



Prop UI User Guide

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Overview

Suppose that as a filmmaker you need to show a character interacting with a tablet to do something specifically related to your story. Using an existing app won't work in every situation, especially in science fiction.

Prop UI allows you to design user interfaces for fictional apps. By selecting from the included modules, and customizing them and their layout, you can create a wide range of fictional app interfaces which can help depict your story. Modules include controls, such as sliders and toggle buttons, and various types of data displays, like meters and waveforms. You can also import your own video content. The modules can be set to interact. For instance a toggle or slider can affect data being displayed, or a video you've imported.

Each interface you create can be saved as a document. These documents can be shared with other Prop UI users, though there may be some differences in layout between the various sizes of iPads.

There is no "export" functionality. The expectation is that an iPad running Prop UI will be used during filming, appearing on camera to display your interactive interface during production.

Prop UI runs only on iPad. It requires an iPad with an A12 chip or later, and iPadOS 17.

These iPads are supported:

- **iPad Pro 11 inch:** all models.
- **iPad Pro 12.9 inch:** 3rd Gen or later.
- **iPad Air:** 3rd Gen or later.
- **iPad mini:** 5th Gen or later.
- **iPad:** 8th Gen or later.

You can find out more, and see videos of Prop UI in action, here:

<https://propui.com>

Creating and viewing a document

To start, create a new document from the file browser by tapping the **+** button at the top center of the screen.

You will see a list of templates that you can use as starting points, or to explore the app's functionality. Each template has a brief description of how it works. When creating a new document, you'll be prompted to choose one of these templates, or an empty document, as a starting point.

Selecting a template will take you to the main edit screen. At the top is the name of the document that is now open. You can rename the document from the menu to the right of the filename.

Below the filename is the large **VIEW** button. By tapping this you will enter View mode, where you (and your actors) see and interact with the interface you've created. To exit View mode, tap the close button which is usually in the upper right, but can also be set to the upper left. There is an option to remove the close button completely (in the [Decorations section](#) of Document Settings). In that case, you must long press at the bottom of the screen to exit View mode.

Any change you make can be reversed with the **UNDO** button near the upper left. The document is automatically saved periodically. To make sure your current changes are saved, close the document before leaving the app, by tapping **< Documents** in the upper right.

The layout will adapt to the iPad's orientation. You may want to lock the orientation in Control Center to make sure the layout remains as you intend.

Editing

On the main edit screen, you'll see each module with a dotted line around it. You may need to scroll horizontally or vertically to see all of the modules. By using the **+** button next to the modules, you can add a new module at that position. A menu will appear with a list of modules. By selecting one, it will be added, and you can customize it. The **+** button is dimmed when you reach the maximum of six modules per section.

Tap **EDIT** (or anywhere within the dotted lines) and you'll be able to edit the details for that module. The settings vary from module to module, and these are discussed in detail in the [Modules](#) section of this manual. All of the modules have Control Channel settings, which is how the modules interact. This is discussed in the [Control Channels](#) section of this manual.

You can delete a module with its **DELETE** button. By tapping a module's **COPY** button, the module and its settings are included at the top of the menu when you add a new module.

Document Settings

You can access settings for the current document via the **DOCUMENT SETTINGS** button near the top right of the main edit screen.

In Document Settings, at the top left, is a small representation of the document's layout, which shows the number of modules in the document, and how they are laid out. To the right of the layout is a representation of the document colors. Some details are not represented here, such as modules with non-standard height or width or custom colors.

Below this is a scrolling section which contains the various document settings, described below.

Layout

A document consists of one or two sections, and each section can contain up to four modules. The sections can be in rows, one above the other, or in left and right columns. The **Columns** and **Rows** selectors allow you to choose columns or rows, and also whether the space is evenly divided, or with one section taking 1/3 of the space while the other takes 2/3. You can also choose to only have one section. In this case the second section is hidden, but the modules in that section will re-appear if you change the selection to one showing two sections.

You can also set the **Padding** (space between) and **Margin** (space around) the modules, as well as **Corner**, and the **Border width**. Setting the **Border width** all the way down will hide the borders, and setting the **Corner** all the way down produces completely sharp corners.

Colors

Here you can set the **Background color** of the document, and the module **Border color**. You can also set the **Accent color**, **Foreground color**, and **Background color** of the modules. All of these colors (except the **Document background**) can be overridden on a per-module basis in each of the module editors.

Decoration

By default, each document has a button at the top left or top right which closes View mode and reveals the main edit screen. This button can be customized by choosing an **Icon** and **Color**. To make this button inconspicuous, choose a color close to the document background colors. If you don't want the button to appear at all, you can choose **Hidden**. When the button is hidden, you must press and hold at the bottom of the screen to return to the main edit screen. In this case it is not at all obvious from looking at the view screen how to return to the edit screen, so make sure everyone who will be working with the document is aware.

In View mode, iPads without a home button will sometimes show a bar at the bottom of the screen, indicating how to close the app. It appears, for instance, when you tap a toggle button or other control. It does not appear when dragging a slider. If you'd like to obscure (but not completely hide) this bottom bar, you can turn on the **Bottom bar** toggle. This will add a bar the full width of the screen in the position of the default bottom bar.

If your story involves damaging a tablet, or using an already-damaged tablet, you can choose one of the **Cracked screen effect** overlays. It will probably be necessary to lock the display rotation of the iPad; otherwise the glass overlay will rotate with the content on the screen, and not the physical iPad.

Labels

Most of the modules have a text label at the bottom center. You can set the **Font** and **Size** of these labels. The content of each label can be set in each module's editor. You can choose to have no label for a module by deleting the label's content in any of the module editors. The color of these labels is automatically set to black or white based on the background color they are placed on.

Control Channels

Control Channels allow modules to control or be controlled by other modules.

In this section of Document Settings, you can set the initial values for the document's Control Channels. When entering View mode, all of the Control Channels take on these values. They may change when a slider is moved or a toggle button is tapped. When you return to the main edit screen and then re-enter View mode, the Control Channels reset to the values which are set here.

By setting the **Flashlight** menu to one of the Toggle Channels (T1-T8), you can turn the iPad's flashlight on and off with a Toggle set to the same channel. You can set this menu on any iPad, but the flashlight hardware is only available on the iPad Pro, and iPad mini 6 or later.

The way in which modules respond to Control Channels is set in the editor of each module

Complete details are in the [Control Channels](#) chapter of this manual.

Modules

From the main edit page, you can tap on any one of the modules to edit it.

All the modules have a toggle for **Use Common Colors**. If this is on, then the colors will come from the [Common Colors set in Document Settings](#). When off, you can set the colors for that module independently from the other modules.

Below the settings, you'll see a non-interactive preview of the module. You may need to scroll to see all of it.

Below are details about each type of module.

Toggles

Here you can have a grid of toggle buttons. Adjusting the **Corners** slider can change the buttons all the way from square to circular. The **Border width** can be set, with the lowest setting having no border at all.

You can use the [Common Colors from Document settings](#), or set custom colors. You can set all the toggles to the same color with the **Set all toggle colors** control, and then set individual colors for some of the toggles.

With the Row: **+ -** and Column: **+ -** buttons, you can add up to a 6x6 grid, or reduce down to just one one toggle. Each toggle always has a 1:1 aspect ratio, so changing the number of rows and columns will affect the overall layout of the document. You may need to close the editor and enter View mode to see how this will affect your layout.

Below is a grid that represents the toggles. By tapping on one of them you can set the **Color**, whether it is on or off by default, what **Icon** it displays (if any). The color of the icon will be automatically set to white or black based on the color of the toggle.

The popup menu also allows you to set what control channel a toggle associated with (if any). If set to a control channel, that toggle's initial state is set by the [Control Channels section of Document Settings](#).

The **Toggle Delay** menu sets the time it takes the toggles to react when a toggle control channel in another toggle module is changed.

See the [Control Channels](#) section of this manual for more information.

Video

Import your own video or animation here. It can play and loop automatically. You can also stop and start it with a toggle, or scrub through it with a slider.

The **Import quality** menu controls how much compression is applied when a video is imported (**Low**, **Medium**, **High**, or **Passthrough**). It does not apply to already-imported videos. In most cases, **Medium** quality will be sufficient. Keeping the file size of the video low helps improve scrubbing performance when using a [Control Channel](#), and also keeps the file size of the Prop UI document from getting unnecessarily large.

Import a video by selecting one from your photo library. If the video you need is not in your library, you'll need to import it first. The file in your library is not affected. Prop UI only needs permission to access the items in your library that you specifically select while using the app. It does not need permission to otherwise access your library.

You may want to make sure the video is sent from the library at full quality before import. To do this, open the Settings app on the iPad. The option might not appear in the Settings app until after the first time you've imported a video from your Library. Under **Prop UI**, select **Photos**, and then **Options**. Under FORMAT, make sure **Current** is selected.

Transparency is supported, but only with a properly prepared video, with quality is set to **Passthrough**, and the library format set to **Current** as described in the above paragraph. HEVC with 8 bit 4:2:0 color supports transparency, as does ProRes 4444.

With **Autoplay** on, the video will start playing as soon as you enter View mode. If **Loop** is on, the video will start again at the beginning when it reaches the end. **Zoom to fill** will enlarge the video to take all available space in the module, cropping out parts of the video if necessary. **Audio** is off by default but can be turned on if needed.

Setting **Controlled by: Toggle** makes the video play or pause depending on whether that channel is on or off. Setting **Controlled by: Slider** allows that slider channel to scrub through the video. For the smoothest possible scrubbing with a slider, ProRes files seem to work the best (import with the Passthrough setting). If not using ProRes, keeping the file small seems to improve performance.

See the [Control Channels](#) section of this manual for more information.

Digital Meters

This is a bank of segmented digital meters which display randomized data which can be affected by sliders and toggles. In one module you can have between 1 and 8 meters, each with 10 - 30 segments. Setting the **Data density** higher increases the likelihood that data will appear at any given time.

In addition to being able to use the Common Colors or custom colors for the **Border color** and **Background color**, the Digital Meters have separate selectors for the **Low color**, **Mid color**, and **High color** for the segments of the meters. Tapping **Reset** sets these colors to a traditional green/yellow/red scheme, but you can customize any of these as needed.

You can enter text for the **Label** or delete all text to use the module with no label.

When controlled by a toggle channel, the meters will drop to zero when that channel is off.

When controlled by a slider channel, the meter will stay at zero when that channel is at minimum, and will move through more of the range as the slider value is increased. At the highest levels, the meters will show more amplitude than if there was no Control Channel connected, as though the meters are closer to maxing out.

See the [Control Channels](#) section of this manual for more information.

Meter

This is a single analog-style meter with random data which can be affected by sliders and toggles. Increasing the **Speed** will cause the needle to move faster.

You can label the bottom and top of the range by editing the **Left value** and **Right value**.

You can enter text for the bottom **Label**, or delete all text to use the module with no label.

When controlled by a toggle channel, the meter will decrease to zero when that channel is off, and behave normally when it is off. When controlled by a slider channel, the meter will stay at zero when that channel is at minimum and will hover near the channel value as the value increases.

See the [Control Channels](#) section of this manual for more information.

Sliders

You can have up to six sliders in each module. The **Icon** menu allows you to choose an image for the sliding element. The **Corner** slider adjusts the slider shape from rectangular to very rounded.

With **Full width** on, the module will take as much width as the layout allows. When off, you can use the **Width** slider to make the module narrower, potentially making more room for other modules. You may need to close the editor and enter View mode to see how this setting will affect your layout.

If you turn off **Use Common Colors**, you can set the color of all sliders at once with the **All slider colors** color picker. You can then still set the color of individual sliders.

Below that is a list of the sliders. The menu on the left allows you to assign each slider to a Control Channel (or none). If not assigned to a control channel, the slider allows setting the initial value which the slider will take on when entering View mode.

Each slider can have an optional text label. Each slider can have a custom color if **Use Common Colors** is not selected.

If a Control Channel is set, the slider will use that channel's value as a starting value. The starting values for Control Channels are set in Document Settings.

Learn more in the [Control Channels](#) section of this manual.

Wave

A waveform display of randomized data.

The **Scale** slider controls how detailed the wave is. You can also set the **Speed**.

The **Style** menu allows you to choose waves with *Sharp* or *Rounded* corners, or a *Stepped* graph style display. The slider to the right controls **Line thickness**.

You can enter text for the **Label**, or delete all text to use the module with no label.

When controlled by a toggle channel, the amplitude will decrease to zero when that channel is off. When controlled by a slider channel, the amplitude will increase as the value of the slider channel is increased.

See the [Control Channels](#) section of this manual for more information.

Terminal

The text entered into this module appears in a console style animation. You can type or paste any text you'd like. You can control the **Size**, as well and turn on **Bold**. If the **Loop** toggle is turned on, the text will continue to scroll and repeat. If off, the text will continue to appear and scroll until the end is reached and then stop.

To have your text appear indecipherable, you can select "**Alien font.**" (Thanks to Kris Derry/The Orb Report!)

If you want to make sure the line breaks work as you expect, you should include them in the text. Otherwise, lines which are too long will be split automatically.

By setting **Controlled by toggle**, the terminal will pause when that channel is off, and resume when it is on.

See the [Control Channels](#) section of this manual for more information.

Keypad

The keypad can be used to simulate a combination lock or as data entry to initiate communication.

The **Key corner** slider adjusts the buttons from square to circular. The **Key border** can set the border width, with the lowest setting having no border at all.

Setting a value for **Controlling toggle** allows the lower right button to initiate a change to a toggle control channel (T1-T8).

If you want to simulate incorrect combinations being entered before finally entering the correct one, you can set **Number of presses** to a number higher than one.

See the [Control Channels](#) section of this manual for more information.

Countdown

Counts down from the time you select (up to 9 minutes and 59 seconds). You can have events triggered in other modules when the countdown reaches zero.

Enter a number of **Minutes** (0-9) and **Seconds** (0-59). The countdown will be set to this value when you enter View mode, and when you reset the timer (see below). The **Line thickness** slider controls the look of the digits.

By selecting **Full height**, the module will take up all the vertical space it is allotted. By turning this off, the module will only take as much height as it needs. You may need to close the editor and enter View mode to see how this setting will affect your layout.

To have the background color change when the timer reaches zero, turn on **Change background at end**, and set the **Ending background color**.

Once you're done editing, and switched to View mode, tap the timer to begin the countdown. You can pause and resume the timer by tapping. Once the timer reaches zero, tapping will reset it to the specified starting time, and tapping again will restart the countdown.

To toggle other modules when the countdown reaches zero, set **Controls channel** to the channel used by the module you wish to control.

See the [Control Channels](#) section of this manual for more information.

Progress Bar

The progress bar will complete in approximately the number of **Seconds** set. The **Thickness** changes the size of the bar as well as the height of the entire module. Setting **Randomness** all the way down makes the progress speed smooth. Higher settings make the speed fluctuate. The higher the setting, the less likely the progress will complete in the time set.

You can enter text for the **Label**, or delete all text to use the module with no label.

Control Channel (incoming) sets the Toggle Channel which will cause the progress bar to start, pause, resume, or reset anytime it changes, depending on the current state progress.

Control Channel (outgoing) sets the Toggle Channel which will be toggled when the progress is complete.

See the [Control Channels](#) section of this manual for more information.

Control Channels

Modules affect and are affected by other modules by using Control Channels. There are eight toggle channels and eight slider channels global to each document. Each channel represents one value: a Toggle channel can be on or off, and a Slider channel can be all the way down, all the way up, or anywhere in between.

Some modules can control the current value of a control channel, and others can react to Control Channels. For instance, a Countdown module can trigger a video to start playing when the countdown reaches zero. Or, one slider in a Slider module can affect the amplitude of the data in a Digital Meters module.

Control Channels have their initial values set in the [Control Channels section of Document Settings](#). The values are set to these initial settings every time you enter View mode.

Each module has menus which allow connection to the Control Channels. The modules which can affect the value of Control Channels are Toggles, Sliders, and Countdown. The other modules can be controlled by these values. Some modules can be controlled by Toggles, some by Sliders, and some can be controlled by both. The specific behavior of modules as they react to Control Channels is described for each module in the [Modules](#) section of this manual.

Modules which can be controlled by toggle channels have a menu which allows the change to take place some number of seconds (or fractions of seconds) after the toggle changes. This is helpful when the effect of something is not supposed to happen at the same moment as the cause, and to allow a change such as a countdown timer ending to appear to have a cascading effect across the other modules rather than have them all affected at the same instant.

In the main edit screen, at the bottom left of each module surrounded by a dotted line, there is a number which represents how many Control Channels that particular module is connected to. To the right of that number is an arrow. When pointing right, it indicates that this module can control one or more Control Channels, and when pointed left it means the module can be controlled by one or more Control Channels.

App Settings

The App Settings can be accessed by tapping the **Settings** button at the top right of the main edit screen.

The **Prevent display sleep** toggle allows you to keep the screen active while in View mode. This may be necessary to make sure the screen stays active during a shoot, but may drain the battery more quickly. The iPad may still sleep if the battery is low or it is in low power mode.

The **Show intro screen when starting** toggle can restore the informative pop-up that appears when launching the app, if you had turned it off previously.