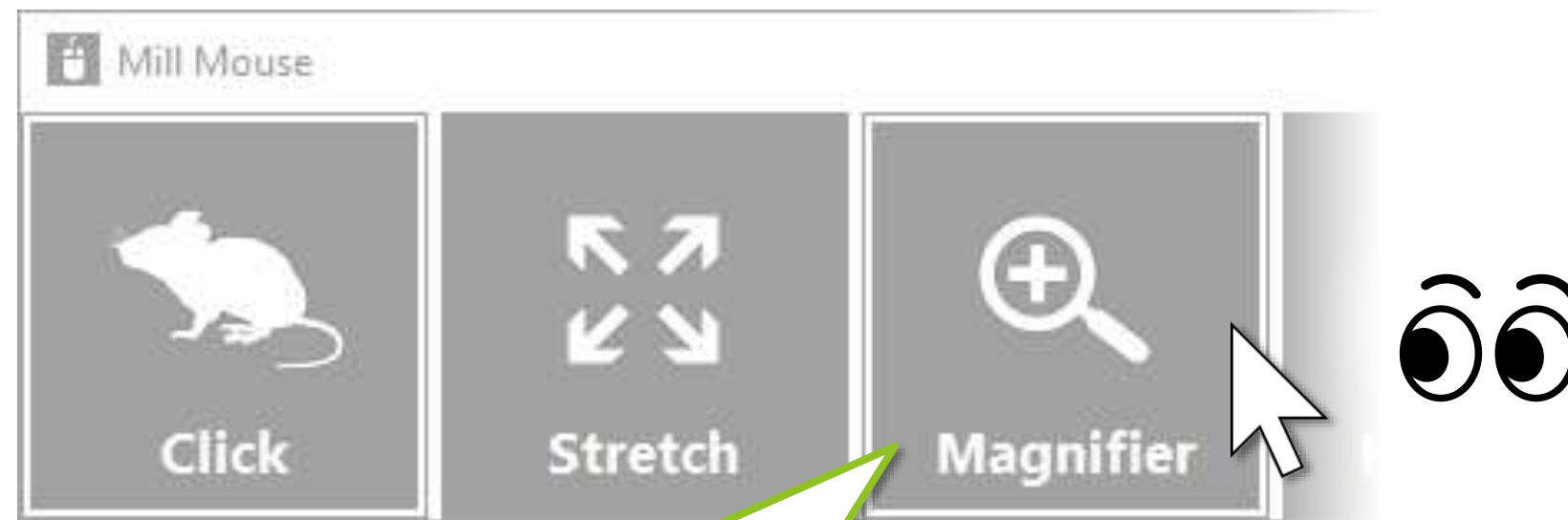②If you keep gazing at the same place on the Web browser or other apps, the zoom action will be done.

③To stop zooming, switch to the click action on the left side of the window of Mill Mouse.
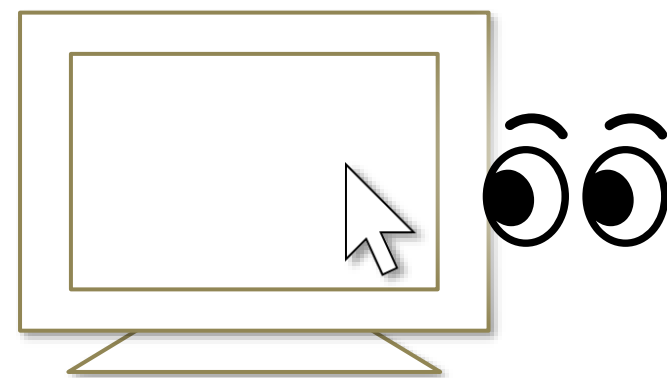
※ Some apps may not support zoom action.

Switch magnifier

By using Magnifier on the third from the left of the window, you can zoom in on the desktop screen before the click action.

Mill Mouse

Click Stretch Magnifier

①Look at Magnifier to turn it on.

②If you keep gazing at the same place, its surroundings will be zoomed in.

③If you keep gazing at the same place while zooming, the click action will be done.

④To turn Magnifier off, look at Magnifier again.

※　On Windows 7, Magnifier is only available when Windows Aero is enabled.

Switch touch keyboard

You can switch show/hide of the touch keyboard by looking at Keyboard on the fourth from the left of the window.

You can also use the on-screen keyboard instead of the touch keyboard by changing the settings of Mill Mouse.
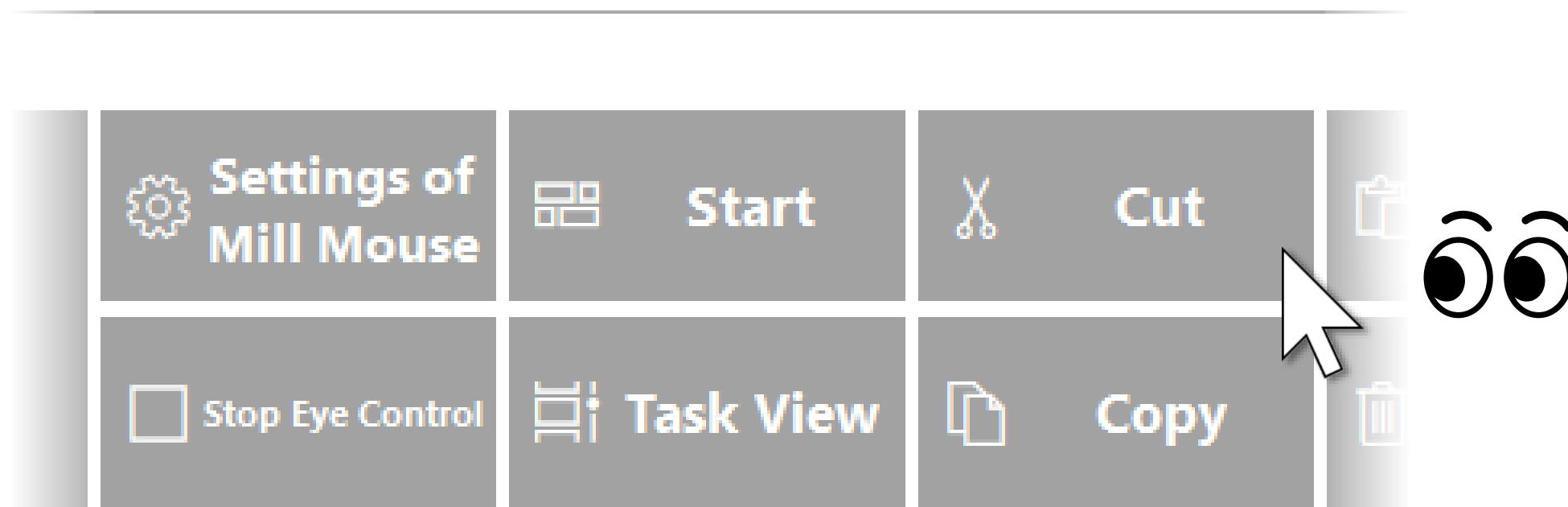
※ On Windows 7 Home Basic, the touch keyboard is not available.

Perform shortcuts

If you look at any button on the right side of the window, you can perform shortcuts assigned to them, such as Ctrl + X, Ctrl + V, and so on.

You can change the settings of which shortcuts are displayed in the window.
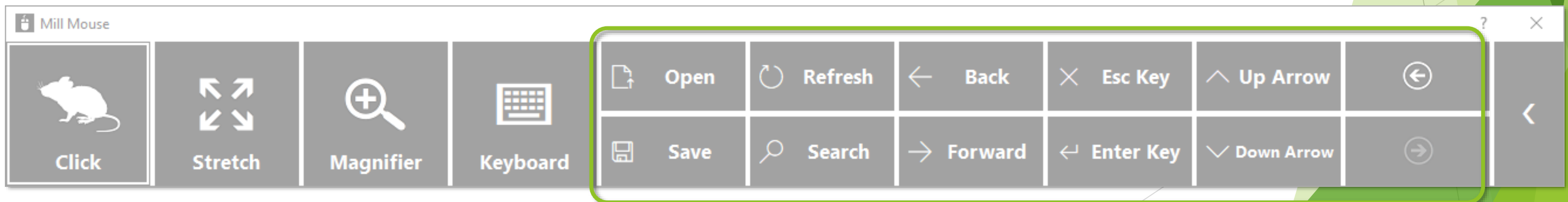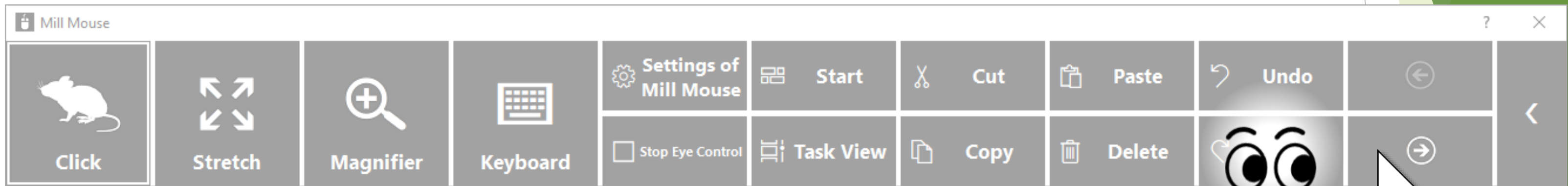
※　On Windows 8.1 or Windows 7, shortcut icons are not displayed.
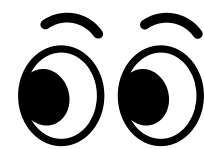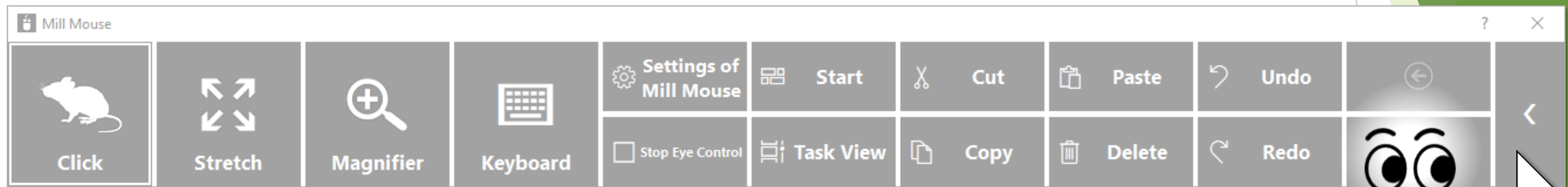
Show next/previous shortcuts

You can set up to 20 shortcuts. The window displays some of them to fit on the desktop screen. By looking at the buttons on the second from the right of the window, you can display the rest of them.

Expand/collapse window

You can collapse or expand the window by looking at the button on the far right of the window.

※ You can adjust the width of the window by dragging the right edge of the button on the far right of the window.
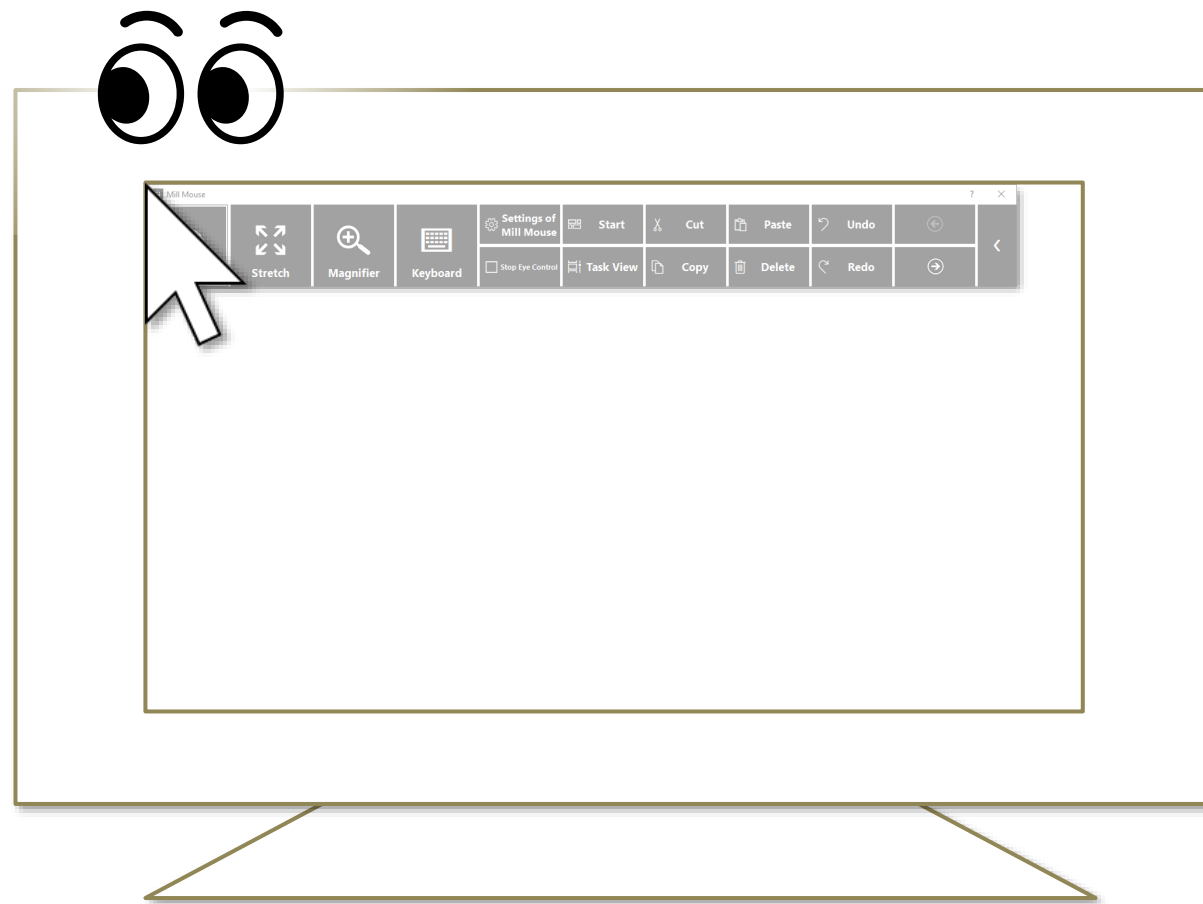
Unhide window

By default, the window will be hidden after a while.

To unhide, look at the upper left corner of the desktop screen.

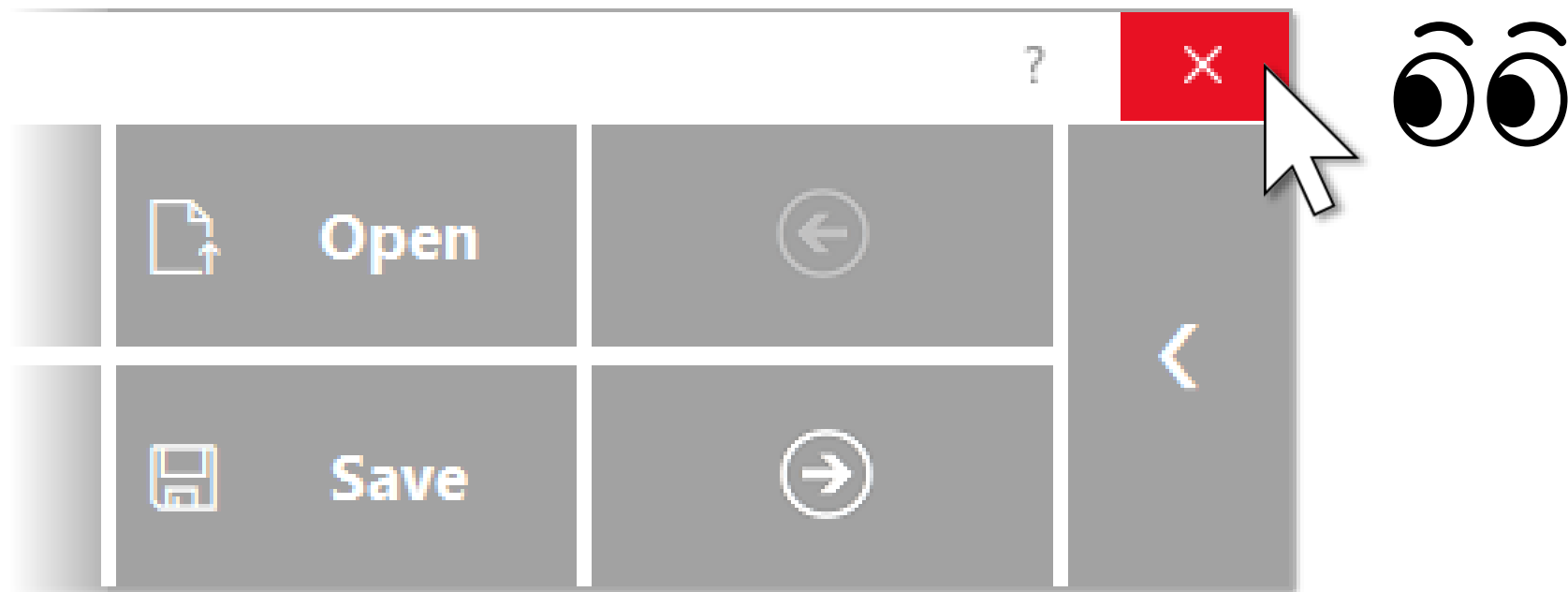If it does not work, try to look at the outer frame of the monitor.

※   If the taskbar is located at the top or the left, look at the bottom right corner of the screen.

※   Whether to automatically hide the window and where to re-display it can be changed by settings.

Exit Mill Mouse

To exit Mill Mouse, look at the X button at the top right of the window.

Settings of Mill Mouse

Settings – Open settings dialog

If the shortcut of 'Settings of Mill Mouse' is displayed in the window, you can open the dialog to change the settings of Mill Mouse by looking at it.

If 'Settings of Mill Mouse' is not displayed, keep gazing at the title bar of the window to display the menu. Then, keep gazing at Settings on the menu. After that, the settings dialog will open.
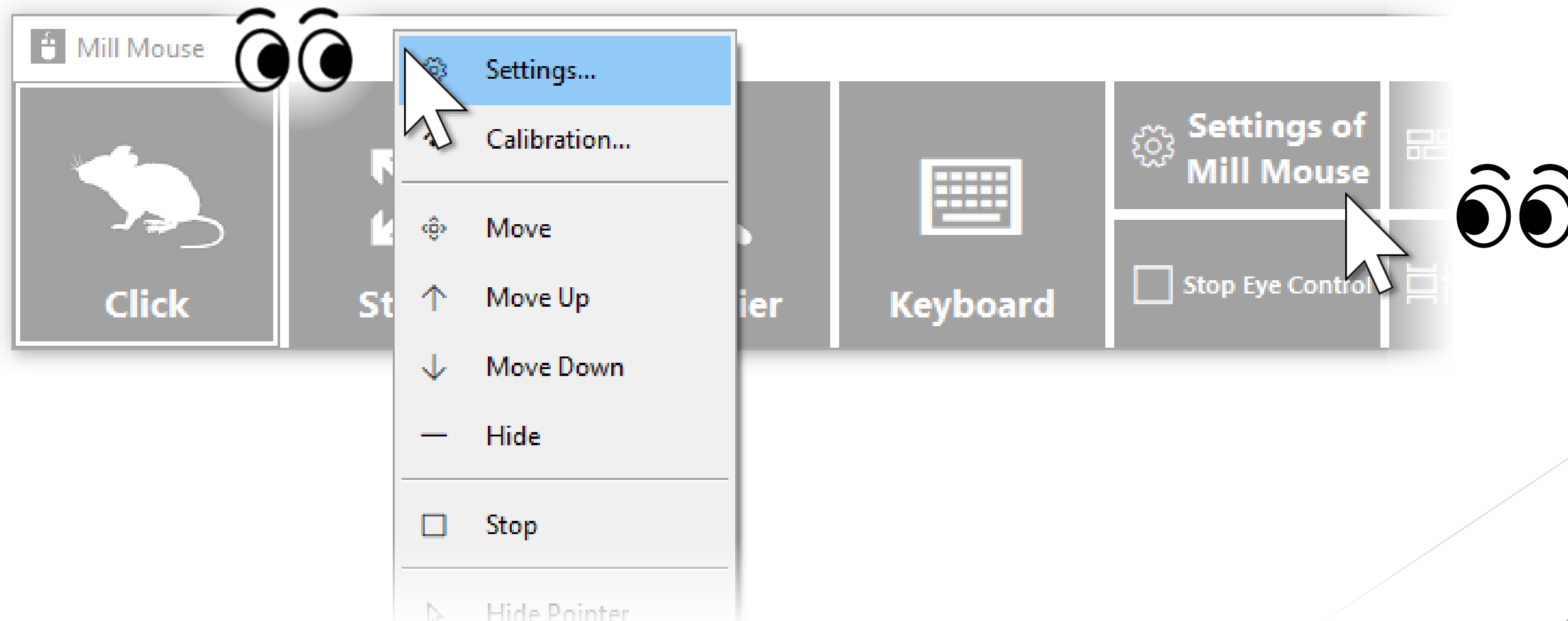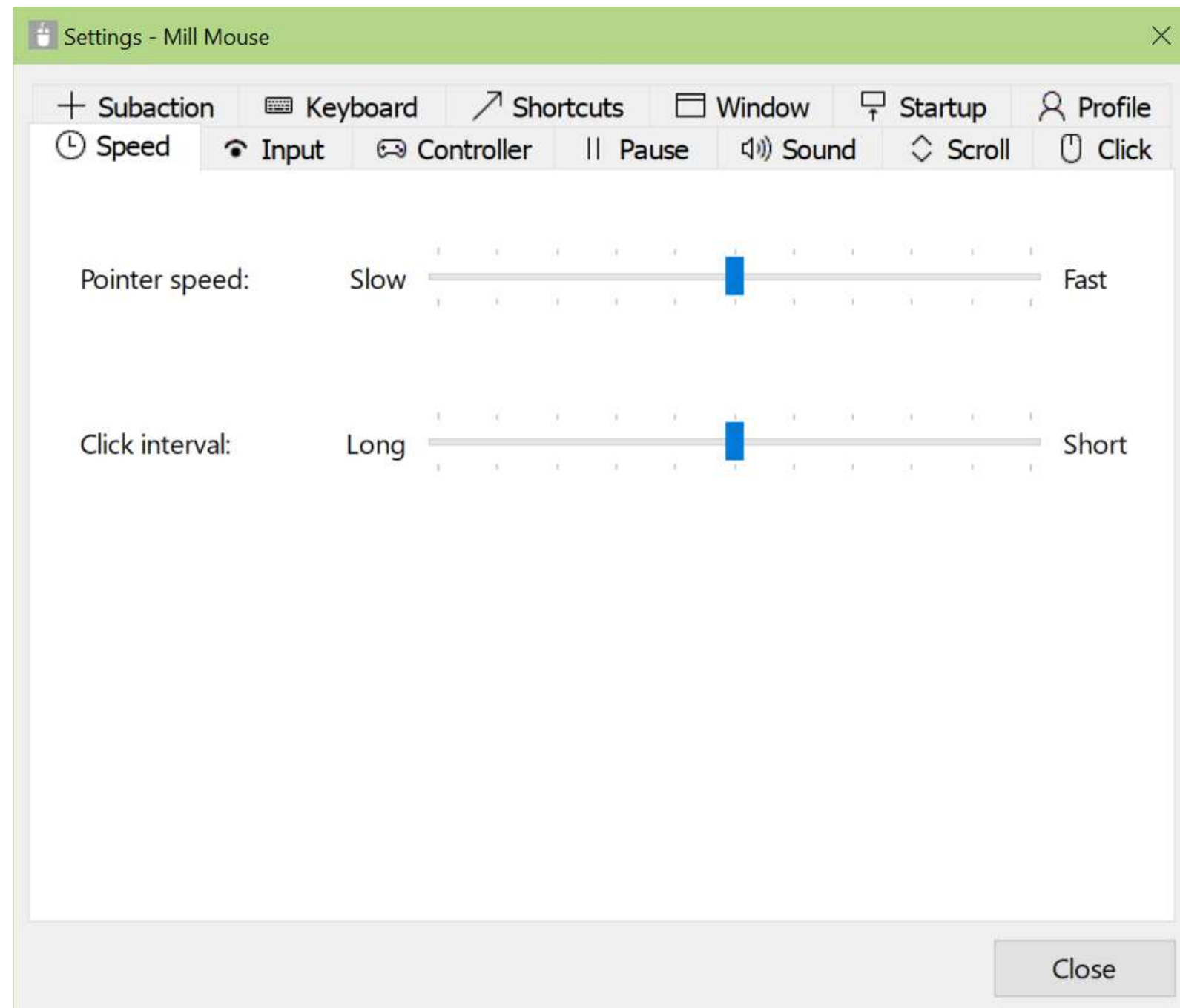
※　The menu may not be displayed while playing a game in full screen.
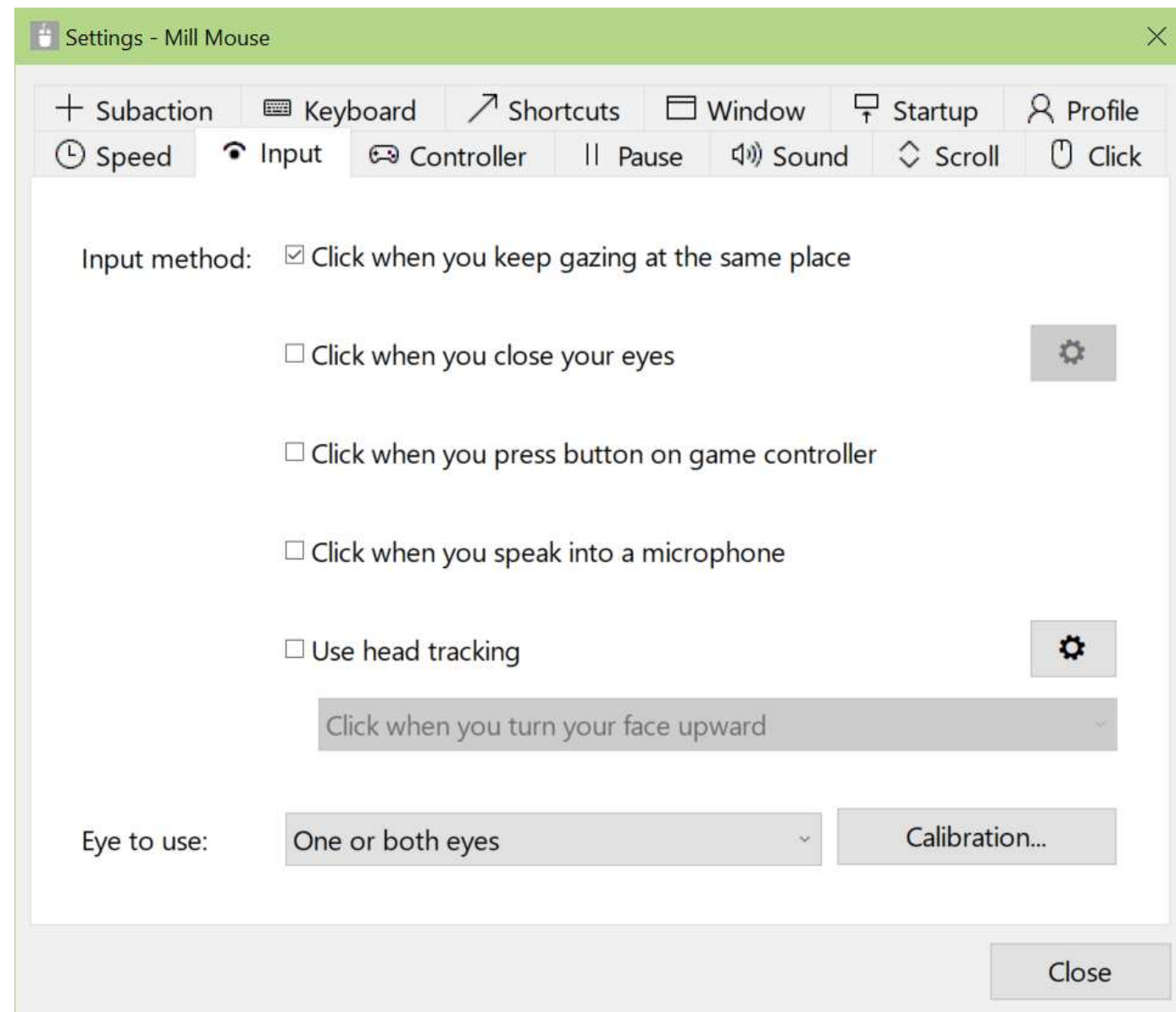
Settings – Speed adjustments

You can adjust the speeds on the Speed tab of the settings dialog.

Settings – Input method

You can change the input method on the Input tab of the settings dialog.

※   You can adjust the microphone sensitivity in Control Panel > Sound > Recording > Default Device > Properties > Levels.

Settings – Input method

If you check 'Click when you close your eyes', the click action will be performed when you close one or both eyes. The setting of 'Eye to use' determines which eye's closure will perform the click action.

'Eye to use'	Which eye's closure will perform the click action
If you select 'Always both eyes'	Left or right eye closure
If you select 'One or both eyes'	Both eyes closure
If you select 'Left eye'	Left eye closure
If you select 'Right eye'	Right eye closure

※   If you use VSeeFace, the above corresponds to the left and right eyes of the avatar.

Settings – Input method

You can change the click action that will be performed when you close your eyes.
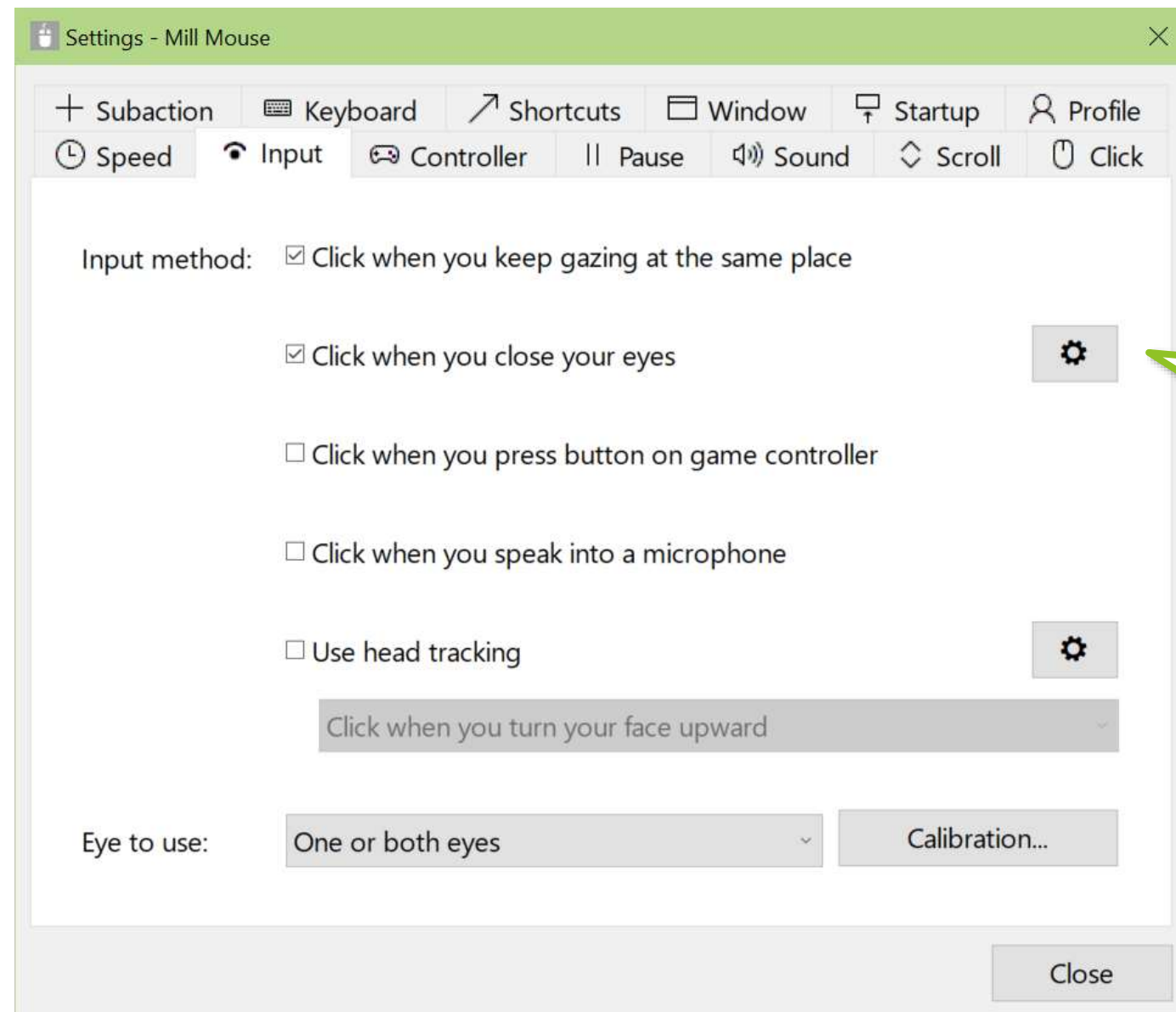
①Check 'Click when you close your eyes' and press the gear icon button to the right.

Settings – Input method

(Continued)

②If you have selected 'Always both eyes' for 'Eye to use', a dialog will be displayed to select the action for the left eye and the right eye.
If you have selected something other than 'Always both eyes' for 'Eye to use', a dialog will be displayed to select only one action.

For 'Always both eyes'
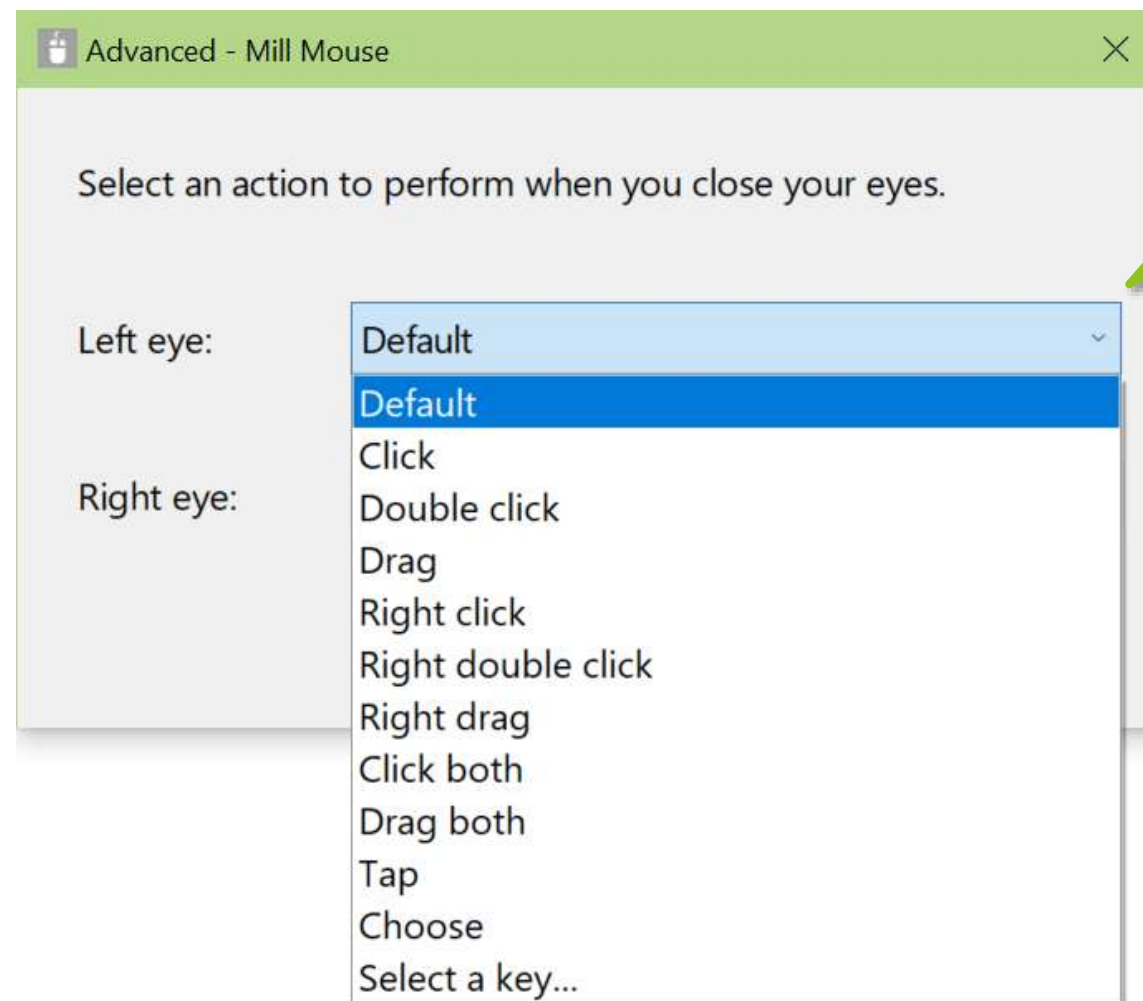
For other than 'Always both eyes'

Settings – Input method

(Continued)

③Select a click action to perform when you close your eyes.
If you select Default as the click action, the click action on the button on the far left of the Mill Mouse window will be performed when you close your eyes.

④Press OK.

Settings – Input method

'Use head tracking' is available with Tobii Eye Tracker 5.
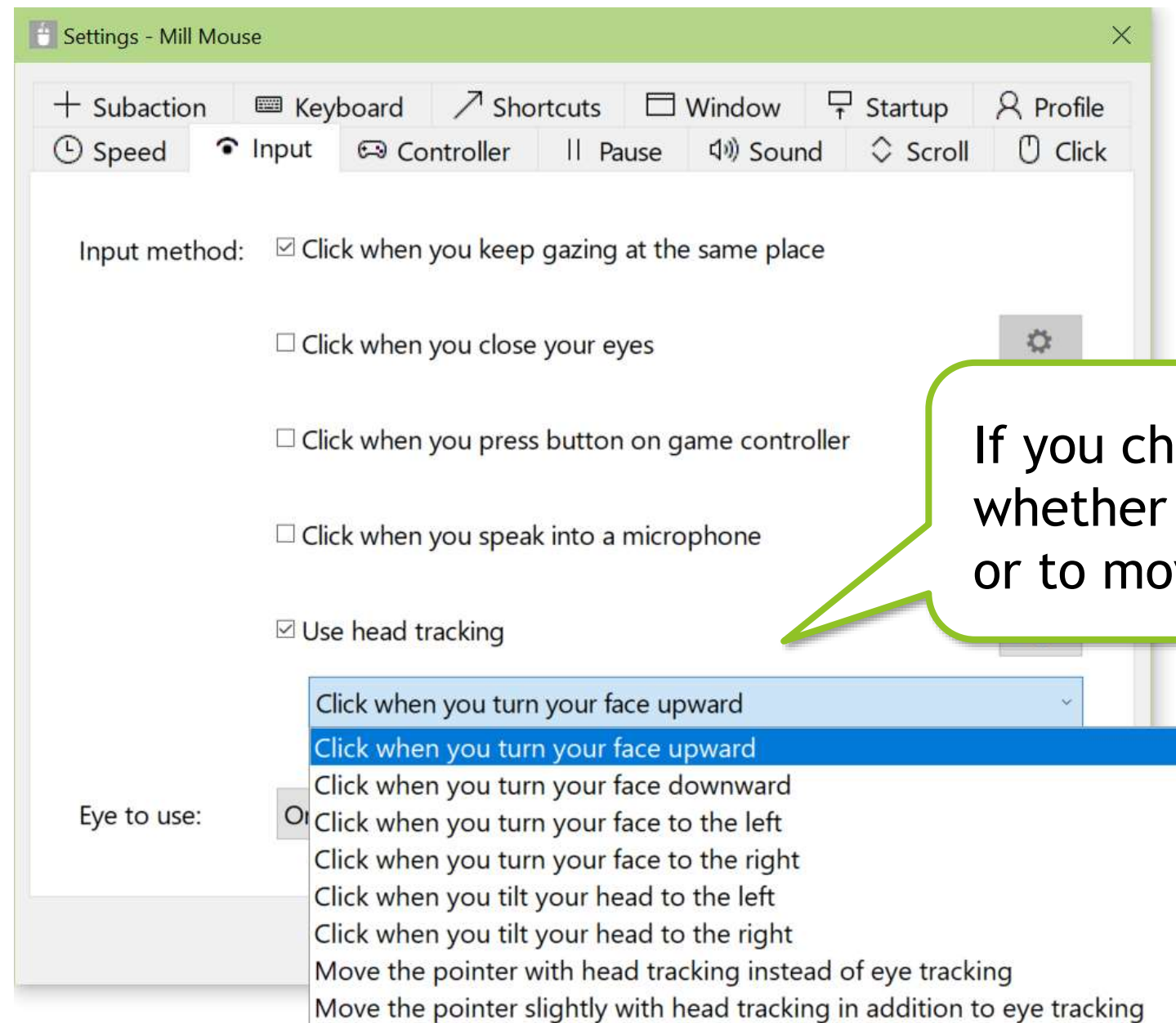
If you check 'Use head tracking', you can set whether to click when you move your head, or to move the pointer with head tracking.

※ If you use Tobii Eye Tracker 4C, 'Use head tracking' is available with Tobii Eye Tracking Core Software version 2.13.1.

Settings – Input method

If you are using TrackIR 5, the items on the Input tab of the settings dialog will be different than if you were using other devices. To use with TrackClip Pro, change 'Tracking target' to TrackClip Pro.
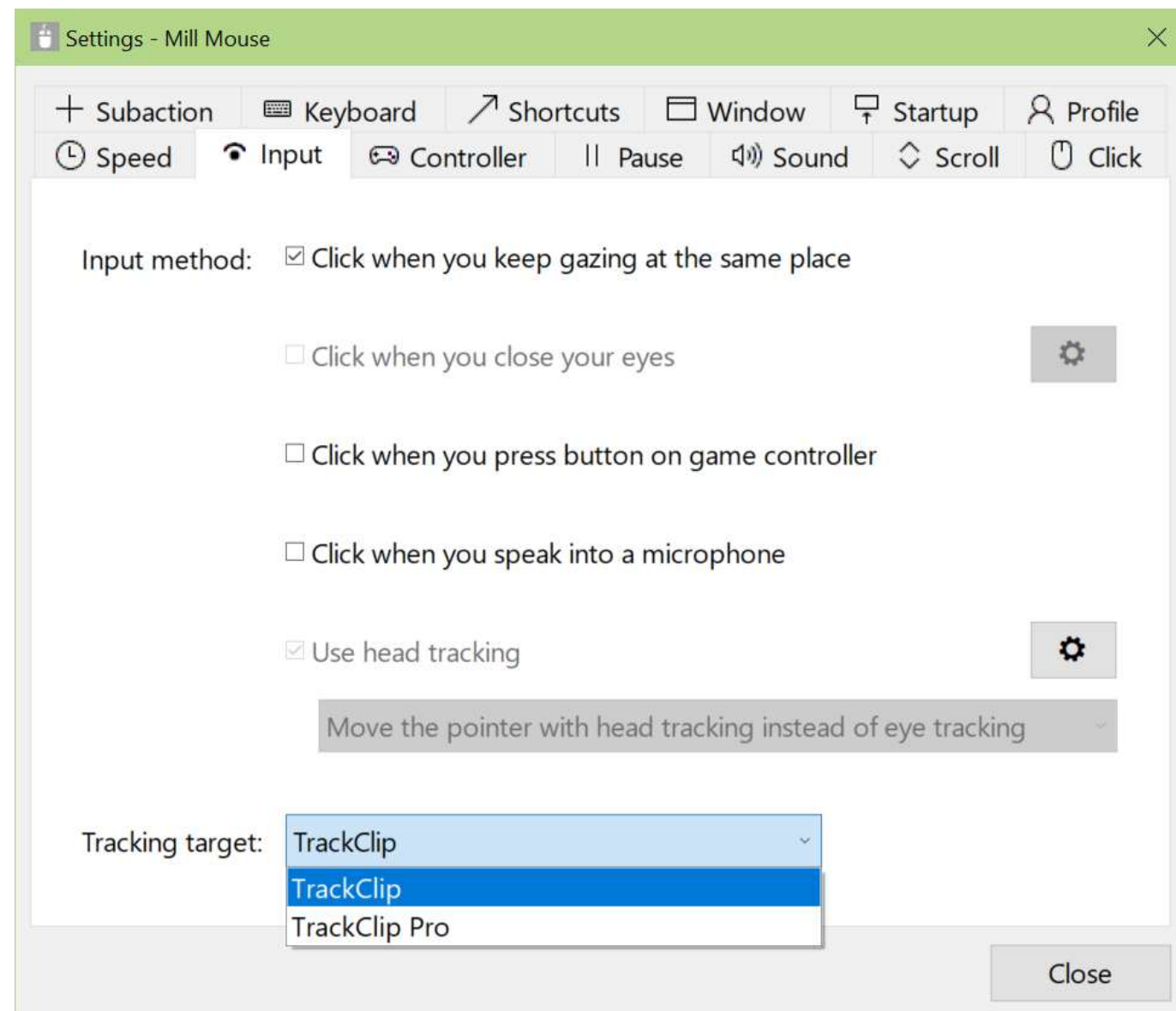
Settings – Input method

If you use VSeeFace, check 'Receive VMC Protocol messages'.

①Press the gear icon button to the right of 'Use head tracking'.
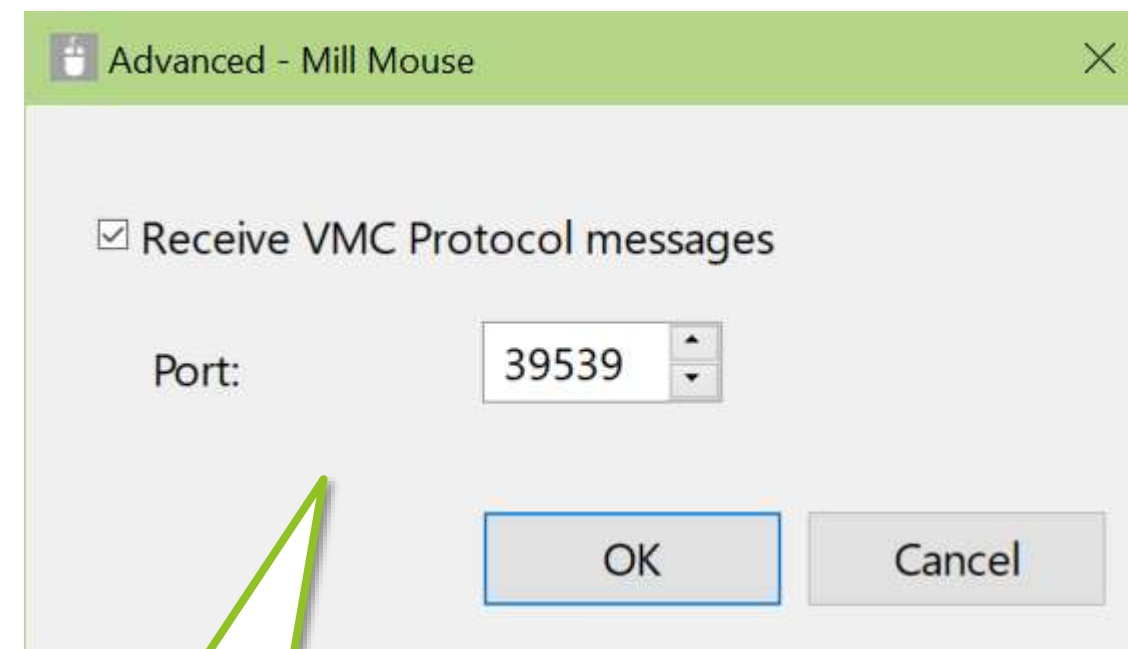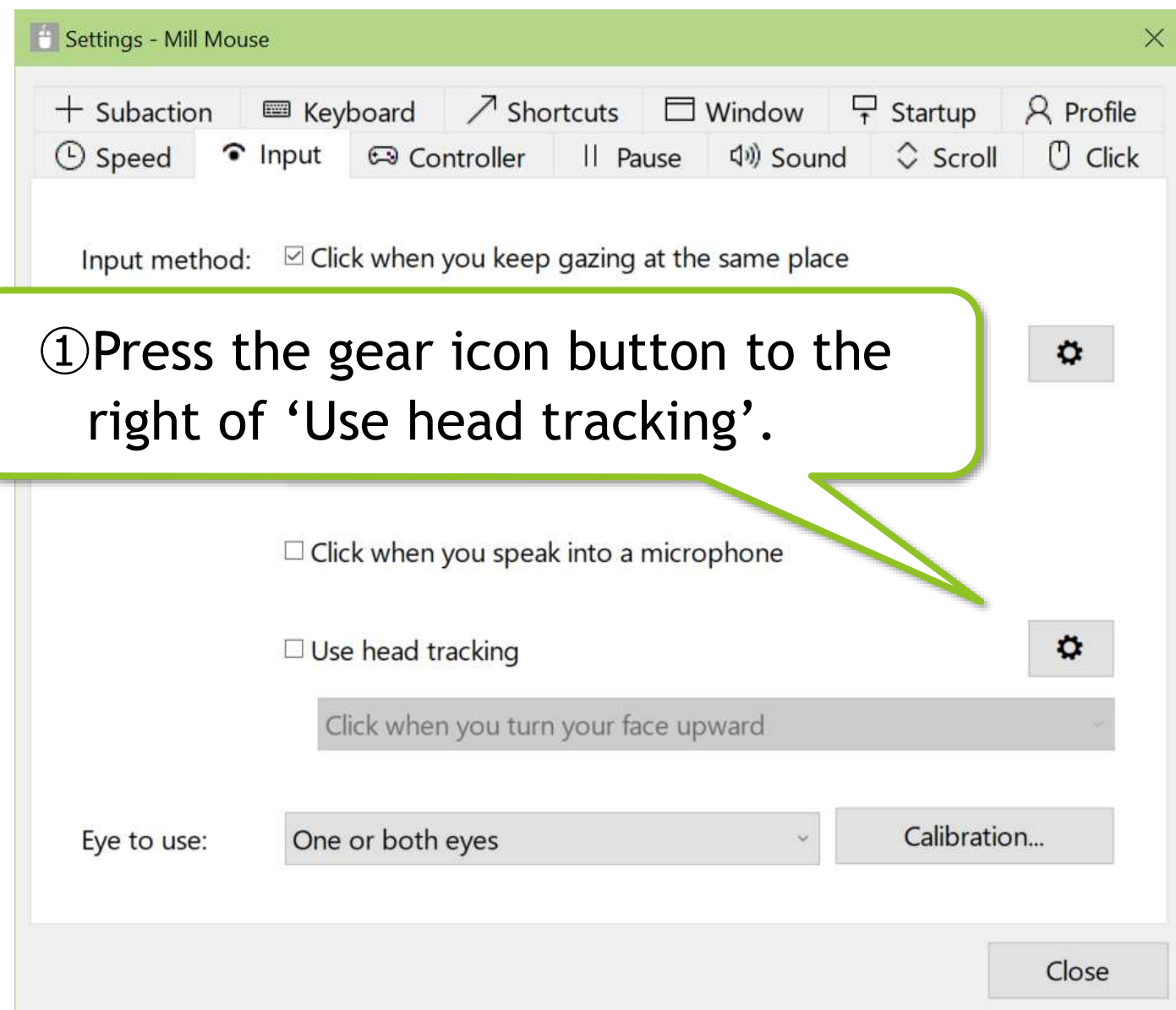
②Dialog will be displayed. Check 'Receive VMC Protocol messages' and press OK.

Settings – Input method

Depending on the setting of 'Input method' on the Input tab, the meaning of 'Click interval' on the Speed tab changes as follows:

'Input method' on Input tab	Meaning of 'Click interval' on Speed tab
If you select 'Click when you keep gazing at the same place'	How long time you keep gazing at the same place in order to perform the click action
If you select 'Click when you close your eyes'	How long time you keep closing your eyes in order to perform the click action
If you select 'Click when you press button on game controller'	No effect
If you select 'Click when you speak into a microphone'	How often to perform the click action when you continue speaking
If you select 'Use head tracking'	No effect

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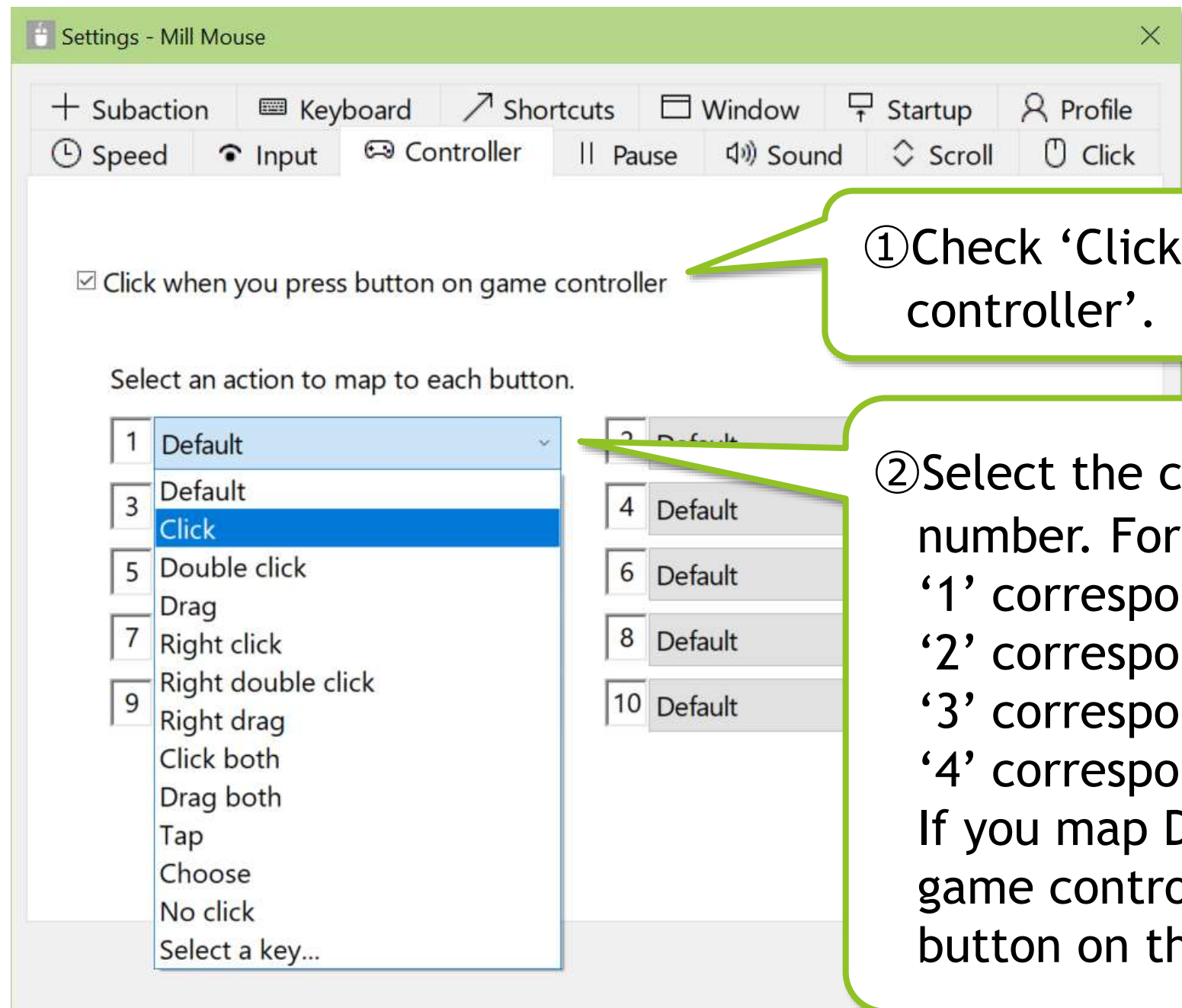# Settings – Game controller

On the Controller tab of the settings dialog, you can map specific click actions to the 10 buttons on your game controller.

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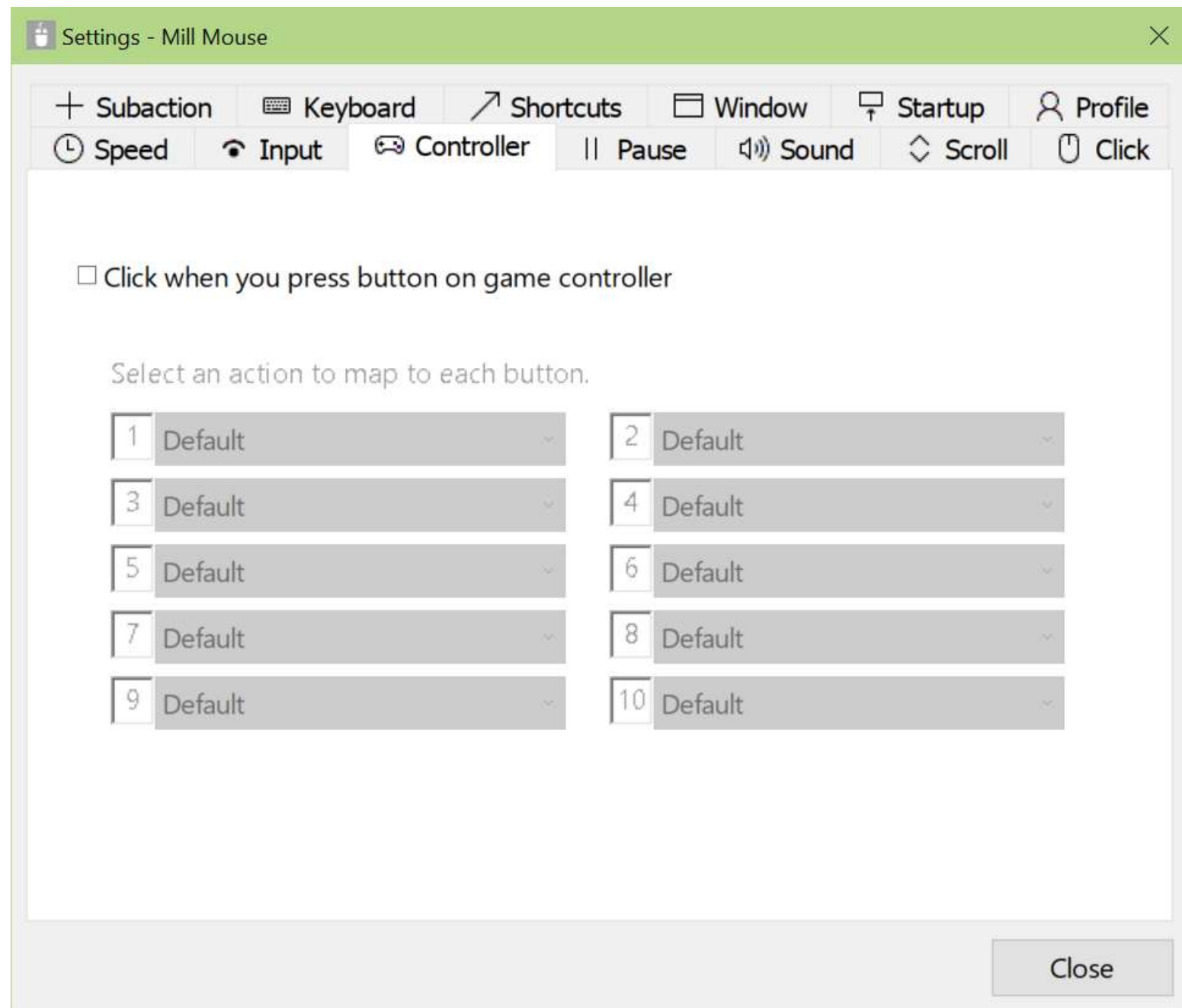
Settings – Game controller

If you map a click action to a button on your game controller, the mapped click action will be performed when you press that button.

①Check 'Click when you press button on game controller'.

②Select the click action to be mapped to the button number. For Xbox controllers,
'1' corresponds to A button,
'2' corresponds to B button,
'3' corresponds to X button, and
'4' corresponds to Y button.
If you map Default, pressing that button on the game controller will perform a click action on the button on the far left of the Mill Mouse window.

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Settings – Game controller

If you map a key to a button on your game controller, the mapped key will be entered when you press that button.

①Check 'Click when you press button on game controller'.

☑ Click when you press button on game controller

Select an action to map to each button.

1	Default
2	Default
3	Default
4	Default
5	Double click
6	Default
7	Right click
8	Default
9	Right double click
10	Default

Default
Click
Double click
Drag
Right click
Right double click
Right drag
Click both
Drag both
Tap
Choose
No click
Select a key...

②Select 'Select a key…' from the list.

Controller - Mill Mouse   ✕

Button: Button 1

Modifiers: (None)   ⌄

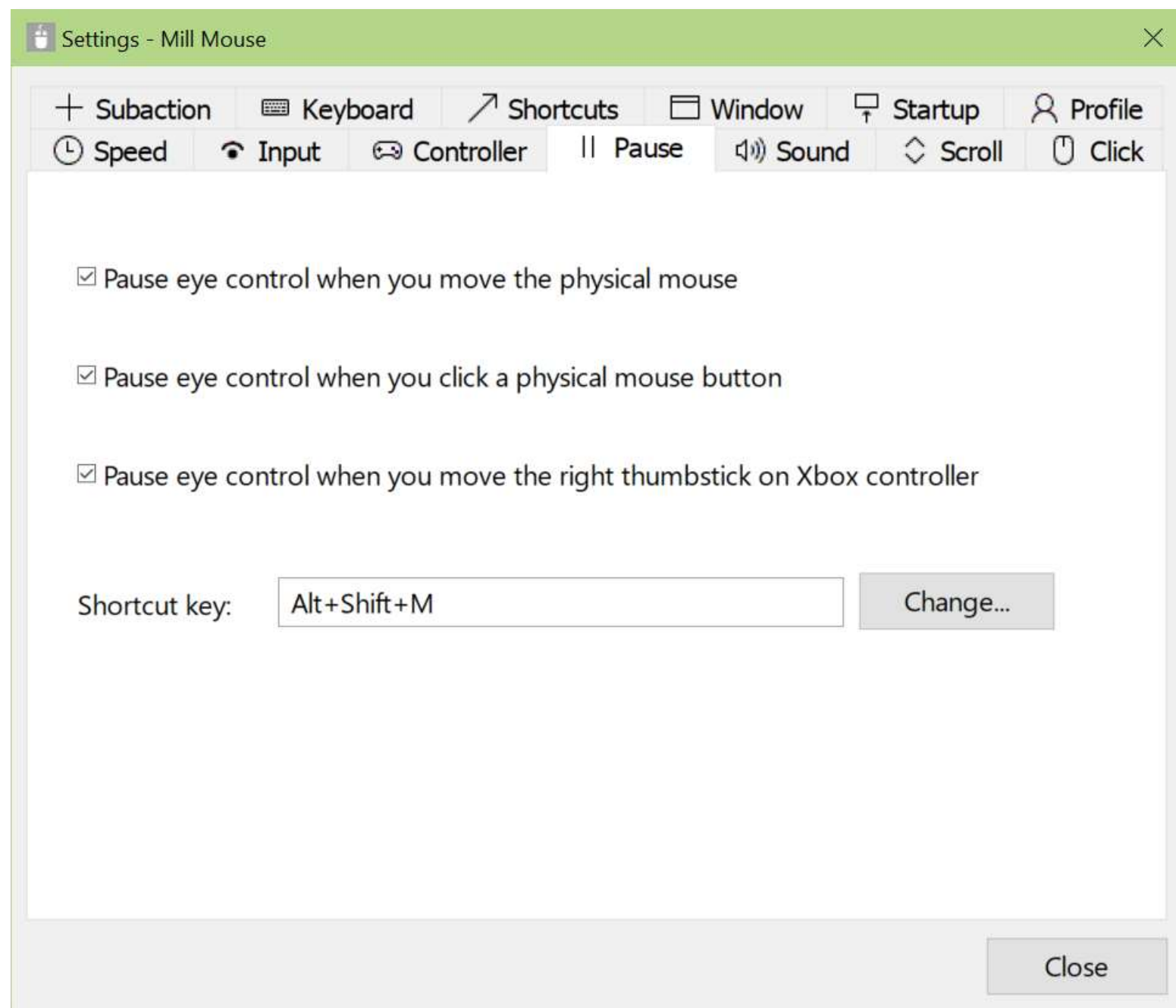Key: Space   ⌄   +

OK   Cancel

③Dialog will be displayed. Select the key to map.

④Press OK. In this example, the Space key will be entered by pressing button 1.
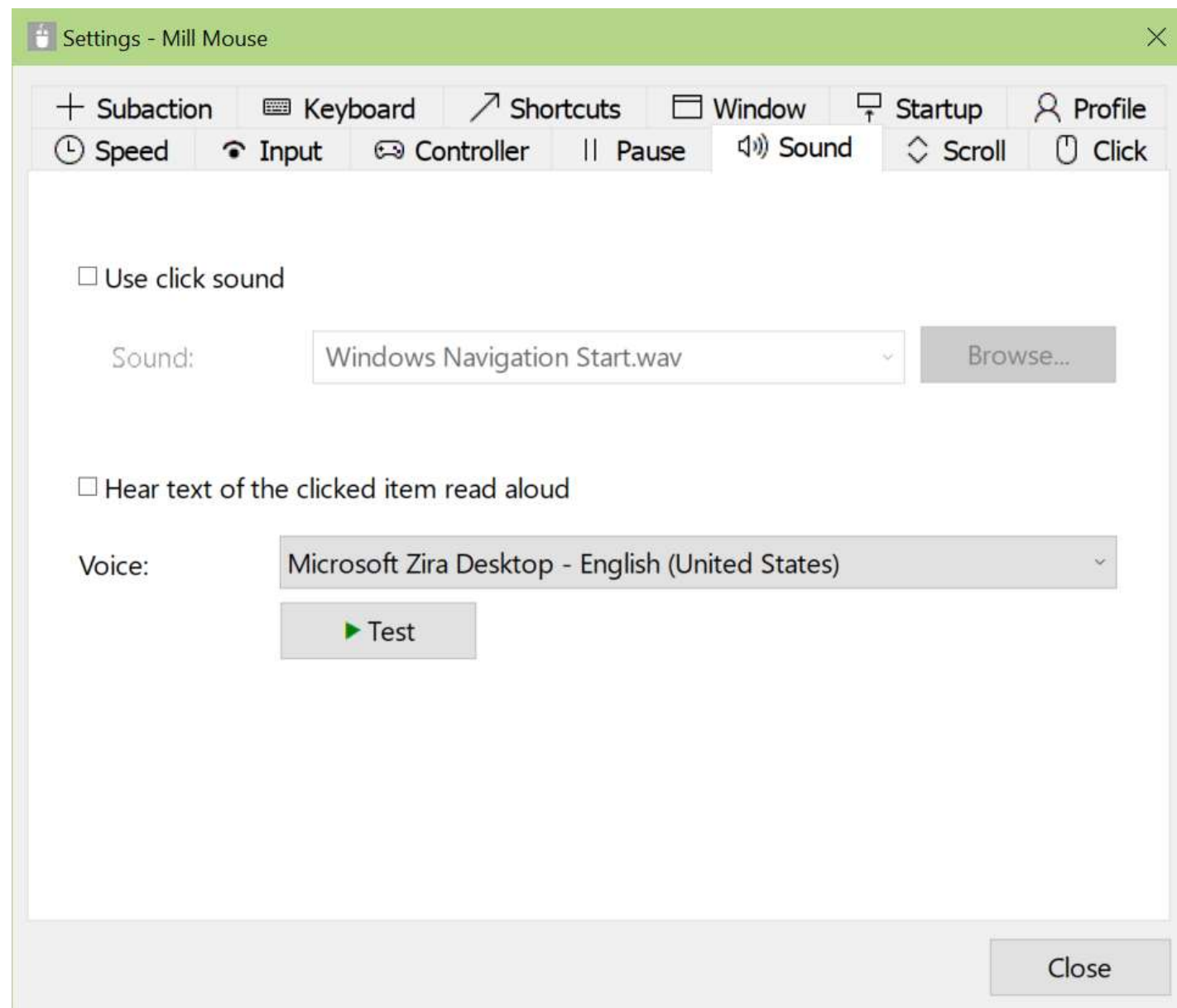
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Settings – Pause

On the Pause tab of the settings dialog, you can change whether to pause the eye tracking when you use the physical mouse and the shortcut key to pause.

Settings – Sound

On the Sound tab of the settings dialog, you can change whether to use click sound and the voice to read texts aloud.
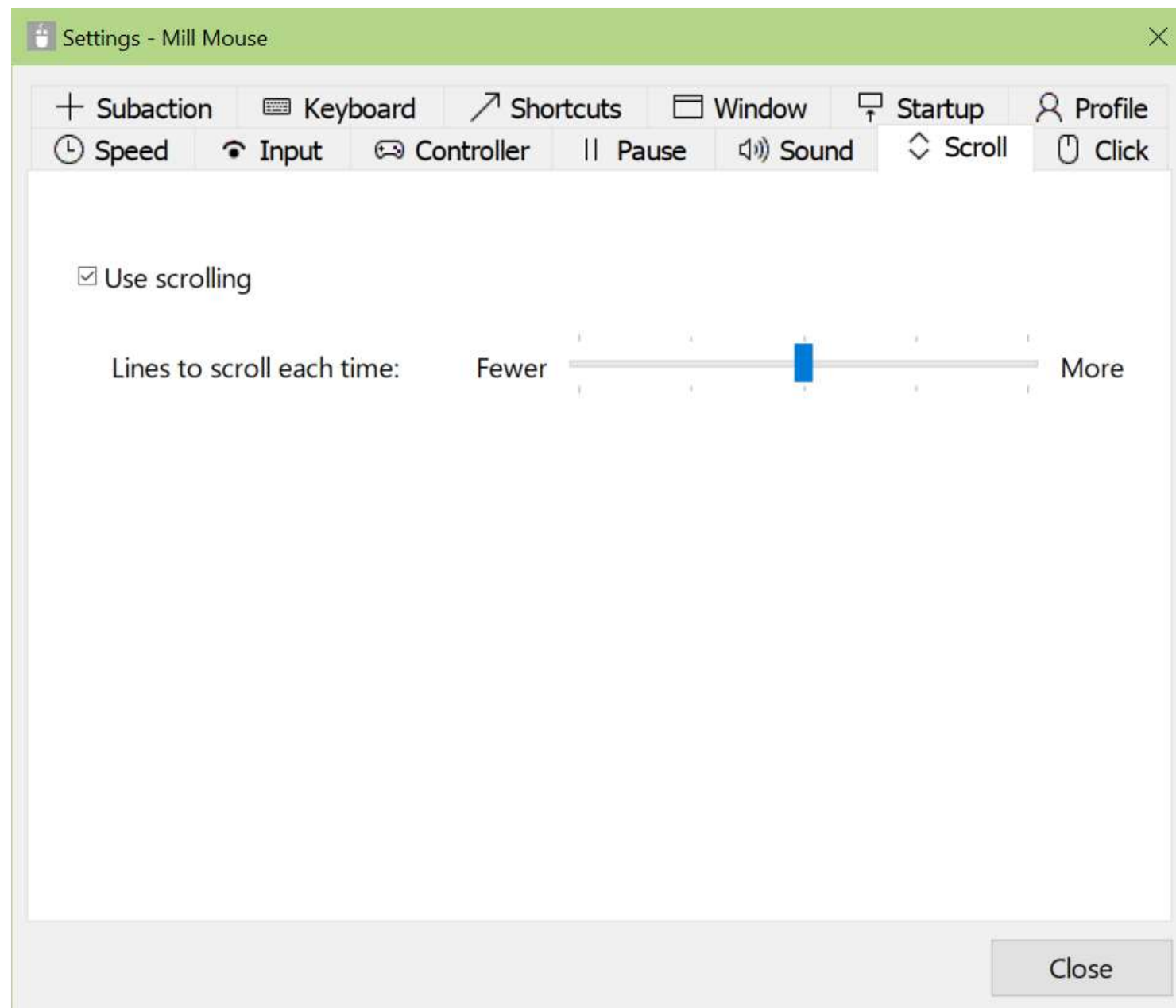
※ To use non-English voice on Windows 7, please install Microsoft Speech Platform Runtime and Text-to-Speech engine data additionally.

Settings – Scroll

On the Scroll tab of the settings dialog, you can change whether to use scrolling feature and the lines to scroll each time.
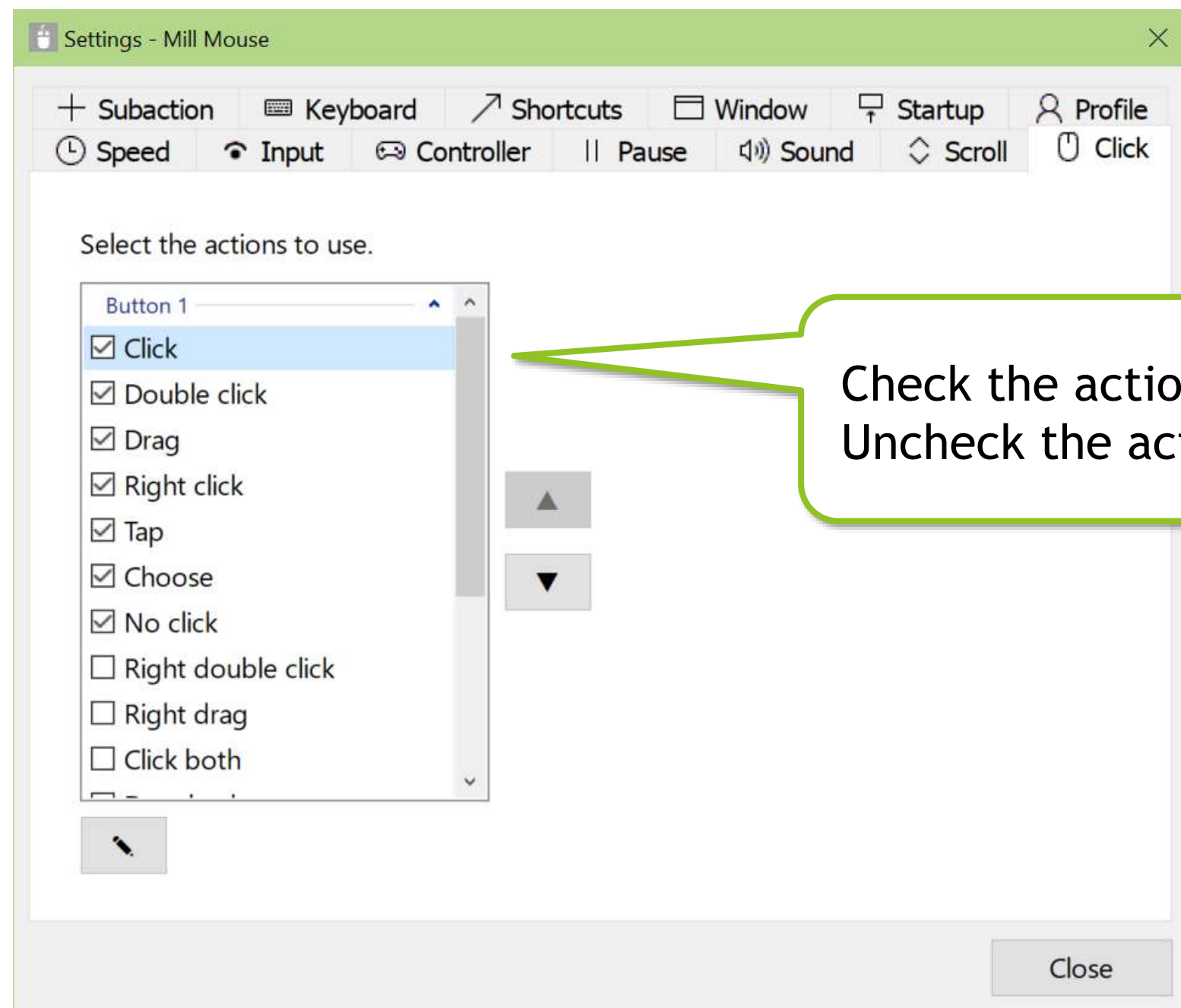
※ Even if you enable the scrolling feature, it will not scroll while you hold down the Ctrl or Shift key.

Settings – Click action

You can change to use only certain click actions on the Click tab of the settings dialog.
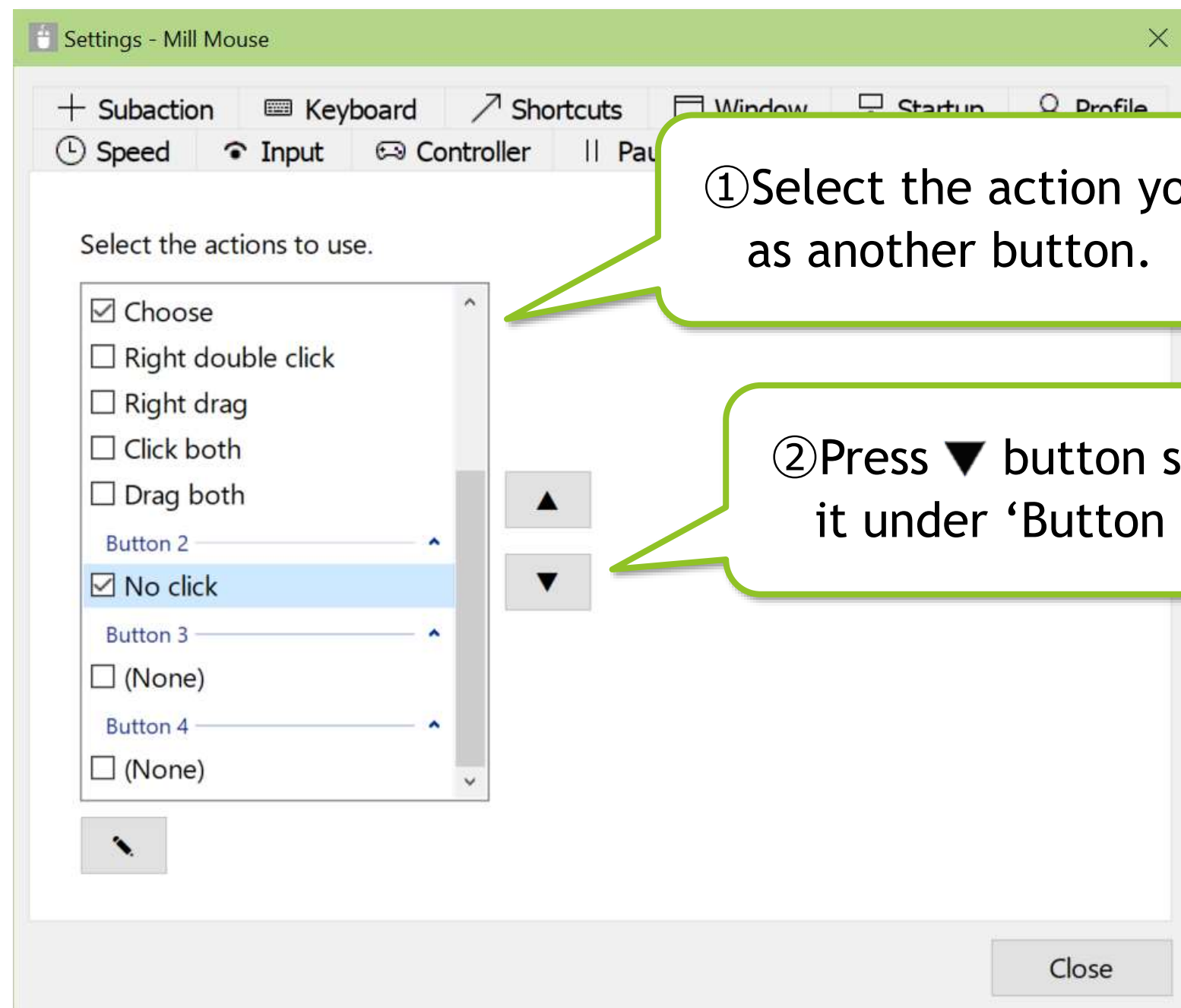
Check the actions to use.
Uncheck the actions not to use.

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Settings – Click action

You can increase the number of click action buttons on the far left of the window up to 4 buttons.

①Select the action you want to use as another button.

②Press ▼ button several times to move it under 'Button 2'.

Settings – Click action

(Continued)

③The button will be displayed in the window and you can use it as well as the button on the far left.
By setting 'Button 3' and 'Button 4' in the same way in ②, you can increase the number of click action buttons up to 4 buttons.

Settings – Click action

You can assign shortcut keys to click actions.

①Select a click action.

②Press the button to edit.

③Dialog will be displayed. Select the key to assign.

④Press OK. In this example, the click action will be changed to Click by pressing the C key.

※ Depending on the key you select, you may not be able to assign it. In that case, you will not be able to press OK button in ④, so select another key.
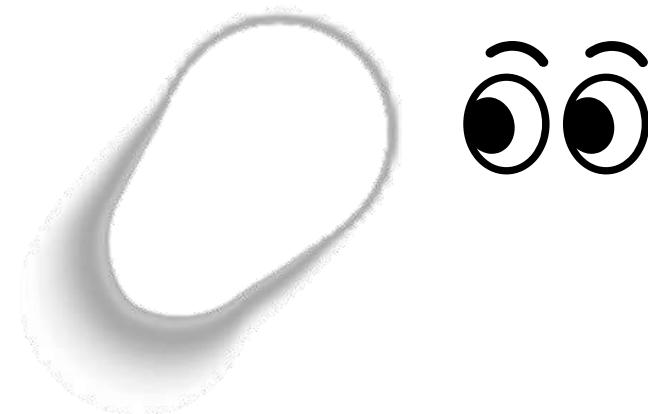
Settings – Subaction

On the Subaction tab of the settings dialog, you can change whether to show Stretch/Shrink or Magnifier button in the window, the zoom increments of the magnifier, and whether to use Gaze Trace.
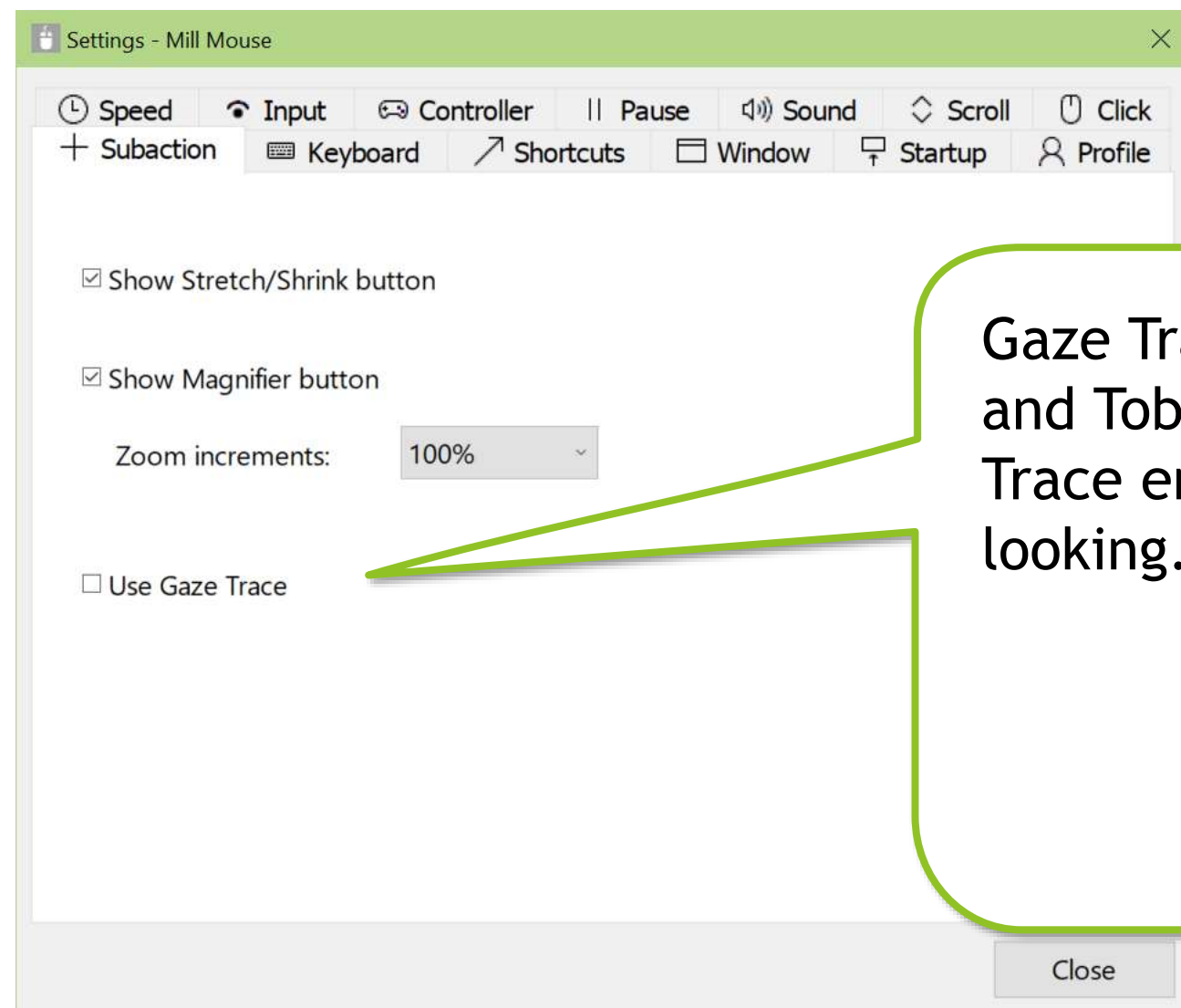
Gaze Trace is a feature of Tobii Experience and Tobii Eye Tracking Core Software. Gaze Trace enables a bubble to show where you are looking.
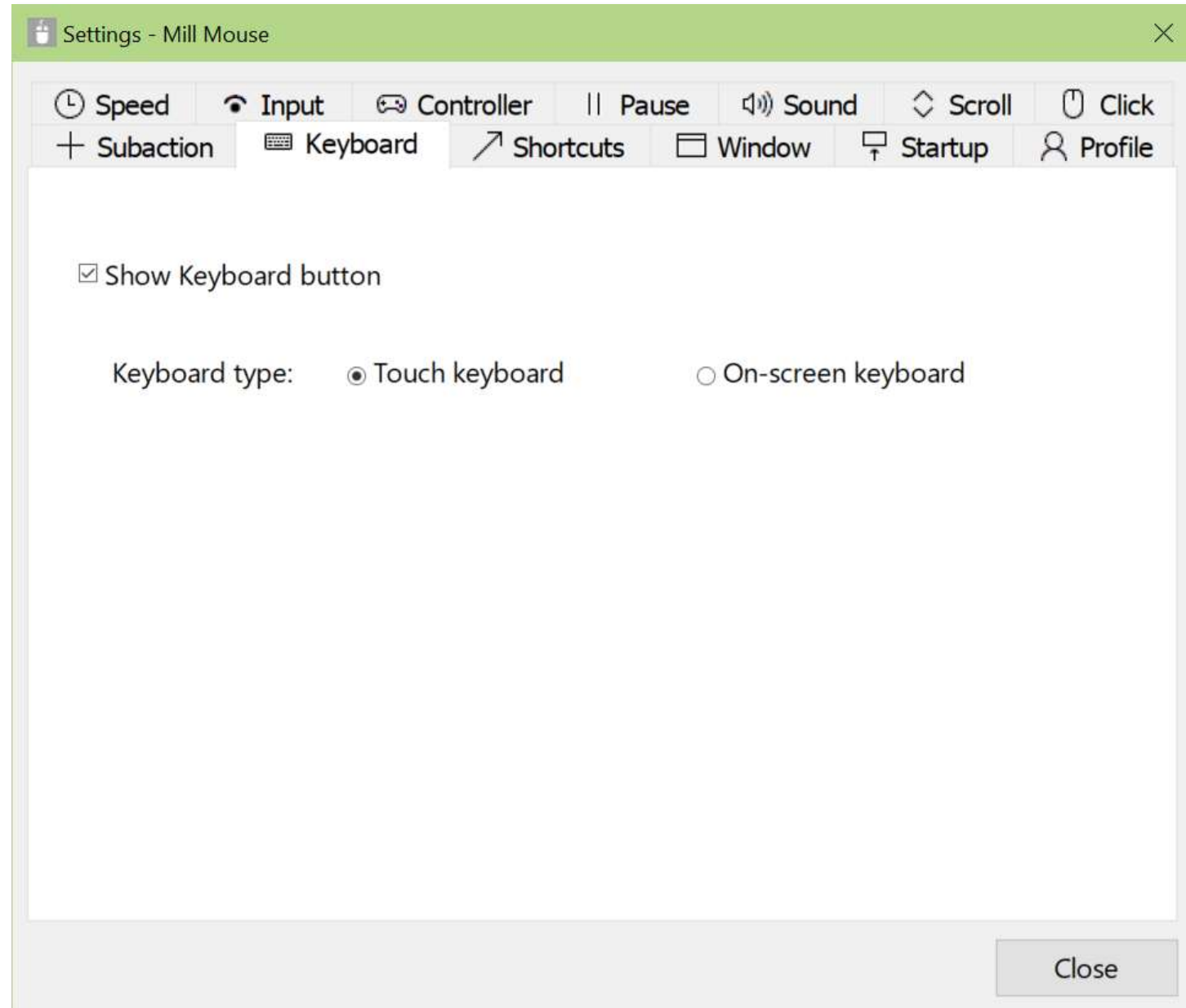
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※ 'Use Gaze Trace' is only available if you have Tobii Experience or Tobii Eye Tracking Core Software installed.

Settings – Keyboard

On the Keyboard tab of the settings dialog, you can change whether to show keyboard button in the window and whether to use the touch keyboard or the on-screen keyboard.
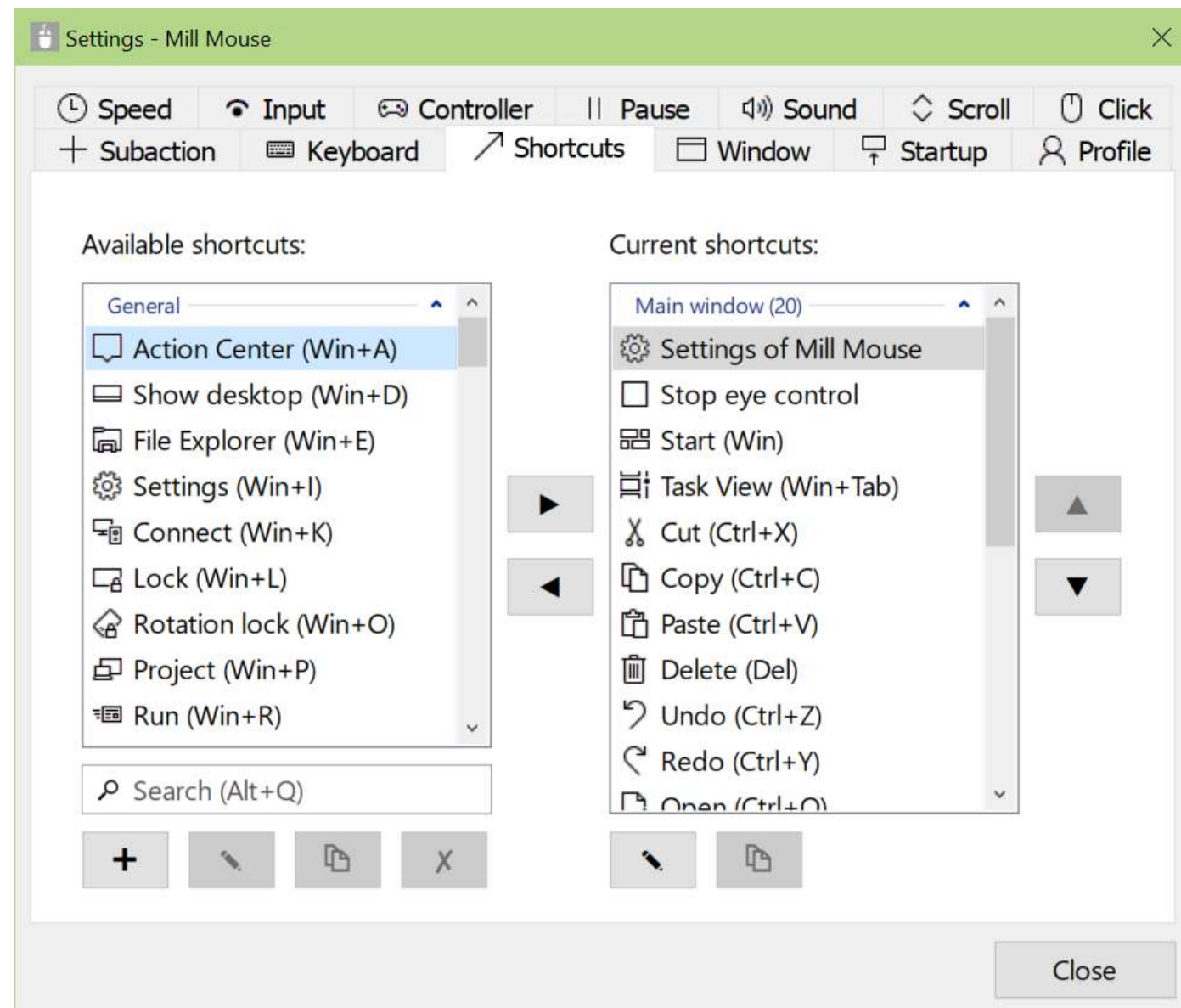
Settings – Shortcuts

You can change the shortcuts to be displayed in the window from the Shortcuts tab of the settings dialog.

You can set up to 20 shortcuts.

Settings – Shortcuts

86 types of shortcut keys listed at the end of this guide are available as shortcuts.

In addition to the shortcut keys, the following 11 types of shortcuts for Mill Mouse are also available.

▶ Settings of Mill Mouse

▶ Calibration

▶ Move Mill Mouse

▶ Move Mill Mouse up

▶ Move Mill Mouse down

▶ Minimize Mill Mouse

▶ Hide Mill Mouse

▶ Stop eye control

▶ Hide pointer

▶ Move pointer

▶ Exit Mill Mouse

※ 'Minimize Mill Mouse' is a shortcut to minimize the Mill Mouse main window and separate windows to the taskbar. 'Hide Mill Mouse' is a shortcut to hide only the Mill Mouse main window.

※ 'Move Mill Mouse up' and 'Move Mill Mouse down' will be changed to 'Move Mill Mouse left' and 'Move Mill Mouse right' when the window of Mill Mouse is displayed vertically.

Settings – Shortcuts

You can assign shortcut keys to 11 types of shortcuts for Mill Mouse.

①Select a shortcut for Mill Mouse.

②Press the button to edit.

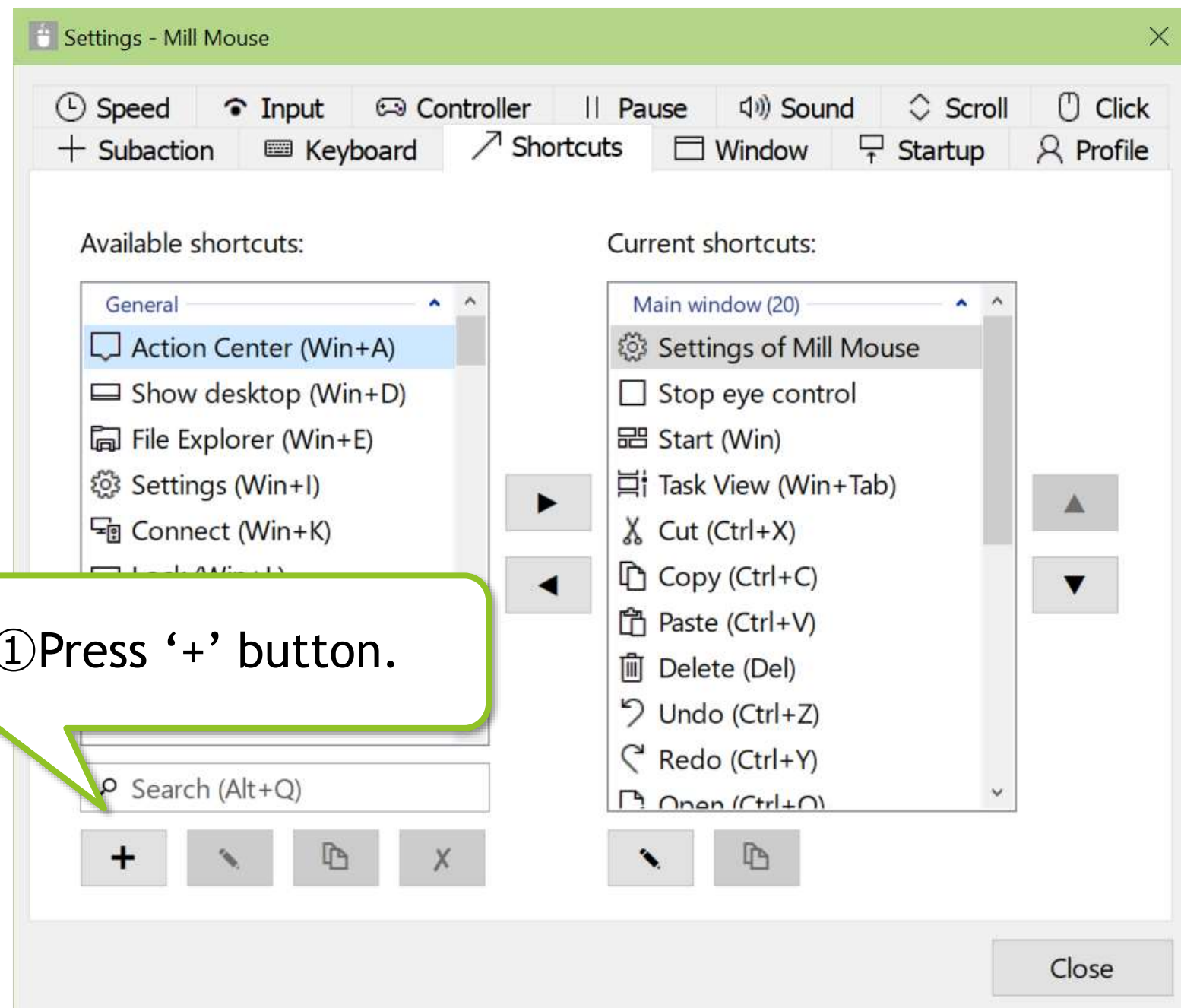③Dialog will be displayed. Select the key to assign.

④Press OK. In this example, the settings dialog of Mill Mouse will open by pressing Ctrl + F1.

※ Depending on the key you select, you may not be able to assign it. In that case, you will not be able to press OK button in ④, so select another key.

Settings – Add custom shortcuts

You can add up to 20 custom shortcut keys.

①Press '+' button.

Settings – Add custom shortcuts

(Continued)

②Dialog will be displayed. Set the name and select 'Shortcut key'.

③Select the key.

④Set the color and the icon of the shortcut button on the View tab.

※ For Name, set a short string to be displayed in the window as the following ⑧.

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Settings – Add custom shortcuts

(Continued)
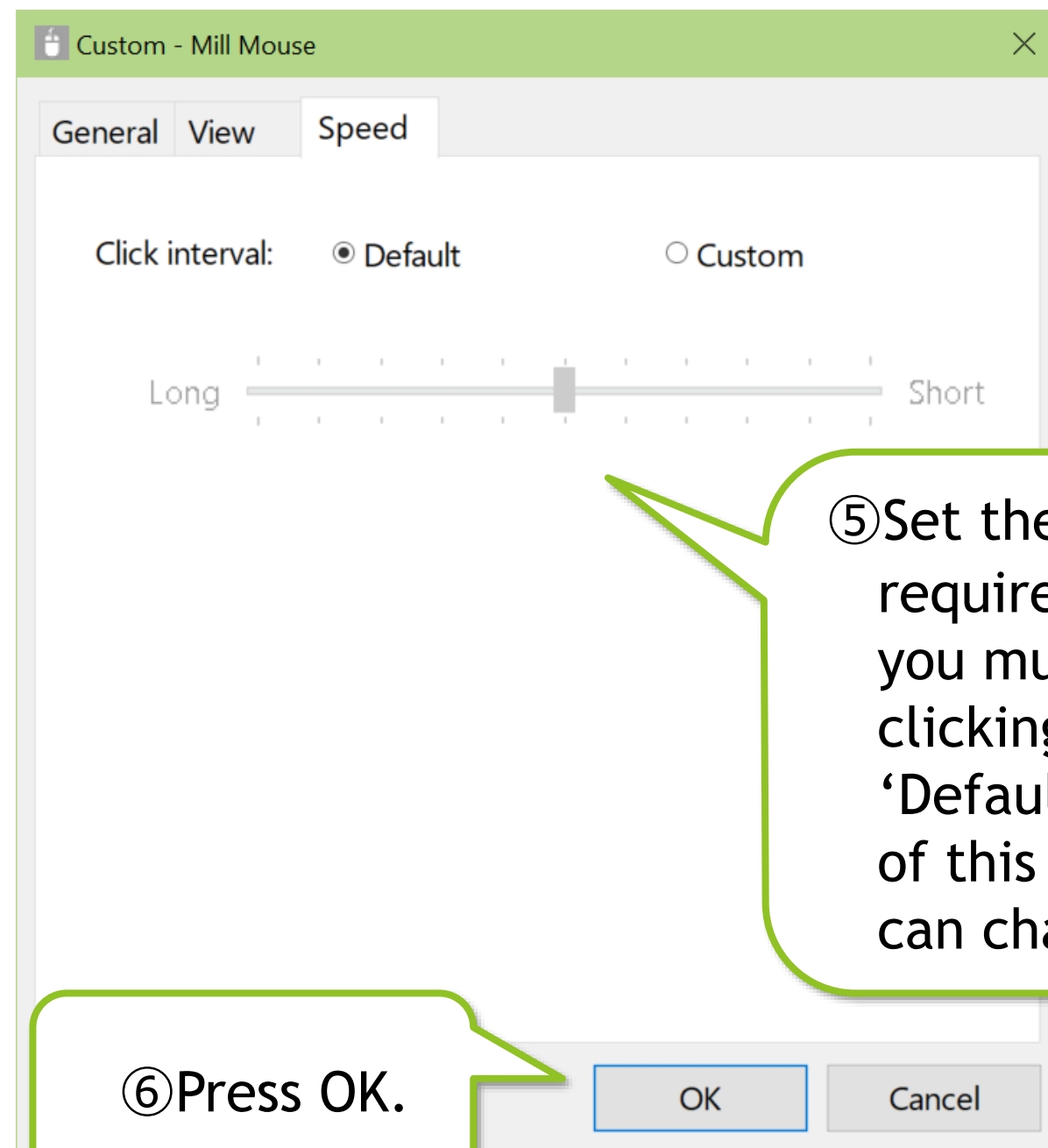
⑤Set the 'Click interval' on the Speed tab as required. This is the setting for how long you must look at this shortcut button before clicking it.
'Default' is the same interval as on page 38 of this guide. If you select 'Custom', you can change the interval from the default.

⑥Press OK.

Settings – Add custom shortcuts

(Continued)

⑦It will be added to 'Available shortcuts'. Press ▶ button to move it to 'Current shortcuts'.

Settings – Add custom shortcuts

(Continued)

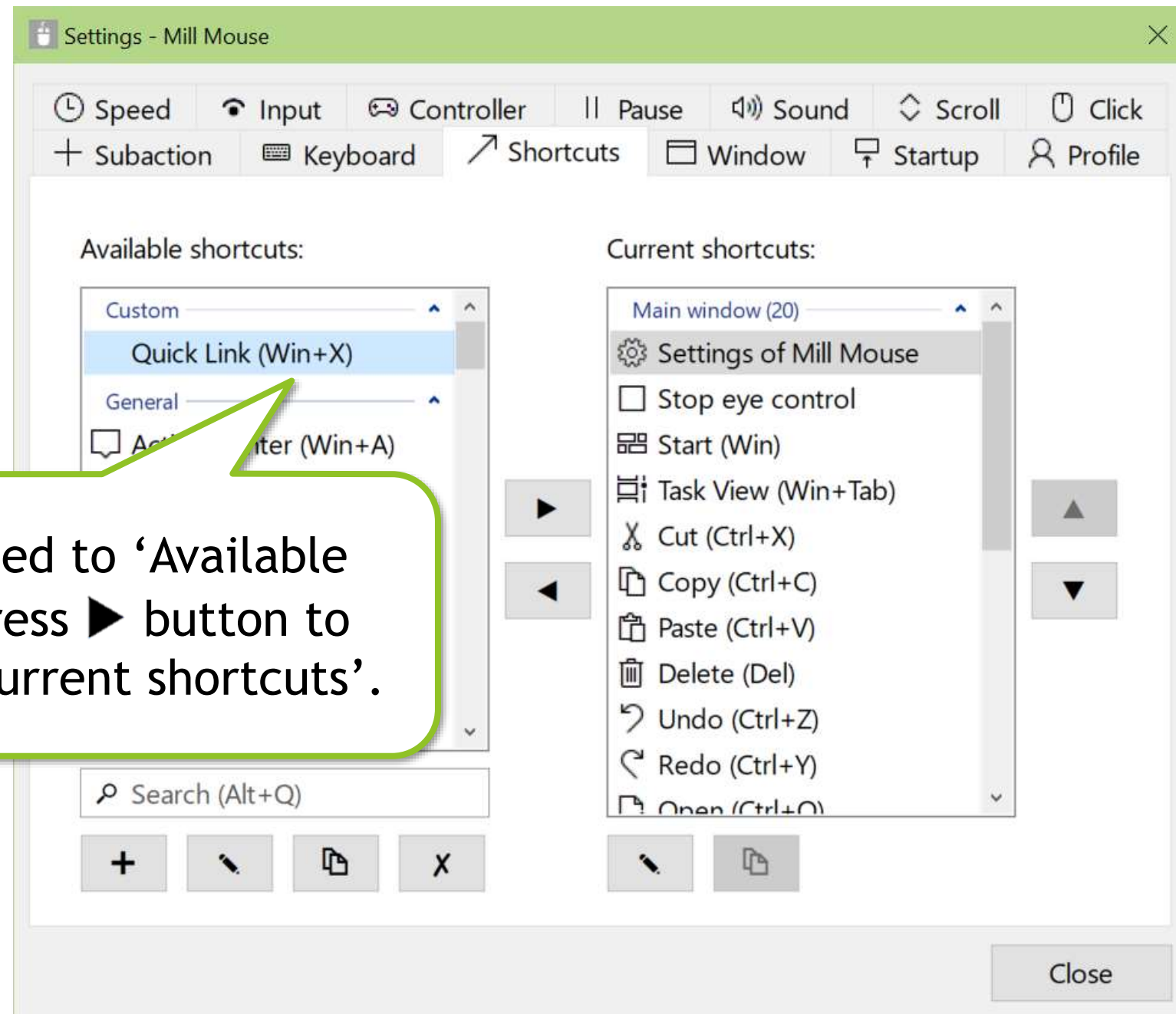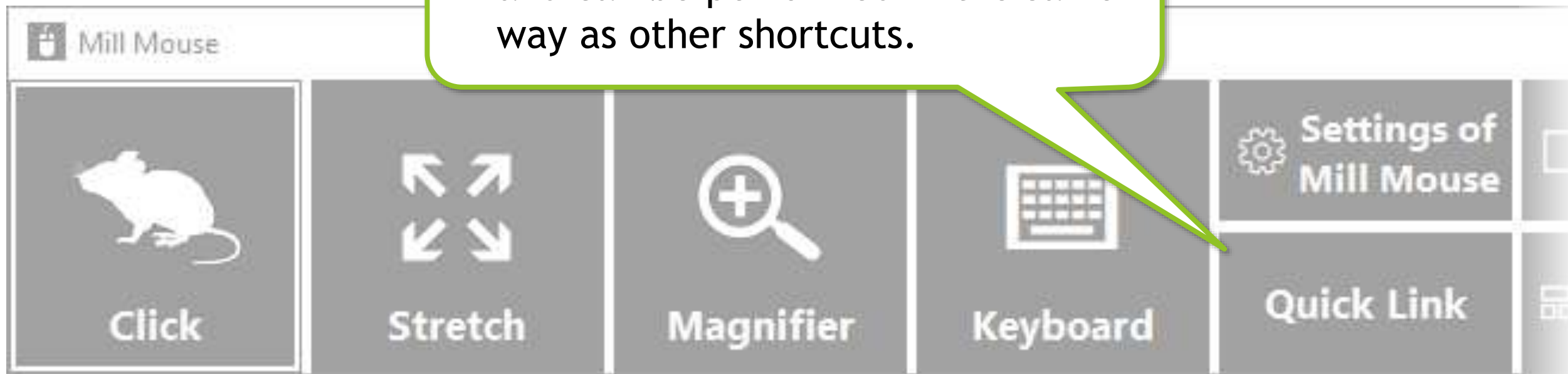⑧It will be displayed in the window and can be performed in the same way as other shortcuts.

Mill Mouse

Click　Stretch　Magnifier　Keyboard　Settings of Mill Mouse　Quick Link

⑨If you have checked 'Hold down keys' in ③, once you press the button, the shortcut key will remain pressed and the button color will be reversed.
If you press the button again, the keys will be released and the button color will be restored.

Se　gs of
M　ouse

Quick Link
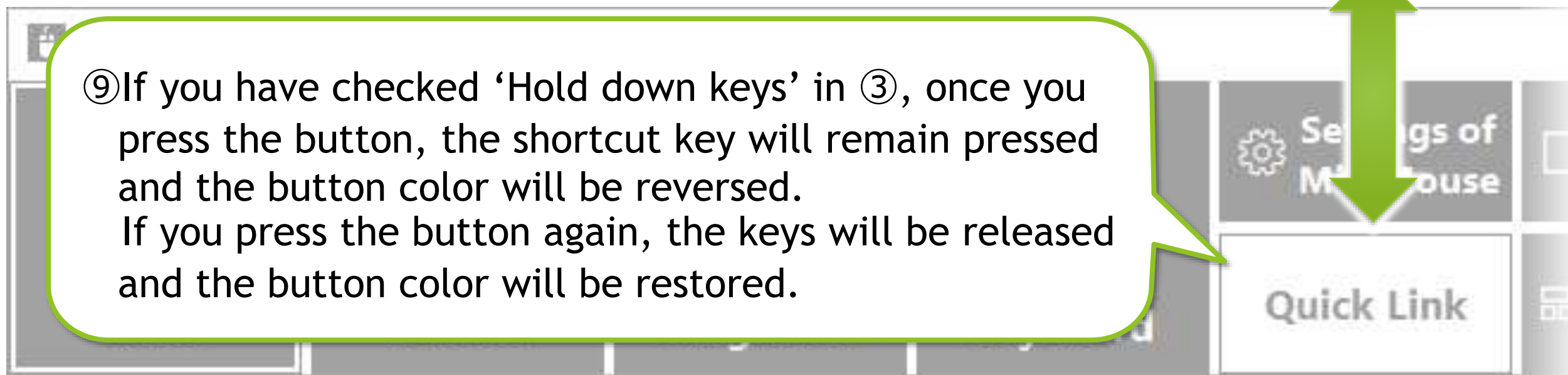
※　Unlike holding down the physical keys, the keys will not be entered repeatedly.

Settings – Press keys only when gazing

If you check 'Press keys only when you gazing at the shortcut button' on page 64 of this guide, the keys will be pressed only when you gaze at the shortcut button regardless of the input method setting on page 39 of this guide.

If you also check 'Hold down keys', the keys will remain pressed while you gaze at the shortcut button, and will be released when you remove your gaze from the shortcut button.

W key

W key
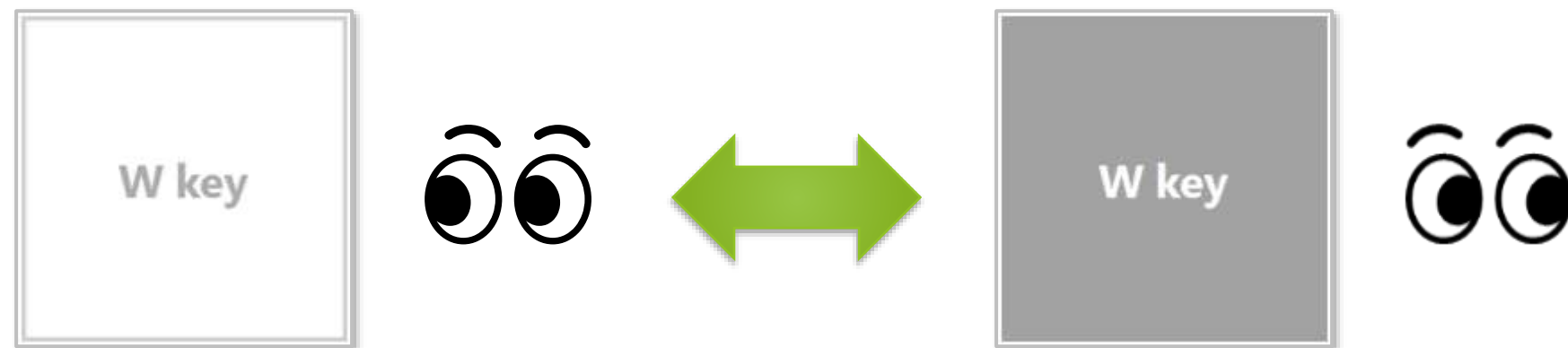
If you check 'Press keys only when you gazing at the shortcut button' and uncheck 'Hold down keys', the keys will be pressed and immediately released when you gaze at the shortcut button.

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Settings – Add custom texts

You can also set custom texts for input to the text editors or other apps, or reading aloud.

①Press '+' button.

②Dialog will be displayed. Set the name and select Text.

③Enter the custom text, select the action and press OK.

※ For Name, set a short string to be displayed in the window as the following ⑤.

Settings – Add custom texts
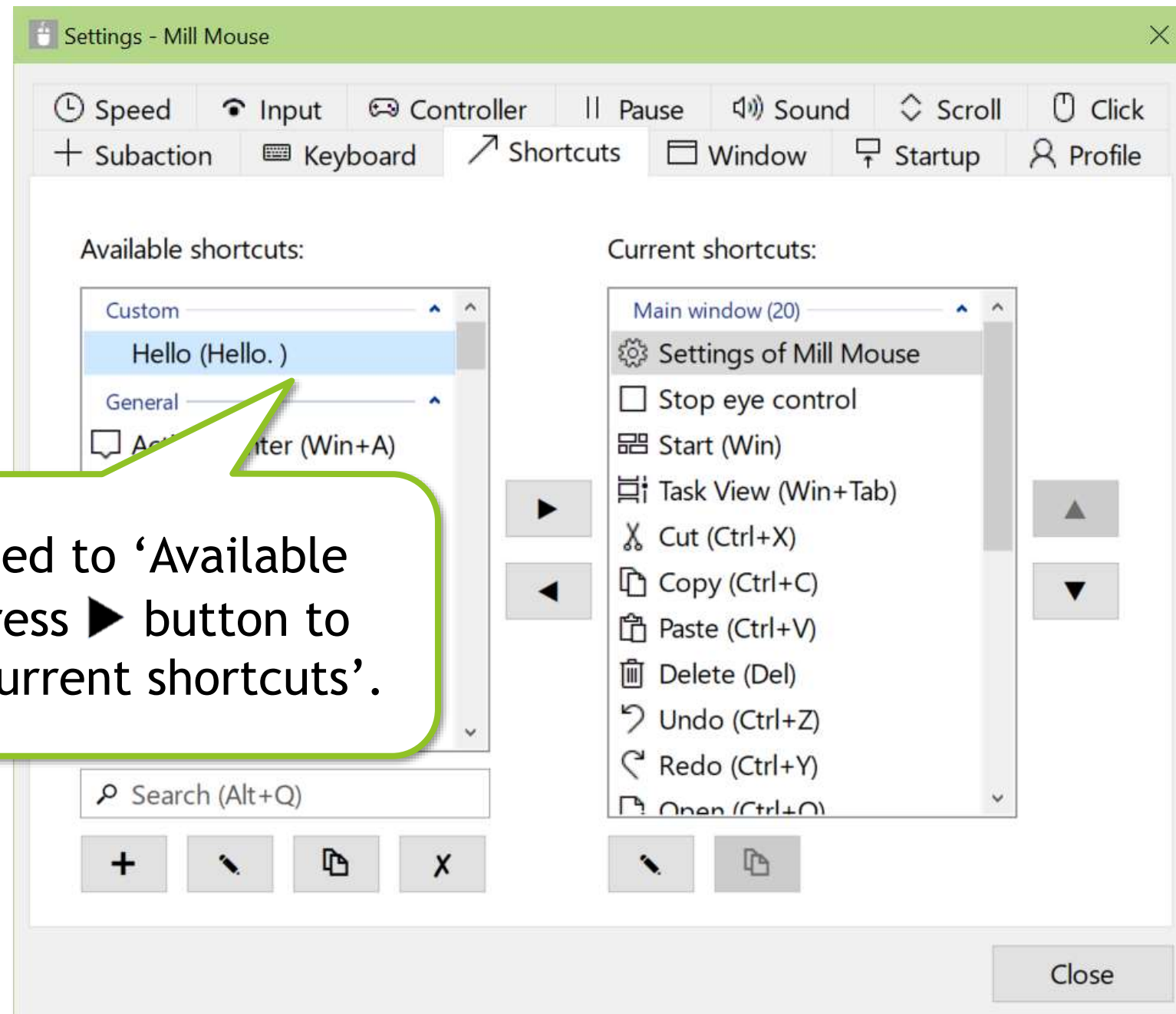
(Continued)

④It will be added to 'Available shortcuts'. Press ▶ button to move it to 'Current shortcuts'.

Settings – Add custom texts

(Continued)

⑤The button will be displayed in the window.
If you have checked 'Input text' in ③, press
the button with the text editor open to input
the text you have set.
If you have checked 'Hear text read aloud'
in ③, press the button to read the text you
have set aloud.
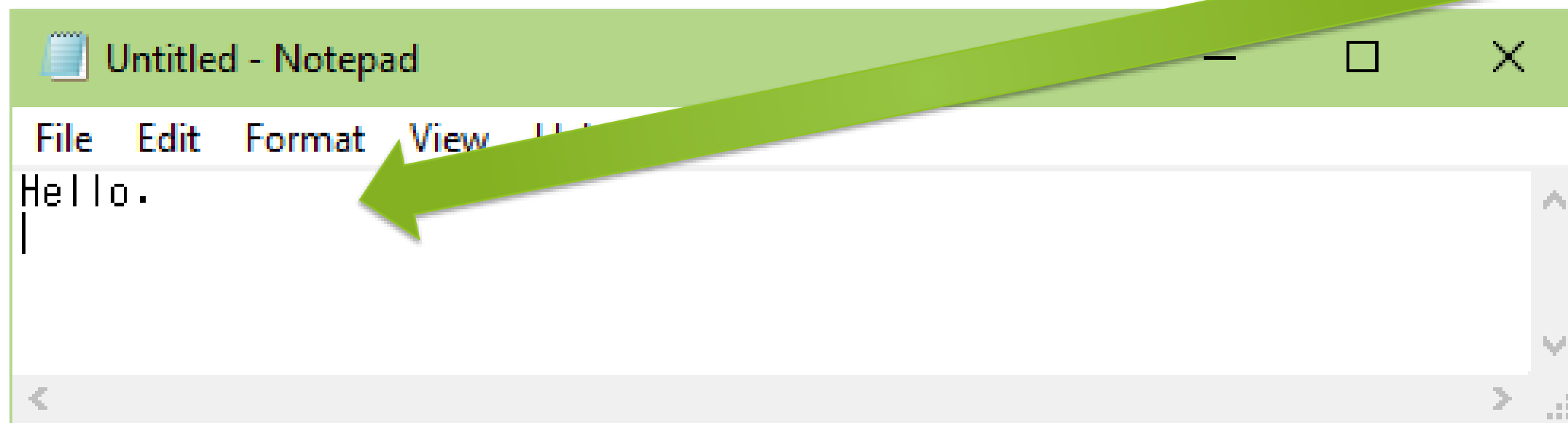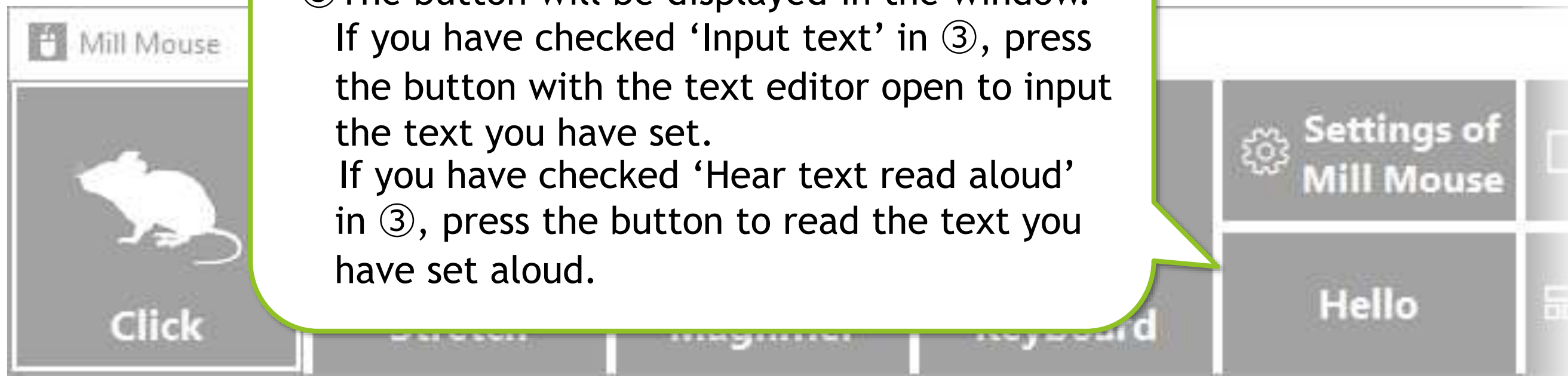
Settings – Shortcuts to launch other apps

You can also add shortcuts to launch other apps.

①Press '+' button.

②Dialog will be displayed. Set the name and select App.

③Set the path of the app to launch in Target and press OK.

※ For Name, set a short string to be displayed in the window as the following ⑤.

Settings – Shortcuts to launch other apps
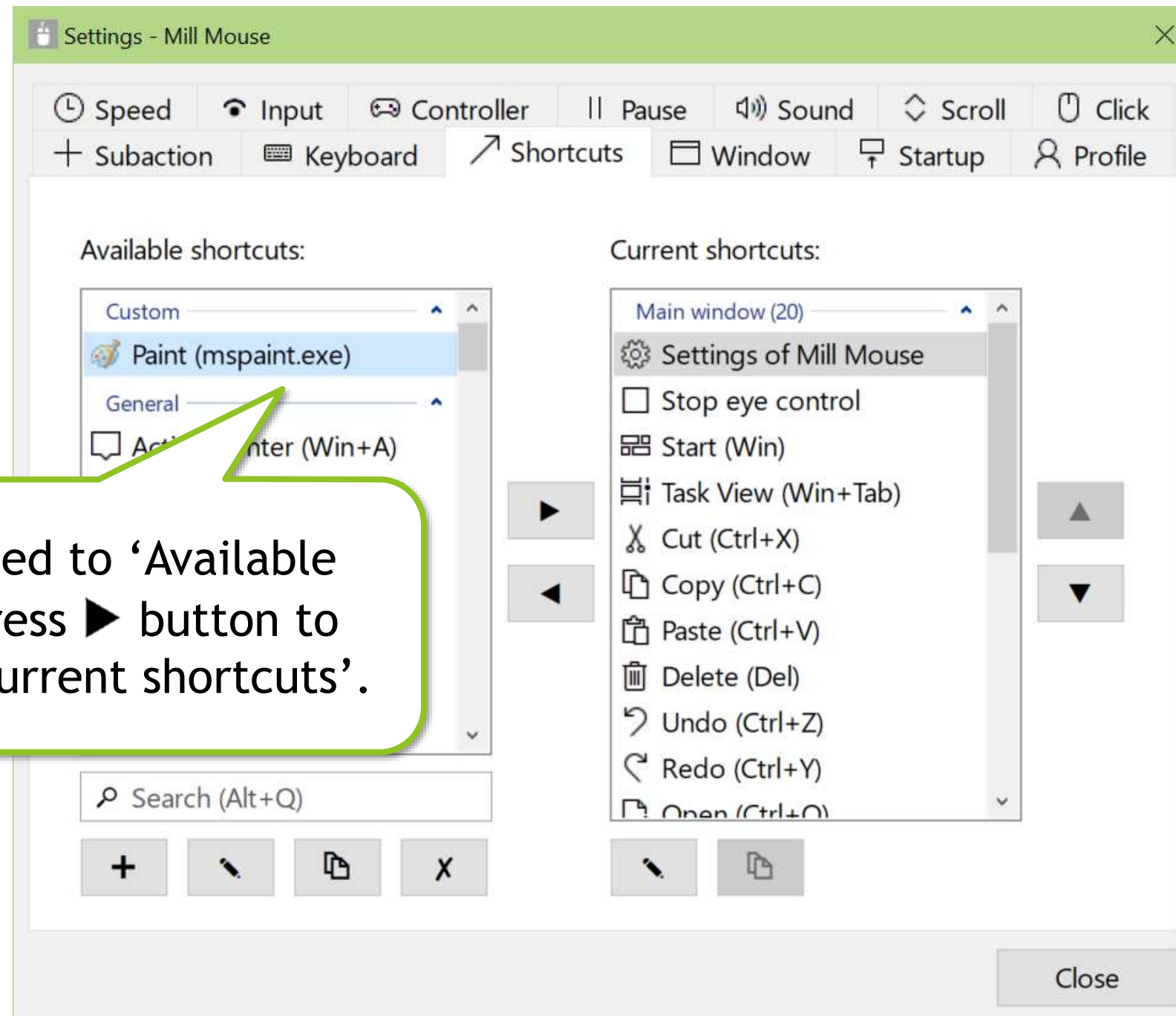
(Continued)

④It will be added to 'Available shortcuts'. Press ▶ button to move it to 'Current shortcuts'.

Settings – Shortcuts to launch other apps

(Continued)

⑤The button will be displayed in the window. If you press the button, the app set in ③ will launch.
If you have set the path of image, audio, or video file to Target in ③, press the button to launch the app associated with the file type.
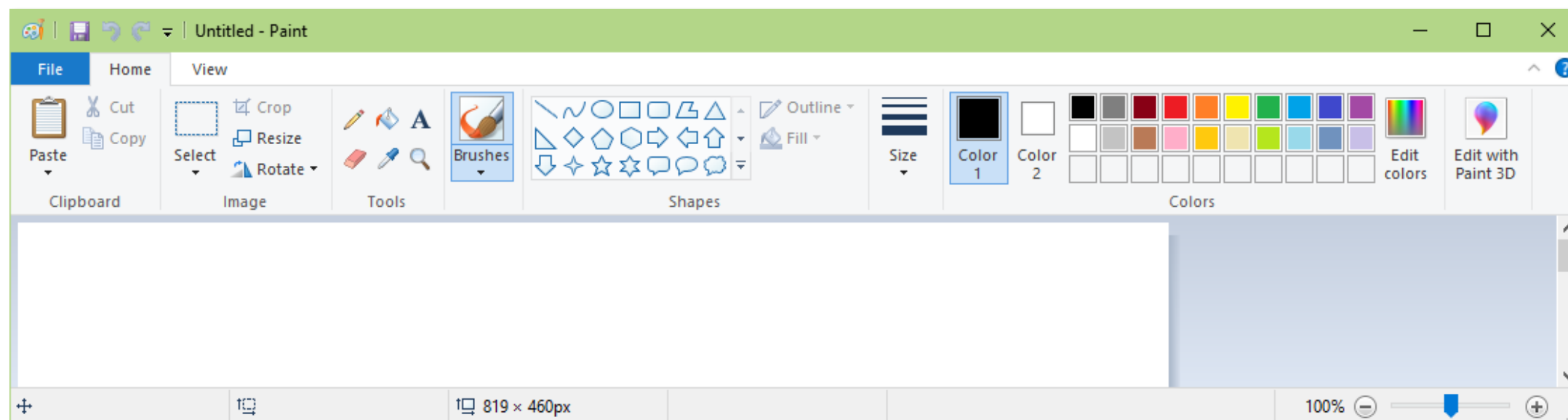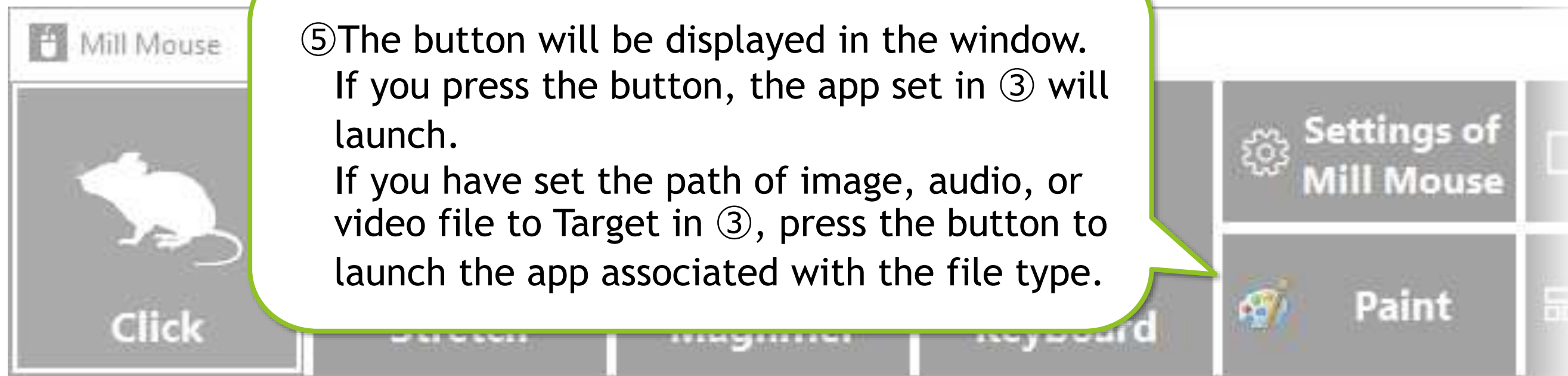
Settings – Separate windows

You can also show the shortcuts in separate windows. You can set up to 20 shortcuts.
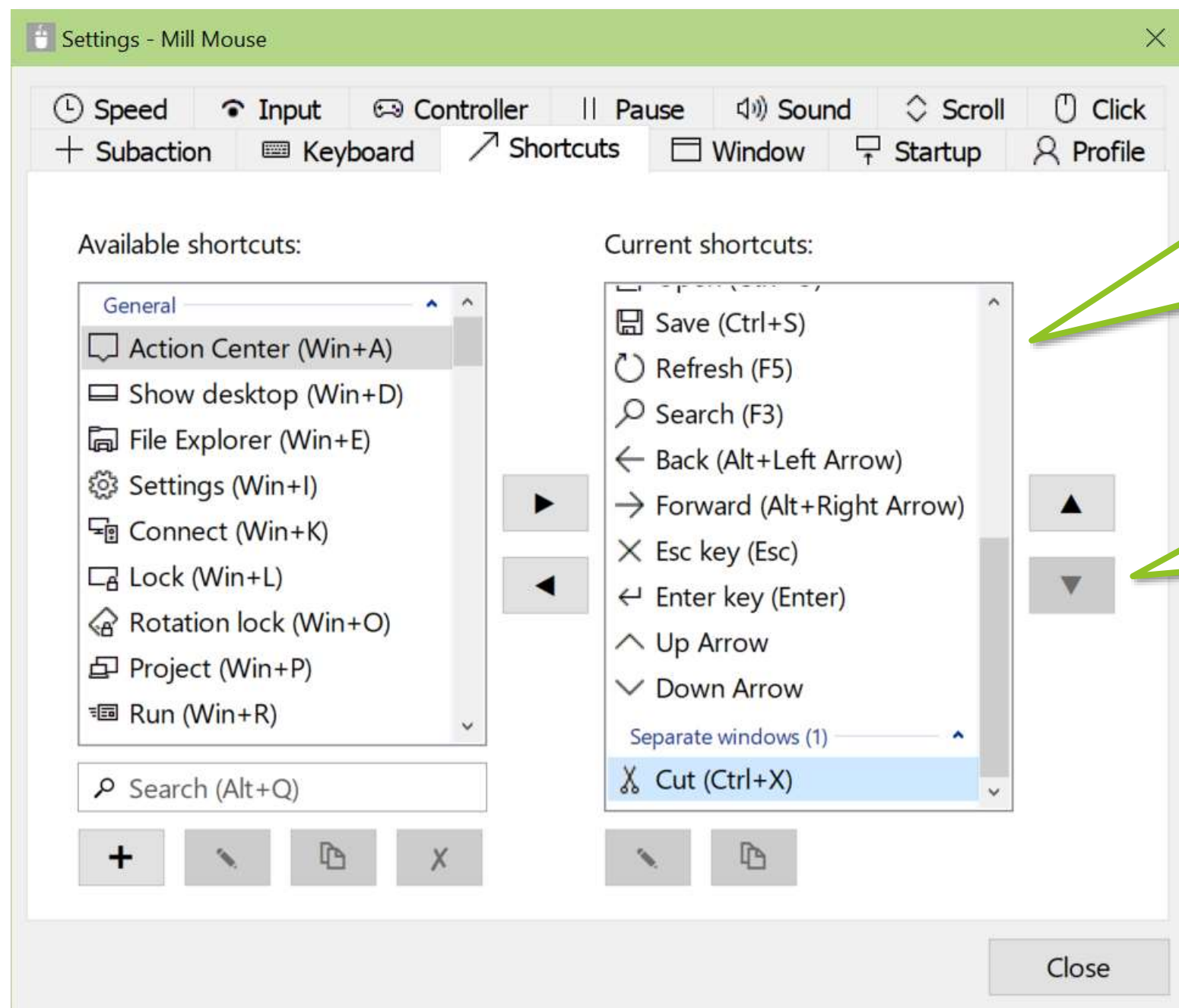
①Select a shortcut from 'Current shortcuts' which you want to show in separate window.

②Press ▼ button several times to move it under 'Separate windows'.

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Settings – Separate windows

(Continued)
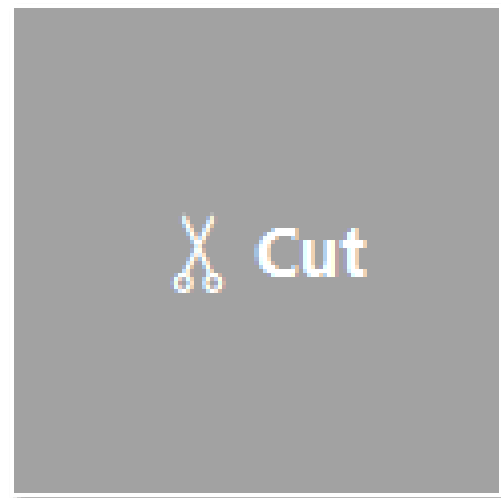
③The shortcut button appears in a separate window on the desktop screen.

Cut

④You can move it on the desktop screen by dragging inside. You can change the size by dragging the edges.

Cut
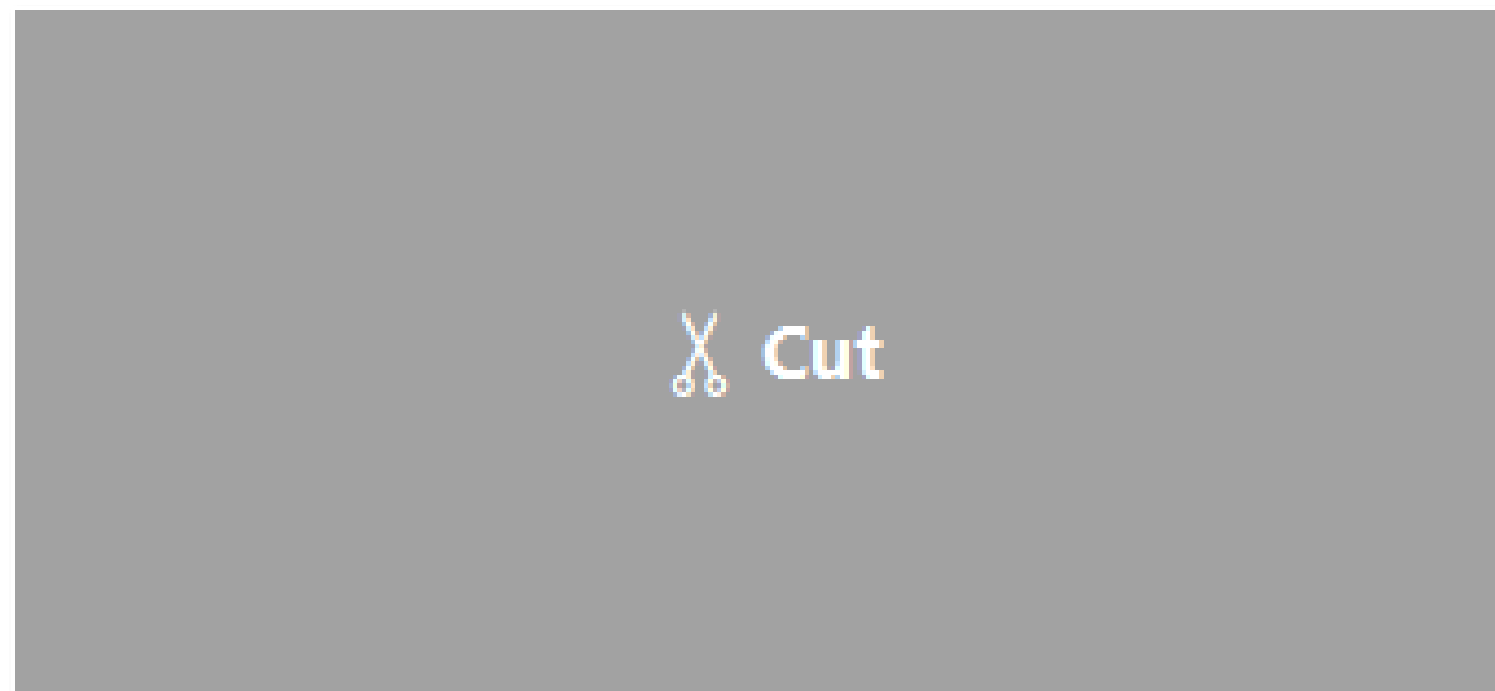
Settings – Window display

On the Window tab of the settings dialog, you can change the window display location, whether to automatically hide or fade the window, and the color of the window.
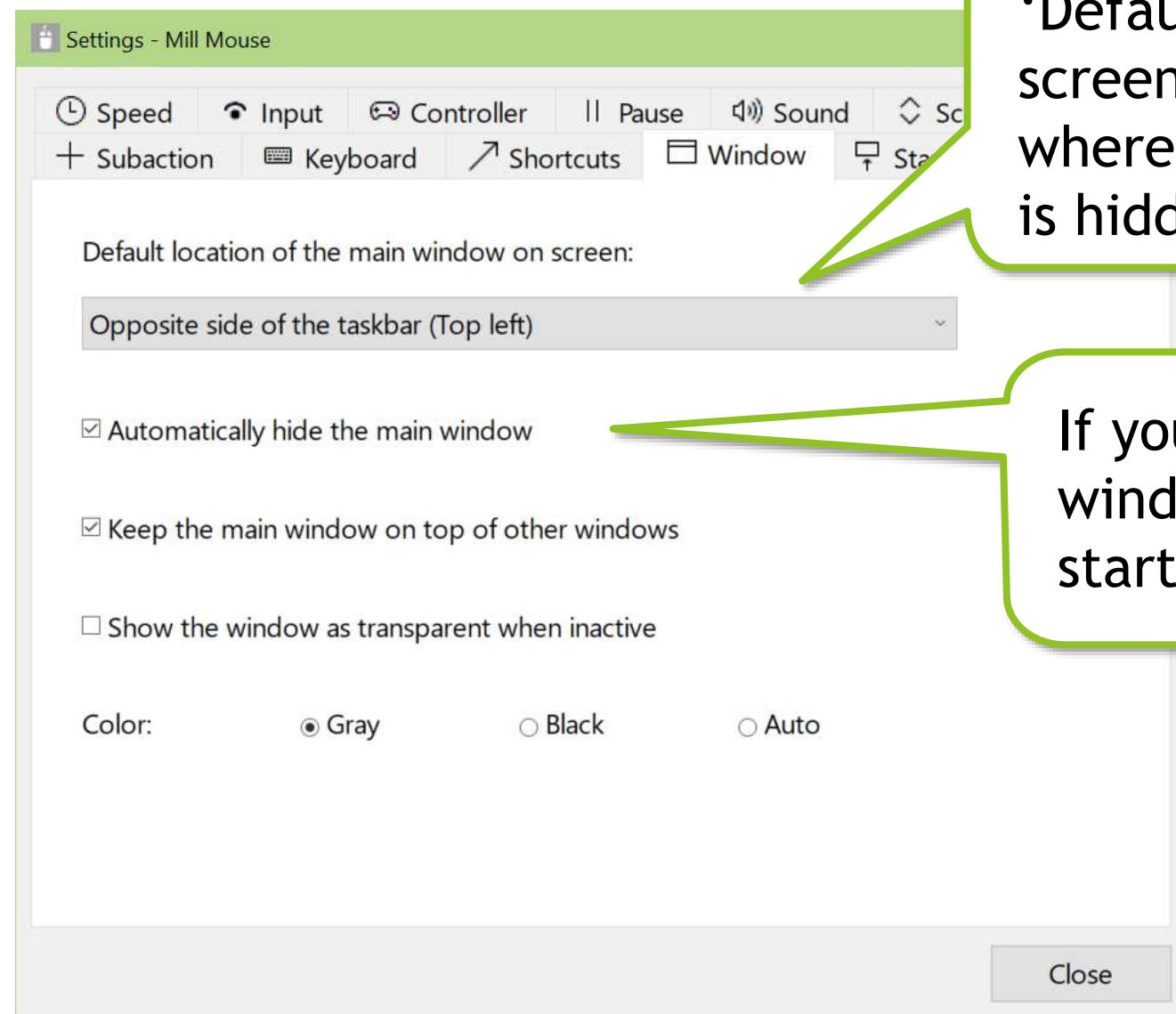
'Default location of the main window on screen' allows you to change the location where the window will reappear when it is hidden.

If you uncheck 'Automatically hide the window', the window position next time started will be the last end position.

※ If high contrast is enabled, the color can not be changed.

Settings – Startup

On the Startup tab of the settings dialog, you can change whether to automatically launch Mill Mouse when you sign-in to Windows, whether to terminate Tobii Experience or Tobii EyeX Interaction in the notification area of the taskbar, and the startup mode.

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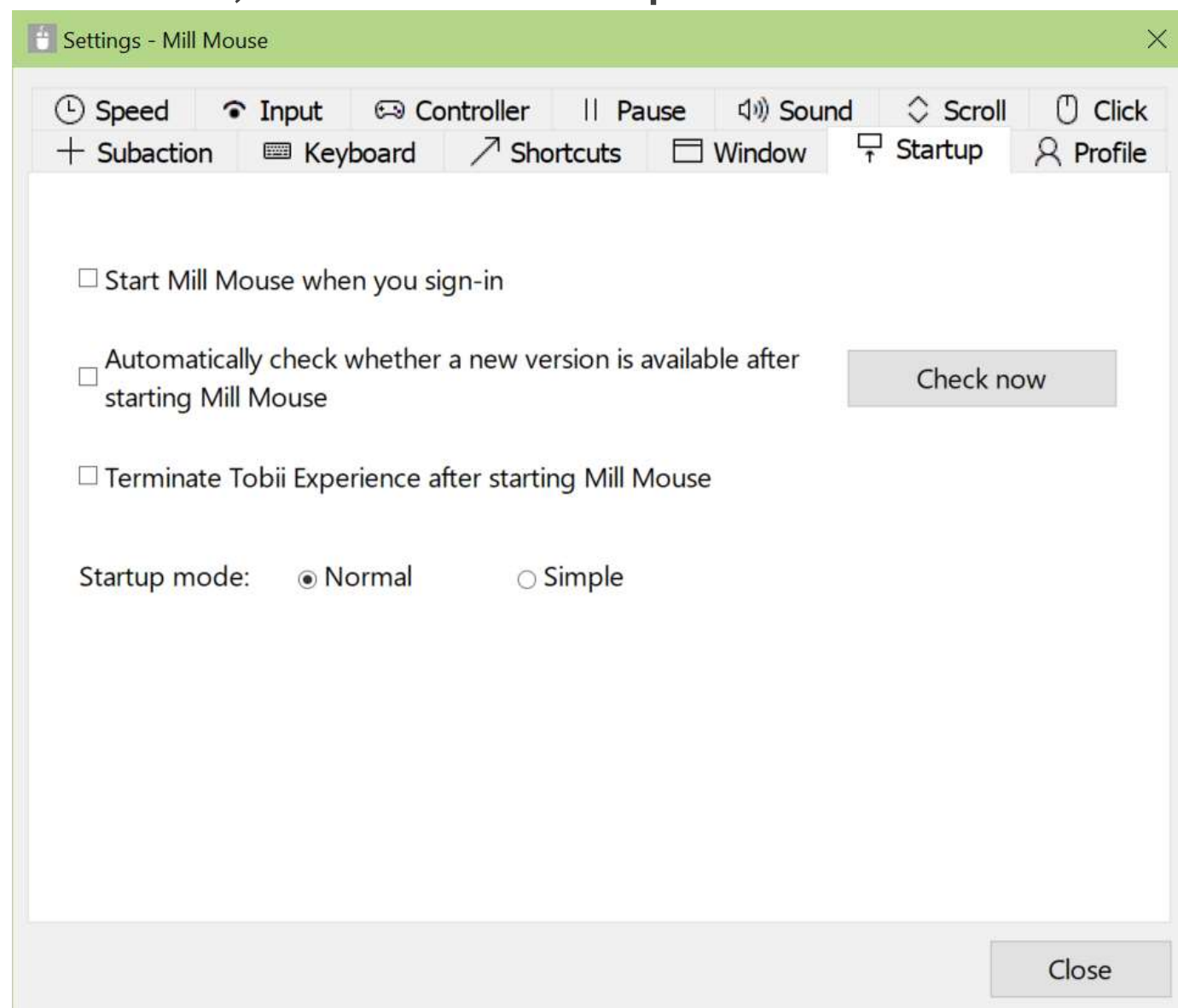
Settings – Check for a new version

If you enable 'Automatically check whether a new version is available after starting Mill Mouse', it will automatically check for a new version via the internet when you launch Mill Mouse.

If a new version of Mill Mouse is available, the message below will appear. Click Yes to update.
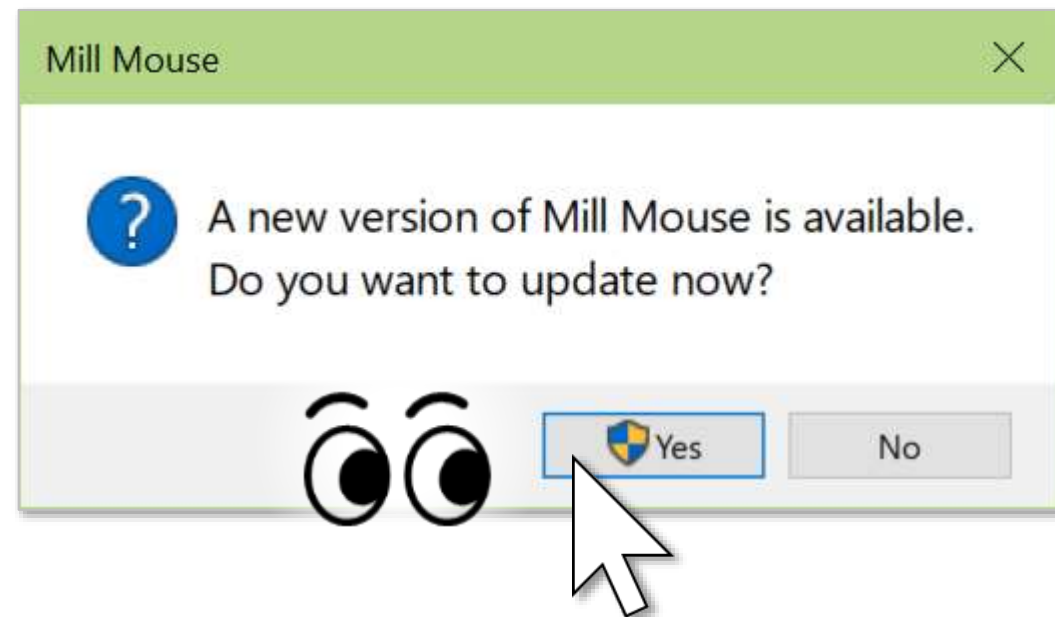
※　It will not automatically check for a new version if Mill Mouse is running in simple mode.

※　It will not automatically check for a new version over metered connections on Windows 11, Windows 10, or Windows 8.1.

Settings – Check for a new version

(Continued)

Click Yes on the User Account Control dialog.
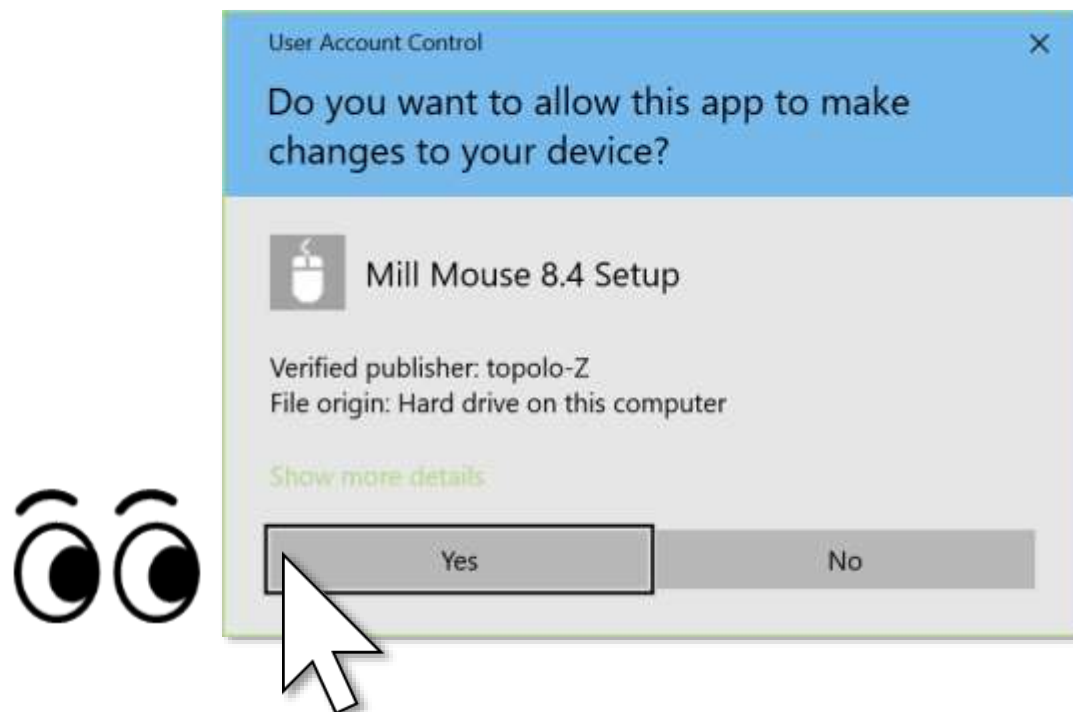
Settings – Check for a new version

(Continued)

A new version of Mill Mouse will be installed automatically. Eye tracking will temporarily stop during installation.

Once the installation is complete, the new version of Mill Mouse will automatically launch and you can resume eye tracking.

At the end of the installation, click OK when the message below appears.
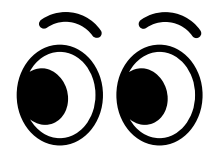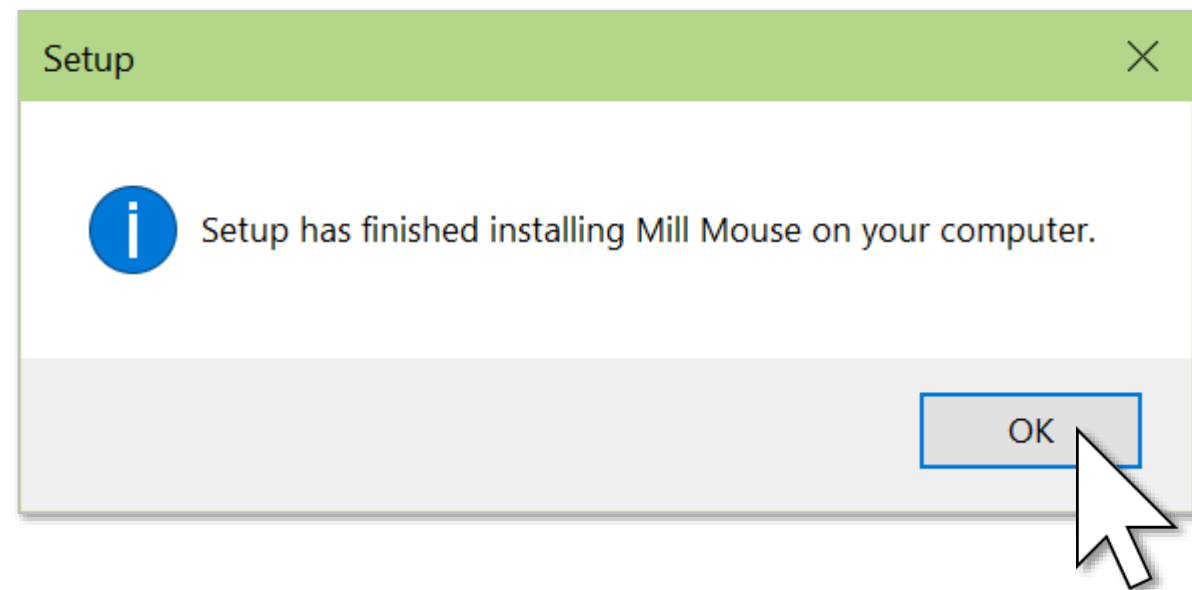
Settings – Simple mode

If you set the startup mode to Simple described on page 78 of this guide, Mill Mouse will run in simple mode. In simple mode, the available functions and display items are limited. It has the following differences from normal mode.

▶ In simple mode, only clicks are performed when you keep gazing at the same place. Any action other than clicking, such as double clicking or dragging, is not possible.

▶ In simple mode, only the Pause button is displayed on the desktop screen. Neither the main window of Mill Mouse nor separate windows are displayed.

|| Pause

You can move the Pause button on the desktop screen by dragging inside. You can also change the size of the Pause button by dragging the edges. However, you can not perform drags by eye tracking in simple mode, so you need to use a physical mouse to drag it.

Settings – Simple mode

To pause clicks in simple mode, keep gazing at the Pause button. Then the button color will be reversed, and clicking will not be performed even if you keep gazing at the same place other than the Pause button.

To cancel the pause, keep gazing at the Pause button again.
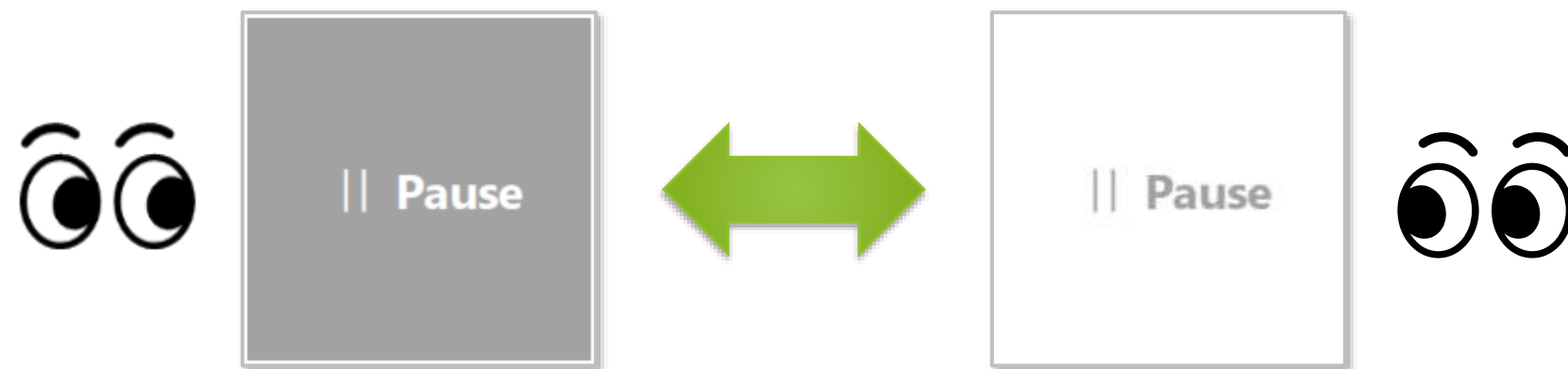
Settings – Simple mode

To switch back from simple mode to normal mode, keep gazing at ⬜ icon in the notification area of the taskbar and select Settings from the menu displayed.
Then the settings dialog will open. Go to the Startup tab as described on page 78 of this guide and change the startup mode to Normal.

If the icon is hidden, keep gazing at ⌃ to make it appear.
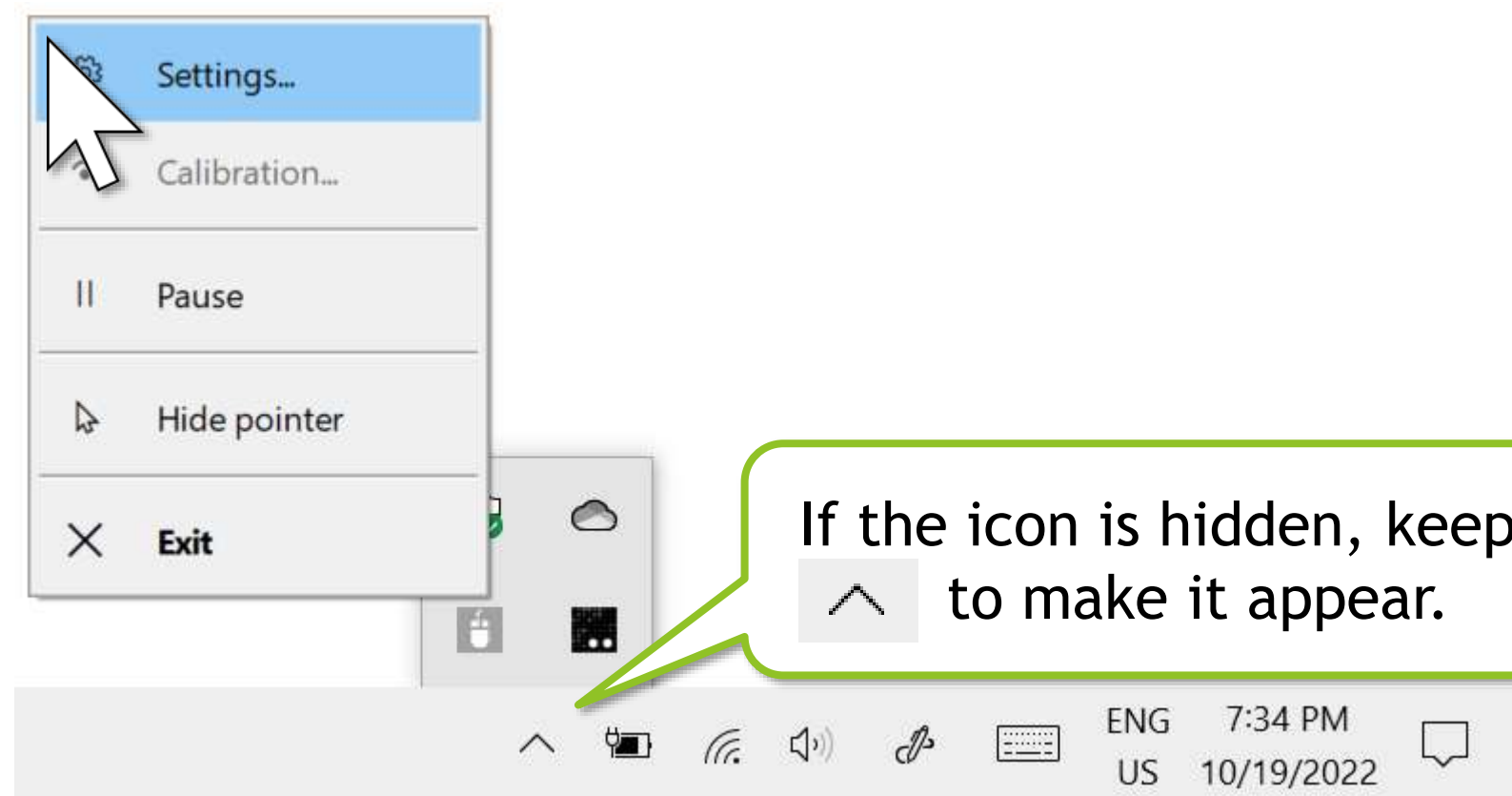
Settings – Simple mode

To exit Mill Mouse while in simple mode, keep gazing at 🖱 icon in the notification area of the taskbar and select Exit from the menu displayed.

Mill Mouse will be in simple mode the next time it starts.

If the icon is hidden, keep gazing at ⌃ to make it appear.
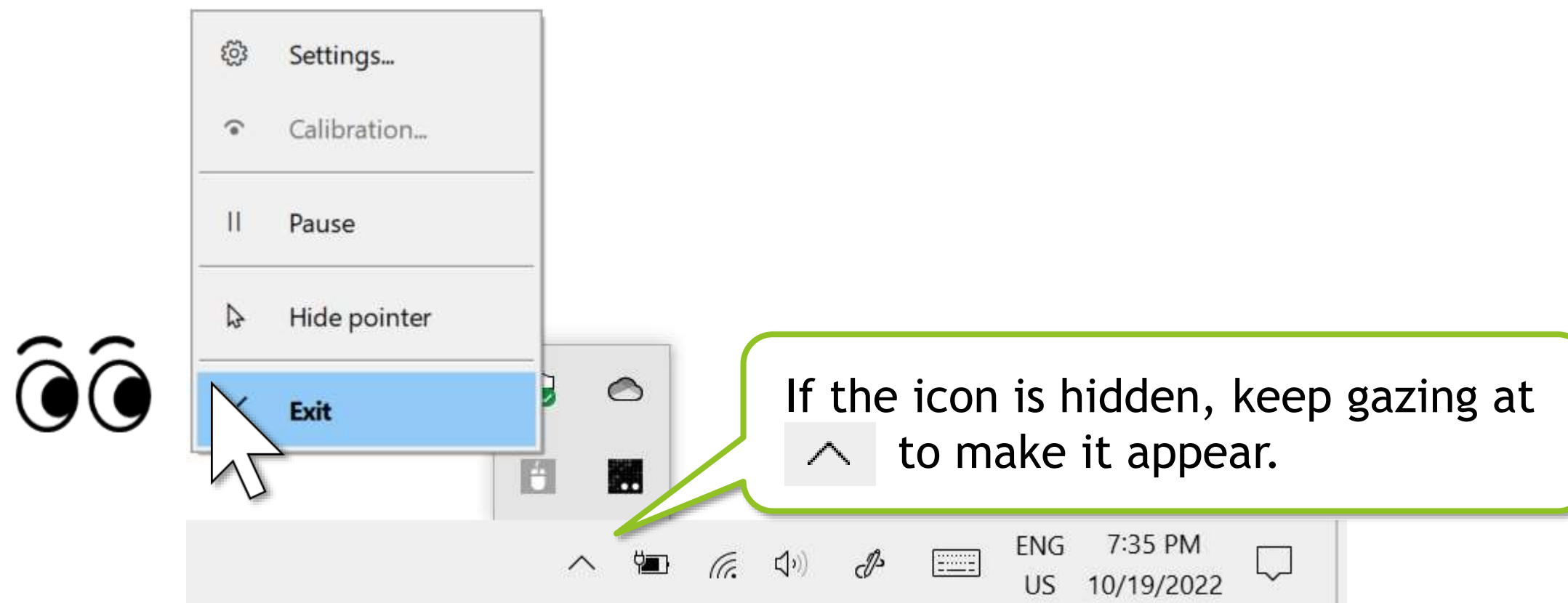
Settings – Profile

On the Profile tab, you can save a set of Mill Mouse settings as a profile and switch between them. For example, you can save your preferred arrangement of shortcuts for a game as a profile in advance. Then, by switching to that profile just before playing the game, you can quickly rearrange the shortcuts as you have saved them.

①Press New or Copy.
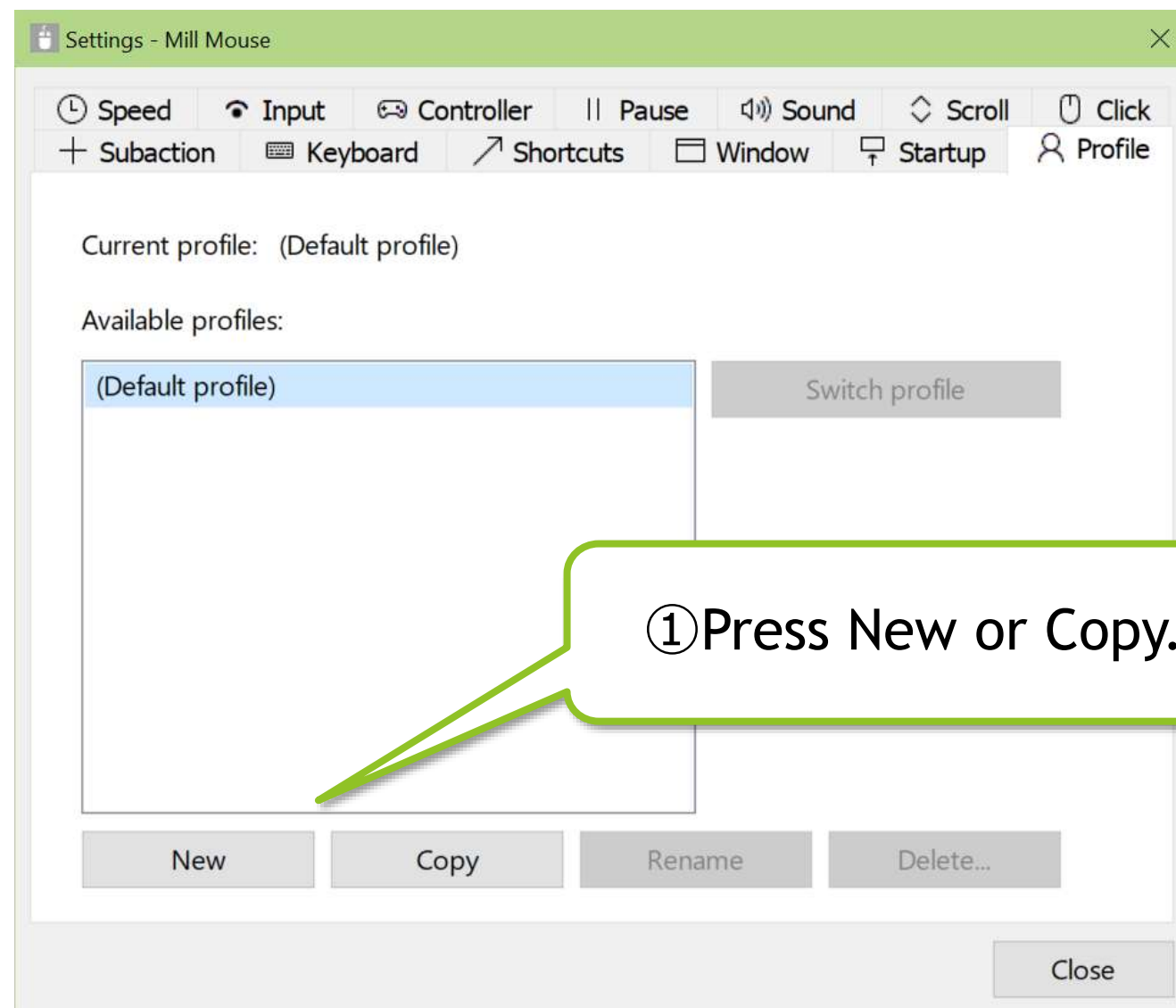
Settings – Profile
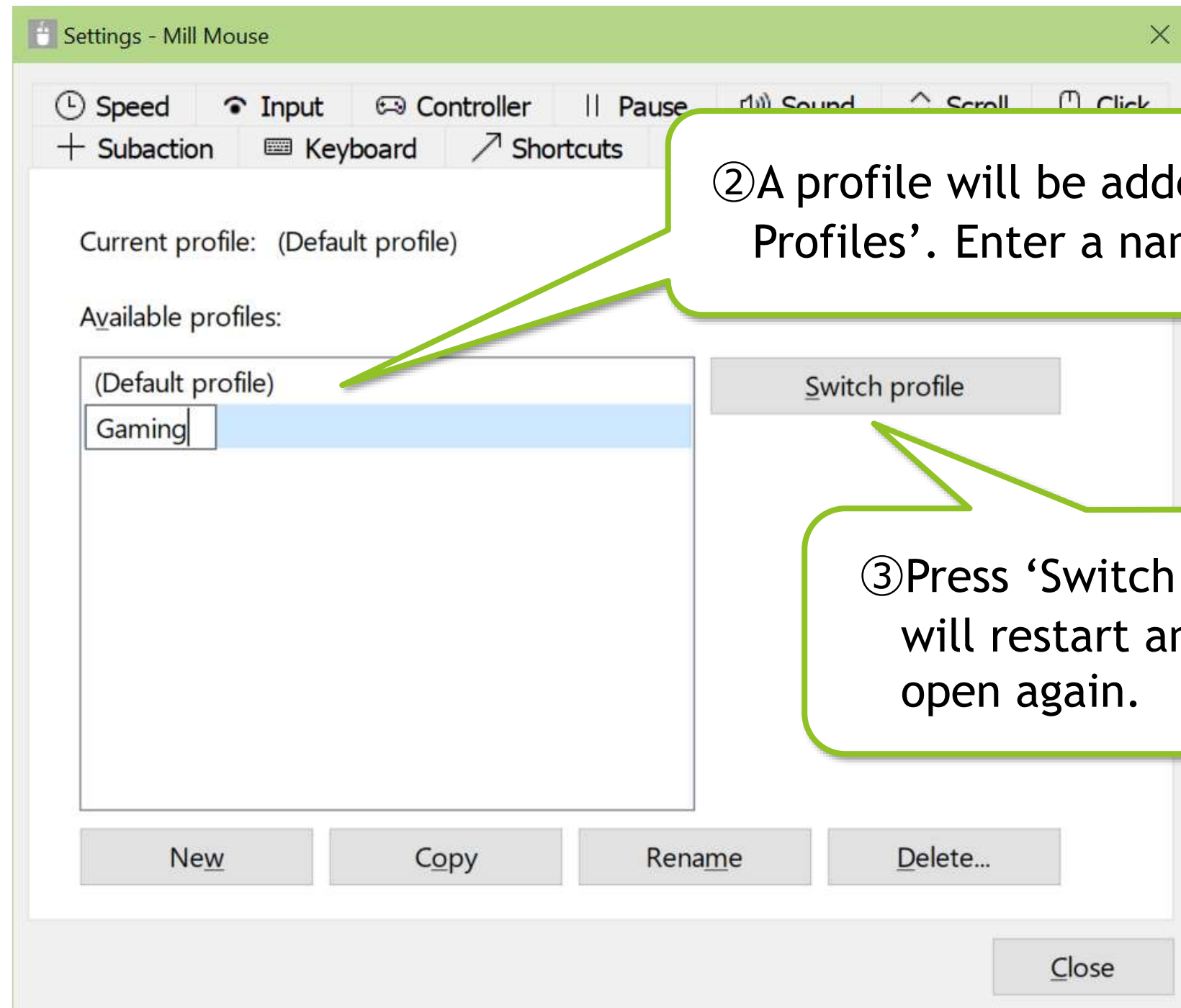
(Continued)

②A profile will be added to 'Available Profiles'. Enter a name.

③Press 'Switch profile'. Then Mill Mouse will restart and this settings dialog will open again.

Settings – Profile
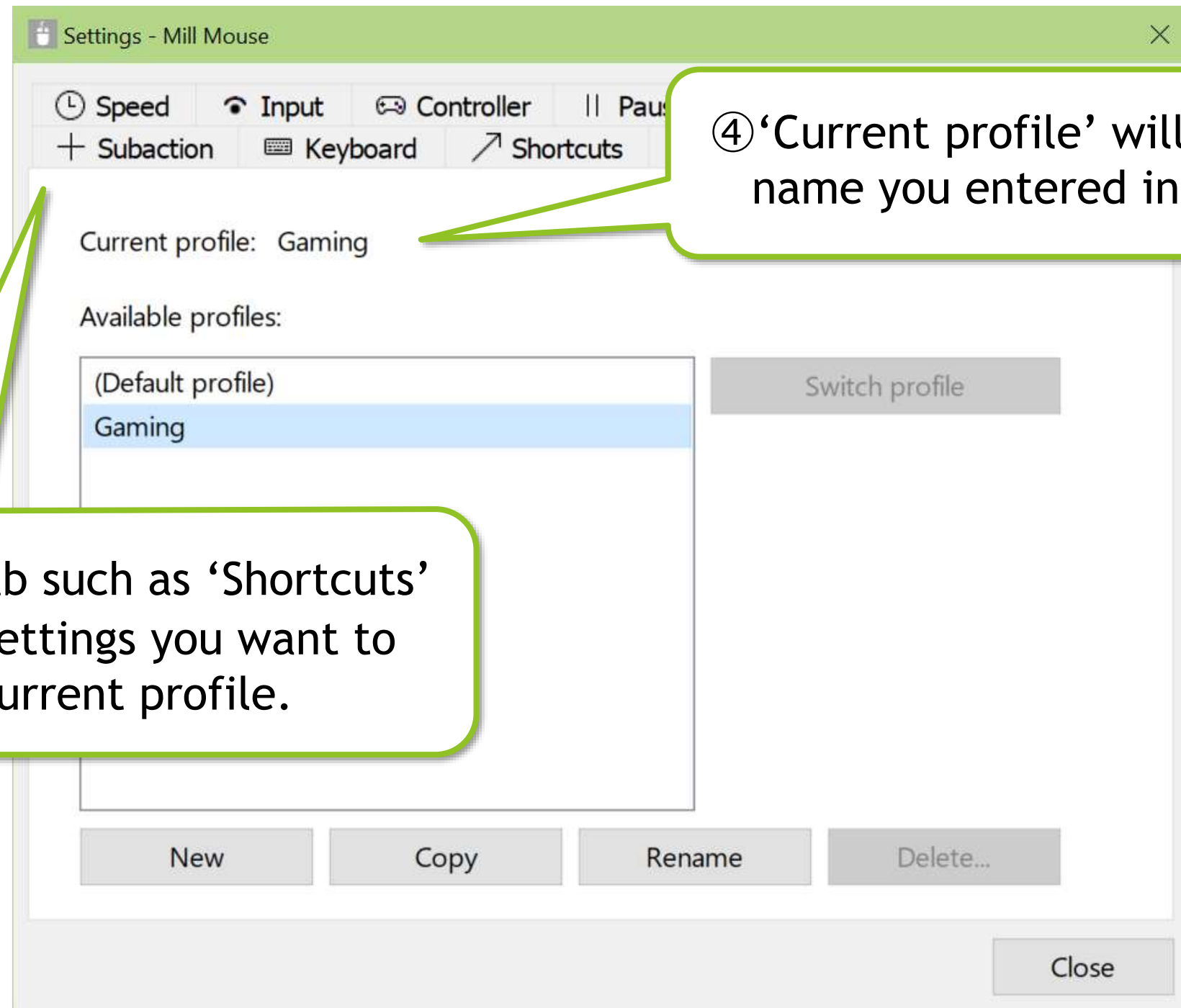
(Continued)

④'Current profile' will change to the name you entered in ②.

⑤Select any tab such as 'Shortcuts' and set the settings you want to save as the current profile.

Settings – Profile

(Continued)

⑥Select '(Default profile)' and press 'Switch profile'. Then Mill Mouse will restart and the settings will be restored.

⑦After that, at any time you like, open this Profile tab again, select a profile from 'Available profiles', and press 'Switch profile' to switch to the saved settings.

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Other functions

Others – Calibration of eye tracking

You can open the calibration screen of the eye tracking from Calibration on the menu displayed when you keep gazing at the title bar of the window.
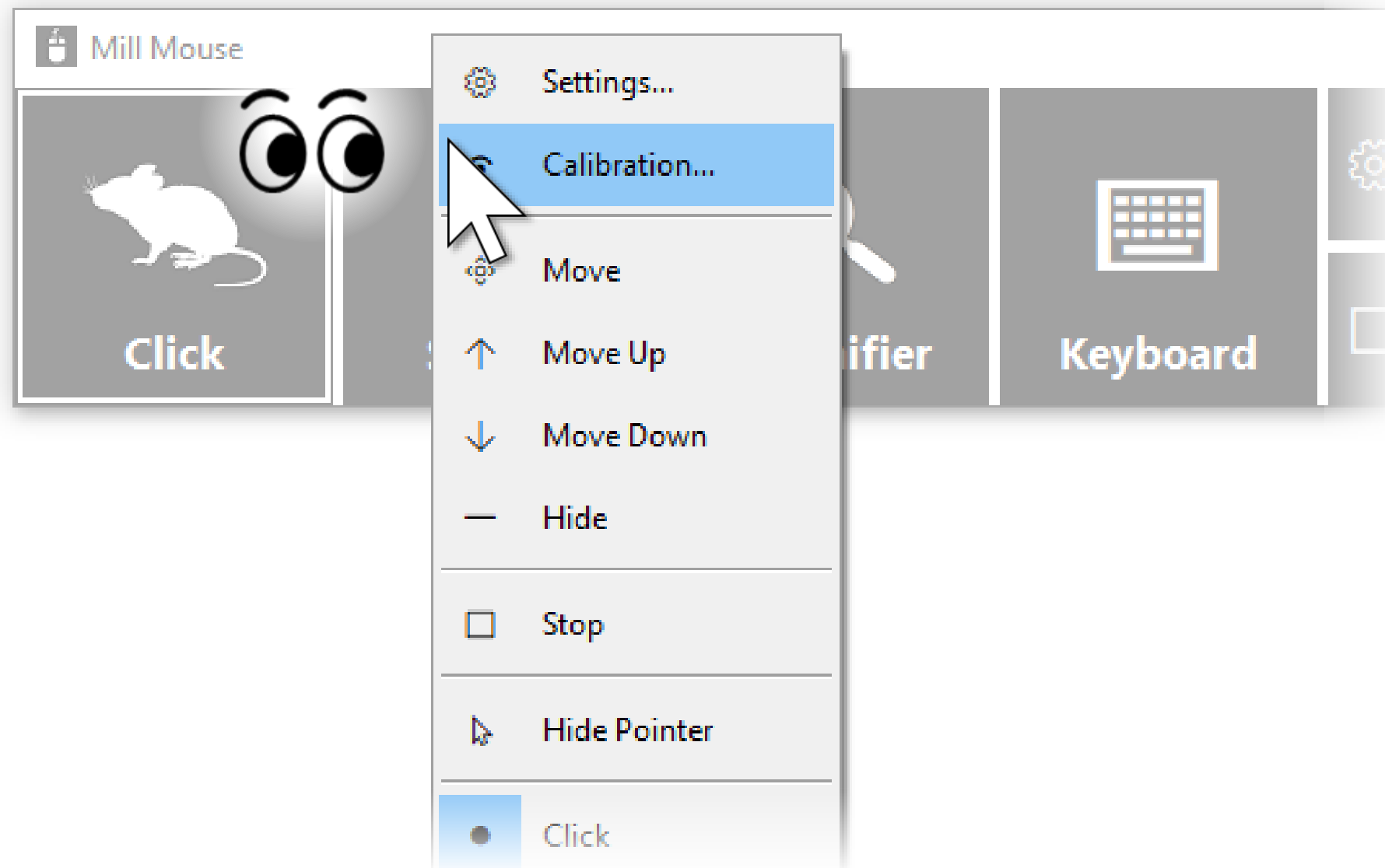
※ If you use Tobii Eye Tracker 4C, Tobii EyeX, or SteelSeries Sentry, it takes about 10 seconds from the menu selection until the calibration screen is displayed.

Others – Calibration of eye tracking

If you are using Tobii Eye Tracker 5, Tobii Eye Tracker 4C, Tobii EyeX, or SteelSeries Sentry and have installed Tobii Dynavox Gaze Point, you can select whether to perform the calibration with Tobii Dynavox Gaze Point from the menu.
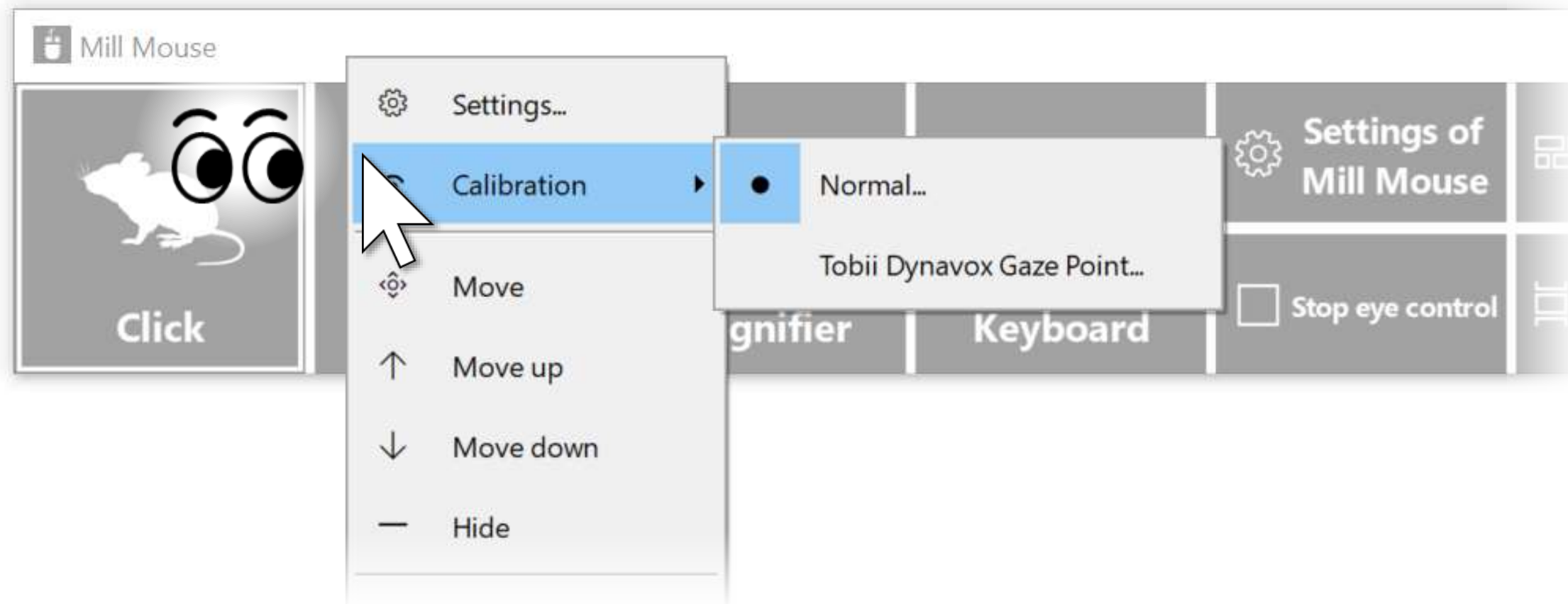
※ To customize the calibration settings of Tobii Dynavox Gaze Point, run Gaze Point Settings separately from Mill Mouse.

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Others – Calibration of eye tracking

If you are using Irisbond Duo or EyeTech TM5, you can select the number of calibration points from the menu.

When you select it from the menu, a white circle will appear on the screen. Keep gazing at that circle to complete the calibration. To abort calibration, press the Esc key.
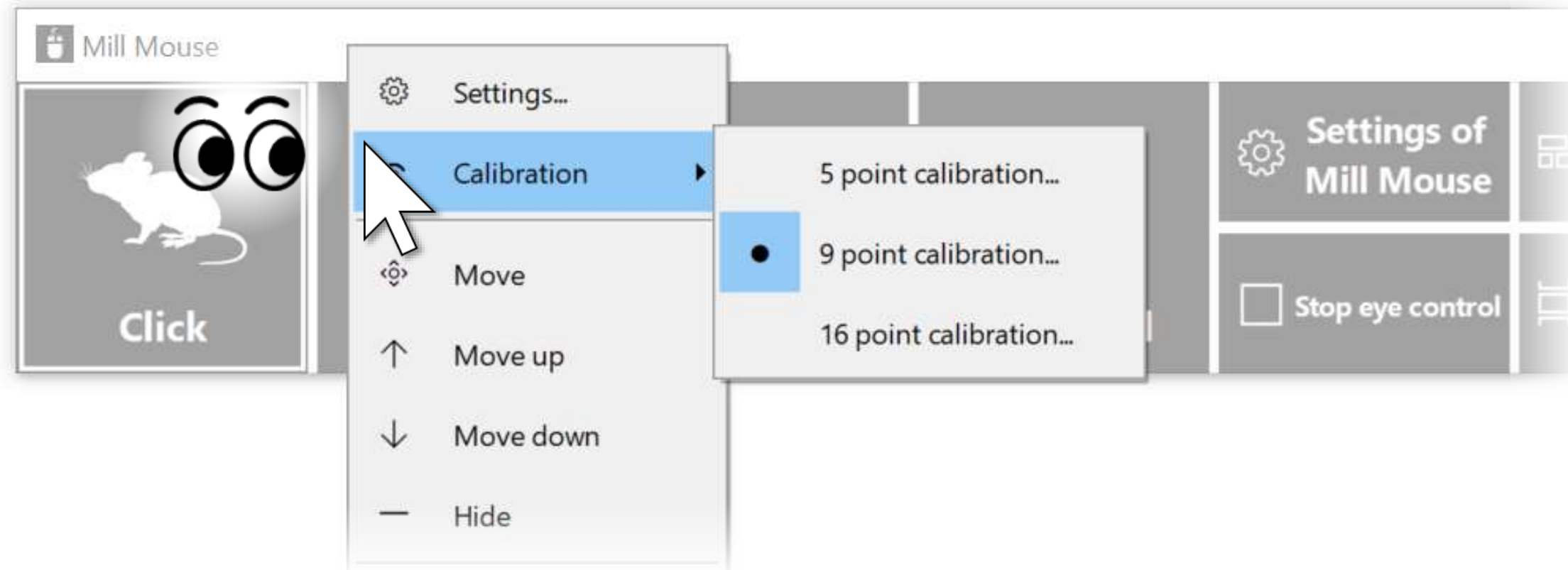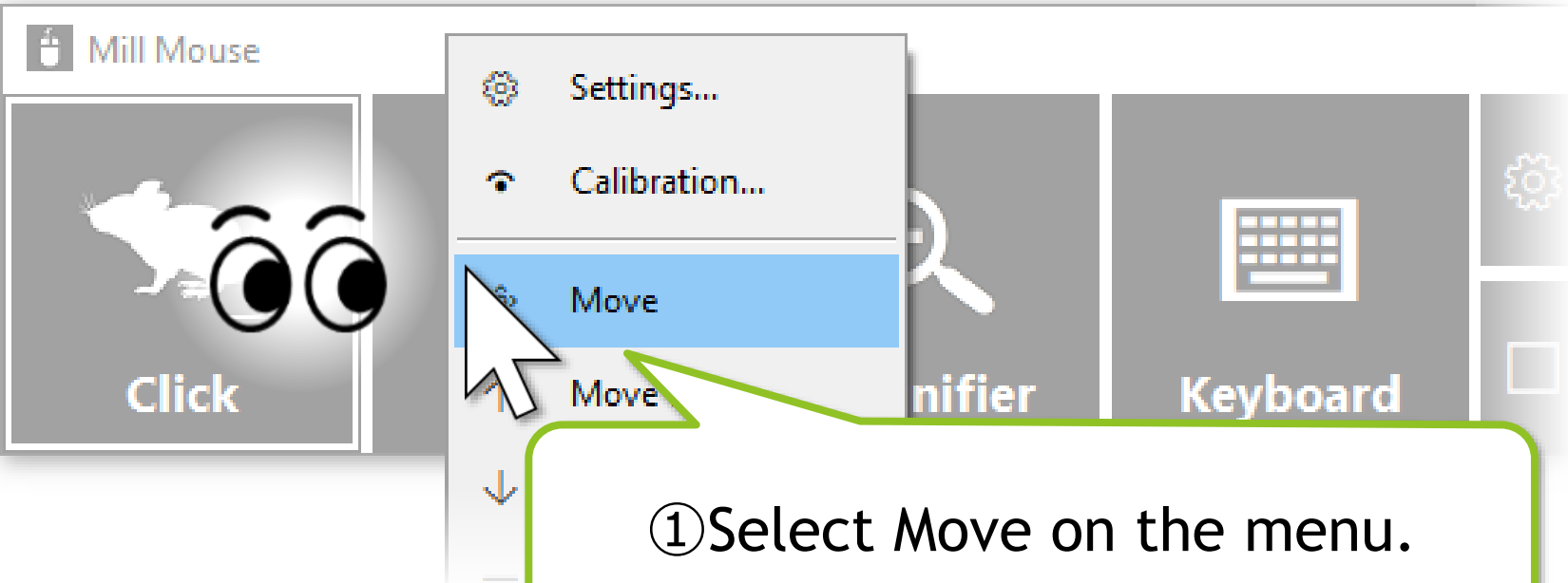
The greater the number of calibration points, the longer it takes to calibrate, but the more accurate the eye tracking will be.

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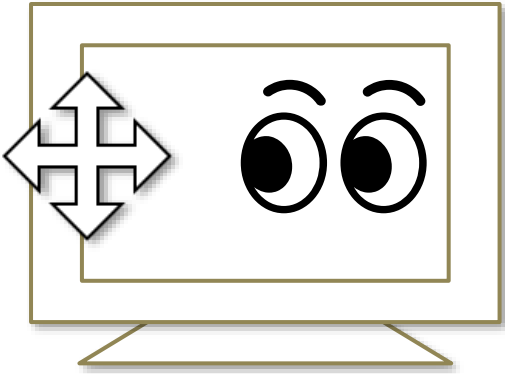
Others – Vertical window

Move the window of Mill Mouse to the left or right edge on the desktop screen to display it vertically. Move the vertical window to the upper or lower edge on the desktop screen to revert it to the horizontal window.

①Select Move on the menu.

②Keep gazing at the left or right edge on the desktop screen.

③The window of Mill Mouse will be displayed vertically.

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Others – Task View

Keep gazing at the middle height of the left edge on the desktop screen to display the Task View on Windows 10.

If it does not work, try to gaze at the outer frame of the monitor.
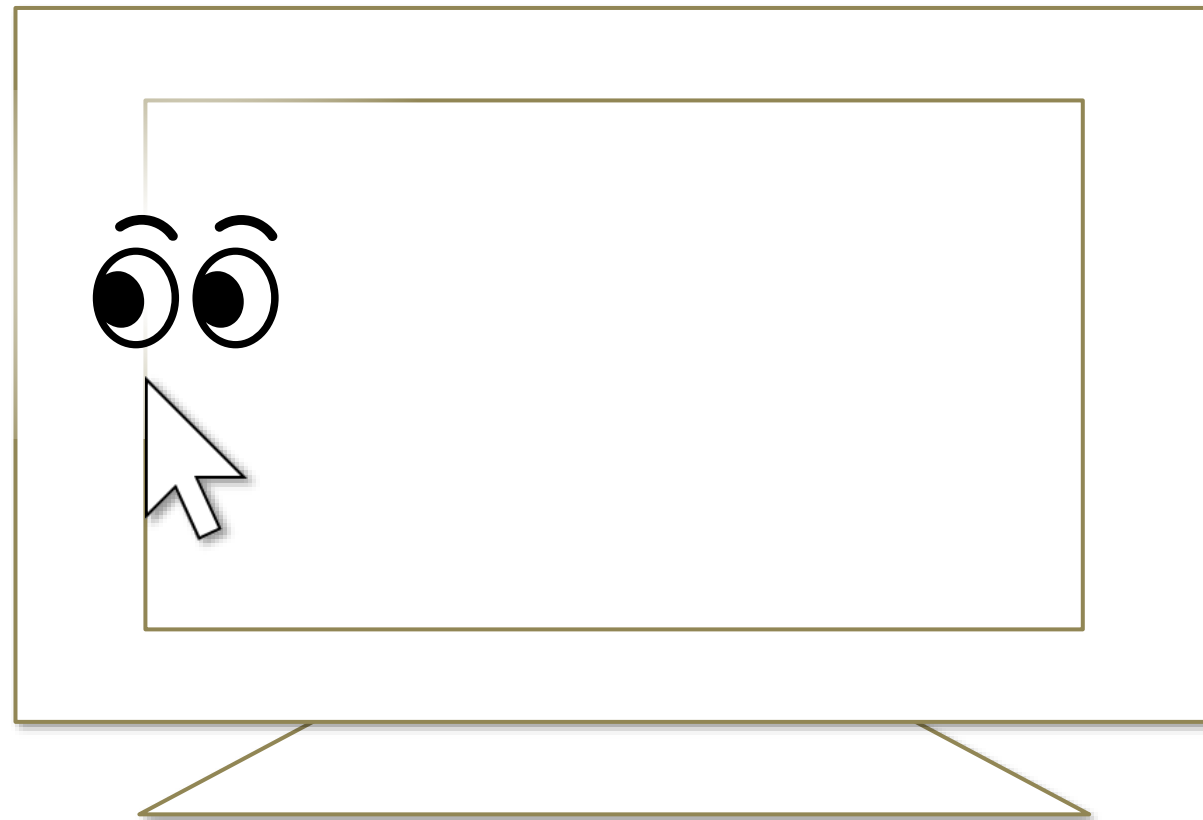
※ Keep gazing at there on Windows 11, the Widgets will be displayed.

※ Keep gazing at there on Windows 8.1, the list of recently used store apps will be displayed.

※ On Windows 7, Flip 3D will be used when Windows Aero is enabled.

Others – Action Center

Keep gazing at the middle height of the right edge on the desktop screen to display the Action Center on Windows 10.

If it does not work, try to gaze at the outer frame of the monitor.
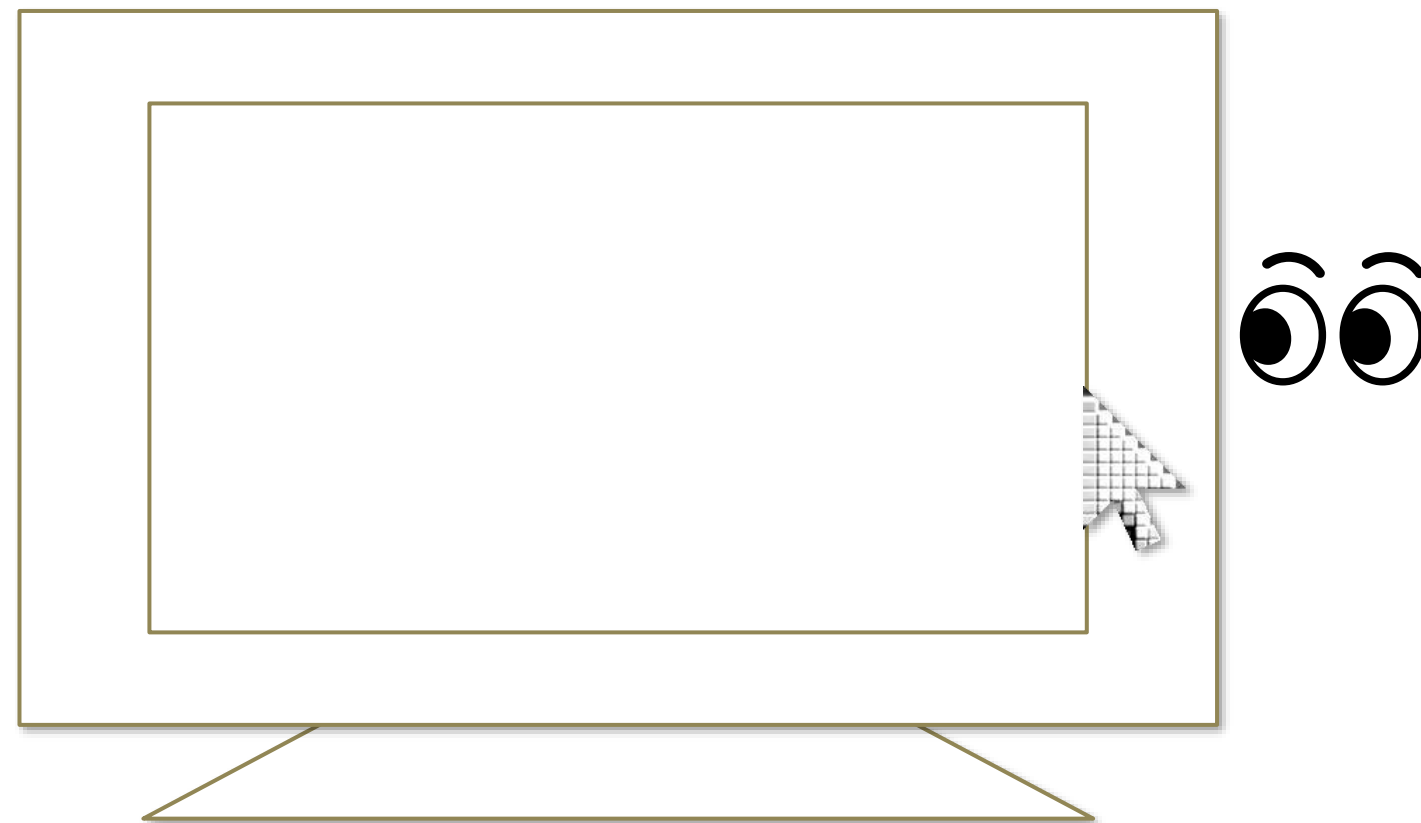
※　Keep gazing at there on Windows 11, the Notification Center and Calendar will be displayed.

※　Keep gazing at there on Windows 8.1, the Charm bar will be displayed.

※　Nothing special will be happened on Windows 7.

Others – User Account Control

You can also click on the User Account Control dialog by eye tracking, which appeared when you install apps or run apps as administrator.

At that time, the window of Mill Mouse will not be displayed.
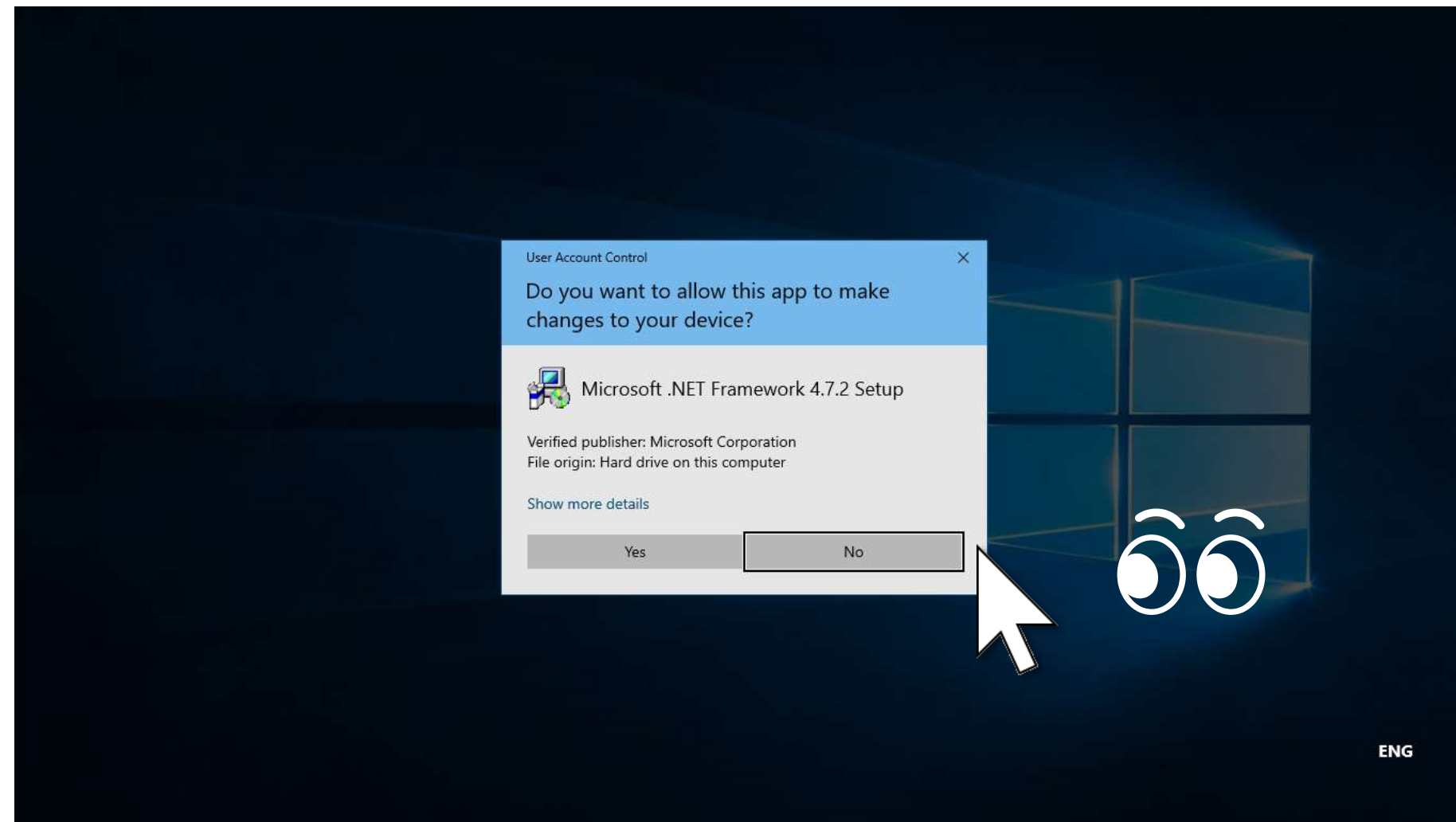
※   However, if you are running Mill Mouse and VSeeFace on the same PC, you can not operate the User Account Control dialog by head tracking.

Others – Camera panning during games

While playing a game that you pan the camera by mouse operation, you can pan in the direction you are looking at by using Mill Mouse.

While playing such a game, you can change the click action performed when you keep gazing at the same place, by pressing the shortcut keys described on page 57 of this guide.
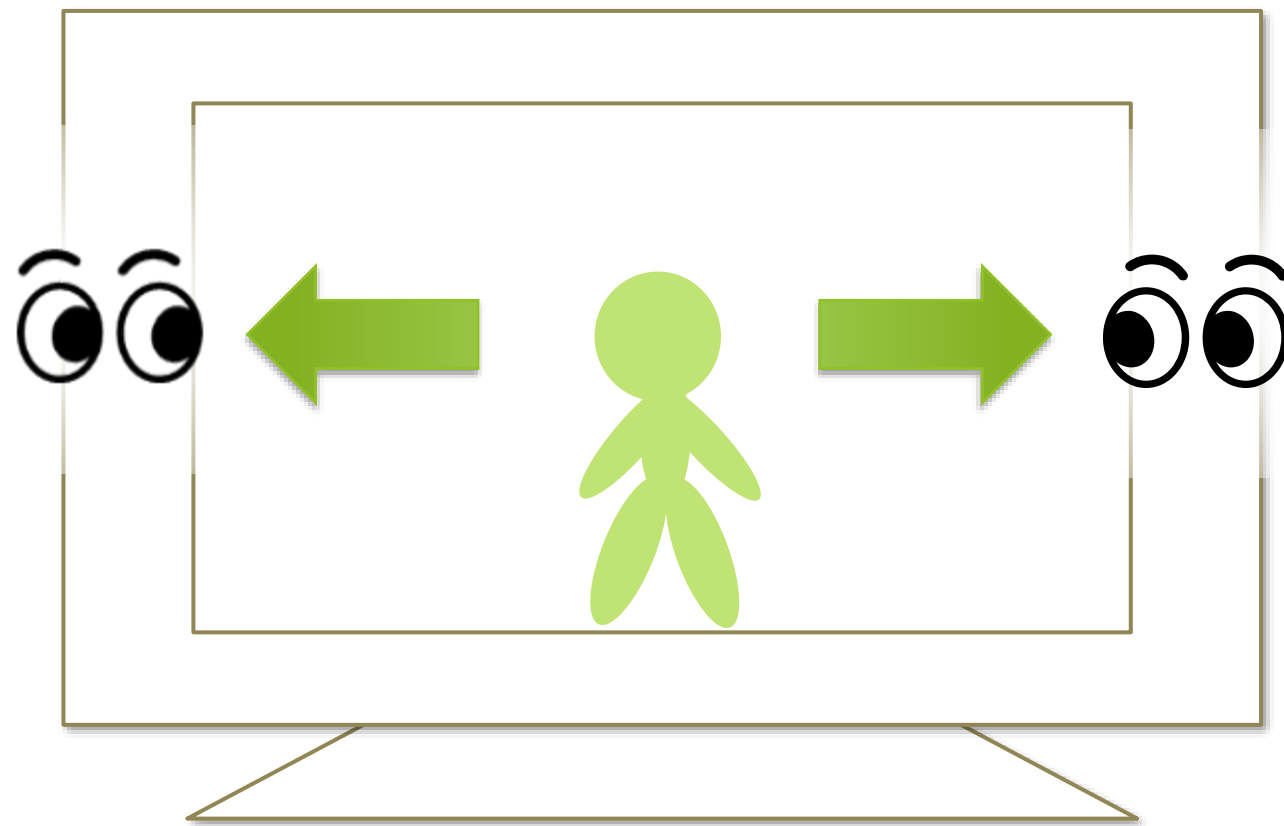
Others – Pointer movement during games

If you need to move the pointer while playing a game and it does not move where you are looking, use the 'Move pointer' shortcut on page 61 of this guide. Please set the 'Move pointer' shortcut as a separate window by following the steps on page 75 of this guide.

If you keep gazing at the 'Move pointer' shortcut, the button color will be reversed and you will be able to move the pointer wherever you are looking.

To exit the pointer movement and return to the camera movement described above while playing the game, keep looking at the 'Move pointer' shortcut again.

For camera movement   For pointer movement
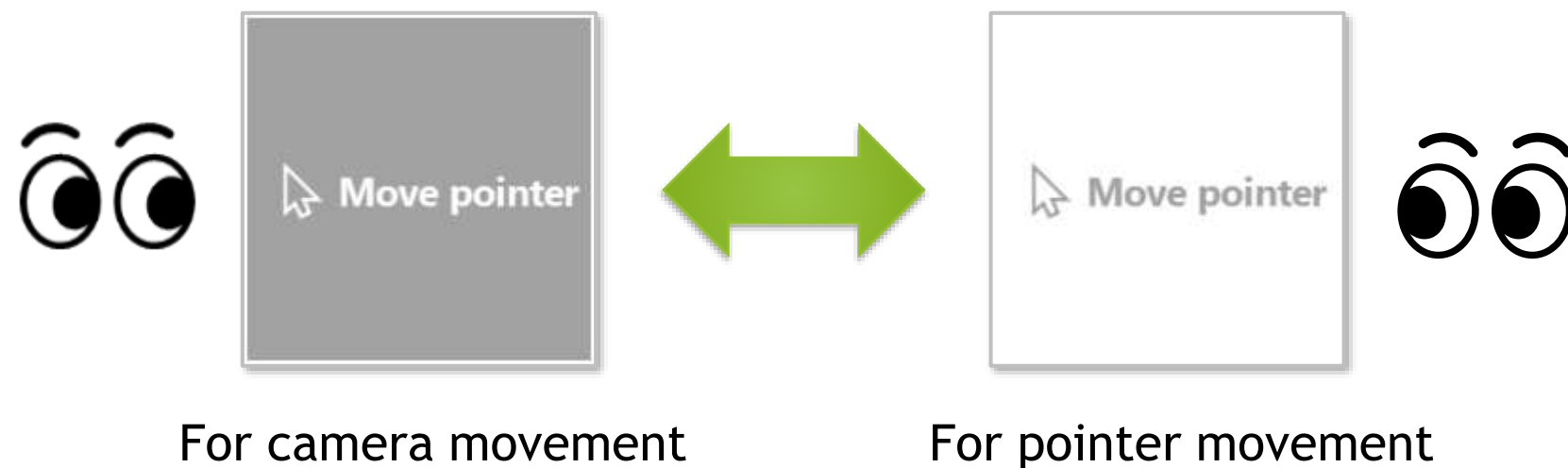
※ The 'Move pointer' shortcut is only used during game play. The 'Move pointer' shortcut has no effect on the normal desktop screen.

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Others – Click action during games

When you start a game, the click action of Mill Mouse will automatically change to Click if all the following conditions are met.

▶   A click action other than 'No click' is used.

▶   No shortcut key is set for any click action.

▶   The 'Move pointer' shortcut described above is not being used, or is in a state for camera movement.
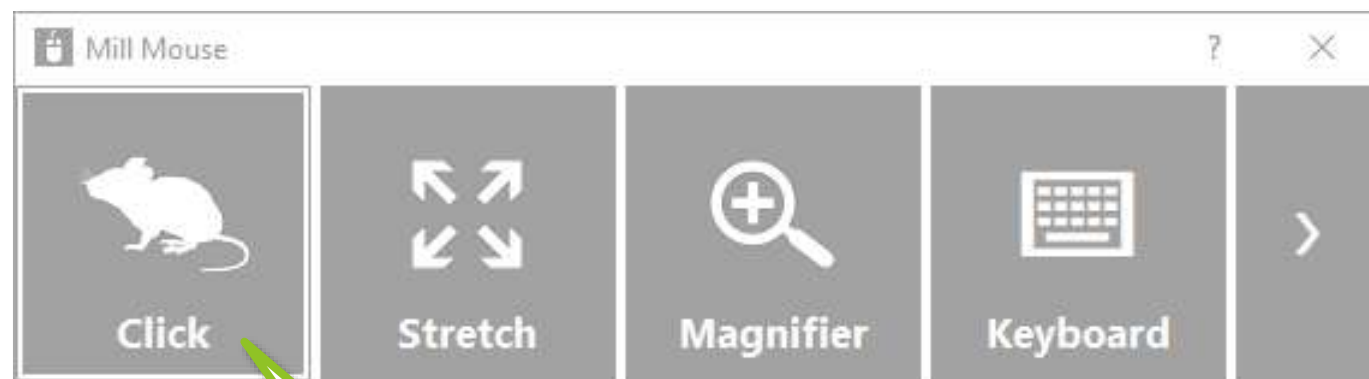
The action will automatically change to Click.

If you do not want to change to Click automatically, set a shortcut key of your choice by following the steps on page 57 of this guide.

Others – Combination with physical mouse

It is also possible to use in combination with a physical mouse device.

If you operate the physical mouse device while using Mill Mouse, the eye tracking will be paused and the operation by the physical mouse will take precedence.
After stopping the operation by the physical mouse and waiting for a few seconds, you will be able to operate the mouse again with eye tracking.

In addition to the physical mouse, if you operate the right thumbstick of the Xbox controller, the eye tracking will be paused.
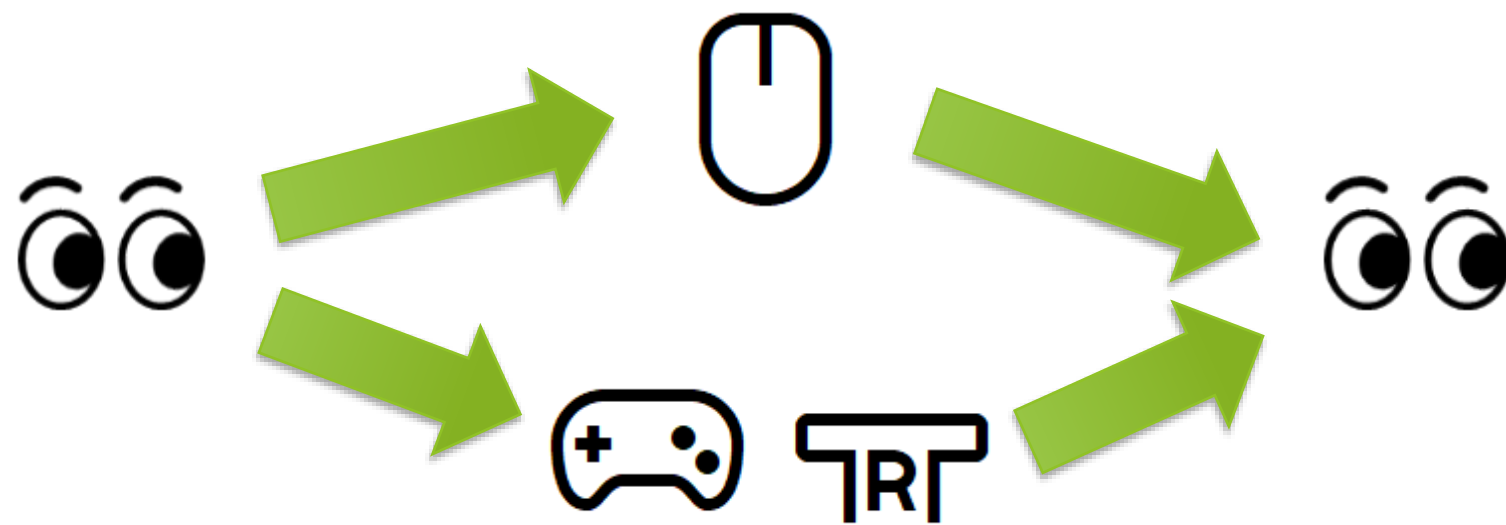
※ You can change the settings to pause when you operate the physical mouse or the right thumbstick of the Xbox controller.

Others – Stop eye tracking

If you do not need eye tracking for a long time, such as for watching movies, you can stop eye tracking.

To stop eye tracking, look at 'Stop eye control' shortcut or Stop on the menu displayed when you keep gazing at the title bar of the window. Then the window will be hidden.
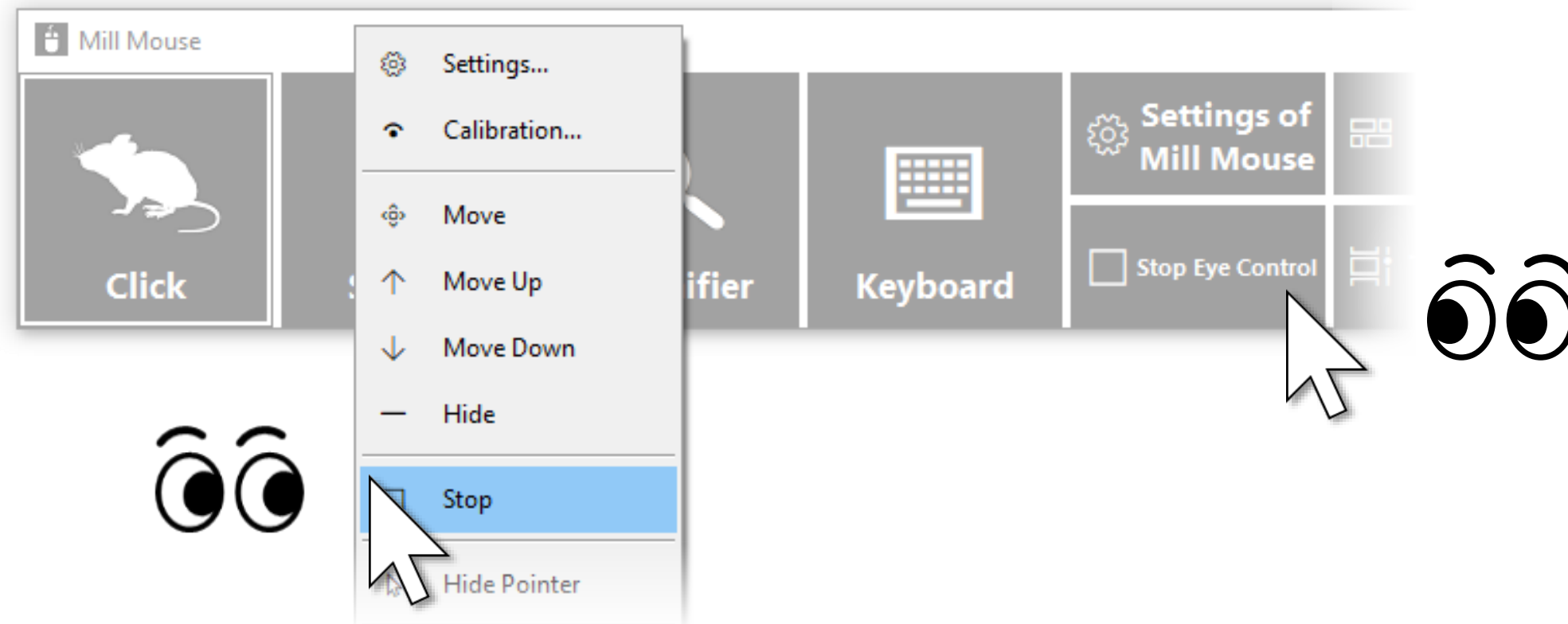
Unlike the physical mouse operation described above, the stop will not be canceled automatically. You can cancel the stop by looking at the upper left corner of the desktop screen and re-displaying the window.

Others – Stop eye tracking

You can set the 'Stop eye control' shortcut as a separate window by following the steps on page 75 of this guide.

If you keep gazing at the 'Stop eye control' shortcut, the button color will be reversed and eye tracking will stop.

You can cancel the stop by gazing at the 'Stop eye control' shortcut again or by looking at the upper left corner of the desktop screen.
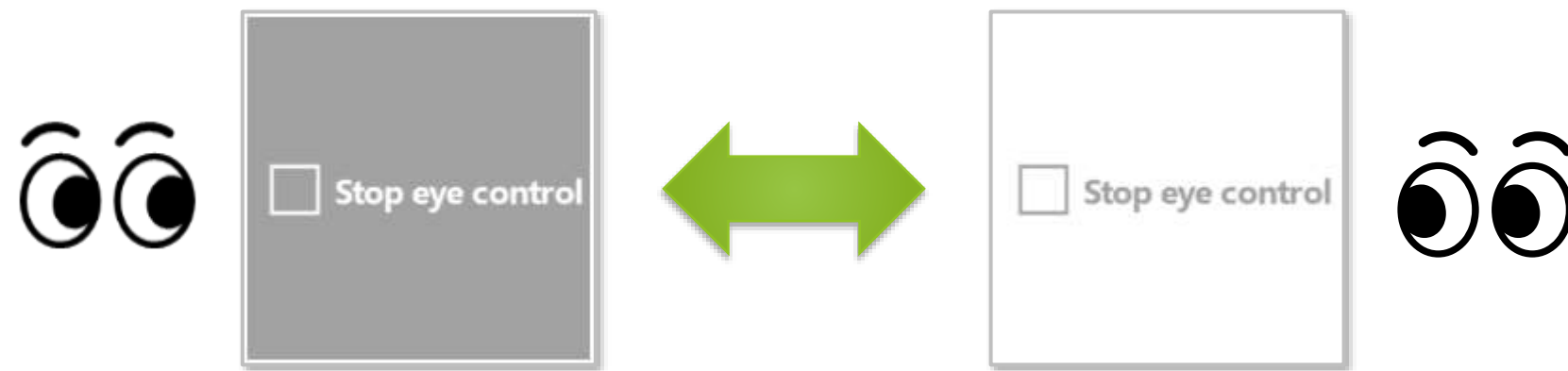
※ If the taskbar is located at the top or the left, look at the bottom right corner of the screen. However, if you have changed the 'Default location of the main window on screen' described on page 77 of this guide, look at that location.

Others – Stop eye tracking

If you press Alt + Shift + M, eye tracking will be stopped.

The stop will not be canceled automatically.

To cancel the stop which was done by the above keys, press Alt + Shift + M again.

You can change the key combination in the settings dialog as described on page 51 of this guide.

Others – Hide mouse pointer

If you do not need the mouse pointer but need click action, such as for reading e-books, you can hide the mouse pointer.

To hide the mouse pointer, select 'Hide pointer' on the menu displayed when you keep gazing at the title bar of the window.

To unhide it, select 'Hide pointer' again.
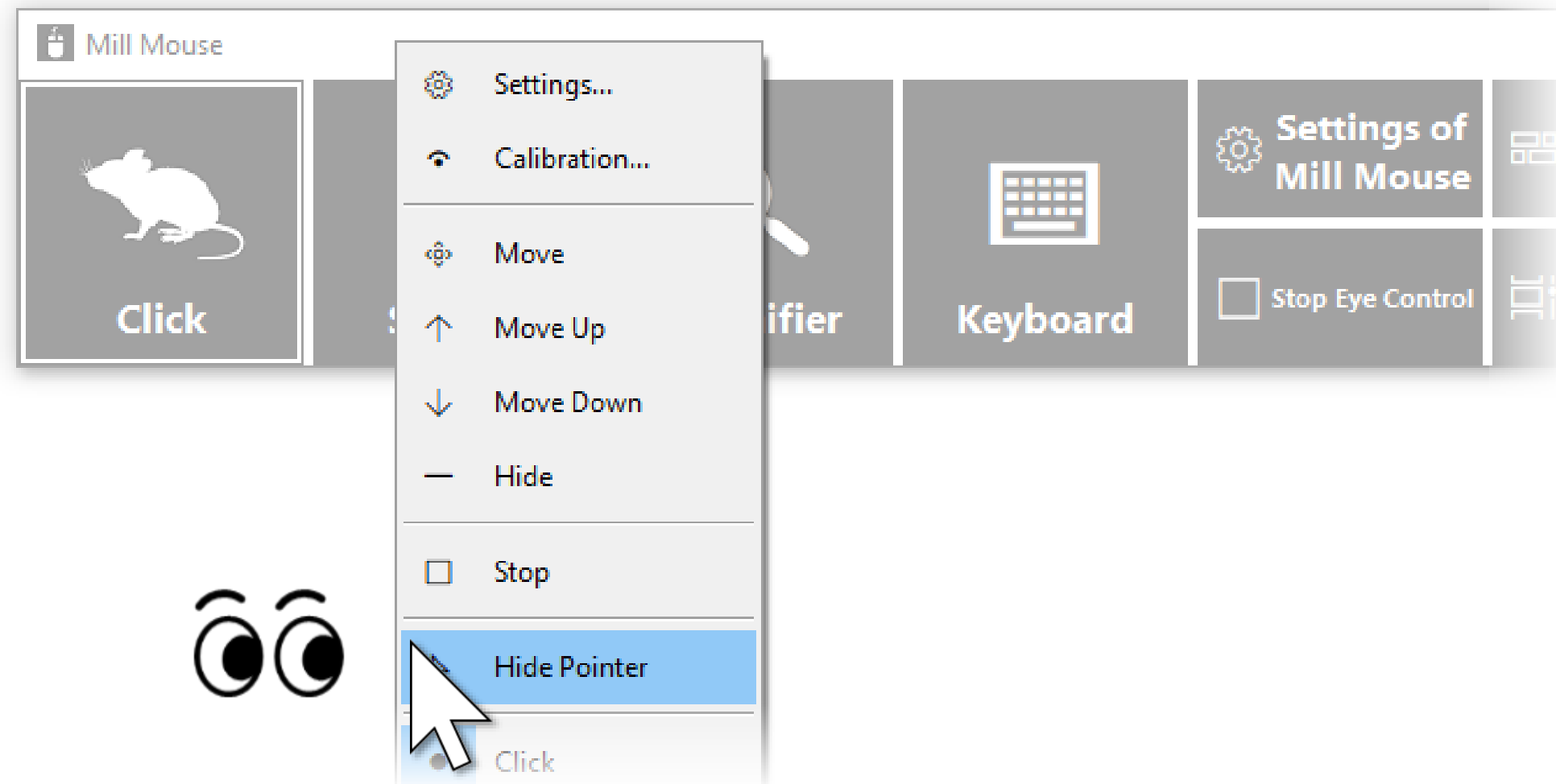
Others – Mill Mouse specific shortcut keys

You can adjust the speeds with the following shortcut keys.

▶ Speed of the mouse pointer

Alt + Shift + 1	Slow
Alt + Shift + 2	Fast

▶ Interval between starting to gaze and doing click operation

Alt + Shift + 3	Long
Alt + Shift + 4	Short

Others – Supported languages

Besides English, Mill Mouse supports the following languages.
The words in the window of Mill Mouse are displayed according to the language settings of Windows.

- Arabic
- Bangla/Bengali
- Catalan
- Simplified Chinese
- Traditional Chinese
- Croatian
- Czech
- Danish

- Dutch
- Finnish
- French
- German
- Greek
- Hebrew
- Hindi
- Hungarian

- Italian
- Japanese
- Korean
- Norwegian (Bokmål)
- Polish
- Portuguese
- Russian
- Slovak

- Slovenian
- Spanish
- Swedish
- Telugu
- Turkish
- Vietnamese

※ In the Arabic or Hebrew environment, the window is appeared at the top right or the bottom left of the desktop screen.
※ In the Spanish or Portuguese environment, some shortcut keys are changed, such as using Ctrl + G instead of Ctrl + S.

Others – High contrast

Mill Mouse supports high contrast.

The color scheme of the window of Mill Mouse follows the high contrast settings of Windows.
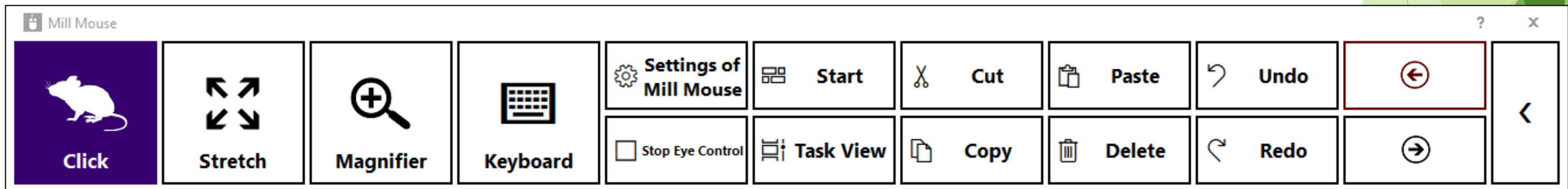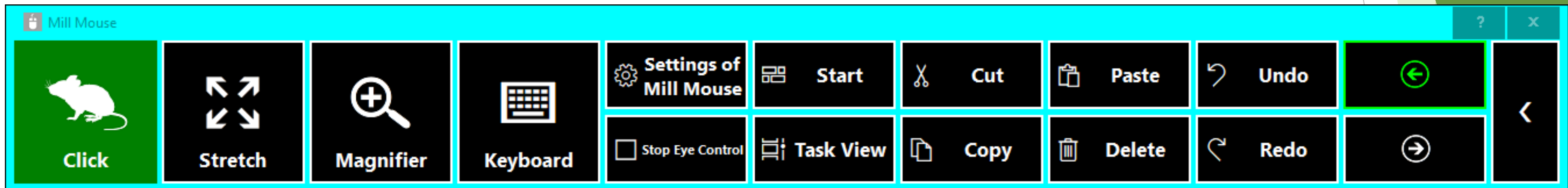
※ By default in Windows, you can enable or disable high contrast by pressing Left Shift + Left Alt + Print Screen keys.

Tips – To enlarge buttons

If buttons are too small to operate, please change the settings with the following steps.

1. From the Start menu of Windows 10, click the Settings icon.
2. System > Display > Change the percentage of 'Scale and layout'.
3. If it is still too small, set a larger size as 'Custom scaling' in 'Advanced scaling settings'. (In order to reflect custom scaling, you need to sign out from Windows 10 and sign in again.)

※ On Windows 8.1 or Windows 7, please change the settings by the following steps.
1. Right click on the desktop screen > Click 'Screen resolution'.
2. Click 'Make text and other items larger or smaller'.
3. Change it to a larger size and click Apply.
4. Sign out from Windows and sign in again.

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Tips – Upgrading Tobii Core Software

If you face a problem after upgrading Tobii Eye Tracking Core Software to a new version, please try the clean installation as follows: (⚠ The following steps are for people familiar with Windows. Calibration profiles for the eye tracking will be deleted.)

1. Uninstall the Tobii Eye Tracking software from 'Programs and Features' in Control Panel.

2. With Tobii Eye Tracker 4C or other eye tracking device connected to your PC, open Device Manager and uninstall EyeChip in 'Universal Serial Bus devices'. If EyeChip does not exist, uninstall the driver in 'Eye Tracking Devices'.

3. Open Registry Editor and delete the following keys:
   - HKEY_CURRENT_USER\Software\Tobii
   - HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\Tobii

4. Open File Explorer and delete the following folders:
   - %localappdata%\Tobii
   - %programdata%\Tobii
   - %programdata%\TetServer

5. Restart Windows.

6. Install a new version of Tobii Eye Tracking Core Software.

7. Calibrate the eye tracking.

Tips – To use SSML or SAPI TTS XML

If you enable 'Hear text read aloud' as described on page 69 of this guide, you can write SSML or SAPI TTS XML in 'Text' as follows:

| SSML example | ```<speak version="1.0"
 xmlns="http://www.w3.org/2001/10/synthesis"
 xml:lang="en-US">
Hello<break time="300ms" />How are you?
</speak>``` |
| --- | --- |
| SAPI TTS XML example | ```<p>
Hello<silence msec="300" />How are you?
</p>``` |

At the beginning of 'Text', write <speak> in SSML, or any XML tag in SAPI TTS XML. Change the value of xml:lang attribute in SSML according to your language.

Tips – To use SwiftKey on Windows 10

SwiftKey feature was added to the touch keyboard in Windows 10 October 2018 Update. Only some languages are supported.

To use SwiftKey with Mill Mouse, please follow the steps below.
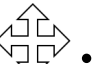
①Change to Drag on Mill Mouse.
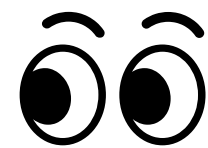
②Press Ctrl key on the touch keyboard.

③Keep gazing at the first letter until the pointer icon changes to ✛.
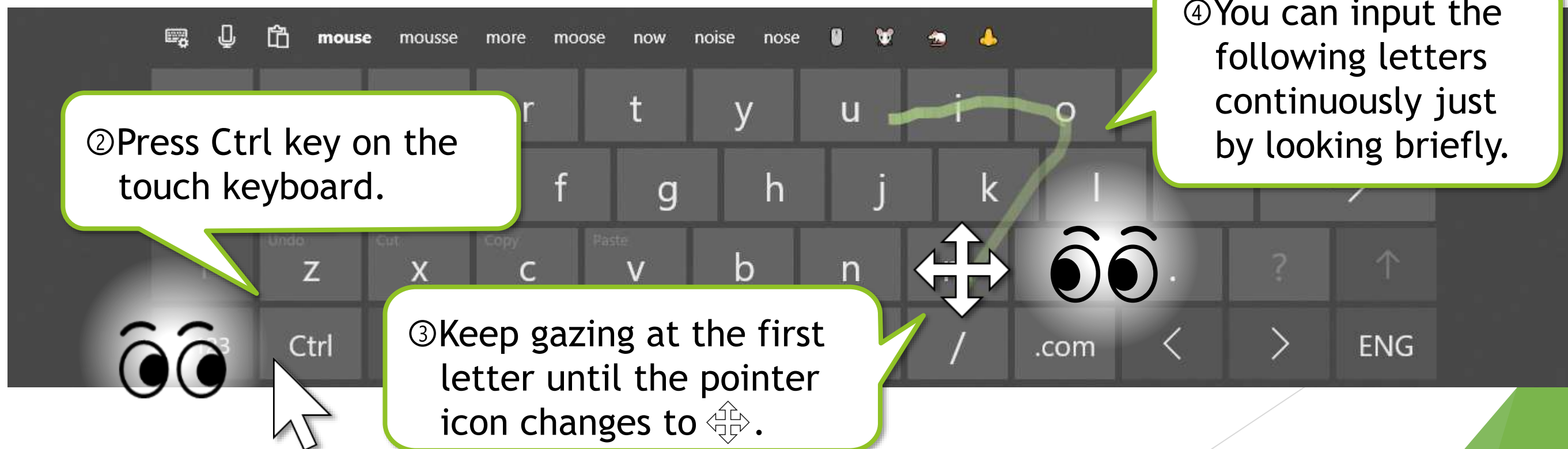
④You can input the following letters continuously just by looking briefly.

Tips – To use 50-on keyboard layout

If you are using the Japanese IME on Windows 11, you can switch to the 50-on layout with the touch keyboard.

To switch to the 50-on layout, select ⚙ icon in the upper left corner of the touch keyboard > 'Keyboard layout' > '50-on'.

※ The 50-on layout is not available with the touch keyboard on Windows 10, Windows 8.1, or Windows 7.

※ The 50-on layout is not available with the on-screen keyboard.

Tips – Remote control of other PCs

By using remote desktop software such as VNC or Parsec, you can remotely control other PCs by eye tracking from a Windows PC with Mill Mouse installed.

However, there are the following functional limitations for other PCs that are remotely controlled.

▶ The scrolling feature on page 7 and page 53 of this guide is not available.

▶ The feature to prevent protrusion from the frames, described on page 7 of this guide, is not available.

▶ The feature 'Hear text of the clicked item read aloud' on page 52 of this guide is not available.

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Windows eye control
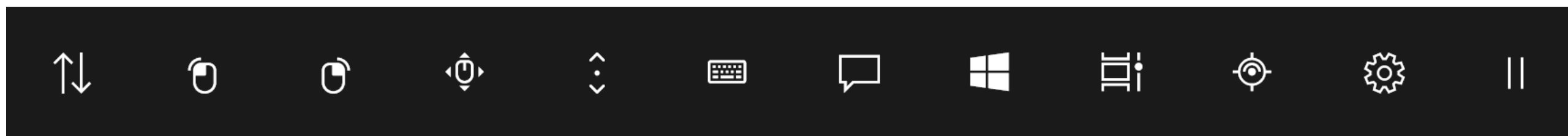
Windows eye control – Settings

You can use Windows built-in eye control with Tobii Eye Tracker 5, Irisbond Duo, EyeTech TM5, TrackIR 5, or VSeeFace. To use it, follow the steps below to set it up.

1. Download the ZIP file of the sample driver provided by Microsoft from the following URL.
   https://github.com/MSREnable/GazeHid/raw/master/EyeGazeIoctl%20Driver.zip

2. Extract the downloaded ZIP file to any location such as the desktop.

※ A 64-bit environment of Windows 11 or Windows 10 (since Fall Creators Update) is required to use Windows built-in eye control through these steps.

Windows eye control – Settings

(Continued)

3. Hold down the Windows logo key and press R on your keyboard.

4. The Run dialog will open. Enter 'hdwwiz' in Open and click OK.
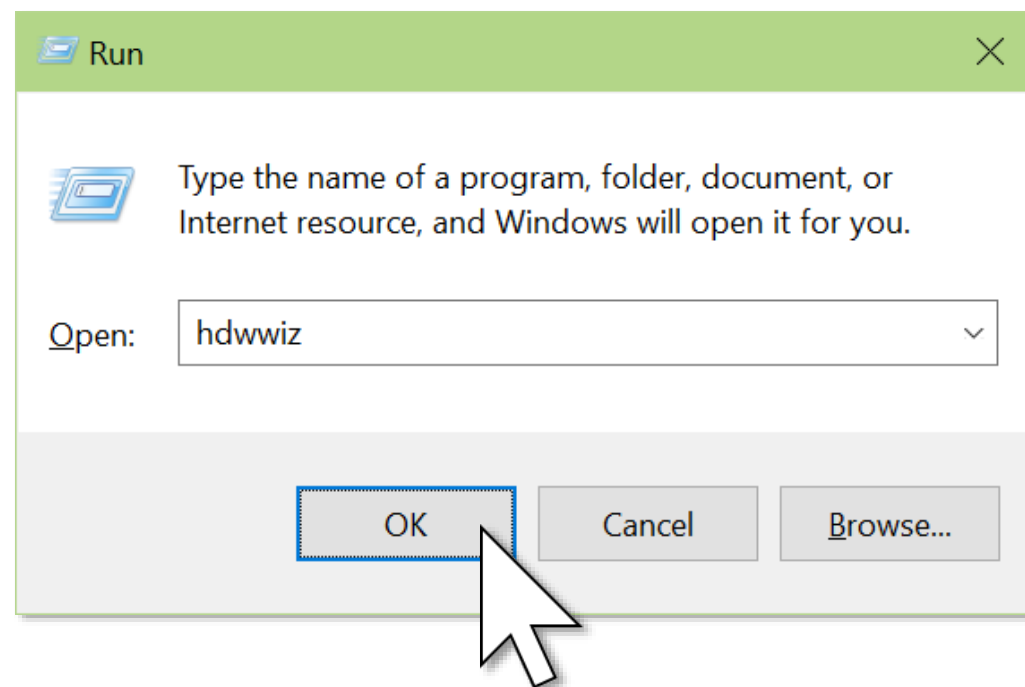
Windows eye control – Settings

(Continued)

5. Click Yes on the User Account Control dialog.
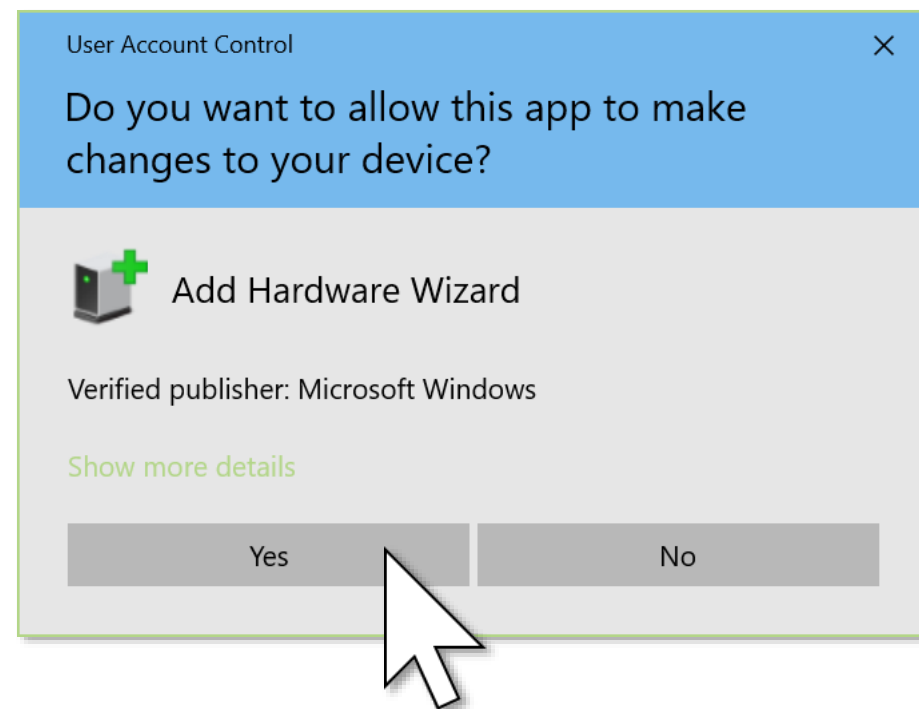
Windows eye control – Settings

(Continued)

6. 'Add Hardware' wizard will open. Click Next.

7. Select 'Install the hardware that I manually select from a list (Advanced)' and click Next.
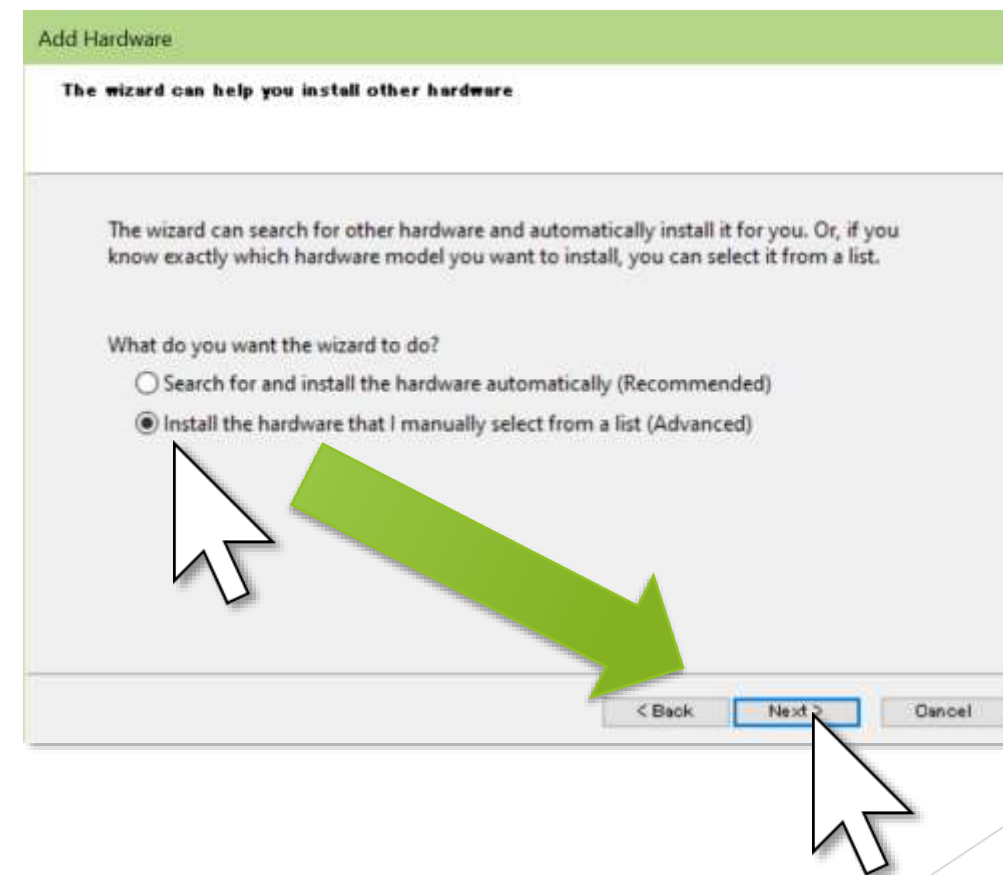
Windows eye control – Settings

(Continued)

8. Click Next and 'Have Disk'.
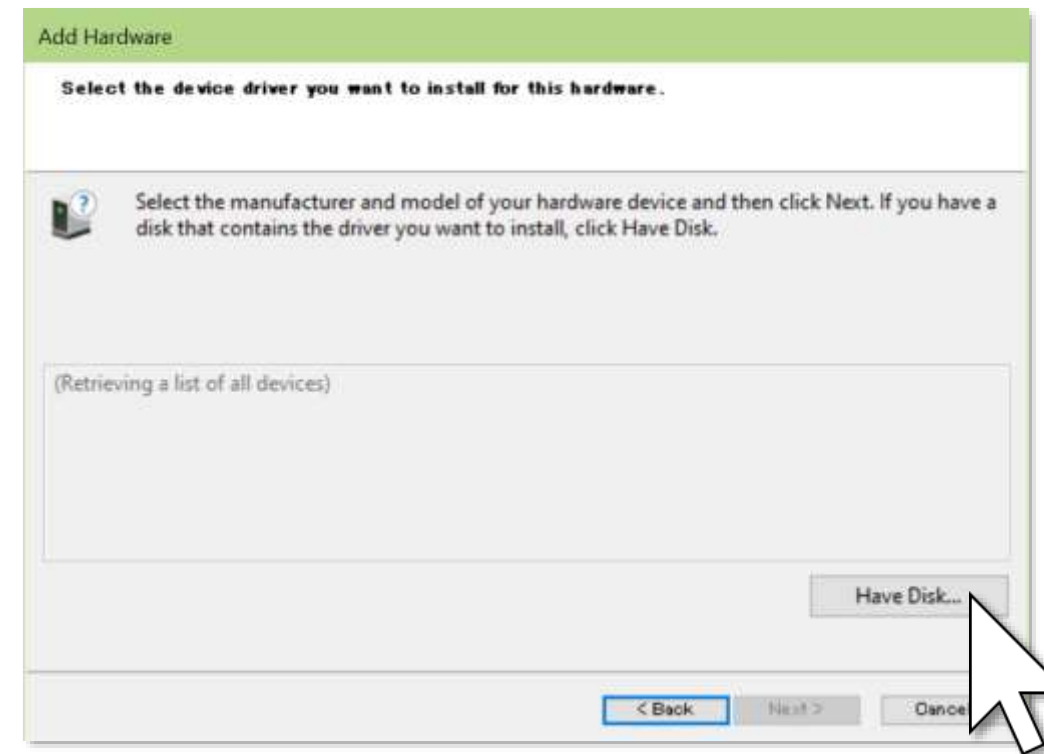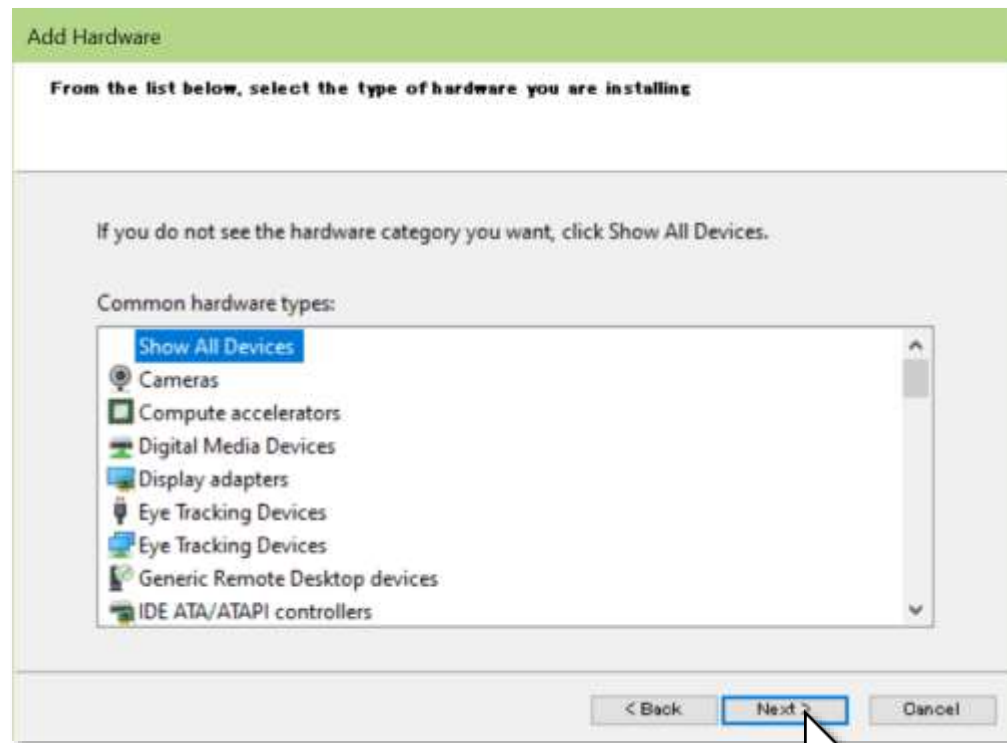
Windows eye control – Settings

(Continued)

9. Click Browse, select eyegazeioctl.inf in the location extracted in step 2, and click Open.
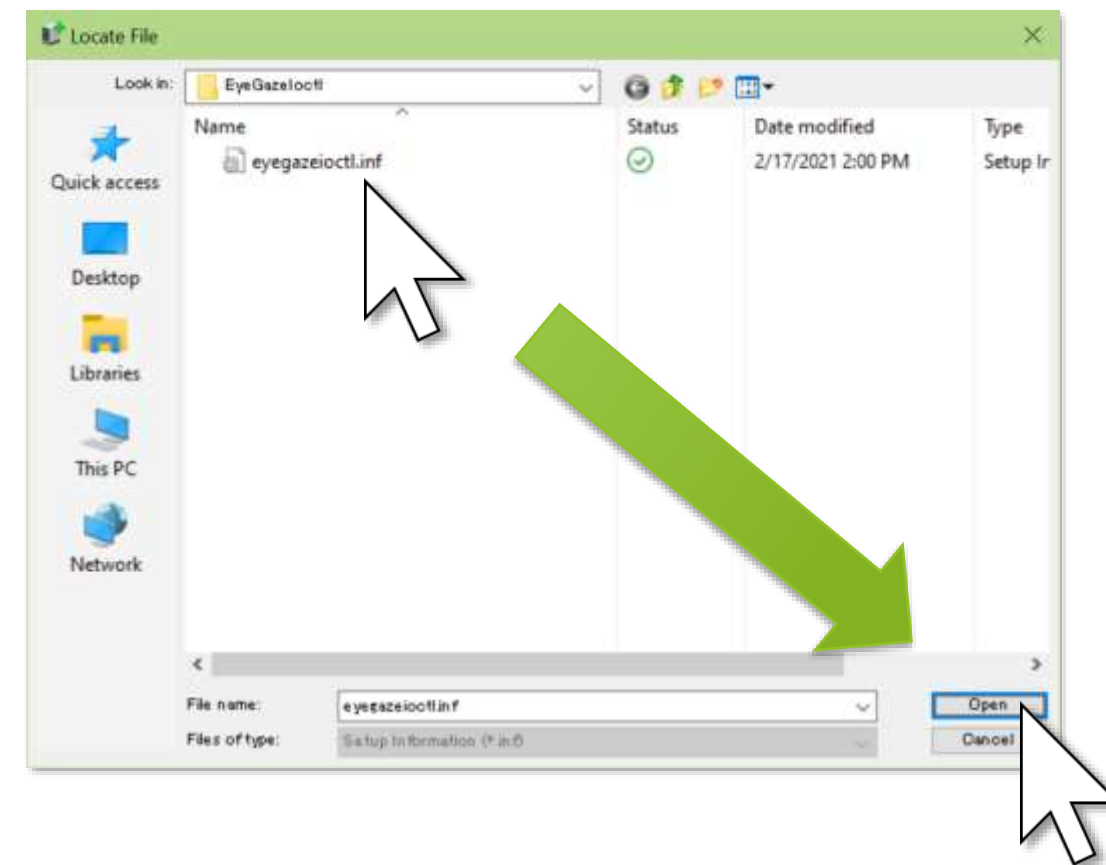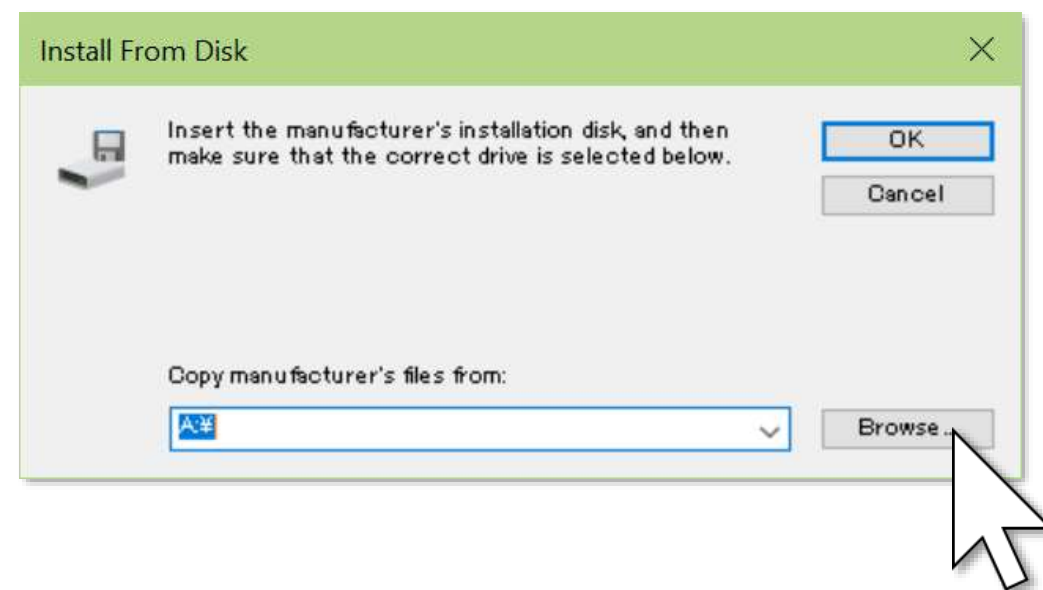
※   .inf is not displayed in some cases.

Windows eye control – Settings

(Continued)

10. Click OK and Next.
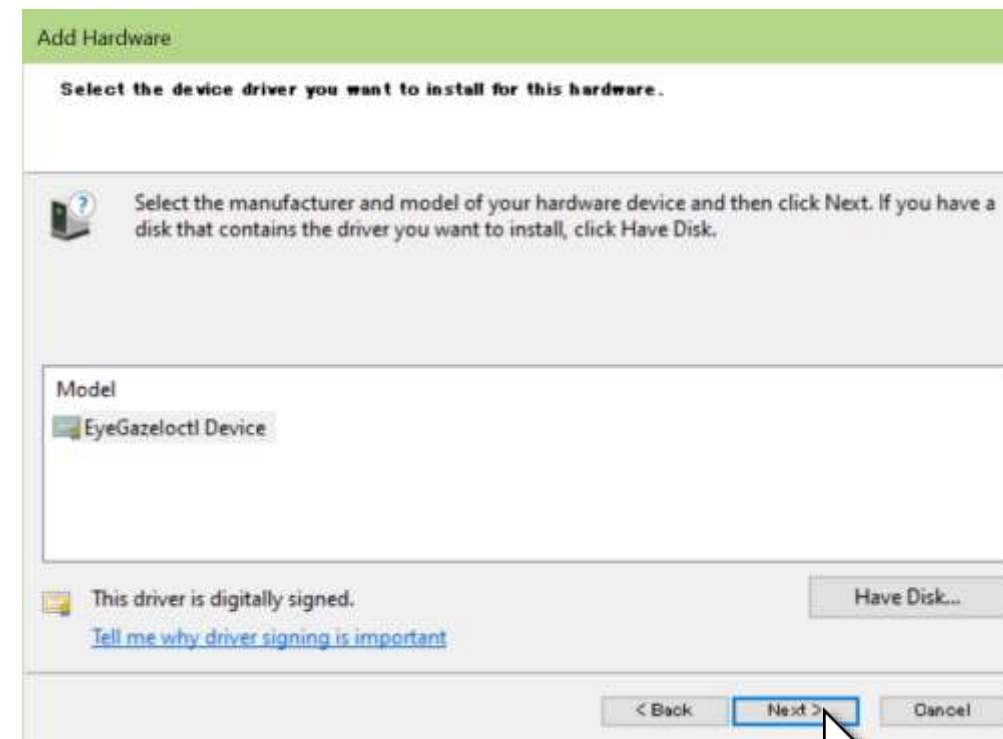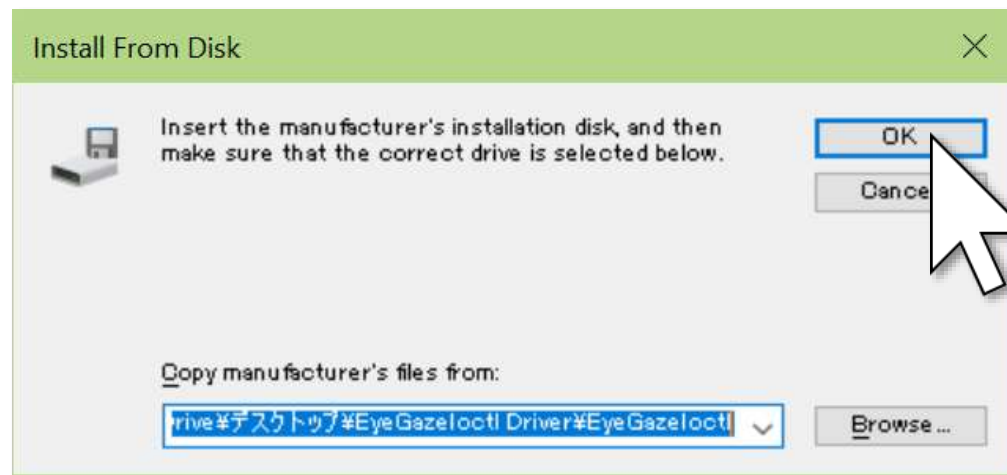
Windows eye control – Settings

(Continued)

11. Click Next and Finish.
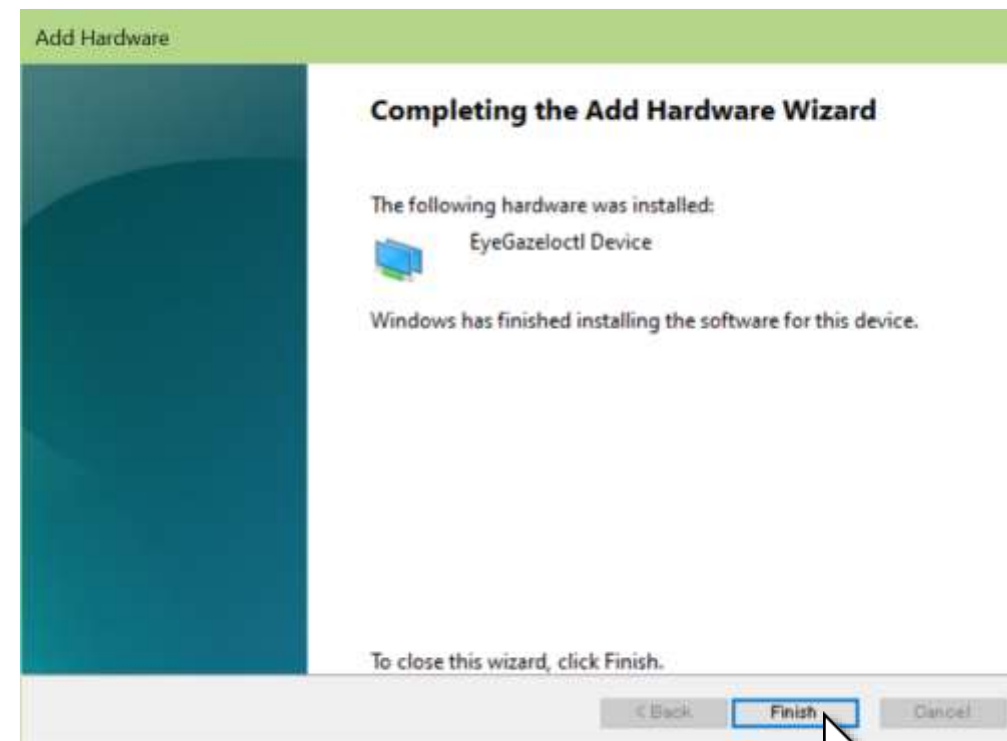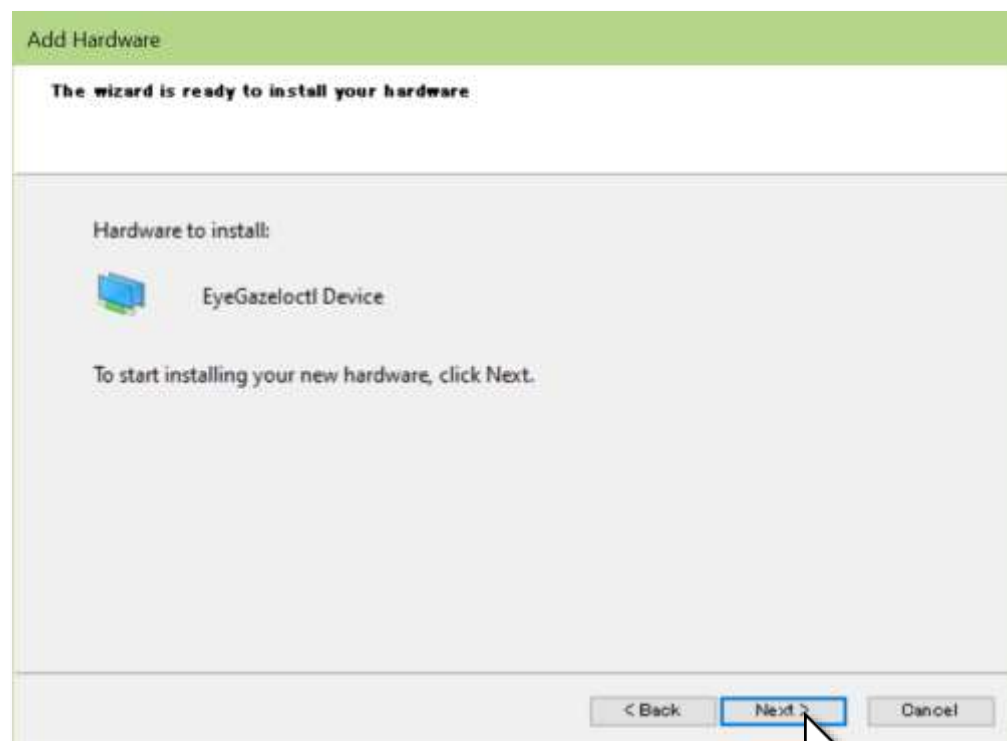
Windows eye control – Settings

(Continued)

12. Launch Mill Mouse, open the settings dialog and go to the Shortcuts tab.

13. Select 'Windows eye control' near the bottom of 'Available shortcuts', press ▶ button to move it to 'Current shortcuts', and click Close.
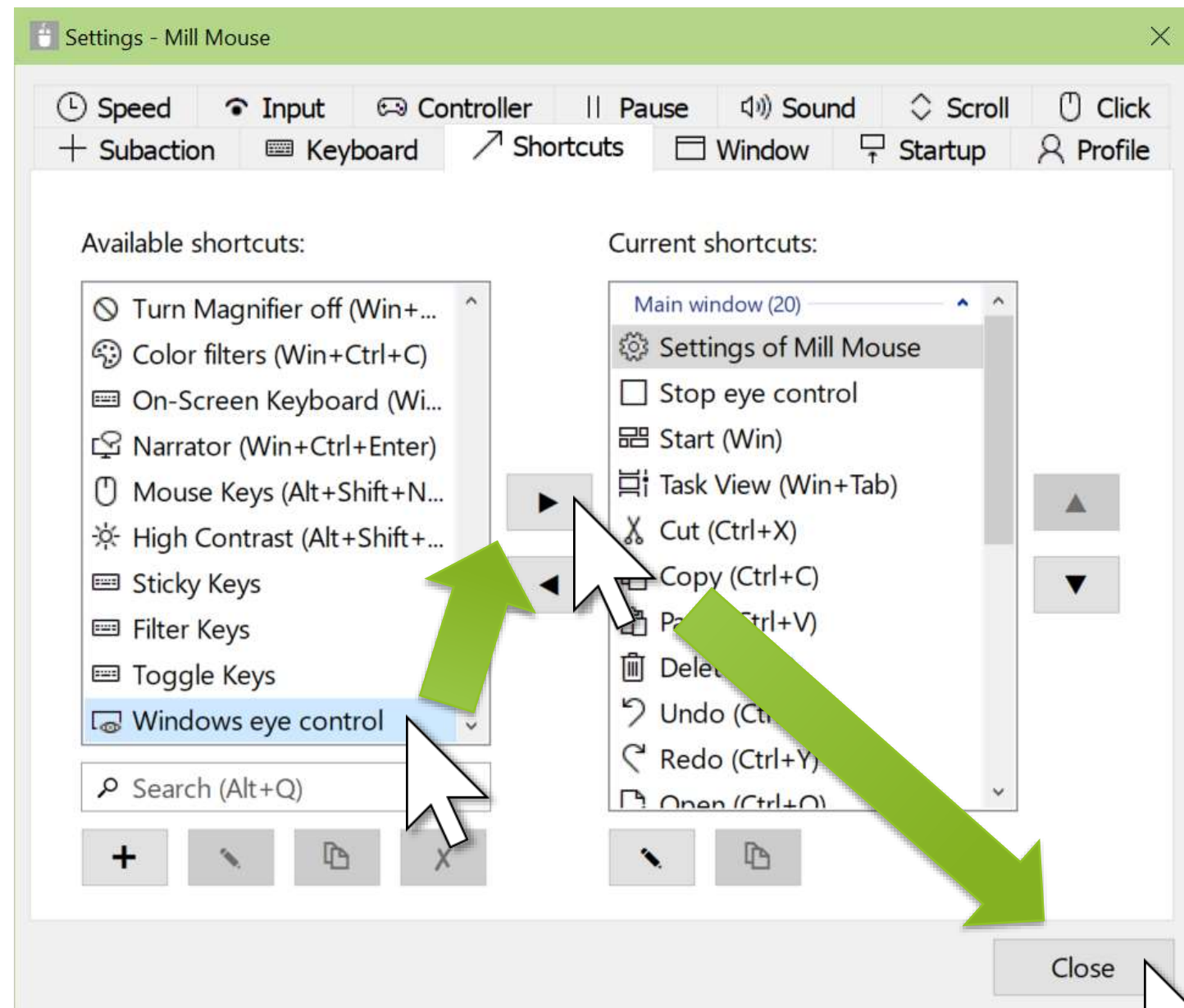
Windows eye control – Settings

(Continued)

14. 'Windows eye control' will be displayed in the window of Mill Mouse.
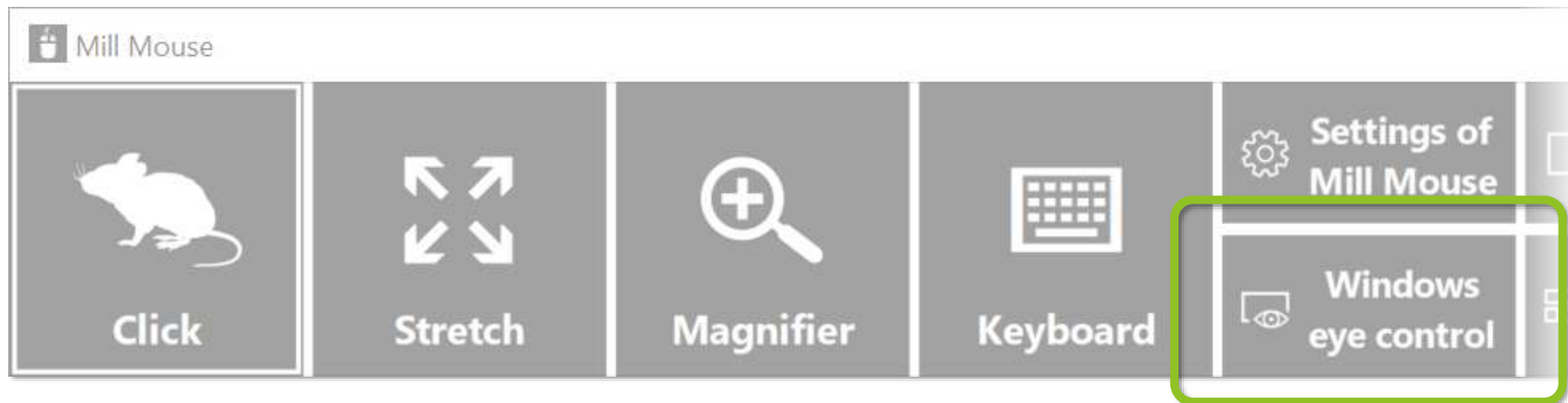
You are now set up to use Windows eye control.

You can delete the ZIP file downloaded in step 1 and the files extracted in step 2.

Windows eye control – How to use

If you select 'Windows eye control' displayed in the window of Mill Mouse, the launchpad will appear and you will be able to use the buttons on it. And the window of Mill Mouse will be hidden.
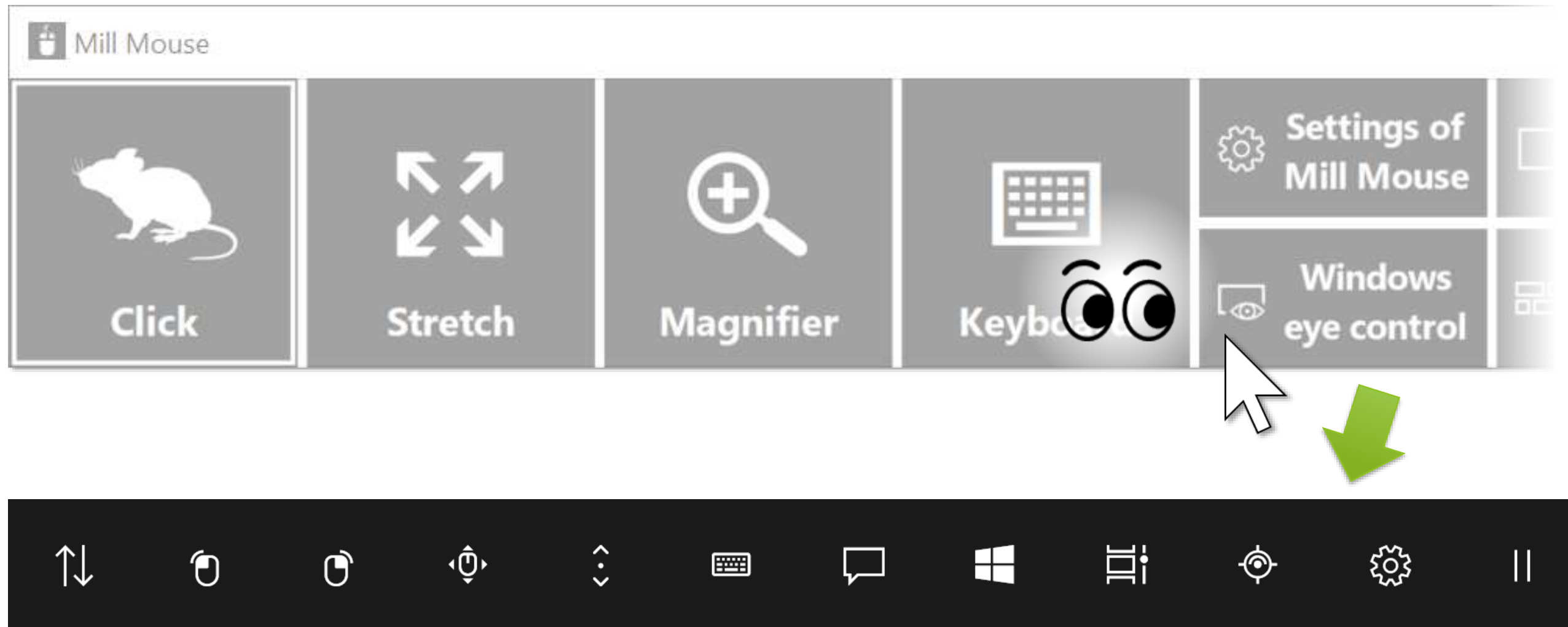
Windows eye control – How to use

If you are prompted with "How do you want to open this?" when you starting the calibration, click Mill Mouse and then OK.
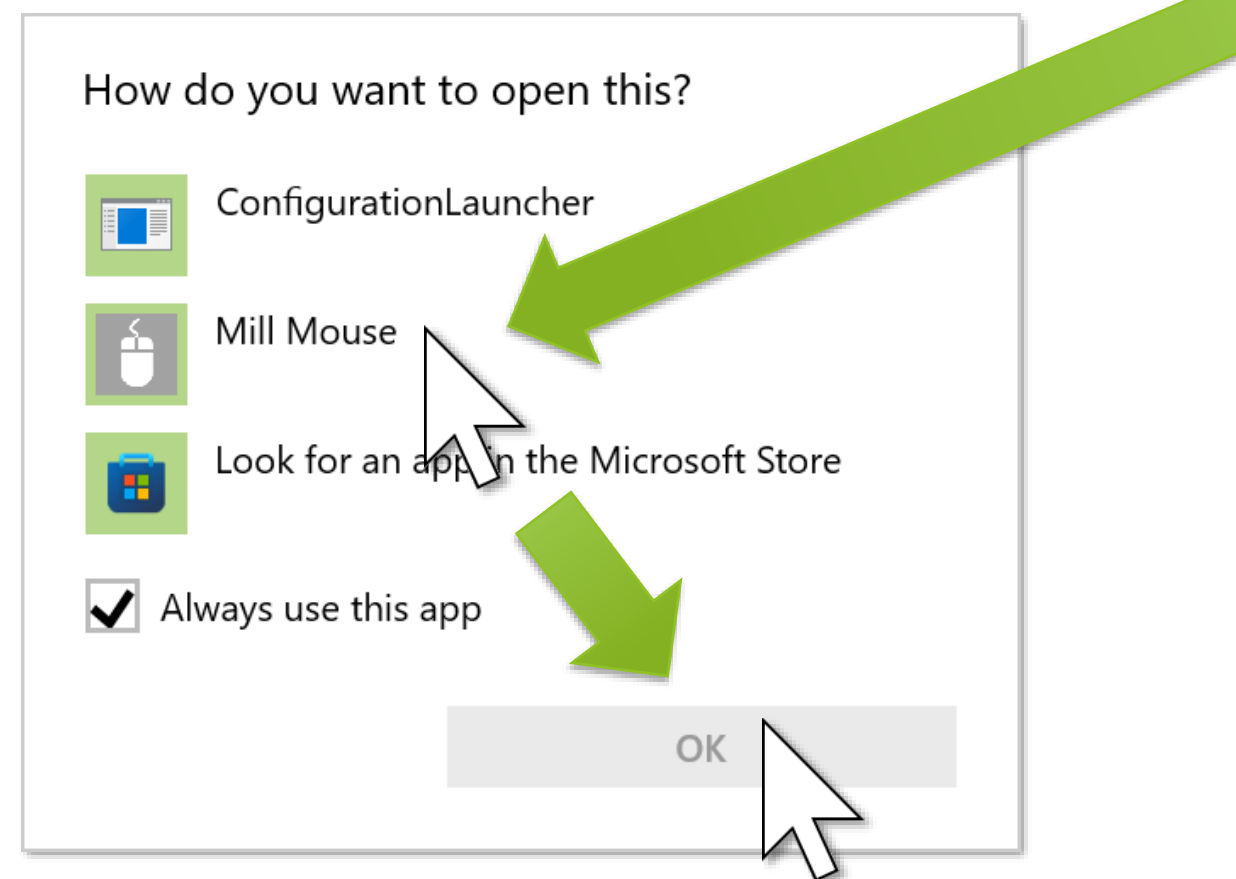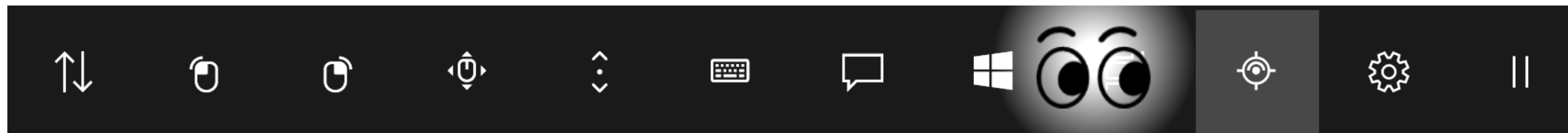
※ If you are using TrackIR 5 or VSeeFace, nothing will happen when you select the calibration button on the launchpad.

Windows eye control – Turn off

To turn off Windows eye control and back to Mill Mouse, first select the pause button on the far right of the launchpad.
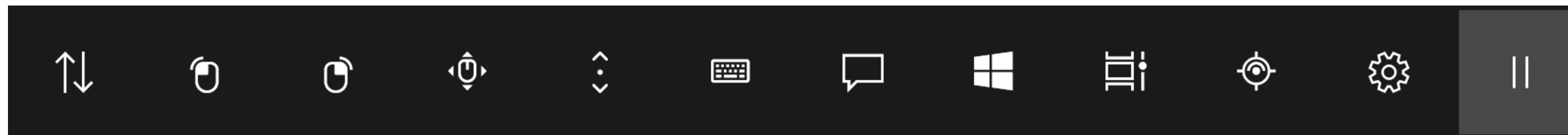
Then look at the upper left corner of the desktop screen. The launchpad will then disappear and the window of Mill Mouse will reappear.

You are now back to Mill Mouse.

※ If the taskbar is located at the top or the left, look at the bottom right corner of the screen. However, if you have changed the 'Default location of the main window on screen' described on page 77 of this guide, look at that location.

Notices

Uninstallation

To uninstall Mill Mouse, do it from 'Programs and Features' in Control Panel.

Additionally, to uninstall the sample driver you installed to use Windows eye control, open Device Manager and right click on the 'EyeGazeIoctl Device' in either 'Eye Tracking Devices' or 'Sample Device', and select 'Uninstall device'.

Known issues

- With Tobii Eye Tracker 5, it works at a very low sampling rate of around 33Hz. Therefore, the mouse pointer does not move smoothly.

- Even if you use the 'Move pointer' shortcut, the mouse pointer may not move where you are looking in some games.

Restrictions

▶ Mill Mouse is a free software. Author topolo-Z is not responsible for any situation resulting from the use of this application software.

▶ The bundled IrisbondAPI.dll and PGRFlyCapture.dll are from the SDK developed by IRISBOND CROWDBONDING. S.L.
https://www.irisbond.com/en/

▶ The bundled QuickLink2.dll is from the SDK developed by EyeTech Digital Systems, inc.
https://eyetechds.com/

▶ Mill Mouse uses VMC Protocol.
https://protocol.vmc.info/

▶ Mill Mouse uses oscpack according to the 'Terms of use' at the following URL.
http://www.rossbencina.com/code/oscpack/

▶ The copyright of the silhouettes of mouse belongs to FLOP DESIGN.
Author topolo-Z uses silhouette materials purchased from FLOP DESIGN.
https://www.flopdesign.com/

Contacts to author

- Author: topolo-Z

- Mail: topolo-z@outlook.jp

- Home page: https://millmouse.wordpress.com/

   https://mill-mouse.blogspot.com/

Appendix – Shortcut keys

The following 86 types of shortcut keys are available in Mill Mouse.

- Start (Windows logo key)

- Action Center (Windows logo key+A)

- Show desktop (Windows logo key+D)

- File Explorer (Windows logo key+E)

- Settings (Windows logo key+I)

- Connect (Windows logo key+K)

- Lock (Windows logo key+L)

- Rotation lock (Windows logo key+O)

- Project (Windows logo key+P)

- Run (Windows logo key+R)

- Search Everywhere (Windows logo key+S)

- Clipboard (Windows logo key+V)

- Windows Ink Workspace (Windows logo key+W)

- Emoji (Windows logo key+Period(.))

- System (Windows logo key+Pause)

- Task View (Windows logo key+Tab)

- Maximize (Windows logo key+Up)

- Minimize (Windows logo key+Down)

- Snap left (Windows logo key+Left)

- Snap right (Windows logo key+Right)

Appendix – Shortcut keys

(Continued)

- Speech Recognition (Windows logo key+Ctrl+S)
- Date & time (Windows logo key+Alt+D)
- Screen snip (Windows logo key+Shift+S)
- Hold down Ctrl key
- Select all (Ctrl+A)
- Copy (Ctrl+C)
- New (Ctrl+N)
- Open (Ctrl+O)
- Print (Ctrl+P)
- Save (Ctrl+S)

- Paste (Ctrl+V)
- Cut (Ctrl+X)
- Redo (Ctrl+Y)
- Undo (Ctrl+Z)
- Zoom in (Ctrl+Plus sign(+))
- Zoom out (Ctrl+Minus sign(-))
- Switch apps (Ctrl+Alt+Tab)
- Task Manager (Ctrl+Shift+Esc)
- Close (Alt+F4)
- Home (Alt+Home)

Appendix – Shortcut keys

(Continued)

- Back (Alt+Left)
- Forward (Alt+Right)
- Hold down Shift key
- Help (F1)
- Rename (F2)
- Search (F3)
- Refresh (F5)
- Full screen (F11)
- Backspace key (Backspace)
- Context menu

- Delete (Del)
- Enter key (Enter)
- Esc key (Esc)
- Screenshot (Print Screen)
- Space key (Space)
- Tab key (Tab)
- Up Arrow (Up)
- Down Arrow (Down)
- Left Arrow (Left)
- Right Arrow (Right)

Appendix – Shortcut keys

(Continued)

- Email
- Web browser
- Brighten
- Dim
- Play/Pause
- Stop
- Previous track
- Next track
- Mute
- Volume up

- Volume down
- Power
- Sleep

Appendix – Shortcut keys

(Continued)

- Ease of Access (Windows logo key+U)
- Zoom in with Magnifier (Windows logo key+Plus sign(+))
- Zoom out with Magnifier (Windows logo key+Minus sign(-))
- Turn Magnifier off (Windows logo key+Esc)
- Color filters (Windows logo key+Ctrl+C)
- On-Screen Keyboard (Windows logo key+Ctrl+O)
- Narrator (Windows logo key+Ctrl+Enter)
- Mouse Keys (Left Alt+Left Shift+Num Lock)
- High Contrast (Left Alt+Left Shift+Print Screen)
- Sticky Keys

- Filter Keys
- Toggle Keys
- Windows eye control

Appendix – Shortcut keys

※ Action Center (Windows logo key+A) is only available on Windows 10. Quick Settings (Windows logo key+A) on Windows 11 is available instead. Charms (Windows logo key+C) on Windows 8.1 is available instead. No alternative shortcut keys are available on Windows 7.

※ Settings (Windows logo key+I), Connect (Windows logo key+K), Rotation lock (Windows logo key+O) and Search Everywhere (Windows logo key+S) are only available on Windows 11, Windows 10 or Windows 8.1. No alternative shortcut keys are available on Windows 7.

※ Clipboard (Windows logo key+V), Emoji (Windows logo key+Period(.)), Speech Recognition (Windows logo key+Ctrl+S), Screen snip (Windows logo key+Shift+S), Color filters (Windows logo key+Ctrl+C) and On-Screen Keyboard (Windows logo key+Ctrl+O) are only available on Windows 11 or Windows 10. No alternative shortcut keys are available on Windows 8.1 or Windows 7.

※ Windows Ink Workspace (Windows logo key+W) is only available on Windows 10. Widgets (Windows logo key+W) on Windows 11 is available instead. No alternative shortcut keys are available on Windows 8.1 or Windows 7.

※ Date & time (Windows logo key+Alt+D) is only available on Windows 10. No alternative shortcut keys are available on Windows 11, Windows 8.1 or Windows 7.

※ Neither Maximize (Windows logo key+Up) nor Minimize (Windows logo key+Down) will work if 'Prevent windows from being automatically arranged when moved to the edge of the screen' is enabled in Ease of Access Center on Windows 8.1 or Windows 7. (Excluding store apps on Windows 8.1)

Appendix – Shortcut keys

※ Neither Snap left (Windows logo key+Left) nor Snap right (Windows logo key+Right) will work if 'Prevent windows from being automatically arranged when moved to the edge of the screen' is enabled in Ease of Access Center. (Excluding store apps on Windows 8.1)

※ Task View (Windows logo key+Tab) is only available on Windows 11 or Windows 10. Recent apps (Windows logo key+Ctrl+Tab) on Windows 8.1 or Flip 3D (Windows logo key+Ctrl+Tab) on Windows 7 is available instead.

※ Switch apps (Ctrl+Alt+Tab) does not work while using Windows Classic theme or High Contrast theme on Windows 7.

※ Rotation lock (Windows logo key+O), Brighten and Dim may not work on your PC.

※ The action when Power or Sleep is selected follows the setting of 'When I press the power button' or 'When I press the sleep button' in Control Panel.

※ To turn Magnifier on with shortcut key, use 'Zoom in with Magnifier' (Windows logo key+Plus sign(+)). Then Magnifier will start in full screen view.

※ Narrator (Windows logo key+Ctrl+Enter) is only available on Windows 11 or Windows 10. On Windows 8.1, it is available by Windows logo key+Enter instead. No alternative shortcut keys are available on Windows 7.

※ Color filters (Windows logo key+Ctrl+C), Mouse Keys (Left Alt+Left Shift+Num Lock), High Contrast (Left Alt+Left Shift+Print Screen), Sticky Keys, Filter Keys and Toggle Keys will not work if those keyboard shortcuts are disabled in Ease of Access Center or the Settings of Windows.

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Appendix – Shortcut keys

※ 'Windows eye control' is only available on Windows 11 or Windows 10 (since Fall Creators Update). No alternative shortcuts are available on Windows 8.1 or Windows 7.