Green Screen by Do Ink

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Introduction

You know what a "green screen" effect is, right? It's used in the movies to make it look like the actors have landed on an alien planet, and it's used on TV to make it look like your local news announcer is standing in front of an animated weather map. Green Screen by Do Ink makes it easy to create green screen videos using your iPad. It emphasizes ease-of-use and simplicity while still enabling you to achieve excellent results.

How the Green Screen Effect Works

The green screen effect works by combining images from two sources into a single image. The two source images are stacked in layers, one in front of the other. Normally, you'd only be able to see the image in front, since it would block your view of the background image. The trick is to make portions of the foreground image transparent, allowing the corresponding parts of the background image to show through. The green screen effect does that by looking for a specific color (like green, for example!) in the foreground image and then erasing any portions of the image that contain that color. The process looks like this:

There are two steps in the process of combining the images. First, the foreground image is run through a **chroma key filter**. This filter looks for portions of the image that contain the chroma key color – green in this example – and makes those areas of the image transparent. The second step combines the two images, letting the background image show through the transparent regions of the filtered foreground image. This is called **compositing** the images.

Using Green Screen by Do Ink

The basic green screen effect works by combining images from two sources into a single image, using the chroma key filter to create transparent regions in the foreground image and then compositing the result with the background image. Green Screen by Do Ink extends that basic effect in a couple of ways – first, by letting you combine up to three image sources at a time, and second, by letting you create lists of image sources (videos and photos from your photo library) and then showing them sequentially.

The Gallery

The Gallery is where you'll find all of your saved projects. You'll see a thumbnail icon for each project, along with (optional) tags and a title. Tap on a project to open it in the Editor.

Tap the ✛ button in the upper right corner of the screen to create a new project and open it in the Editor, or to import a project from another location.

Tap the ⚙ button in the upper left corner to configure default settings for the app, including the preferred video resolution, camera position, and video file format. These settings are discussed in more detail below.

Tap the ⋯ button on a project's thumbnail to show a menu that lets you delete, duplicate, or export the project. (You can also show the menu by swiping left on the thumbnail.)

> See the Exporting and Importing Projects section below for more information about exporting and importing projects.

The Sample Project

We've created a sample project to help you get started. This project will always be the last project shown in the Gallery. Note that you can edit the sample project to see how the various tools work, but any changes you make to it will not be saved. To create a new project that you can edit and save, tap the ✛ button in the upper right corner of the screen.
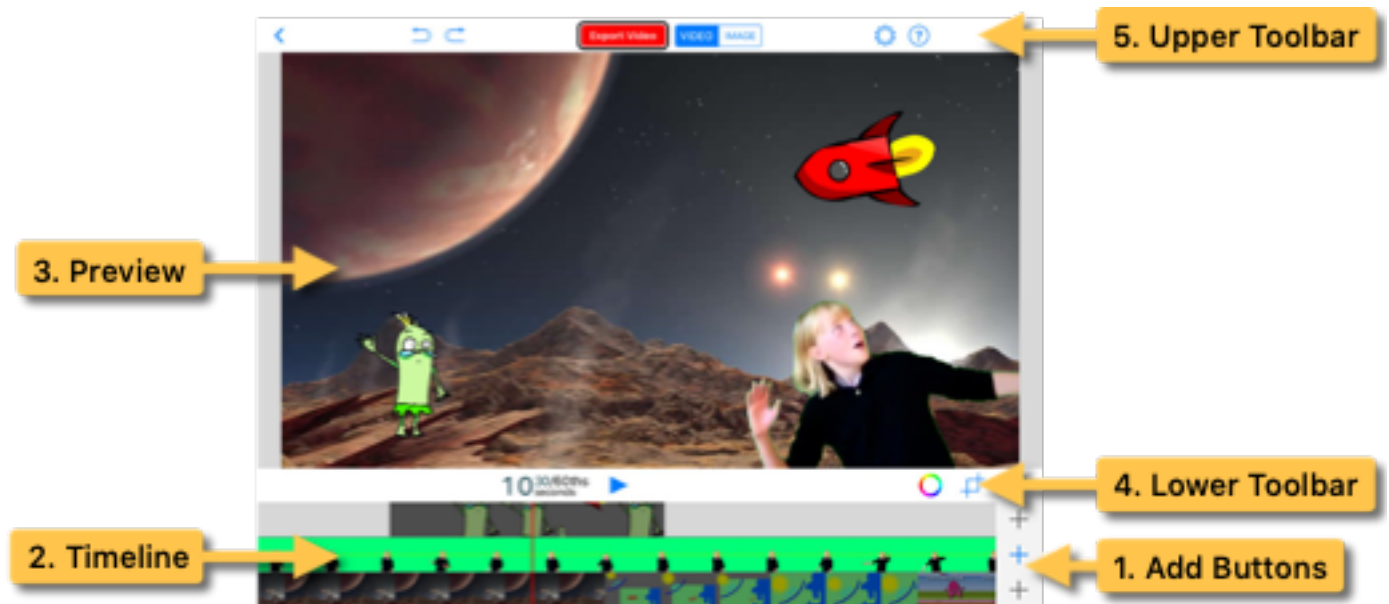
The Green Screen Editor

The Green Screen Editor opens when you create a new project or load an existing one. This is where you'll import videos and images, record videos using the live camera, and export your finished project to the photo library.

User Interface

There are four primary elements in the Editor's main view:

1. The **Add Buttons** open the Chooser Panel. This is where you'll add your image sources – the video camera, or a prerecorded video or photo from your photo library.

2. The **Timeline** shows how your image sources are arranged. Use it to scroll through your video and select an image source so that you can change its settings.

3. The **Preview** shows the combined image sources at the current time on the timeline. This is how your image will look in the completed video.

4. The **Lower Toolbar** is where you'll find the play button, along with buttons for the chroma, crop, and mask tools. There's also a label showing the current time on the timeline.

5. The **Upper Toolbar** is where you'll go to create and export a video or to capture an image. You'll also find undo, redo, and project settings buttons here.

Using the Timeline on an iPhone

Whenever possible, the user interface is arranged to show all three layers of the timeline. When running the app on an iPhone in **landscape orientation**, the timeline may be collapsed to make the best use of limited space on the screen. When the timeline is collapsed, as in the illustration above, the currently selected layer is shown at its normal size, the two other layers are shown with a reduced height. Certain operations can only be performed when the timeline is expanded; for example, the timeline must be expanded to select a different layer.

Tap the ≙ button on the left side of the timeline to toggle the timeline between the collapsed and expanded views.

Press and hold on the ≙ button to expand the timeline temporarily. When you release the button, the timeline will automatically collapse back down. This is an easy way to make quick changes on the timeline.

Adding, Selecting, and Removing Image Sources

The images for your green screen video can come from four types of sources: the live video camera, prerecorded video, photos, and artwork imported from **Animation & Drawing by Do Ink**. You may add an image source to any of three layers. Sources added to the top layer are shown in front of sources added to the middle layer, and sources added to the bottom later are shown in the background.

To add a source, tap the + button on the desired layer to open the Chooser Panel; then, select one or more sources, including the camera, videos, images, and Do Ink animations. When you're finished, tap the Done button in the upper right corner to close the Chooser Panel.

> On an iPhone in landscape orientation, use the ⬆ button on the left side of the timeline to expand the timeline if you need to select a different layer before adding an image source.

Adding Videos and Images

You can import videos and images from your photo library, or from cloud-based services such as Dropbox or Google Drive. Videos and images are added to the *selected layer* at the *current time* on the timeline. Select a layer by tapping it on the timeline. Set the current time by scrolling the timeline horizontally. As you do, you'll see the time label on the toolbar change to show the current time. For example, if you want insert a video starting at the 3-second mark, simply scroll the timeline to 3 seconds and add your video there.

After the image has been added, you can adjust its duration right away using the pop-up panel, or you can change its duration at any time using the timeline as described below.

> You can select different layers and scroll the timeline even when the Chooser Panel is open, making it easy to add multiple sources to your project.
>
> Note that the app does not make copies of videos and images imported from your Photo Library. If the original videos and images are deleted or removed from your Photo Library, the app will lose access to them. The app *does* keep copies of videos and images imported from cloud storage such as Dropbox and Google Drive.

Adding the Camera

Add the camera to the timeline just as you'd add a video or image. Tap the + button on the desired layer to open the Chooser Panel, then tap Add the Camera. The camera is added to the selected layer at the current time on the timeline.

Adding Drawings and Animations

Add a new, blank animation element to your project by tapping the + button on the desired layer to open the Chooser Panel, then tap Create a New Animation. The animation element is added to the selected layer at the current time on the timeline, and the **Drawing Editor** is opened automatically.

> See Creating Animations for more information on making and using animations.

Adding Artwork from Animation & Drawing By Do Ink

You can add animations and drawings to your **Green Screen** project by importing artwork created with our other app, **Animation & Drawing by Do Ink**. You can create drawings, flipbook-style animations, and sophisticated animations using keyframes and motion paths. It features a full set of easy-to-use, yet powerful vector drawing tools and an extensive collection of reusable art "props". It's simple enough for doodlers, with advanced features for skilled artists and animators.

There are two ways to export artwork from **Animation & Drawing**: 1) by saving it to the Do Ink shared app folder, or 2) by exporting the project file (a "doink-ad" file) to cloud storage service such as Dropbox or Google Drive. If you export artwork into the shared app folder, you can import it into **Green Screen** by tapping "Open the Do Ink Folder" in the Chooser Panel. If you export artwork to cloud storage, you can import it into **Green Screen** by tapping "Open the Document Picker" in the Chooser Panel and selecting the doink-ad file to import.

> Transparent areas in the original artwork will also be transparent when the artwork is imported into **Green Screen**. For that reason, you will generally not need a chroma filter for Do Ink sources. The chroma filter is disabled by default for Do Ink sources, but you can enable it manually if necessary.

Refer to the documentation in **Animation & Drawing** for more information about how to export artwork. If you have both Do Ink apps installed on your iPad, then the easiest way to import artwork into **Green Screen** is by saving it (as data) in the Do Ink shared folder.

Selecting an Image Source

In order to change the settings for an image source (or to remove it), you'll need to select it first by tapping on the source in the timeline. When you tap on an image source to select it, the timeline will automatically scroll so that the selected source is under the red cursor line.
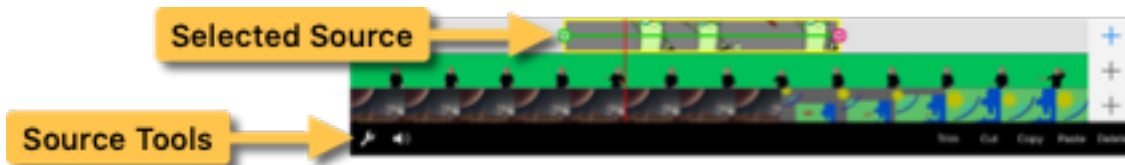
Using the Source Tools

Tapping the *already-selected* layer on the timeline opens the **source tools** panel. To reiterate: tapping once on a timeline layer selects that layer, and then tapping a second time opens (or closes) the source tools panel. The source tools panel is where you'll go to:

- delete image sources from the timeline
- cut, copy, and paste image sources
- trim an image source's duration on the timeline
- adjust the audio volume of prerecorded videos

Deleting an Image Source

You can remove the selected image source from the timeline by tapping the *Delete* button in the source tools panel.

> Open the source tools panel, if necessary, by tapping the already-selected layer on the timeline, as described above.

Copying and Pasting an Image Source

Use the *Cut*, *Copy*, and *Paste* buttons in the source tools panel to move and duplicate image sources on the timeline. This is particularly useful for moving an image source to a different layer on the timeline.

Trimming an Image Source

Use the *Trim* button in the source tools panel to shorten the duration of the selected image source on the timeline. Select an image source, and scroll the timeline to the time at which you want the the image source to stop. Tap the *Trim* button to remove the portion of the image source on the right of the red cursor line.

You can also trim image sources directly on the timeline, as described below; however, the trim tool is especially useful for one particular task: setting the duration of camera sources. When a camera source is added to the timeline, it is initially configured to run for a very long duration. The trim tool makes it easy to set a shorter duration.

Using the Timeline: Move and Trim

You can move image sources around on the timeline and trim their start and end times. To move an image source, tap and hold on it in the timeline. After holding for a moment, you'll be able to move the image source around on its timeline layer. Other image sources on the same layer will be moved, trimmed, or deleted to make room for the changes.

You can also trim the start and end of image sources by dragging the square handles at each end of the highlighted source in the timeline. This is particularly useful for trimming off unwanted portions of a video and for adjusting the duration of an image.

Using the Chroma, Crop, and Mask Tools

Green Screen by Do Ink lets you combine images from multiple sources into a single image. The image sources are contained in layers, with images in the upper layers appearing in front of images in the lower layers. Normally, the image in the topmost layer would block the images below it. The trick is to make portions of the foreground images transparent, allowing the background images to show through.

One way to achieve this has already been discussed: a **chroma key filter** erases portions of an image that match a particular color (such as green). That's how the classic "green screen" effect is created. In addition to chroma filtering, the app provides two additional tools that let you control which parts of an image are visible and which are transparent. To summarize:

- 🎨 The **chroma tool** lets you specify a chroma key color. Portions of the image that match the specified color are erased.

- ⊹ The **crop tool** lets you define a "cropping rectangle". Portions of the image that lie outside of the cropping rectangle are erased.

- 🎭 The **mask tool** lets you use drawing tools to "paint" an arbitrary mask shape. Portions of the image covered by the mask shape are erased.

Using the Chroma Tool

The chroma tool removes (makes transparent) any portions of an image source that match a particular color. In the illustration below, the chroma color – green, in this case – is removed from the original image.

To use the chroma tool, select an image source, if necessary, by tapping it on the timeline, then tap the 🎨 button on the toolbar.

The chroma filter is enabled by default for image sources in the top two layers, and disabled for sources in the bottom layer. Use the *Enabled* switch on the toolbar to enable or disable the chroma filter.

Use the *Chroma Key* slider to set the color in the image that should be made transparent, and use the *Sensitivity* slider to specify how closely the source color needs to match the chroma key. You'll want to experiment with both the color and sensitivity settings to get the best results in your video.

Using the Color Picker Tool

There's another easy way to set the chroma key color. Touch anywhere in the preview image in the chroma tool and drag around in it. You'll notice that the chroma key color changes to match the color you're touching. So, for example, if you're setting up the chroma key filter for the camera, simply point it at your green screen and touch the preview image in the chroma tool. The correct color will be set automatically.

Other Chroma Tool Features

Use a two-finger pinch gesture to magnify and reposition the preview image, enabling you to examine the effects of the chroma settings more closely. Double-tap the canvas to reset the view to the original magnification and position.

Using the Crop Tool

The crop tool lets you specify an image source's cropping rectangle. The portion of the image source that lies *outside* of the cropping rectangle is hidden from view. You can specify a cropping rectangle for video, images, and the live camera.
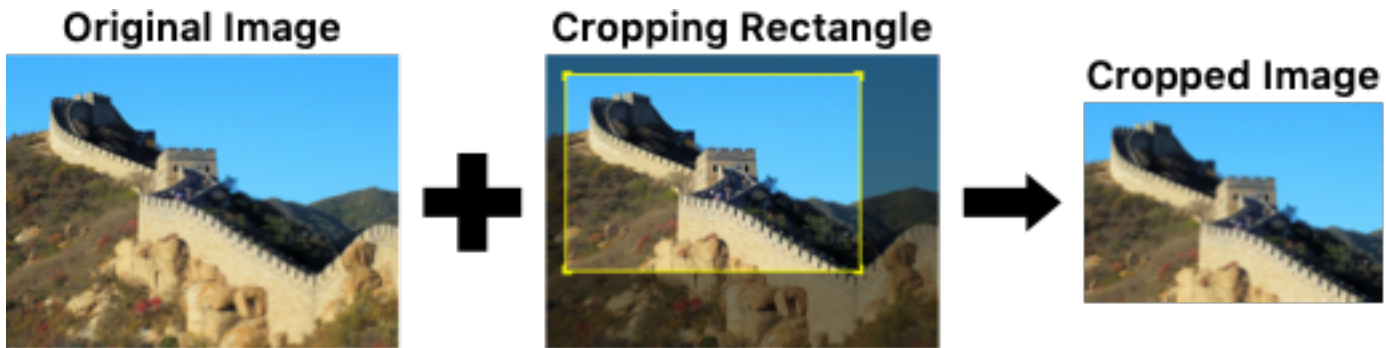
To use the crop tool, select the image source, if necessary, by tapping it on the timeline, then tap the ⊞ button. Drag the corners of the yellow box to adjust the cropping rectangle, or drag anywhere else to move the entire rectangle without changing its size. Tap the ✕ to reset the crop rectangle so that it includes the entire image.

Other Crop Tool Features

Use a two-finger pinch gesture to magnify and reposition the source image inside the view, enabling you to adjust the cropping rectangle more precisely. Double-tap the canvas to reset the view to the original magnification and position.

Enable the *Constrain* switch on the toolbar to constrain the cropping rectangle so that it matches the aspect ratio of your project. This makes it easy to select a region of the source image that fits perfectly inside the project view.

Using the Mask Tool

The mask tool lets you use drawing tools to create an arbitrary mask shape. The portion of the image source that lies under the mask shape is made transparent.

> You can create a mask for any type of image source, but keep in mind that the mask shape will stay the same over the entire duration of the source.

Original Image + Mask (black area) → Masked Image

To use the mask tool, select the desired image source, if necessary, by tapping it on the timeline, then tap the 😐 button. There are five drawing tools used to create the mask:

- 🖌️ The magic wand tool works like the "paint bucket" tool in a typical drawing app, except that instead of filling an area with color, it makes a region of the image transparent. To use the magic wand tool, select it on the toolbar, then **tap** on a location in the image that you want to erase. The tool uses the color of the image at the tapped location as a "seed", and erases any adjacent pixels that have a similar color. You can control how closely the colors need to match using the *Sensitivity* slider on the toolbar. The sensitivity control even works even *after* you've tapped on the image, so you can adjust the effect until you're happy with the results.

- 🧽 The eraser tool lets you erase an arbitrary region of the image by dragging across the area you want to hide. You can control the size and opacity of the erase using the sliders on the toolbar.

- 🟦 The rectangle tool erases a rectangular region of the image. Tap at one corner of the rectangle and drag diagonally across to the opposite corner. Control the opacity using the slider on the toolbar.

- 🔵 The ellipse tool erases an elliptical region of the image. Drag from one corner of the ellipse's bounding rectangle to the diagonally opposite corner. Control the opacity using the slider on the toolbar.

- 🖌️ The paint tool restores the original image to regions of the image that were previously erased. You can think of it as an "unerase" tool – the opposite of the eraser. When you drag across the image, the original images is "painted" back onto the canvas. You can control the size and opacity of the brush with the sliders on the toolbar.

Other Mask Tool Features

Use a two-finger pinch gesture to magnify and reposition the source image inside the view, enabling you to zoom in on the image for more precise drawing. Double-tap the canvas to reset the view to the original magnification and position.

If you make a mistake, you can undo drawing operations with the ↩️ button, and redo them with the ↪️ button. Tapping the ❌ button clears the mask (making the entire image visible). Tapping the 🟦 button inverts the mask, erasing the currently visible regions and restoring any currently transparent regions.

Using the Transform Tool: Pan, Scale, and Rotate

The transform tool lets you adjust an image source's position, size, and orientation. Using the tool couldn't be easier:

- **Select** the desired image source, if necessary, by tapping it on the timeline.
- **Position** (pan) the image source by dragging it to the desired location in the (large) preview view.
- **Resize** (scale) the image source using a two-finger pinch gesture in the preview view.
- **Rotate** the image source with a two-finger "rotate" gesture – *i.e.*, place two fingers in the preview view and twist them around each other.
- **Reset** the selected image source to its original state by double-tapping anywhere in the preview view.

> Using the transform tool with three fingers lets you pan, scale, and rotate the image source all at the same time. Once you start a "free transform" operation, you can lift one of your fingers and continue with just two fingers, if that's easier.

Creating Animations

Let's start with an example. Say you want to make an animation of a person walking, and you want the person to walk from one side of the project canvas all the way to the other side.

One of the most powerful features of the Green Screen Editor is the ability to "loop" short animated sequences, repeating the sequence of frames over and over, creating the appearance of continuous movement. Here's a simple animated sequence that can be looped in this way:

By cycling through the four animation frames, and moving each successive frame a short distance to the right, you can make the character walk for as long and as far as you'd like.
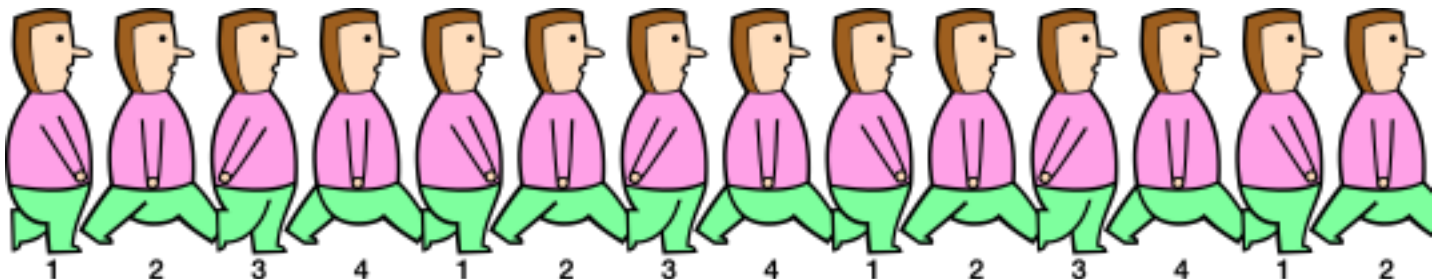
Let's walk through the steps to make this animation!

Step 1: Add a New Drawing to Your Project

Begin by adding a new, blank drawing element to your project. This is just like adding a new image, video, or the live camera. Scroll the timeline to when you want the animation to appear, then tap the ➕ button on the timeline layer where you want to place it. In the Chooser Panel, tap Create a New Animation to add a new drawing to your project. The Drawing Editor will open automatically.

Step 2: Create the Animation Artwork

Use the tools in the Drawing Editor to create the artwork for your animation. In this case, we'll create a sequence of four drawings to show the person taking a full step.

> We won't go into detail here, but once you're in the Drawing Editor, tap the ⑦ button on the upper toolbar to get more information about how to use the drawing tools.

Step 3: Position Your Artwork on the Canvas

After you've created your artwork in the Drawing Editor, you'll return to the main Green Screen Editor, where you'll see the new artwork on the canvas and on the timeline. You can move and transform your artwork just as you would any other element. Use two-finger gestures if you need to make your artwork larger or smaller. Then, drag the artwork over to the left side of the canvas.

Step 4: Make Your Animation Move Across the Canvas

Scroll the timeline to the end of the animation element. While you're scrolling the timeline, notice that the four drawing frames repeat over and over – but the person doesn't go anywhere! With the timeline positioned at the end of the animation, drag the artwork to the right side of the canvas. You should see a green line on the canvas, showing where your animation starts and where it ends.

> This green line represents the animation's **motion path**. Notice that there is a green dot at one end of the line – that's the starting location. There's a red dot at the other end, indicating the ending location. A smaller yellow dot shows the location of the artwork along the motion path as you scroll the timeline.

Scroll the timeline back to the beginning of the animation. Notice how your artwork moves back to the starting location along the motion path. Tap the play button, and watch your animation move across the canvas while looping through the four drawing frames.

Next Steps: More Animation Features

There are several more features for adjusting and controlling your animation:

- **Edit existing drawings.** In the main Green Screen editor, select the animation you want to edit on the timeline, then tap the 🖌 button on the toolbar just above the timeline to open the Drawing Editor.
- **Make curved motion paths.** Motion paths don't need to be straight lines. To create a curved motion path, touch and drag on the green dot at the starting location on the canvas to "draw" the path on the canvas.
- **Draw the motion path and set the ending location at the same time.** You don't need to set the animation's ending location before you draw the motion path. When you first create the animation, its starting and ending

locations are the same (i.e., it doesn't move). In this case, when you create a motion path, you will also set its ending location at the same time.

- **Make your artwork grow, shrink, and rotate.** The size and rotation of your artwork can be different at the end of the animation than it is at the start. You can scale and rotate the artwork (using the standard two-finger gestures) independently at each end of the animation. The app will animate smoothly between the two settings as you scroll the timeline.

- **Adjust the frame rate.** For artwork with more than one drawing, you can control how quickly the frames are shown on the screen. The default speed is 15 frames per second, but you may find that your animations look better at a faster or slower rate. You can adjust the frame rate from 1 to 30 frames per second in the Settings Panel of the Drawing Editor. A higher frame rate will produce a smoother animation, but you'll need to create more drawings than you would at a lower rate.

Using PDF Files (Beta)

Support for PDF files is currently an experimental feature, with a number of significant limitations. If PDF support is something that you would find useful, please send your suggestions and feedback to support@doink.com.

A Bluetooth keyboard or presentation remote "clicker" is required to move between pages in the PDF file.

You can add multi-page PDF files to the timeline of your project, and move between pages using a Bluetooth keyboard or presentation remote clicker.

To add a PDF file to your project, tap "Open the Document Picker" in the chooser panel, then select the desired PDF file. The file will be added to the timeline and can be manipulated just like any other type of element. Initially, you will only see the first page of the PDF.

To turn the pages of the PDF file, you will need either a Bluetooth keyboard or a presentation remote clicker. Pair the keyboard or clicker with your iPad in the Bluetooth section of the Settings app. If using a keyboard, the right arrow key advances to the next page and the left arrow key moves to the previous page.

There are two ways that multi-page PDF elements can be used: *manual* and *automatic* page-turning modes. Manual mode is most useful for projects that contain the live camera, with the pages being changed as needed while the video is recorded. For projects that don't use the live camera, automatic page-turning mode lets you specify when the pages should change before the video is exported. Here are the two scenarios:

Manual Mode (PDF Element + Live Camera)

In this scenario, both the PDF element and the live camera should have long durations on the timeline (up to one hour). Start recording the video, and at any time, press the forward or back buttons on your keyboard or clicker to advance the PDF pages manually.

Automatic Mode: (PDF Element, No Live Camera)

In this scenario, you need to tell the app when to change the PDF pages before you hit the export button. (With no camera, exporting runs faster than real time, so it's difficult to turn the pages manually.) In automatic mode, when you press the play button or the export button, the PDF pages change automatically at the selected times.

To set a page change, scroll the timeline to where you want the change to occur, then use the keyboard or clicker to select the desired page. Repeat this process for each page change. Note that you can go forward or backward, and you can skip more than one page at a time.

To delete a page change, scroll to the time where the change occurs and use the keyboard or clicker to change the page back to the previous setting.

For example, suppose you want each page to be visible for 10 seconds. You would scroll the timeline to 10 seconds and advance to page 2, then scroll to 20 seconds and advance to the page 3, etc. To remove the page advance at the 20 second point, you would scroll to 20 seconds and go back to page 2 (since that's the page from the previous page advance point at 10 seconds).

Usage Notes & Limitations

- Automatic page mode also works in projects that use the live camera. The only thing that determines whether a PDF element uses manual or automatic mode is if an automatic page change has been set at any time *after* the start of the element on the timeline.

- Changing the page at the start of the element on the timeline does *not* put the element into automatic mode. You can skip pages at the beginning and still record a video in manual mode.

- If you've added automatic page changes to an element and want to get back to manual mode, you will need to delete all pages changes after the start of the element on the timeline.

- If there are multiple PDF elements on different layers of the timeline, pressing the left/right arrow keys or the forward/back buttons on the clicker will affect *all* of the PDF elements at the current position on the timeline.

- All pages in the PDF file need to be the same size and orientation (portrait or landscape); otherwise, some pages may not be displayed correctly.

We'll consider adding more features, such as slide transitions or an on-screen user interface for changing pages, in future releases. It would be very helpful to hear your feedback and suggestions. Please email support@doink.com and let us know if support for PDF files is useful to you. Thanks!

Audio Controls

When you add a video source to the timeline, use the **audio level** slider in the selected source tools to adjust its volume. Tap the already-selected layer to show the source tools, as described above. In the source tools panel, tap the 🔊 button to show the audio level slider.

Setting the audio level to 100% maximizes the video segment's volume, and setting it to 0 mutes it completely. The audio level slider is disabled for videos that don't contain an audio track.

> When you record a video using the camera, the audio is captured at full volume. You'll have an opportunity to balance the camera audio with the audio tracks from any prerecorded video segments when you preview your finished video.

Aspect Ratio and Orientation

The *aspect ratio* and *orientation* settings control the shape of a project's canvas. Aspect ratio is the ratio of the canvas's width to its height, and orientation specifies whether the canvas is wider than it is high, or vice versa. For example, a wide screen video might have an aspect ratio of 16:9 in landscape orientation, while a photo might be captured using a 4:3 aspect ratio in portrait orientation.

The app supports a variety of aspect ratios, including 16:9, 8:5, 5:4, 4:3, and 1:1 (square), in both landscape and portrait orientations. You can specify the default aspect ratio and orientation used for new projects in the App Settings panel, reached by tapping the ⚙ button in the Gallery. Alternatively, the aspect ratio and orientation for an individual project can be set in the Project Settings panel, by tapping the ⚙ button in the Editor.

Output Resolution

The *output resolution* setting specifies the dimensions of videos and images that are saved to your Photo Library or to a file. The exact dimensions depend on the project's aspect ratio and orientation, and on the media type (video or image). The app offers four different resolution options: low, medium, high, and highest (although the "highest" option may not be available in all cases). The app displays the exact dimensions in pixels for each option, based on the current aspect ratio and orientation settings.

Select a default output resolution for all of your projects in the App Settings panel by tapping the ⚙ button in the Gallery. Set the output resolution for a specific project in the Project Settings panel, by tapping the ⚙ button in the Editor.

> Videos and images saved at higher resolutions generally look better, but they can use much more or your storage space (both on your device and in the cloud).

Camera Controls

You can record videos and capture images using either the front or back camera, and if desired, you can specify the camera resolution for recording videos. To select the camera position and resolution, open the project settings panel by tapping the ⚙ on the toolbar.

Use the *Camera Position* selector to select the front or back camera. If your device has more than one back camera, you can choose which lens to use (*e.g.*, wide angle or telephoto). If the camera is already on the timeline, you can also toggle between the front and back cameras by tapping the ⟳ on the upper toolbar.

> If you have multiple camera sources on the timeline, they all use the same position setting – you can't use both the front and back cameras in a project.

Use the *Camera Resolution* selector in the settings panel to set the camera's resolution used when recording videos. If you leave this set on *Automatic* (the default), the resolution is adjusted to match the project's output resolution; however, if desired, you can set the camera resolution manually.

> This setting is only used for recording videos; when capturing photos, the camera is always set to the device's high-def photo resolution.
>
> Note that camera resolution is not the same thing as output resolution. The camera resolution controls the size of the video image coming into the app from the camera. The output resolution controls the dimensions of video and image files when they are saved to your Photo Library or to a file. Under most circumstances, you can leave the camera resolution set to "Automatic". To select the resolution of exported videos and images, use the Output Resolution settings .

Focus, Exposure, and White Balance

Normally, the camera automatically adjusts its focus, exposure, and white balance settings to produce the best possible image, but there are a couple of ways you can control the settings manually.

- To **set the focus and exposure point manually**, select the camera source on the timeline, then tap in the large preview view. You'll see a yellow square appear where you tap. The camera adjusts the focus, exposure, and white balance automatically to optimize the image at the selected location.

> Note that the camera will reset the focus and exposure point to the center if the image changes significantly at the selected location.

- To **lock the focus and exposure settings**, press and hold in the preview view. After adjusting the focus and exposure at the selected location, the camera locks the settings so that they won't change. You'll see a label at the top of the image when the camera settings are locked. To unlock the settings, tap in the preview view.

When you record a video, the app automatically locks the camera's exposure and white balance settings *if the chroma filter is enabled for the camera*. This prevents changes in these settings from degrading the "green screen" effect while you're recording. The focus setting is *not* locked automatically, but you can lock the focus manually (as described above) before you start recording.

Saving a Video to the Photo Library

How the app exports a video to the photo library depends on whether your project uses the live video camera or not.

Recording with the Live Video Camera

Before recording your video, you may want to tap the ▶ button to rehearse your performance and make sure everything in your project is set up the way you want it. Once everything is ready to go, tap the [Record Video] button to record your video. You'll see a 5-second countdown clock before recording starts, so that you can be prepared to start.

Recording will stop automatically at the end of the last image source on the timeline. You can use the trim tool to set the end time of your camera source, as described above. Alternatively, you can tap the stop button on the toolbar to end the recording manually.

When you're finished recording, a preview view will open. The preview view lets you play your video, adjust the audio mix between the live audio recording and prerecorded videos, and save your video to your Photo Library or to cloud storage.

Saving a Video That Doesn't Use the Live Camera

Even when your project doesn't use the live camera, the app needs to "compose" the various image sources together into a single video. To do that, tap the [Export Video] button on the timeline. You'll see a progress bar as your project is composed into a video. When the app has finished creating the video, the preview view will open, enabling you to play the video and save it.

Capturing Still Images

Use the [VIDEO IMAGE] control on the upper toolbar to select image capture. You can capture still images at any point along the timeline, with or without the camera. Simply scroll the timeline to the time at which you want to capture an image, then tap the [Capture Image] button. If you're using the camera in your project, you'll see a 3-second countdown before the picture is taken.

> The captured image will be the same as what you see in the preview view, with the same aspect ratio and composition. The resolution of the captured image is determined by the resolutions of the images sources on the timeline. In general, the app scales higher-resolution image sources down to match lower-resolution sources; however, it will create the highest-resolution image possible consistent with that policy.

Title, Tags, and File Name

To edit a project's title, tags, and file name, tap the ⚙ button on the toolbar of the Editor. The project's tags and title are shown in the Gallery, and you can use the search bar to find tagged projects.

The project's file name is used when you export a "doink-gs" project file (described below). Do not include the "doink-gs" file extension in your file name – the app does that for you automatically.

Exporting and Importing Project Files

You can export your projects to cloud storage services such as Dropbox and Google Drive, and import projects (your own, or made by someone else) into the app.

Exporting a Project

To export a project:

1. If you haven't specified a file name for your project, you may want to do that first, as described above.
2. In the Gallery, locate the project that you want to export.
3. Tap the ⬤ action button (or swipe left in the card), then tap the *Export* button.
4. Use the standard document picker tools to save your project to the desired location.

> All of the project's assets – images and videos – are bundled together into a single file. The size of the project file will be (approximately) equal to the sum total of the file sizes of the individual assets. Be aware that projects that use a lot of images and videos can be quite large.

Importing a Project

To import a project file:

1. Tap the + button in the upper right corner of the Gallery, and select "Import a Project".
2. Use the standard document picker tools to select the project file.

> IMPORTANT: Green Screen project files are saved with a "doink-gs" file extension. This is the *only* type of file that can be imported into the app using this tool. If you mistakenly try to import a different type of file, such as an image or video, an error will result.

Getting Good Results

You can make a decent green screen video under less than ideal conditions, and you can make a really great video by taking a few extra steps:

- The quality and color of the backdrop you use makes a difference. Although you can record your video in front of any solid-color backdrop, the quality of the results can be improved if your backdrop is a bright, fully saturated color and if it's made from a matte, non-reflective material. You can find an inexpensive green muslin backdrop online by searching for a "green screen backdrop".

- Good lighting helps. You don't need special "movie lights", but you'll find that your results improve when your backdrop and subject are well lit. Minimizing shadows on your backdrop can also help considerably.

- Make sure that objects in your video (including people and clothing) aren't similar in color to your backdrop –

otherwise, they'll be transparent!

- Consider mounting your iPad on a tripod or stand. Holding your camera still while recording in front of a green screen can improve the quality of your video.

- Experiment with the chroma key color and sensitivity settings. Getting them right makes a big difference.

Got a useful tip for making a great green screen video? Let us know about it at support@doink.com.

Oh, and one more thing…

Recording videos in front of a green screen isn't the only thing you can do with this app. Did you notice the animated background and characters in the tutorial video? They were made with our other iPad app, **Animation & Drawing by Do Ink**.

With **Animation & Drawing by Do Ink**, you can create drawings, flipbook-style animations, and sophisticated animations using keyframes and motion paths. It features a full set of easy-to-use, yet powerful vector drawing tools and an extensive collection of reusable art "props". It's simple enough for doodlers, with advanced features for skilled artists and animators.

What's more, it's great for adding graphics and animation to your green screen videos. Use **Animation & Drawing by Do Ink** to create your artwork, then import it into Green Screen by Do Ink as described previously. It's a great way to make artistic backgrounds or add animations to your green screen videos. Check out **Animation & Drawing by Do Ink** in the App Store!

Contact Us

Please email your questions, suggestions, comments, constructive criticism, and bug reports to support@doink.com. And let us know what you're using Green Screen by Do Ink to make. We'd love to hear from you!