Switching apps on macOS

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My recommendations for an engaging remote presentation include sharing a fixed portion of the screen and switching between live-streaming the speaker (I use QuickTime Player, in which I ask for a *new movie recording*—but do not start it) and displaying slides (I use Adobe Acrobat with PDF slides). I could switch from one app to the other with command-tab, but the operation displays icons, thus creating visual noise. When switching back to slides, it would also be more elegant to advance first to the next slide. Both issues can be solved with simple AppleScripts and associated keyboard shortcuts. In turn, these shortcuts can be assigned to a remote control for keyboard-free switching, but the process is more complex.

These pages present my approach for switching applications, which is neither the only one nor necessarily an optimal one, so feel free to adapt it to your own needs and preferences. Instructions assume familiarity with macOS (10.15.5 Catalina).

Three simple AppleScripts

QuickTime · Activate
option-command-x

```
tell application "QuickTime Player"
        activate
end tell
```

Acrobat · Activate
option-command-z

```
tell application "Adobe Acrobat"
        activate
end tell
```

To specify an 'application', use the name
shown for the application in the Finder
(here, 'Adobe Acrobat')

Acrobat · Next slide + activate
option-shift-command-z

```
tell application "System Events"
        tell process "Acrobat Pro DC"
            click menu item "Next Page" of menu 1 of menu item "Page
            Navigation" of menu 1 of menu bar item "View" of menu bar 1
        end tell
end tell
tell application "Adobe Acrobat"
        activate
end tell
```

To specify a 'process', use the name
shown in the menu bar (top left)
when the application is active
(here, 'Acrobat Pro DC')

It would be more intuitive to ask for the next slide
with a keystroke event (Page Down), but AppleScript
allows such events for the active application only.
To change slides before activating the application
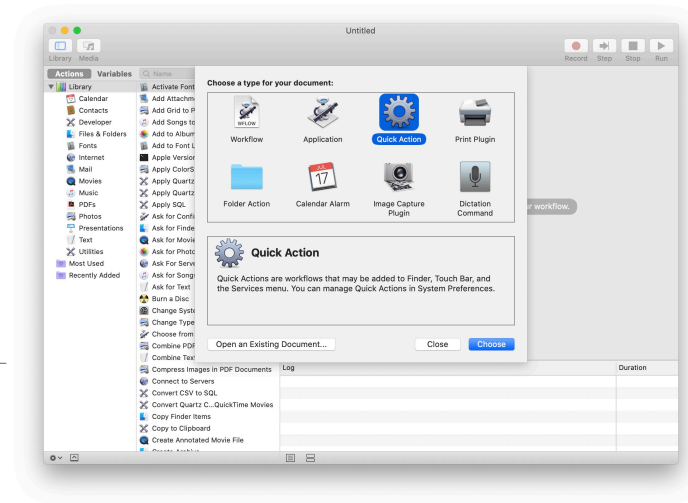(less distracting), this script thus clicks a menu item.

Creating a Quick Action

Launch Automator

Automator is an Apple application,
located in the Applications folder.

Create a new Quick Action

In the File menu, select New. In the dialog box
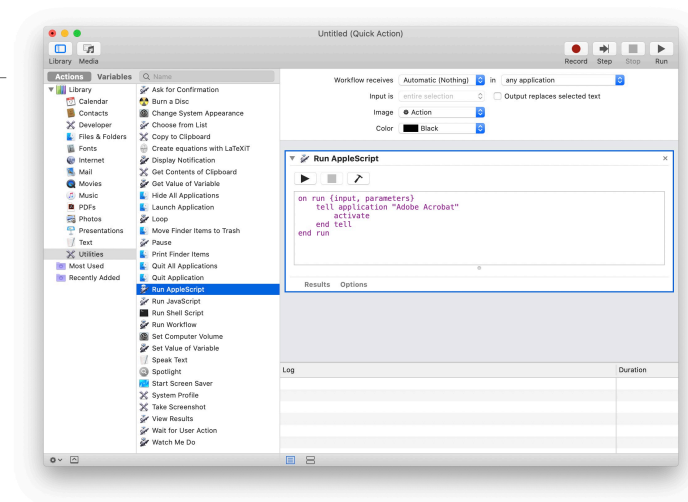that appears, click Quick Action, then Choose.

Request an AppleScript

In the window's leftmost column, click Utilities
In the next column, double-click Run AppleScript.

Input your script

Replace the text "(* Your script goes here *)"
with the AppleScript you wish to use.

Save the Quick Action

In the File menu, select Save. In the dialog box
that appears, enter a name, then click Save.

Saved Quick Actions appear in the Services submenu
(in the second menu from the left in any application).
The next step is to assign them keyboard shortcuts.
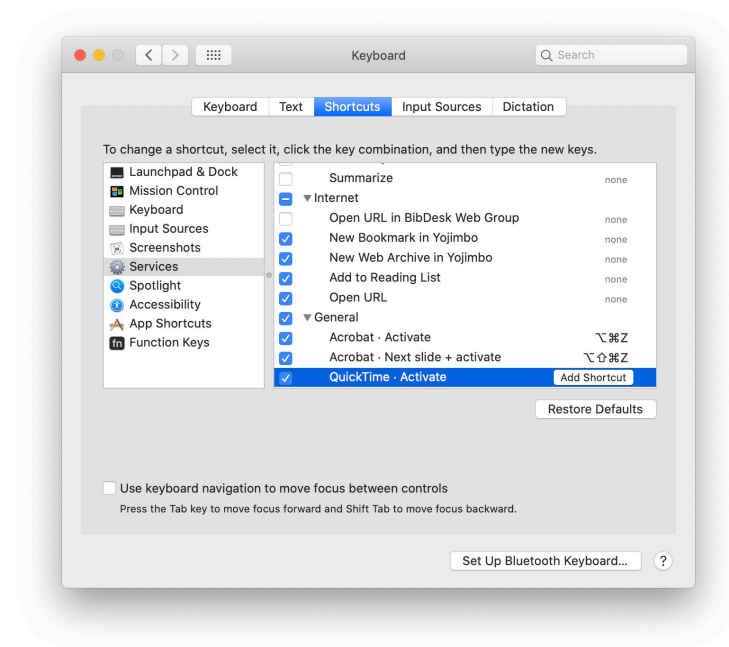
Assigning a keyboard shortcut

Access Keyboard preferences

Launch System Preferences. Select Keyboard.

Select the Shortcuts tab. At left, select Services.

Assign a keyboard shortcut

At right, scroll down to General. Select a Quick Action.

Click Add Shortcut. Enter a keyboard shortcut.

Be sure to choose a shortcut not already assigned

by applications from which you will call your script,

otherwise your chosen shortcut will get overridden.

Authorizing an application

Access Security & Privacy preferences

Launch System Preferences. Select Security & Privacy. Select the Privacy tab. At left, select Accessibility.

Add applications

At right, click the '+' button to add applications. Make sure that the box next to each is checked.
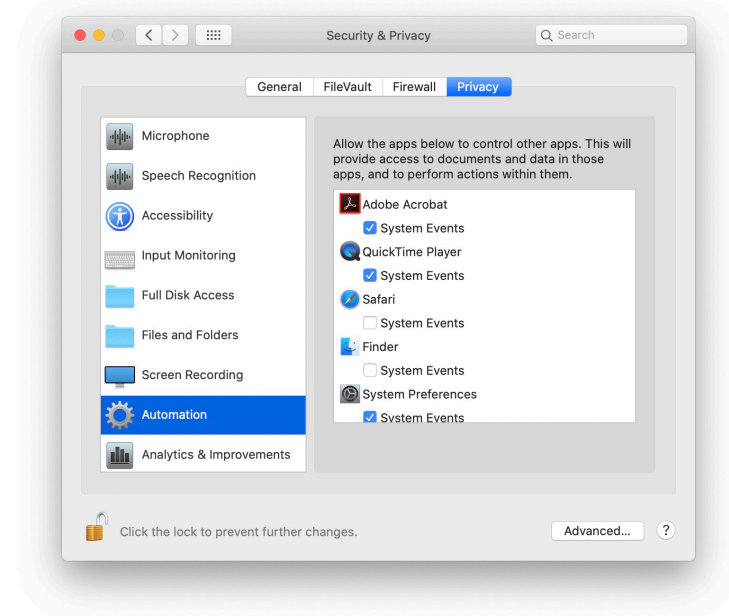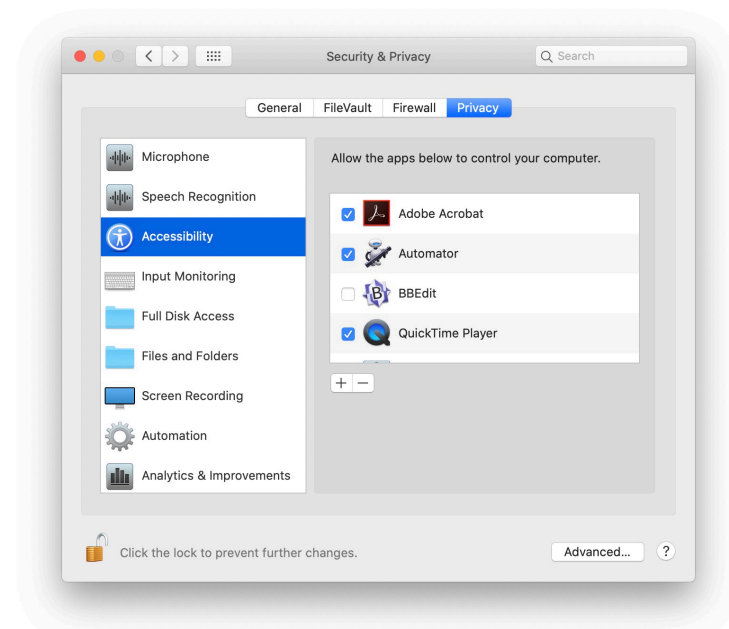
Try the third script (the one that advances a slide) in an application where you plan to call it, such as QuickTime Player. You should get either a dialog asking whether you want to allow the application to control system events (click Allow) or an error about such events. If the latter, try the steps below.

Access Security & Privacy preferences

Launch System Preferences. Select Security & Privacy. Select the Privacy tab. At left, select Automation.

Authorize applications

At right, scroll to the application you wish to authorize. Check the System Events box.

Assigning shortcuts to a remote

To assign keyboard shortcuts to a wireless remote control, please refer to *Remapping the Keys of a Wireless Presenter* by Daniel Weibel. I use a similar remote control as he does (Logitech R400). I remapped the remote's Hide key (period) to the first two AppleScripts (activate QuickTime or Acrobat) and its Next key (Page Down) to the last AppleScript, namely move to the next slide first, and only then activate Acrobat.

Daniel Weibel's approach requires a 'complex modification' for the keyboard-remapping application Karabiner-Elements, in the form of a JSON file. The one I created is shown at right. Each of the three remappings is subject to two conditions: one on the input device, one on the frontmost application.

The condition on the input device restricts the remappings to the remote control specified by vendor and product IDs. You might omit it if you specify the device(s) to be remapped in Karabiner preferences, but such an approach is less robust.

The condition on the frontmost application is what enables the remote's Hide key to be remapped to different shortcuts: with Adobe Acrobat frontmost, pressing the key activates QuickTime Player, and vice versa. The condition also allows the Next key to be remapped with QuickTime Player frontmost, but to keep its original mapping within Adobe Acrobat. In this way, one can press the Next key in either application and trigger a similar action, namely 'display the next slide.'

```json
{
    "title": "Logitech Wireless Presenter",
    "rules": [{ "description": "Logitech R400",
        "manipulators": [{
            "type": "basic",
            "from": { "key_code": "period" },
            "to": [{ "key_code": "x", "modifiers": [ "left_option", "left_command" ] }],
            "conditions": [{ "type": "device_if", "identifiers": [{ "vendor_id": 1133, "product_id": 50477 }] },
                { "type": "frontmost_application_if", "bundle_identifiers": [ "^com\\.adobe\\.Acrobat\\.Pro$" ] }]
        },
        {
            "type": "basic",
            "from": { "key_code": "page_down" },
            "to": [{ "key_code": "z", "modifiers": [ "left_option", "left_shift", "left_command" ] }],
            "conditions": [{ "type": "device_if", "identifiers": [{ "vendor_id": 1133, "product_id": 50477 }] },
                { "type": "frontmost_application_if", "bundle_identifiers": [ "^com\\.apple\\.QuickTimePlayerX$", "us\\.zoom\\.xos" ] }]
        },
        {
            "type": "basic",
            "from": { "key_code": "period" },
            "to": [{ "key_code": "z", "modifiers": [ "left_option", "left_command" ] }],
            "conditions": [{ "type": "device_if", "identifiers": [{ "vendor_id": 1133, "product_id": 50477 }] },
                { "type": "frontmost_application_if", "bundle_identifiers": [ "^com\\.apple\\.QuickTimePlayerX$", "us\\.zoom\\.xos" ] }]
        }
    ]
    }
    ]
}
```