

# ToonSquid Handbook



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# Overview

This chapter provides a general overview of ToonSquid's user interface. Some topics like the individual tools are covered in more detail in the following chapters.

## Editor

Knowing about all the details of the editor interface is the key to making sure that you can bring your ideas to life as efficiently as possible with ToonSquid.

## Timeline

The timeline is your window into everything regarding animation. Mastering the timeline is a must if you want to create more than static pieces of art with ToonSquid.

## Library

Projects, animation clips, video clips, audio clips and brush textures are all organized in different variations of the library interface.

## Gestures

ToonSquid takes advantage of the iPad's multitouch screen and offers a variety of intuitive touch gestures to help ease your workflow.

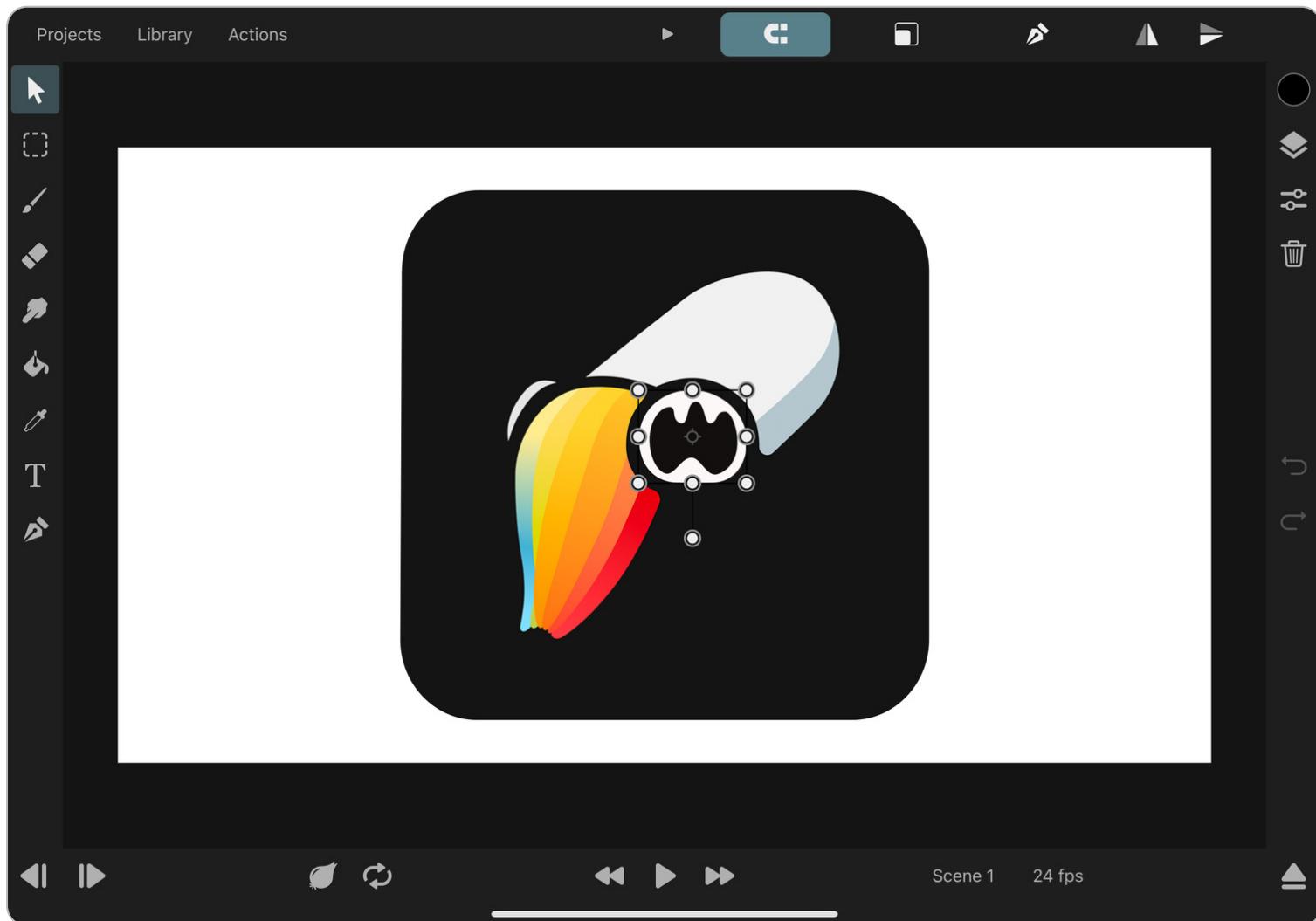
## Keyboard Shortcuts

If you like to work with an attached keyboard you can use keyboard shortcuts to quickly navigate through the editor and perform common edits.

## Interface

# Editor

The editor interface is the workspace where you spend most of your time creating your animation.



## Canvas

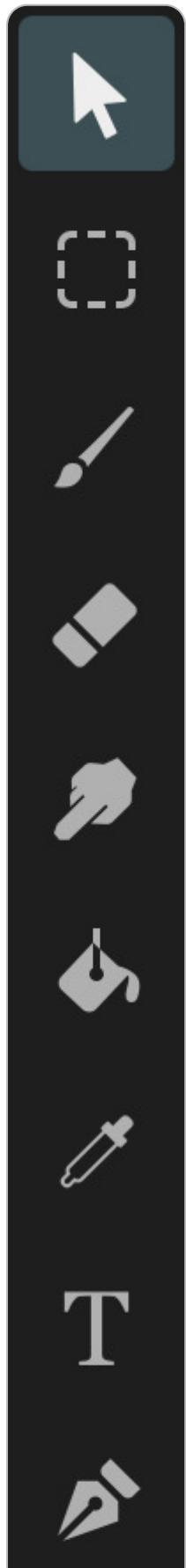
The canvas is the central area of the editor where you can see and edit your animation directly on the screen.

You can navigate the canvas by pinching to zoom and moving your two fingers around to move and rotate the animation on the screen.

Depending on the selected tool, you have different editing options on the canvas for the selected layer. More details on this follow in later chapters.

# Tools

The sidebar on the left contains the list of tools that you can use to edit your animation in different ways on the canvas. These are the tools from top to bottom: transform, selection, brush, eraser, smudge, fill, pipette, text, path.





Select a tool by tapping its icon in the sidebar. After selecting a tool, its name shortly appears at the top of the screen and the icon becomes highlighted.

Some tools (like the brush, eraser and smudge tools and the path tool) allow you to tap their icon again to show more options.

### Tip

Tapping the current selection again to show more options works almost anywhere in the editor interface. You can do it on the selected layer, the selected drawing, the frame number in the timeline etc.

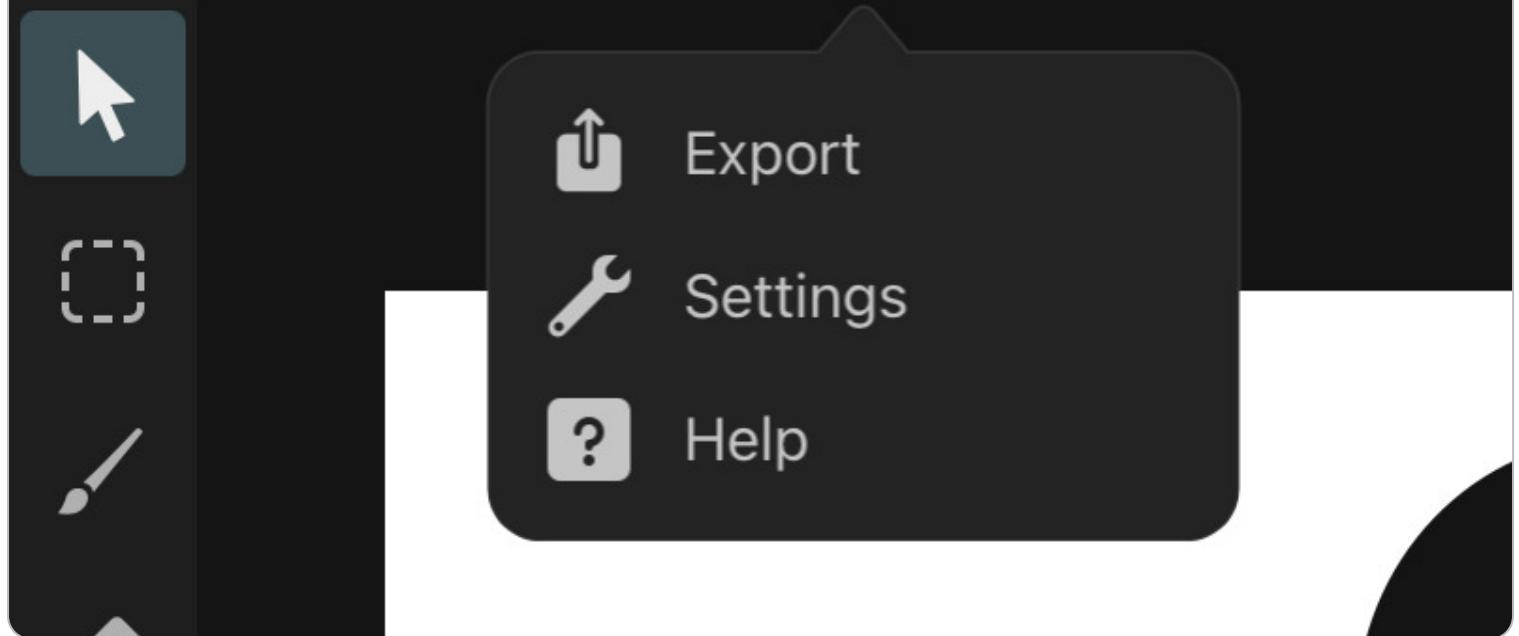
## Navigation Buttons

The three buttons in the top left corner of the editor are used to navigate from the editor to other important screens.

Projects

Library

Actions



## Projects

Takes you back to the project library where you can select a different project to work on.

## Library

Opens the asset library of the current project. The asset library contains [videos](#) and [audio clip](#) assets that were imported and [animation clips](#) that were created as part of this project. This is also where you can import more assets, such as images. The library interface is covered in more detail [on this page](#)

## Actions

The actions button opens a popover with further navigation options.

### Export

At some point, you are going to want to export your animation from ToonSquid as a video or image to share with others. This button opens the interface to configure such an export. The exporting process is explained [in this chapter](#).

## Settings

Opens the preferences which you can use to configure the behavior of the ToonSquid editor. All available settings are covered [in this chapter](#).

## Help

Opens a list of various support and informational links. You'll find a quick link to the handbook and one for contacting support, the privacy policy and other legal information if you are ever looking for it.

The help popover also shows you the current app version at the top.

# Tool Options



Options that are specific to the selected tool such as a brush size slider or a button for enabling and disabling snapping are shown in the top bar on the right. The available options are explained on the different pages that present each tool in more detail.

## Tip

Labels for the tool options are hidden by default, but you can tap the little disclosure triangle to the left of them to expand the options and see their labels as well.

# Sidebar (Right)

The sidebar on the right contains buttons for commonly used editor features.



## Color Picker

The color button on the right shows the current editor color, which is used for the brush. Tapping it opens the [color picker](#) interface for choosing a different color.

## Drawing Layers

The layers button opens the [list](#) of drawing layers of the currently selected drawing. Learn more about these concepts in the [Layers](#) chapter.

## Inspector

The [inspector](#) shows all properties of the currently selected layer. You can switch between the properties of the selected [animation layer](#) and the selected [drawing layer](#) at the top.

Different layers have different properties, which are covered in detail in the [Layers](#) chapter.

## Quick Delete

If a layer is selected, a delete button (trash icon) is shown below the inspector, which can be used to delete the selected layer. By default, the drawing layer is deleted, but this behavior can be adjusted in the [settings](#).

## Undo and Redo

Exploring different ideas and making mistakes is part of everybody's creative process. In ToonSquid you don't have to worry about making mistakes because every edit to your project can be undone. Either tap the screen with two fingers or use the undo button (arrow to the left) in the sidebar. And if you accidentally undo too much, tap with three fingers or use the redo button (arrow to the right) to re-apply the edit.

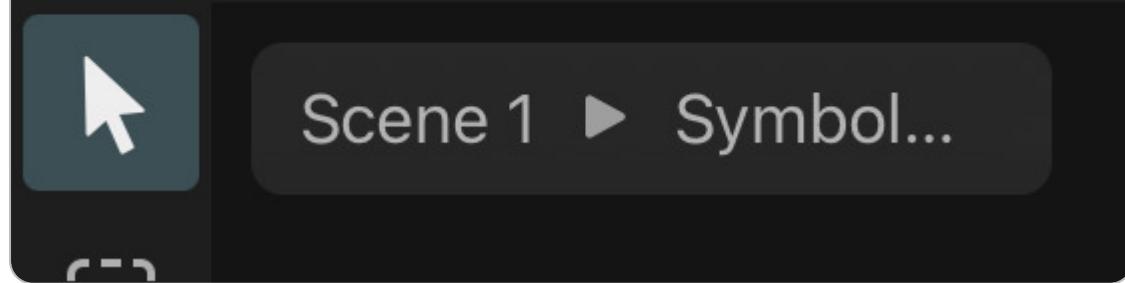
Undo and redo steps continue to exist until the editor is closed, for example by going back to the [project library](#).

## Breadcrumbs

Projects

Library

Actions

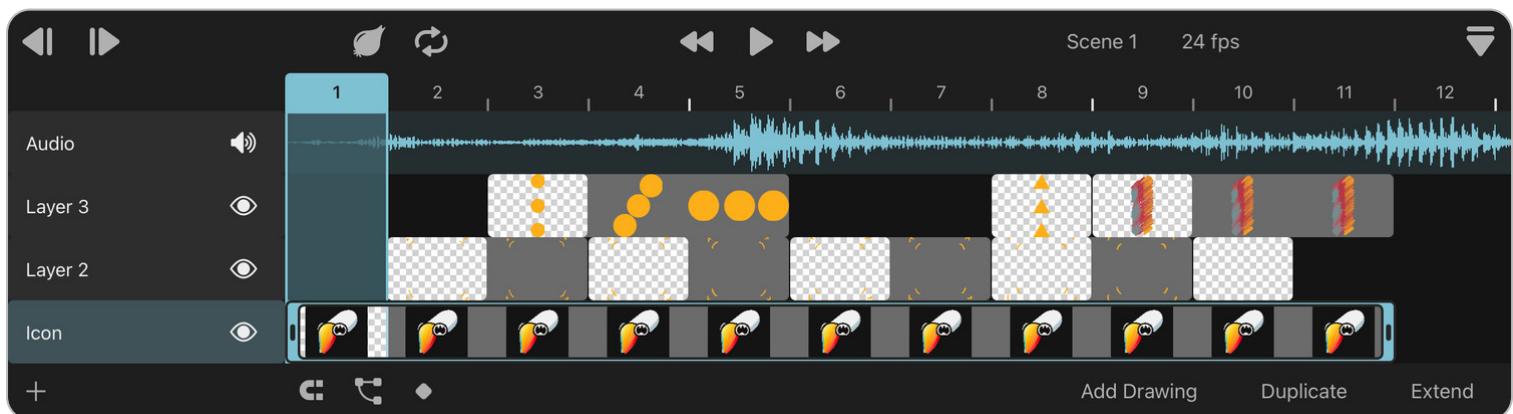


If you open an animation clip in the editor, you can navigate back to the previously edited clip or scene via the breadcrumbs buttons in the top left corner of the canvas.

## Timeline

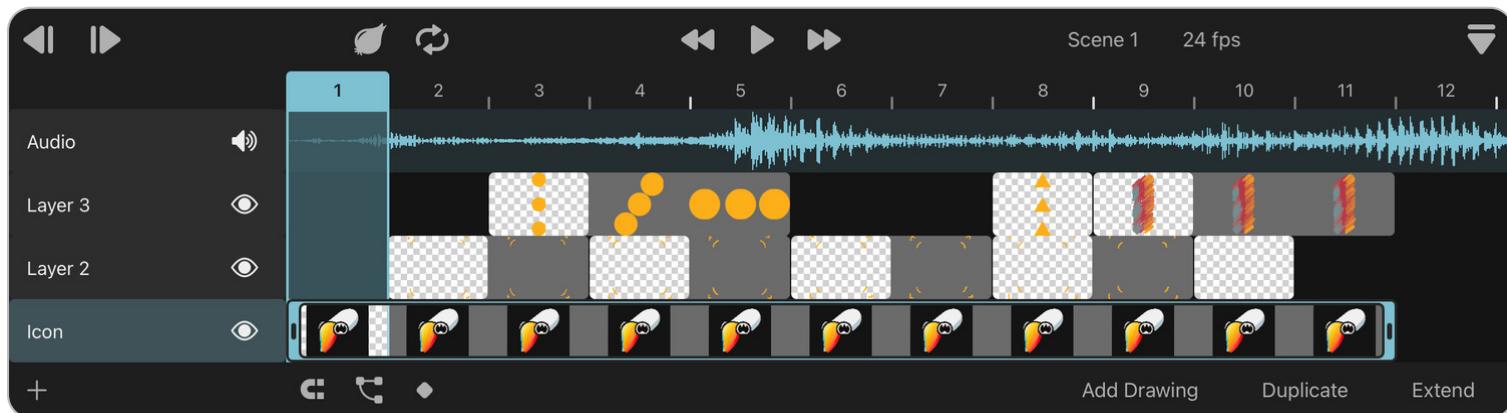
You can find the timeline at the bottom of the screen. It can be expanded and collapsed with the button in the bottom right corner.

The timeline is where you see and edit the different parts of your animation over time. It is essential to any animation workflow and is covered in full detail on [the next page](#).



# Timeline

The timeline is where you see and edit the different parts of your animation over time and is therefore essential to every animation workflow.



## Expand and Collapse

You expand the timeline with the button in the bottom-right corner with the eject icon. Tapping the button again when the timeline is expanded collapses it again so that you have more space to work on your animation on the canvas.



The timeline height automatically grows as you add more layers to your animation. Once there are more than four layers, the timeline stops growing and lets you scroll through your layers instead.

## Custom Timeline Height

You can manually change the timeline height to see more or fewer layers at once by touching and holding the playback toolbar and dragging it up or down. If you

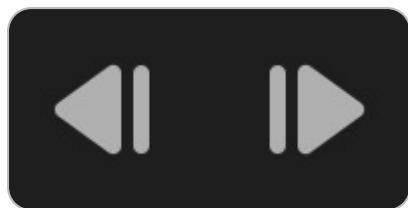
want to go back to the default height, just tap the playback toolbar once and choose the `Reset timeline height to default` option that appears.

# Playback Toolbar



The playback toolbar sits at the top of the timeline and always stays visible, even when the timeline is collapsed.

## Next / Previous Frame



Use the two buttons on the far left of the playback toolbar to move to the next or previous frame in the timeline.

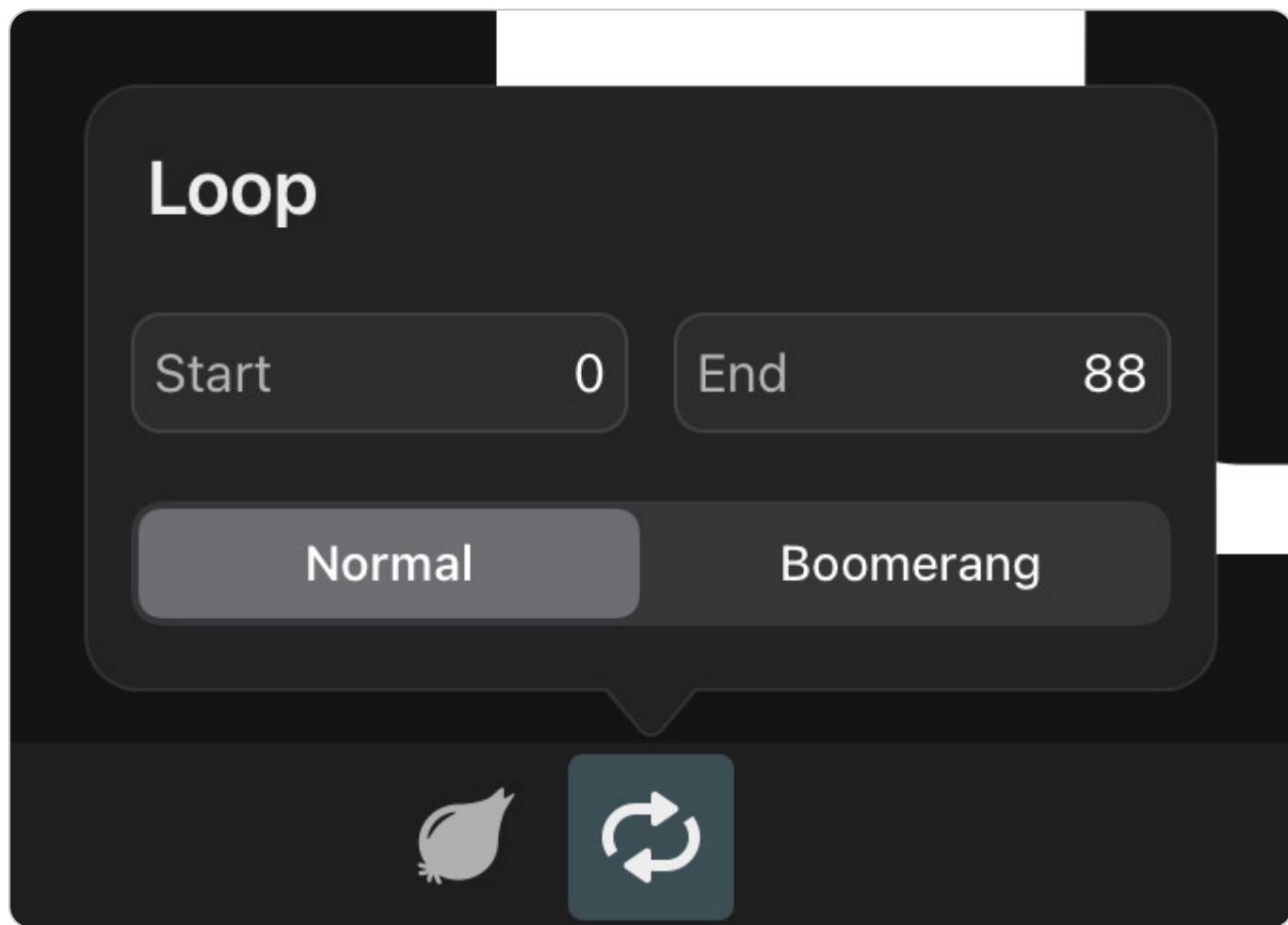
In the [settings](#) you can also change this behaviour to instead move to the next or previous drawings in the selected layer.

## Onion Skin



Toggles onion skinning on and off, allowing you to see the contents of the previous and next drawings. Hold the button for more options. The Onion Skinning feature and the available options are covered in detail [on this page](#).

# Loop



Toggles looped playback on and off. When looping is enabled, playback of your animation in the editor will continue when the last frame of the animation is reached. This does not affect the export. Hold the button for more options.

By default, the entire animation will play in a loop. You can change the range of the loop in the Loop options or tap the selected frame number in the timeline and set it as the start or end frame of the loop.

When looping is enabled, there are the following two modes.

## Normal

Once playback reaches the last frame, it continues from the first frame of the loop again.

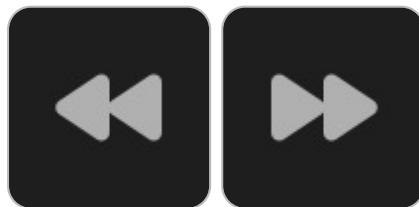
## Boomerang

Once playback reaches the last frame, the animation starts playing in reverse until the first frame of the loop is reached. Then it switches back to forward playback

and the cycle repeats.

During the reverse playback phase, the audio playback is muted.

## Fast-Forward / Fast-Backward



You can use the fast-forward and fast-backward buttons to quickly navigate to the beginning and end of the animation in the timeline. If looping is enabled, tapping the buttons once takes you to the start or end of the loop region first before then jumping to the start or end of the animation with the second tap.

## Play and Pause



Use the play button to start the playback of your animation in the editor. During playback, the button turns into a pause button which you can use to stop the playback on the current frame.

## Scene Selection

To the right of the playback buttons the playback toolbar shows the name of the scene or clip that is currently open in the editor. Tap the name to select a different scene. More information on scene management can be found [here](#).

## Fps

The playback frame rate of the current animation is displayed next to the scene name. Tap it to bring up a slider that you can use to choose a different frame rate

between 1 and 60 frames per second.

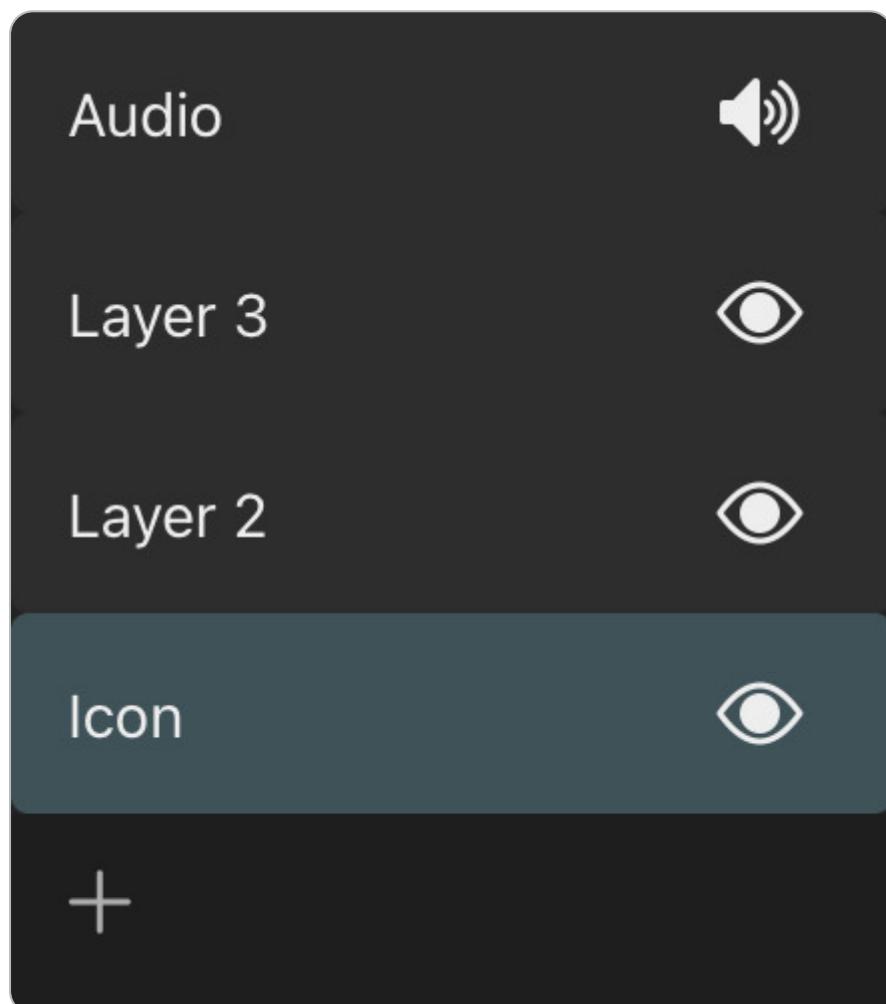
If a scene is selected, this changes the fps of all scenes. If an animation clip is selected, only the fps of that clip will be changed.

### Tip:

Keep in mind that the frame rate is typically something you decide at the very beginning and then never change, because it affects the timing of your animation. If you have audio layers in the animation, they will go out-of-sync with the visuals if you change the fps.

## Layers

The timeline shows you the layers that make up your animation in the [layer list](#) on the left.



Tap the + button in the bottom left corner to add a new layer to the animation.

# Frames



Frames are the different points in time of an animation. The **frame rate** defines how many frames of the animation are shown during each second of playback.

The timeline shows the frame numbers to the right of the layer list with a play cursor on the currently selected frame. You can either tap a different frame or drag the play cursor to change the selected frame.

The canvas will show the contents of your animation on this frame.

# Drawings

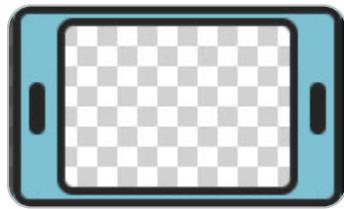
Drawings are used to show different contents in an animation layer for different periods of time. Learn all about how layers and drawings are used in ToonSquid in the [Layers chapter](#).



You can see all the drawings in the different animation layers to the right of the layer list and below the frame numbers in the timeline.

The selected drawings are highlighted and show retiming handles on the sides.

# Retiming Handles



Drag the retiming handles on the left and right edge of the selected drawing to change the first and last frame on which this drawing should be shown.

Note that dragging the right retiming handle only changes the duration of your drawing, whereas dragging the left handle changes both the duration and the start frame of the drawing. This might not make a difference if your drawing only has static content, but if the drawing layers inside have multiple [keyframes](#) or contain a symbol, this affects the animation. Keyframes start on the first frame of the drawing, so they will all be shifted when this first frame changes. It is therefore not possible to trim the start of a drawing in the same way that you can with the end of a drawing.

With [multiple drawings selected](#), dragging the retiming handles of one drawing will edit all selected drawings simultaneously.

## Magnetic

If the [magnetic](#) timeline mode is enabled, the next and previous drawings will automatically be shifted back or retimed if necessary when you drag the retiming handles of a neighboring drawing. Drawings without a gap between them will continue to "stick together" when they get retimed.

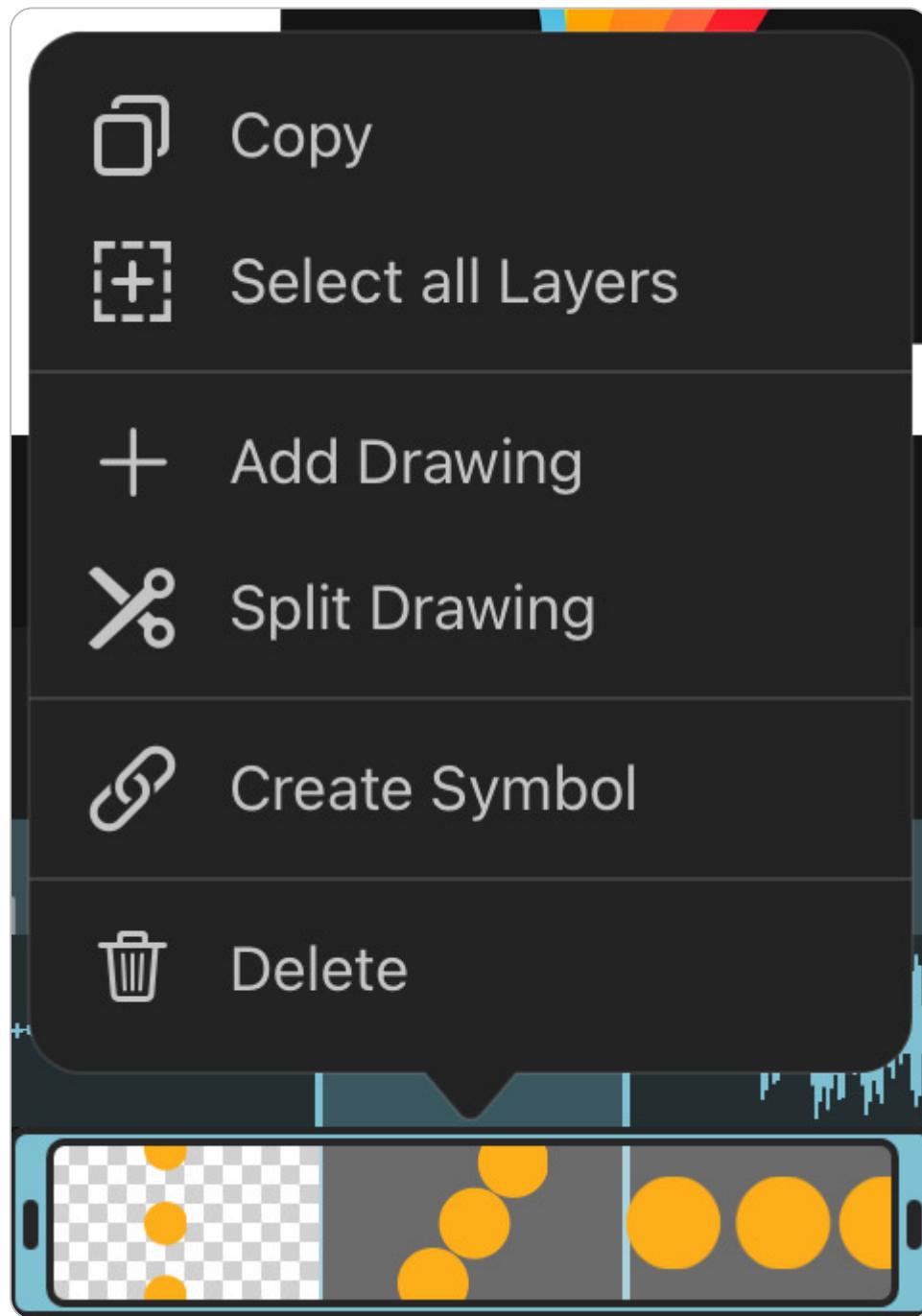
If you don't want any other drawing to be affected by the retiming of the current drawing, disable the magnetic mode.

Additionally, when the timeline is zoomed out and magnetic mode is enabled, dragging the retiming handles will snap them to the edges of other drawings in the timeline in order to make it easier to align drawings in different layers to each other.

This will also snap the play cursor to the first and last frame of visible drawings when you drag it.

## Actions

Tap the selected drawing again to see further actions that can be performed on this drawing.



## Select all Layers

Selects all drawing layers in the drawing. (Only shown if the drawing contains multiple layers.)

## Add Drawing

Has the same behavior as the [Add Drawing](#) button at the bottom of the timeline.

## Split Drawing

Splits the drawing at the selected frame, resulting in two drawings with the same contents. If the drawing contains a symbol layer, its timing will be adjusted to seamlessly continue its playback from the previous into the next drawing.

Keyframes within the drawing are simply copied and not split.

## Create Symbol

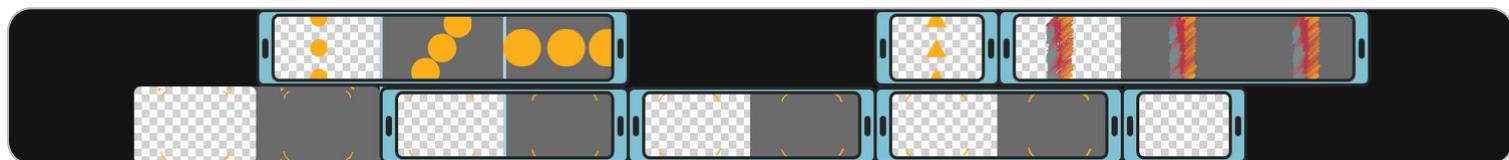
Turns the contents of the drawing into a symbol. Learn more about the power of symbols in ToonSquid in this chapter.

## Delete

Removes the drawing and all of its content from the animation.

## Select multiple drawings

Double-tap the timeline and drag your finger to create a selection box to select multiple drawings at once.



When multiple drawings are selected, just tap somewhere else in the timeline to deselect them again.

## Drag and Drop

Touch and hold a drawing and then start dragging it around in the timeline. You can use this to either move the drawing within the layer that it's already in or to move it to a different layer. You can also use this to quickly move multiple selected drawings at once.

While you are dragging, the timeline shows a preview of where exactly the dragged drawings will be moved to.

Drawings cannot be dropped onto frames that already contain other drawings. If the magnetic timeline mode is enabled, the drawings of a layer will automatically

be shifted back and forth to make space for the drawing being dragged.

## Bottom Toolbar

The toolbar at the bottom of the timeline contains various buttons for basic and advanced editing.

### Magnetic Mode



The magnetic timeline mode affects the behavior of the [retiming handles](#) and the [drag and drop](#) gesture as explained in those sections above.

### Transform Hierarchy



This button opens the transform hierarchy interface, which you use to edit the [transform hierarchy](#) of the animation layers.

### Keyframing



Use the button with the keyframe icon to switch the editor in and out of keyframing mode. This is the basis of ToonSquid's powerful [keyframing workflow](#).

By default, keyframes are automatically added if you have the keyframing mode enabled, so make sure that you don't leave this mode enabled unintentionally. Alternatively, disable this behavior in the [settings](#).

## Easing Curves



When keyframing is enabled and a layer property is selected, this button is shown next to the keyframing button. Use this to open up the [easing curve editor](#) for the selected keyframe.

## Add Drawing

The [Add Drawing](#) button adds a new empty drawing to the timeline at the selected frame.

The exact behavior of this button depends on the content that already exists in the selected layer at the selected frame:

If there is no drawing on the selected frame already, a new drawing is created. The previous drawing is extended to fill the gap between the two.

If there is already a drawing that is longer than one frame, it is split into two parts: The existing drawing, which now ends on the previous frame and a new empty drawing, which starts on the current frame and ends on the frame that the existing drawing previously ended on.

If there is already a drawing that only spans a single frame, then a new drawing is inserted into the layer after the existing drawing. Following drawings are automatically shifted back to make space.

### Tip

You might not need to use this button very often since drawings are automatically added whenever you draw or otherwise add content on a frame without an existing drawing (e.g. using the text or path tools).

## Duplicate

Use this button to duplicate the contents of the selected drawing into a new drawing.

If there is no drawing on the selected frame, the previous drawing on the selected layer is duplicated and extended to fill the gap to the current frame.

## Extend

If a drawing is selected, this button will increase the length of that drawing by one frame.

If there is no drawing on the selected frame, the previous drawing on the selected layer is extended to the selected frame.

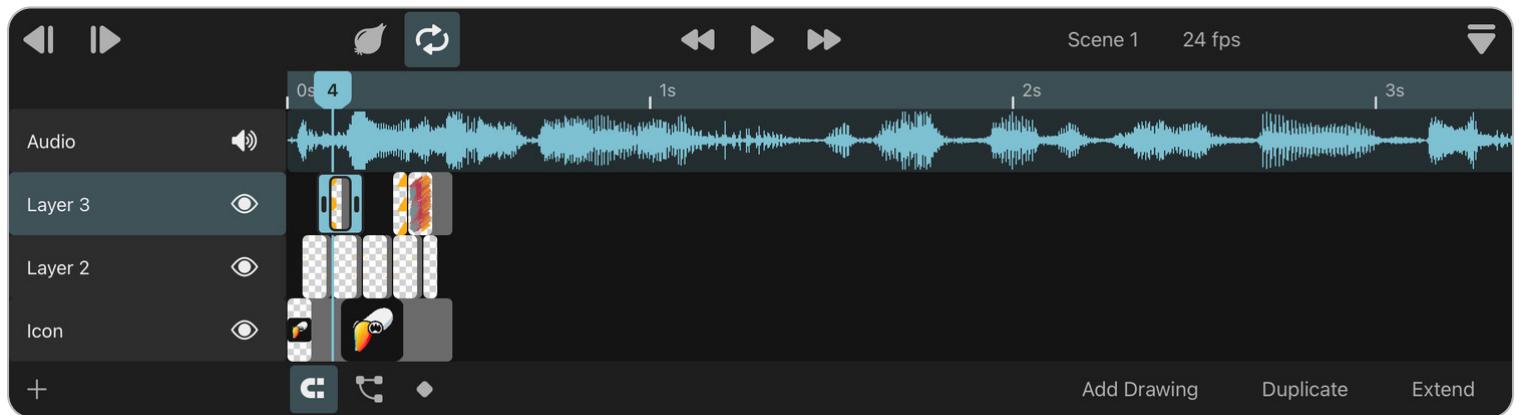
## Tip

Use this button to quickly set the length of drawings that you want to show for a long time. Add the drawing on the frame on which it should appear, then go to the last frame on which it should be visible and hit "Extend Drawing".

## Zoom

You can pinch your fingers in the timeline to change the zoom level of the timeline. This allows you to see more of your animation at once.

If you zoom out far enough, the timeline will switch to displaying the time in seconds instead of frames. The play cursor will continue to show the current frame number.



# Frame Markers

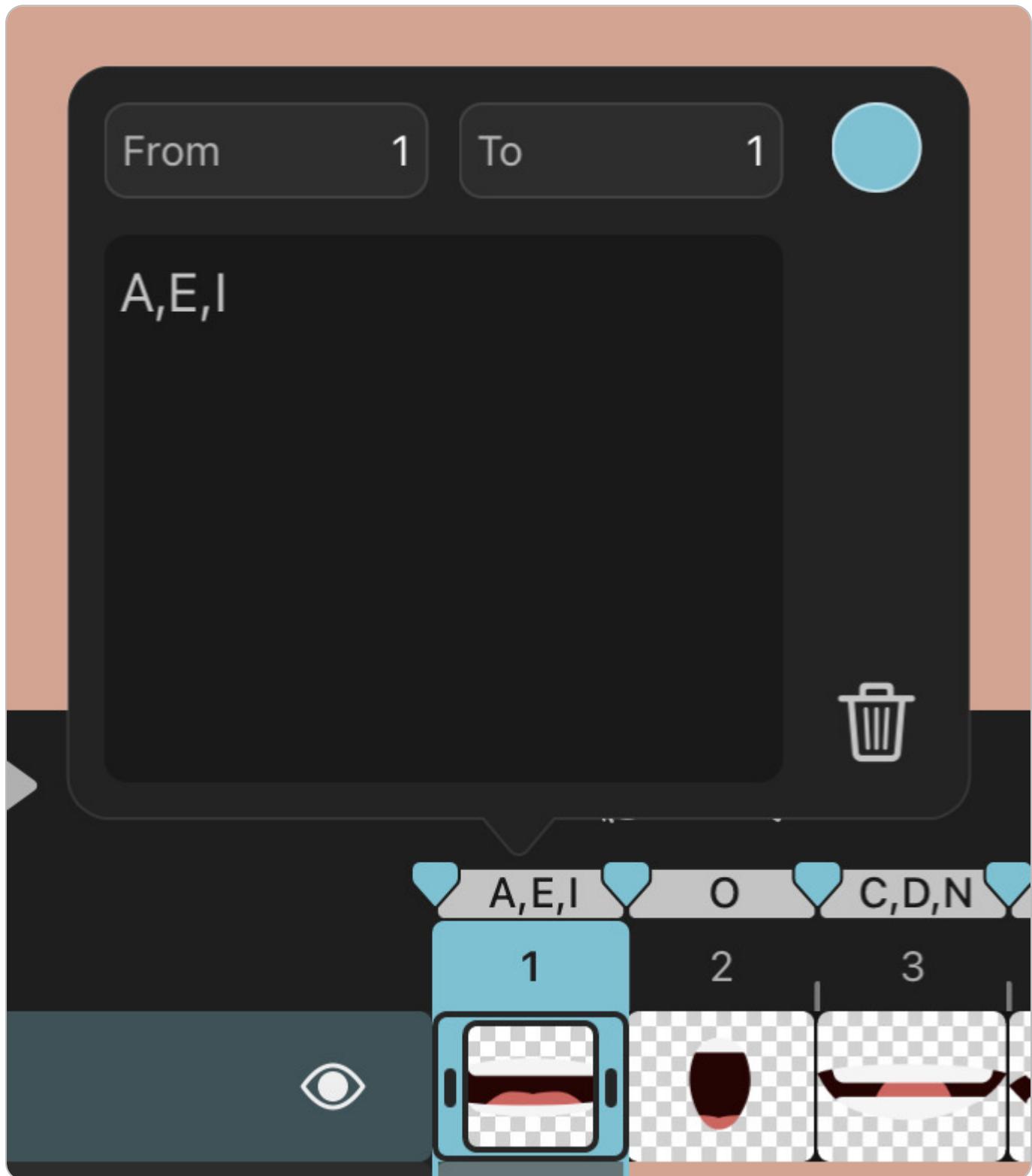
Frame markers can be used to highlight and add comments to different frames of your animation. In combination with [symbol layers](#), they also allow you to quickly animate the `time` property of a symbol layer by selecting from the list of markers in the linked clip. This process, which can be very helpful for workflows such as lip-syncing, is described in more detail [here](#).

## Add a Frame Marker

1. Select the frame on which you want to add the marker
2. Tap the frame number again
3. Select `Set Marker` from the list of options.

The frame markers are shown above their corresponding frame numbers in the timeline.

## Edit Frame Markers



Tapping a frame marker opens a popover in which you can edit the selected marker. You can add a comment to be shown in the timeline, change the color of the marker and change the frames that it applies to with the `From` and `To` inputs.

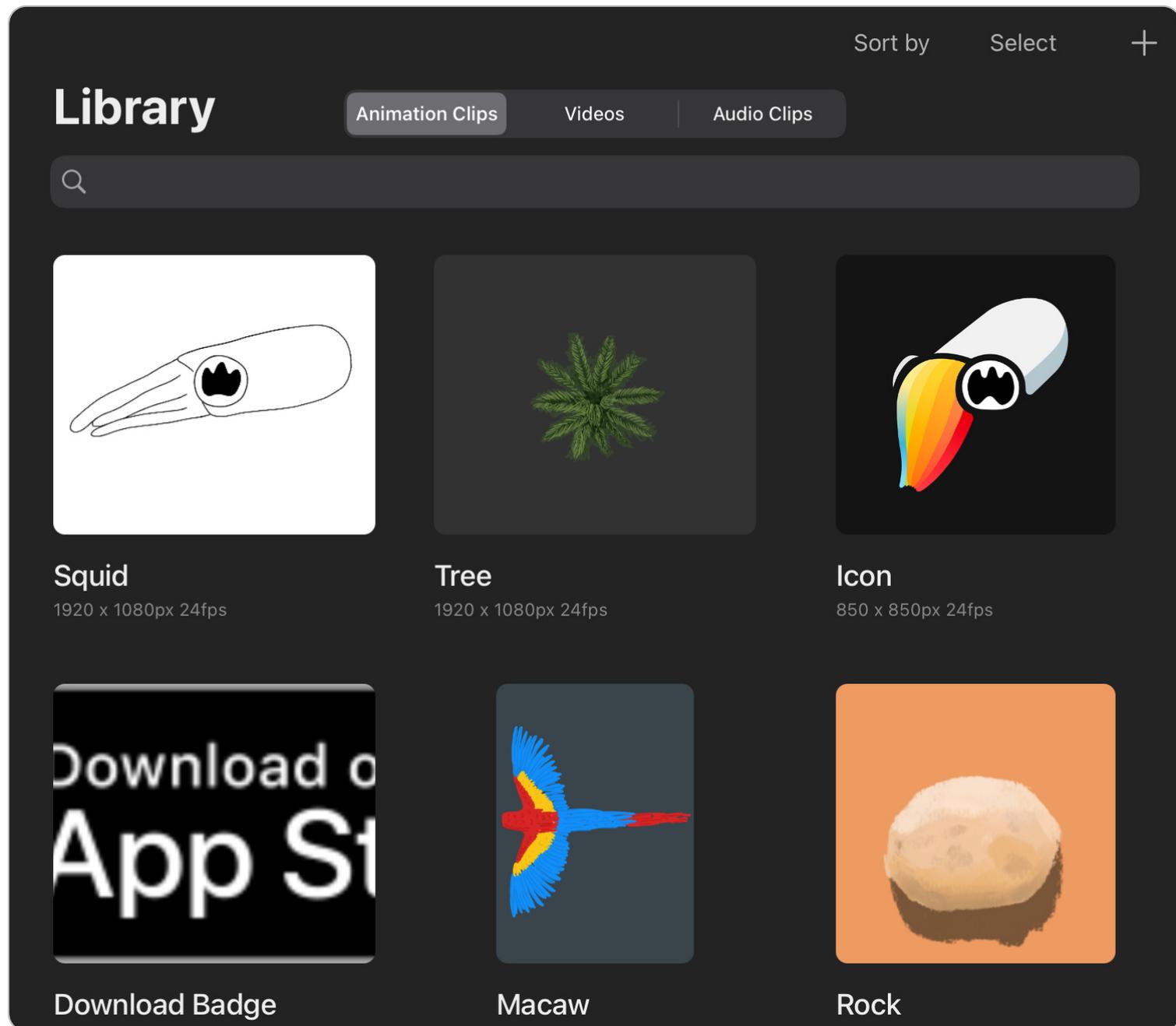
By default, frame markers start and end on a single frame but you can also extend them to apply to multiple frames at once. There can be at most one marker on each frame of the timeline.

## Delete Frame Markers

In order to delete markers from your timeline, either use the delete button in the frame marker editing popover shown above or select a frame with a marker, tap the frame number again and then tap `Delete Marker` in the list of options.

# Library

The library interface is used in multiple places across ToonSquid. You'll use it to organize projects, assets such as [animation clips](#), [audio](#) and [video](#) clips and brush textures.



The different occurrences of the library behave very similarly with the exception that not all buttons are available everywhere.

This interface shows the items within a library with their name, commonly a thumbnail and some additional information, such as the resolution and frame rate

of a project.

## Tabs

If the library contains different types of content such as animation, video and audio clips, you can select which type should be visible with the tabs at the top.

## Add Content

Tap the + button in the top right corner to add more content to the library. Other pages cover the process of [creating new animation clips](#), [creating new projects](#) and [importing video clips](#) and [audio clips](#) in detail.

## Search

Use the search bar above the contents of the library to quickly find the items that you are looking for. This searches the items based on their name.

Use the small cross icon to clear the search and see all items in the library again.

## Sort

Use the Sort by button to change the order of the items in the library. You can sort them by name and by their last modified date.

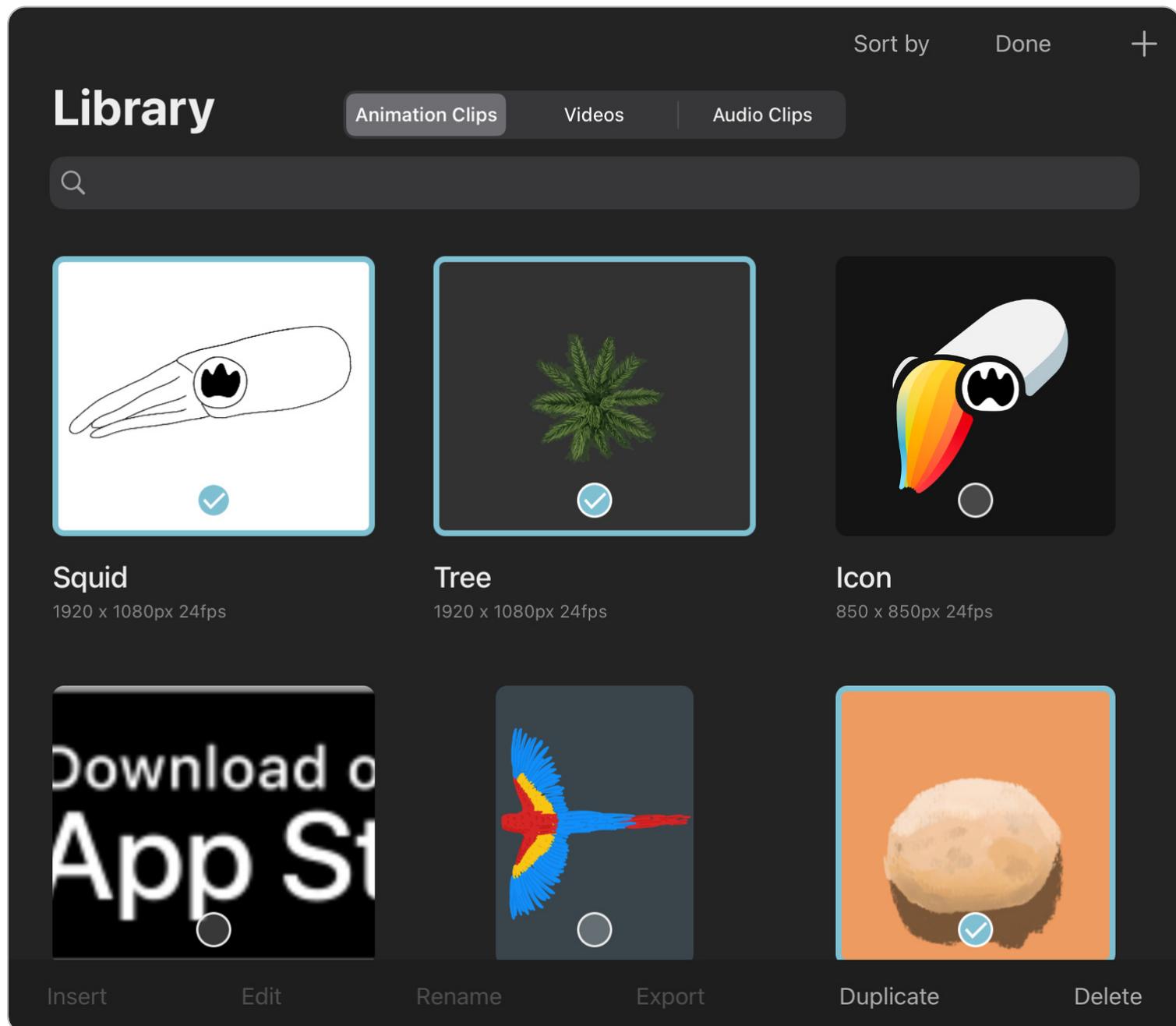
## Rename

Tap the name of an item in the library to start editing it. When you are done, dismiss the keyboard or tap outside the name label.

## Select

You can switch into selection mode by either long-pressing on an item or by using the Select button.

Use the Done button (which replaces the Select button) to exit the selection mode once you are done.



In the selection mode, you can tap individual items to add or remove them from the selection.

A toolbar at the bottom of the library shows the available options for the current selection of items. Some options are only available if exactly one item is selected.

## Insert

Inserts the selected animation clip, video clip or audio clip into the current animation timeline.

This is the default behavior of tapping an item in the asset library outside of the selection mode.

## Edit

Opens the selected project or animation clip to be edited in the editor.

## Rename

Prompts the item to be renamed.

## Export

If the selected item is a project, the project is exported and a screen is opened for you to choose a location to save it.

If the selected item is an [animation clip](#), the [export interface](#) is opened to export the selected clip.

## Duplicate

Duplicates the item in the library.

## Delete

Deletes the item from the library.

Deleting assets (animation clips, videos, audio clips) from the asset library is undoable. However, deleting projects is not undoable, so consider creating a backup of your projects before you delete them.

# Gestures

ToonSquid takes advantage of the iPad's multitouch screen and offers multiple intuitive touch gestures to ease your workflow.

## Pinch to Zoom

Pinch on the [canvas](#) with two fingers to zoom in and out. Move your two fingers while pinching to move the canvas.

Pinch out quickly to re-focus the canvas and center the [pixel brush](#) drawing area on the screen.

## Undo and Redo

Tap with two fingers to undo the previous edit.

Tap with three fingers to re-apply the previously undone edit.

## Pipette

Touch and hold on the canvas to temporarily switch to the pipette tool to select a color from the canvas. By default, this is only enabled for touches with your finger, but you can also enable it for the Apple Pencil in the [settings](#).

## Page Flip

Swipe three fingers down or up on the canvas to scrub forwards and backward through your animation. This can be used to quickly preview the motion that you are animating without the need to even expand the timeline.

Read more about all the configuration options of this gesture [in the settings](#).

## Multi-selection of Drawings

Double-tap the timeline and drag your finger to create a selection box in order to select multiple drawings or keyframes at once.

## Multi-selection of Layers

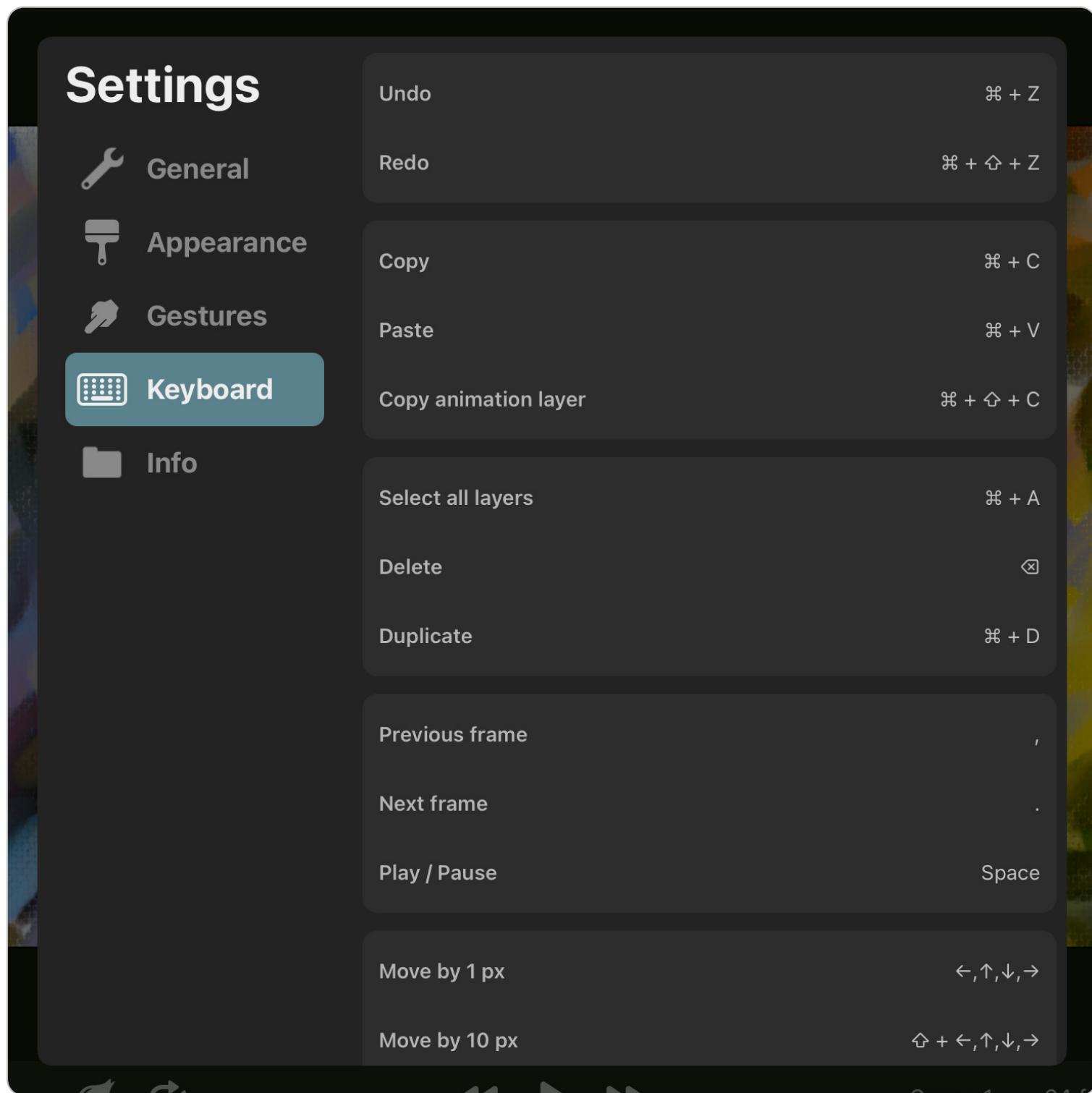
Select multiple layers by swiping them to the right in the [layer list](#) and then letting go.

## Apple Pencil Double Tap

ToonSquid supports Apple Pencil's double-tap gesture. Go to the Apple Pencil section of your iPad's settings to configure whether a double tap on Apple Pencil should switch the selected tool, show the color palette or do nothing.

# Keyboard Shortcuts

If you have a keyboard attached to your iPad, you can use a variety of keyboard shortcuts to efficiently navigate the editor. You can find the list of all shortcuts below and in the [settings](#).



## **Undo**

⌘ + Z

## **Redo**

⌘ + ⌘ + Z

## **Copy**

⌘ + C

## **Paste**

⌘ + V

## **Copy animation layer**

⌘ + ⌘ + C

## **Select all layers**

⌘ + A

## **Delete**

⌫ (Backspace)

## **Duplicate**

⌘ + D

## **Previous frame**

, (Comma)

Moves the play cursor to the previous frame.

## **Next frame**

. (Period)

Moves the play cursor to the next frame.

## **Play / Pause**

Space

## **Move by 1 pixel**

← ↑ ↓ → (Arrow keys)

## **Move by 10 pixels**

⇧ + ← ↑ ↓ → (Shift and arrow keys)

# **Tool Selection**

## **Transform**

V

## **Selection**

M

## **Brush**

B

## **Eraser**

E

## **Smudge**

S

## **Fill**

G

## **Pipette**

I

**Text**

T

**Path**

P

# Overview

ToonSquid projects store your drawings, layers, scenes, animation clips and all other data that you need while working on an animation.

## Create a new Project

Creating a new project is the first step in the life of each one of your animations. Learn about all available project configuration options.

## Manage Projects

Explore the project library, where you manage all of your animation projects.

## Scenes

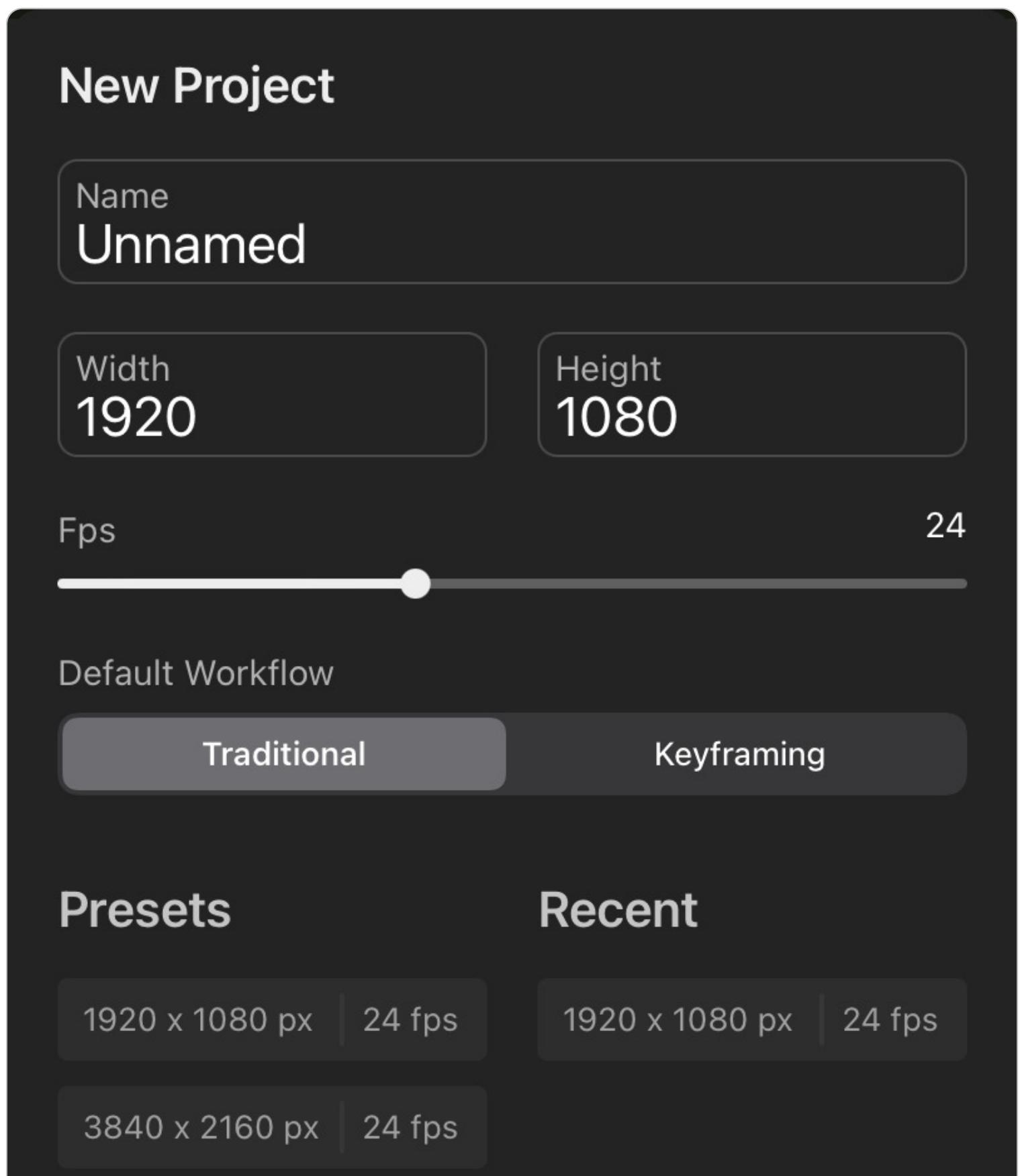
Every ToonSquid project consists of one or more scenes within which you will create and organize your animations.

## Backup

ToonSquid gives you direct access to all of your valuable user data such as projects, brushes and color palettes and various options to create backups of that data outside of the app.

# Create a new Project

In the project library, tap the + button in the top right corner. You are then presented with different configuration options for your new project.



1280 x 720 px

60 fps

2048 x 2048 px

24 fps

Create

## Name

The name under which the project shows up in the project library. The name can also be changed later at any point. Multiple projects can have the same name.

## Resolution (Width and Height)

The pixel resolution of the project. This cannot be changed after the project is created so make sure that you pick the size you want.

The resolution determines how much space you have to draw on [pixel layers](#). The higher the resolution is, the more detailed your drawings can be, which also leads to larger project folder sizes.

It is also used as the default export resolution and the size of the area that will be exported by default. However, both of these aspects can be adjusted later on, either in the [export settings](#) or by using a [camera layer](#).

All scenes in a project have the same resolution as the project, but it is also always possible to create [animation clips](#) with different resolutions than the project they are in.

## Fps

The fps (frames per second) or frame rate of a project determines how many frames of your animation are played back during each second of playback. A high frame rate causes a smoother playback, whereas a low frame rate can make your animation feel choppy.

The frame rate is not used to speed up or slow down animations. For that purpose, you should adjust the timing of your drawings and keyframes in the timeline.

ToonSquid supports frame rates between 1 and 60 fps.

You can change the frame rate of a project later on, even though this is not common practice in a typical animation workflow.

## Default Workflow

The project can be created with different default editor settings to help you in your primary workflow.

You can choose between defaults for a traditional animation workflow or a keyframing / motion graphics workflow.

### Traditional

- New [drawings](#) have a default length of 1 frame and start at the currently selected frame.
- The [timeline](#) is initially zoomed in and shows a few frames at a time.
- The [transform tool](#) by default edits the [pixel contents](#) when used on a [pixel layer](#).

### Keyframing

- New [drawings](#) have a default length of 5 seconds and start at the beginning of the timeline.
- The [timeline](#) is initially zoomed out and shows a range of multiple seconds.
- The [transform tool](#) by default edits the [transform properties](#) when used on a [pixel layer](#).

All of these settings can be adjusted later on in the editor. Every project is inherently compatible with all workflows - i.e. you can always use traditional animation and keyframing in the same project.

# Presets

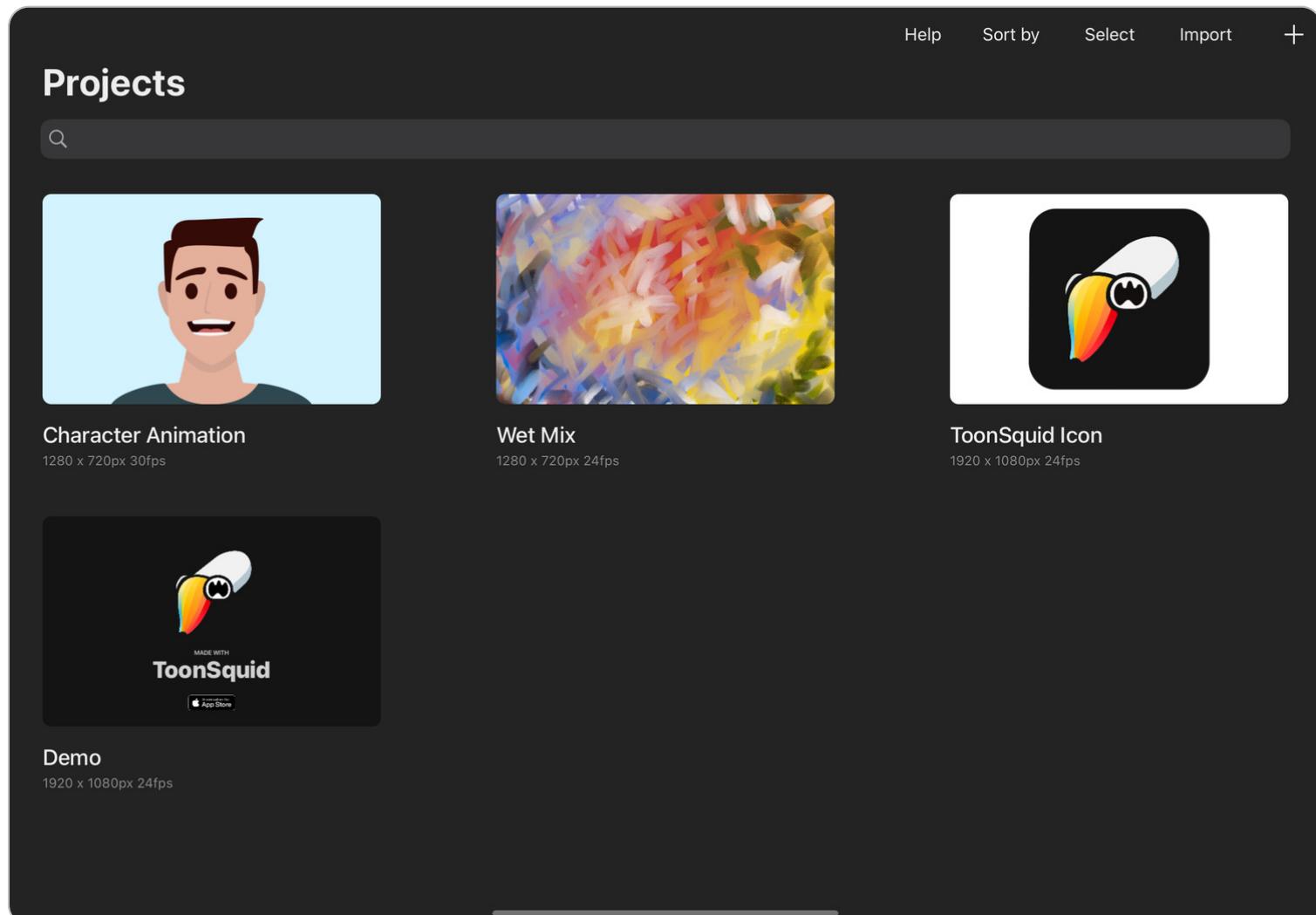
The project configuration screen shows both a list of generally common configuration presets for the resolution and frame rate as well as the most recently selected configurations that you can use to quickly set up your project.

## Create

Tap this button to create a new project with the current configuration. The project is immediately opened in the editor for you to start working on your next masterpiece.

# Manage Projects

The project library is the first screen you see when you open ToonSquid. This is where you manage all of your ToonSquid projects.



The project library uses the general structure of the [library interface](#).

To create a new project, tap the + button in the top right corner. The exact steps for this are explained [here](#).

## Import

Use the `Import` button in the toolbar to select and import a project file with the `.tsproj` extension into your project library.

# Export

You can export your projects either directly from the project library, or via the export interface of the editor. Follow the steps described on the [library interface](#) page to [select](#) and [export](#) the selected project.

The resulting file will have a `.tsproj` extension, indicating that it is a ToonSquid animation project.

# Help

In addition to the other library toolbar buttons, a [help](#) button is also shown in the project library so that you can quickly access support resources if needed from the very first screen of the app.

# Scenes

Scenes are used to organize your animations in a ToonSquid project. Each project is made up of one or more scenes, which all have the same resolution and frame rate as the project. Each scene has a [timeline](#) in which you can create your animation.

The first scene of a project is created automatically when the project is created. It is possible, but not necessary, to create additional scenes. A single scene is usually enough for most projects. If you have a very long animation, you can consider splitting it up into different scenes, which you can then later export as a single long video. Whether and how exactly you use scenes to organize your project is ultimately your choice.

The name of the currently [selected scene](#) is shown in the [playback toolbar](#) of the timeline.

## Manage Scenes

Tap the name of the current scene in the timeline to see the list of all scenes in the current project.

# Scenes



Scene 1

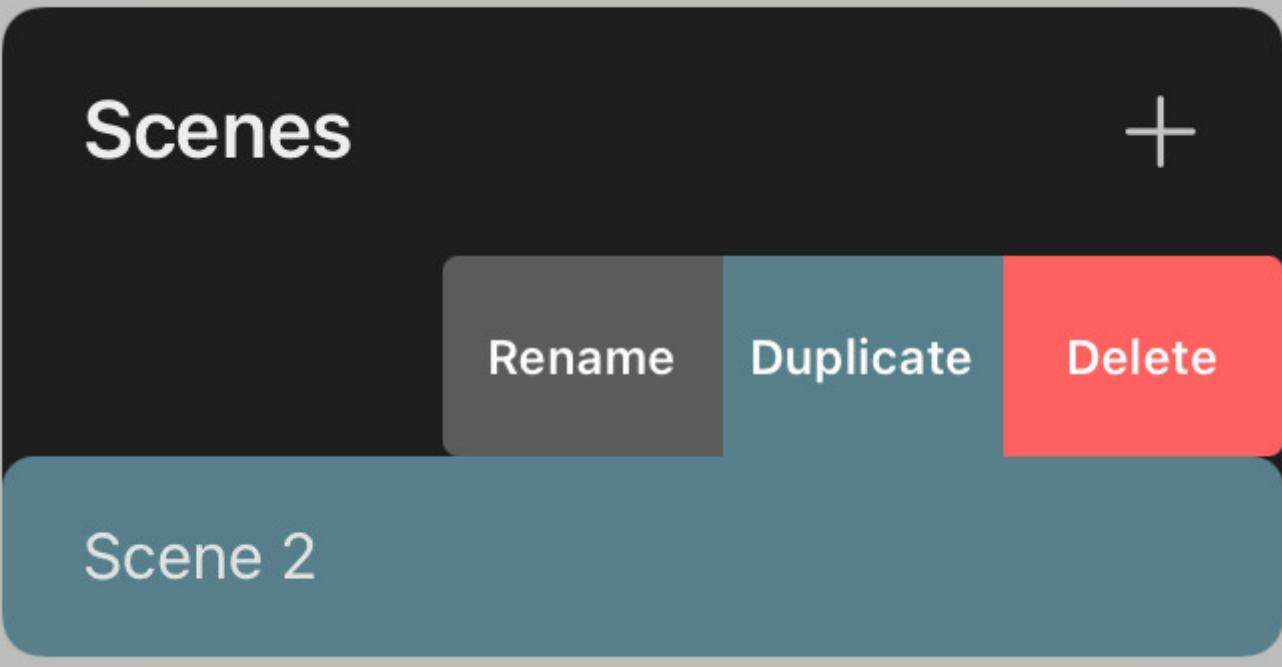
Scene 2

## Add Scenes

Use the + button at the top to create a new scene. New scenes are created and opened in the editor immediately. Tap the name of the selected scene again to switch between your scenes.

## Rename, Duplicate and Delete

Swipe left on the name of a scene in the list of all scenes to reveal the options to rename, duplicate or delete that scene.



If the only remaining scene of a project is deleted, a new empty scene is automatically created.

Just like all other edits within a project, deleting a scene can be undone.

## Reorder

You can use drag and drop in this list to change the order of the scenes in a project. The order is only important if you want to [export all scenes](#) of the project as a single video. Otherwise, the order does not matter.

# Backup

Learn about the mechanisms that ToonSquid provides to keep your valuable work safe.

## Autosave

ToonSquid automatically saves your projects at regular intervals while you are working on them. Your project is also saved each time you go back to the project library or close the app.

## File Export

Projects, brushes and color palettes all have in-app export options that generate easily shareable files. Follow the links above to learn where you can find those options. Always use these built-in ways to back up your data outside of your iPad whenever possible.

All of these files are automatically included in a full backup of your iPad.

## Direct Data Access

In addition to the options presented above, ToonSquid also gives you direct access to all your valuable data (projects, brushes, color palettes, fonts) for easy backup and data recovery purposes in cases of emergency.

You can find all of this data in the Files app of your iPad under

On my iPad > ToonSquid

### Warning

Only use the in-app approaches to exporting these files from ToonSquid whenever possible. This access is only for emergency scenarios in case you

cannot open the app for whatever reason and are preparing to reinstall it. This way you won't lose any of your valuable data after re-installing.

Only use this for backing up your files, never delete or edit or otherwise modify any of the files in the "Projects", "Brushes" and "Palettes" folders.

You can copy the entire contents of these folders and then paste them to the same location on a different iPad or the same iPad after deleting and re-installing the app.

# Overview

Add content to your animation and define their order using layers.

## Animation Layer

Animation layers are the most common layer type that you will find in the timeline. They let you add drawings, which hold the actual contents of your animation.

## Drawings

A drawing is a collection of layers that are displayed together for a given period of time within an animation layer. Learn about how drawings and their content can be created and edited.

## Layer Types

ToonSquid offers different types of layers, each one for a particular purpose and with a unique set of properties.

## Layer List

The layer list is the interface to let you see and edit your layers and their order in the timeline and in a drawing.

## Inspector

View and edit all properties of the selected layer in the inspector.

## Pixel Layer

Pixel layers are the drawing destination for pixel brushes. The size of these layers is limited by the project or clip resolution.

## Group Layer

Group layers allow you to organize other layers together, both in the timeline and within a drawing.

## Background Layer

The background layer exists in every animation. It is very simple but still has some interesting properties to be aware of.

## Camera

Add a camera layer to an animation to define which portions of the animation should be seen during the export.

## Audio

ToonSquid allows you to add audio clips into the timeline via audio layers.

## Video

Learn how to import and add videos into your animation.

## Onion Skinning

Onion skinning lets you see the contents of the previous and next drawings to help with drawing in-betweens in a traditional animation workflow.

## Masking

Layers can be masked by the contents of another layer, even if both layers are animated. The mask itself can also be hidden and inverted, allowing you to quickly achieve impressive effects with ease.

## Blend Modes

Every visual layer has a blend mode property. Explore the behavior of every blend mode in detail.

# Animation Layer

Animation layers are the most common layer type that is placed directly in the timeline. They hold [drawings](#), which contain the actual visual contents of your animation.

The handbook might sometimes also loosely refer to any layer in the timeline as an "animation layer" as opposed to the drawing layers within drawings.

## Properties

Open the [inspector](#) and select the `Animation Layer` tab to see the properties of the selected animation layer.

# Properties

Path Layer

Animation Layer

## Blending

Opacity

100%

Blend Mode

Pass Through >

## Playback

Onion Skin Enabled



Muted



## Opacity

The opacity with which all layer contents (in all drawings of this layer) should be blended onto the layers below.

## Blend Mode

The blend mode with which all layer contents (in all drawings of this layer) should be blended onto the layers.

## Onion Skin Enabled

Whether onion skinning should be enabled for this layer or not. Layers for which onion skinning is disabled show a small greyed-out onion skin icon next to their name.

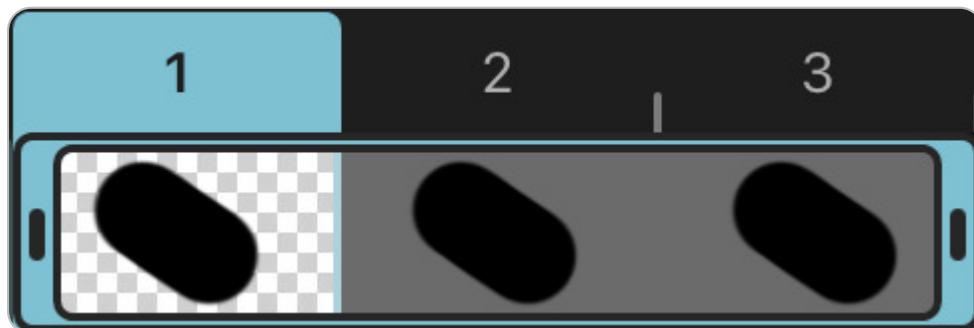
## Muted

Used to mute audio playback for this animation layer.

Audio can be played back through animation layers if they contain symbol layers that reference an animation clip with audio.

# Drawings

A drawing is a collection of [drawing layers](#) that are displayed together for a given period of time within an [animation layer](#). They define the first and last frame on which those layers should be shown.



The drawing layers inside hold the actual visual content of your animation. You can see the list of drawing layers in the selected drawing using the [layers](#) button in the editor sidebar.

## Timeline

You can see the drawings of an animation layer in the timeline. This is also where you can select and [retime](#) drawings.

The [timeline](#) page covers all the details about editing drawings, ranging from creating [drawings](#) and multi-selecting them, over [retiming](#) to moving them in the timeline via [drag and drop](#).

# Layer Types

## Layers in the Timeline

### Animation Layer

Contains drawings with the visual contents of your animation.

### Background Layer

Adds a solid background color to the animation.

### Audio Layer

Allows you to add audio clips to the timeline.

### Video Layer

Allows you to add videos to the timeline. You usually don't interact with these directly but via a [symbol](#) in an animation layer instead.

### Transform Layer

Can be used to apply the same animated transformation to multiple layers at once by adding a new coordinate system to the transform hierarchy.

### Camera Layer

Defines the visible region of the animation during export and can be moved around like any other layer.

### Group Layer



Group layers are mainly used for organizational purposes, to collapse multiple layers in the [layer list](#). However, they also provide blending options which turn the layer into a pre-composite group.

Group layers can be placed both in the timeline and inside of drawings.

## Drawing Layers

Drawing layers cannot be placed directly in the timeline but must always be added inside a drawing.

### Pixel Layer



The drawing destination for [pixel brushes](#). These layers store their contents as a raster-image.

### Vector Layer



Vector layers store vector brush strokes. As opposed to [pixel layers](#) these layers do not have a resolution limit.

### Text Layer



T

Text layers are used to add text to your animation.

## Path Layer



Path layers are used to add vector shapes to your animation. Each path layer can contain exactly one shape.

## Symbol Layer



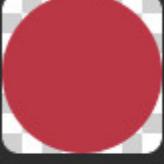
Symbol layers are used to add other animation clips to a timeline. Referencing a different clip through a symbol layer allows you to reuse your animations efficiently.

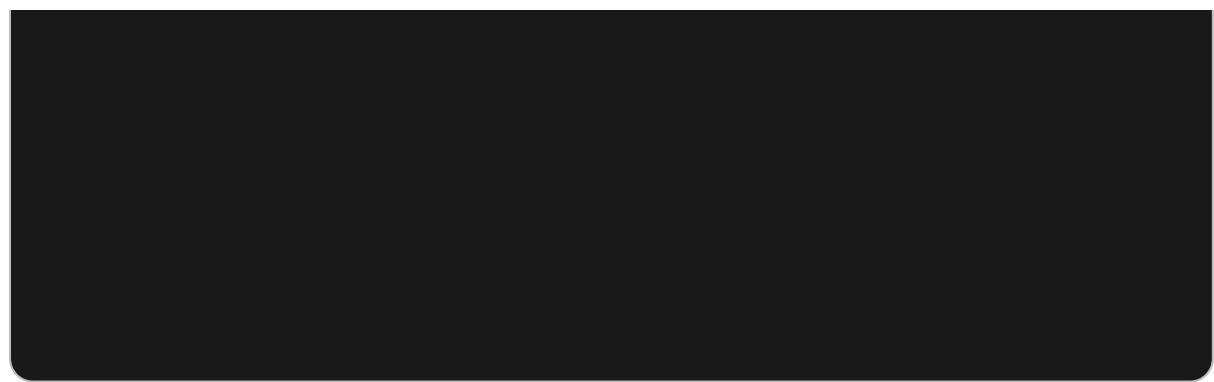
# Layer List

ToonSquid has two layer lists with the same basic interface. One shows you the layers in the timeline and the other shows the drawing layers in the selected drawing.

## Drawing Layers

+

	Group	
	Layer 4	
	Layer 5	
	Layer 3	
	Layer 2	
	Layer 1	



## Add Layers

Use the + button to add new layers. After tapping the button, you can choose which type of layer you would like to add.

When you add a new layer within a drawing, it is empty and has no specific type yet. Once you use a tool (e.g. the [brush tool](#) or the [text tool](#)) to draw on that layer, the layer automatically becomes one of the different types of drawing layers [listed here](#).

If you have a group selected when you add a new layer, the layer is added inside the group.

## Layer Order

The layer list shows the order of the layers. The order of the layers in this list determines the order in which the layers are blended to form the final animation. In your artwork, lower layers appear behind layers that are further up in the layer list.

You can change the layer order by touching and holding a layer and then dragging it to its new position in the list.

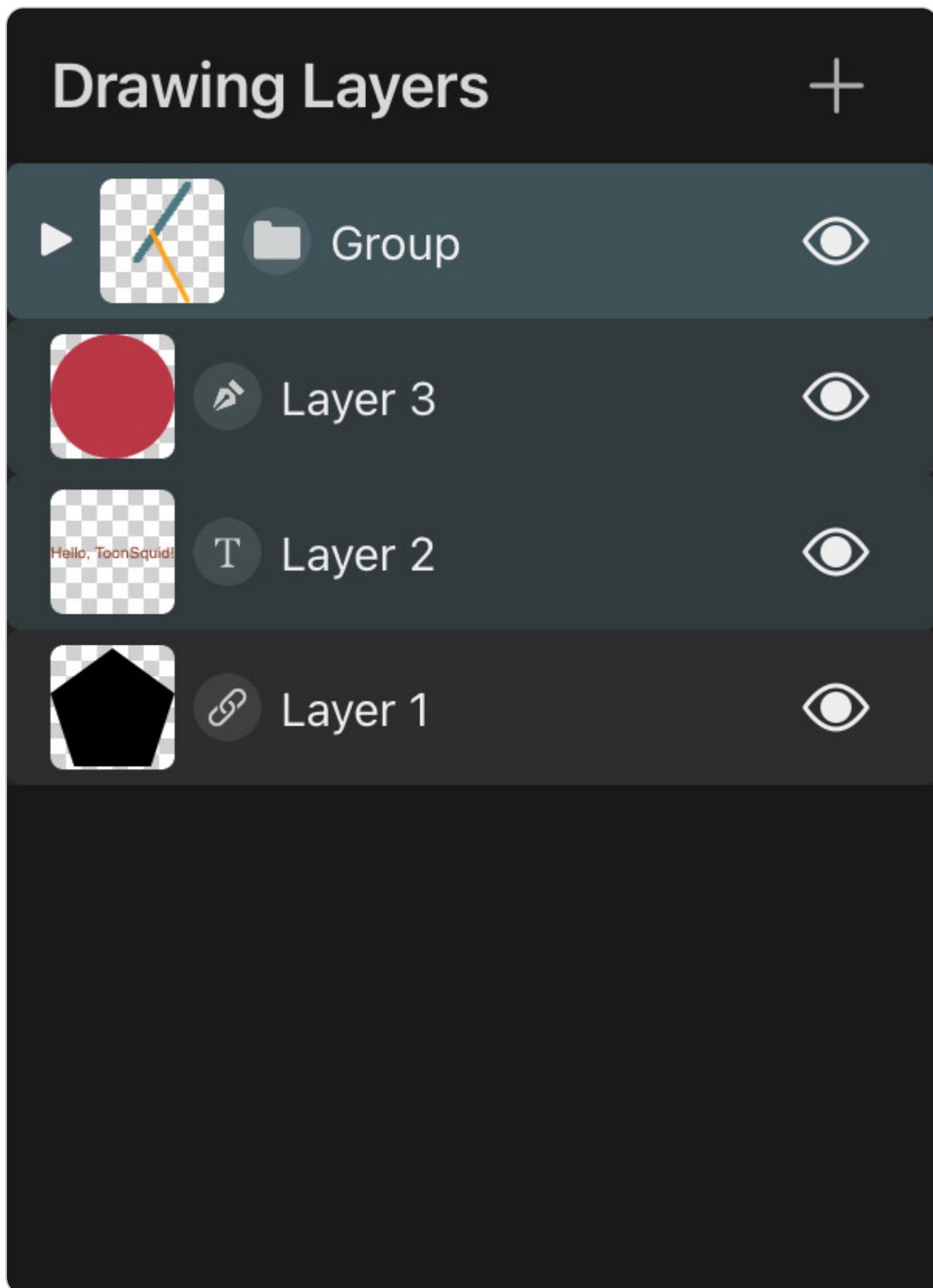
If you drop a layer onto a group layer, it will be moved into that group.

## Selecting Layers

The layer list can also be used to select which layer you want to currently edit with the selected tool. Simply tap the layer that you want to select. The selected layer

is highlighted in a different color than the other layers. You can edit the properties of this selected layer in the [inspector](#).

You can also select additional layers, for example, to move them all at once using the [transform tool](#). Swipe a layer to the right and then let go to add it to the selection. Repeat this gesture to remove it from the selection again.



Other editing actions that can be performed on multiple selected layers include **deleting** and **locking**.

If you tap the selected layer again, you will see further **actions** that can be performed on this layer.

The options for locking, duplicating and deleting the selected layer can also be accessed quickly by dragging the layer to the left.

## Visibility



The visibility icon on every layer shows whether the layer should be visible or not. You can use it to completely hide the layer from the animation. When a layer is hidden, the visibility icon is greyed-out. Hidden layers cannot be selected on the canvas by tapping them.

Hiding a group layer will also hide all layers inside that group.

The different tools will generally avoid editing hidden layers to prevent you from making accidental edits without noticing.

## Thumbnail and Layer Type



Drawing layers show a thumbnail of their contents.

The type of the layer is shown to the right of the thumbnail.

# Layer Actions

Tap the selected layer again to show further actions.

-  Rename
-  Lock
-  Copy
-  Paste Above
-  Duplicate

-  Set as Fill Reference

-  Clear

-  Delete

-  Toggle mask

-  Rasterize

-  Merge down

-  Merge all visible

## Drawing Layers



Layer 2



Layer 1

Use this option to change the name of the layer.

## Lock and Unlock

Layers can be locked to prevent them from being edited accidentally. If a layer is locked, it shows a small lock next to the visibility button.

Locked layers cannot be selected by tapping on the canvas. Locked animation layers prevent any drawing and layer inside from being edited.

## Copy

Copies the layer so that it can be pasted somewhere else.

## Paste Above

Pastes the previously copied layers above the selected layer.

## Duplicate

Duplicates all selected layers.

## Delete

Deletes the selected layers.

Deleting a group layer also deletes all layers inside that group. And just like any other edit, deleting a layer is undoable.

## Clear

Removes all layer contents without deleting the layer itself.

## Masking

Layers can be masked by each other's contents. Read all about masking and the available options [here](#).

## Rasterize

Turns the layer into a pixel layer. In doing so, layers lose their vector functionality. Shapes and text that were previously in the layer won't be editable as such

anymore.

The new pixel layer will contain the contents of the original layer on the currently selected frame. If the layer previously had [keyframes](#) to animate its contents, those are lost as well.

## Merge down

Rasterizes the selected layer and the layer below and merges them into a single layer, replacing the original two layers.

## Merge all visible

Rasterizes all visible layers and combines them into a new Pixel layer. The original layers remain unmodified.

## Edit Clip

This option only exists for [symbol layers](#). Opens the clip referenced by the symbol layer in the editor

## Lock / Unlock Transparency

This option only exists for [pixel layers](#) and [animation layers](#). Locks the transparency of all pixels in the layer to not be modifiable by the brush or fill tool.

When set on an animation layer, the setting applies to all pixel layers in all drawings of the animation layer.

## Set as Fill Reference

Defines this layer as the [reference layer](#) for the fill tool. This allows you to use the fill tool on a separate layer while limiting the fill regions based on the contents of this layer.

# Timeline Layer Actions

 Rename

 Lock

 Disable onion skin

 Copy

 Duplicate

 Focus

 Lock Transparency

 Set as Fill Reference

 Create Symbol

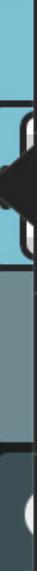
 Rasterize

 Toggle mask

 Delete

Layer 1

Background



Only layers in the timeline have the following actions:

## **Disable onion skin**

Whether [onion skinning](#) should be enabled for this layer or not. Layers for which onion skinning is disabled show a small greyed-out onion skin icon next to their name.

## **Focus**

Brings the layer contents on the current frame into view on the canvas.

## **Create Symbol**

[Creates a symbol](#) from the selected layers.

## **Rasterize**

You can rasterize the entire contents of one or multiple selected animation layers into a frame by frame animation.

This will create a new animation layer with separate drawings on each frame. Each drawing will contain a single pixel layer with the combined rasterized contents of the selected animation layers at that frame. Note that only the region of your canvas defined by the project resolution will contain any visible content after rasterization. Any animation outside of this region will not appear in the new pixel layers.

The original layers remain in the timeline and are automatically set to be hidden.

# Inspector

The inspector is where you can find all properties of the currently selected layer. Open it with the [inspector button](#) in the sidebar on the right.

# Properties

Path Layer

Animation Layer

## Blending

Opacity

100%

Blend Mode

Normal >

## Transform

X 1009.1

Y 507.6

° 0

Scale X 1

Scale Y 1

Corner Radius 0



## Path Style

Fill



Stroke



Stroke Width 40



Stroke Alignment

Center >



# Layer Type Selection

Select the tab based on whether you want to edit the properties of the selected animation layer or the selected drawing layer.

## Common Layer Properties

The following properties are available on most layers. Layer properties that are specific to a certain layer type are covered on the handbook page of that respective layer type.

### Blending

Options for how the layer contents should be combined with the contents of the layers below it when the animation is rendered.

### Opacity

Controls the opacity with which the layer is blended onto the layers below. Lower the opacity value to make the layer more transparent.

#### Tip

Tap the number value of a slider to input a new value with your keyboard instead of having to drag the slider to the correct position.

### Blend Mode

The blend mode using which this layer should be combined with the layers below.

### Transform

All visual layers have [transform properties](#), which can be used to change the position, rotation and scale of that layer. These properties can also be animated over time using [keyframes](#).

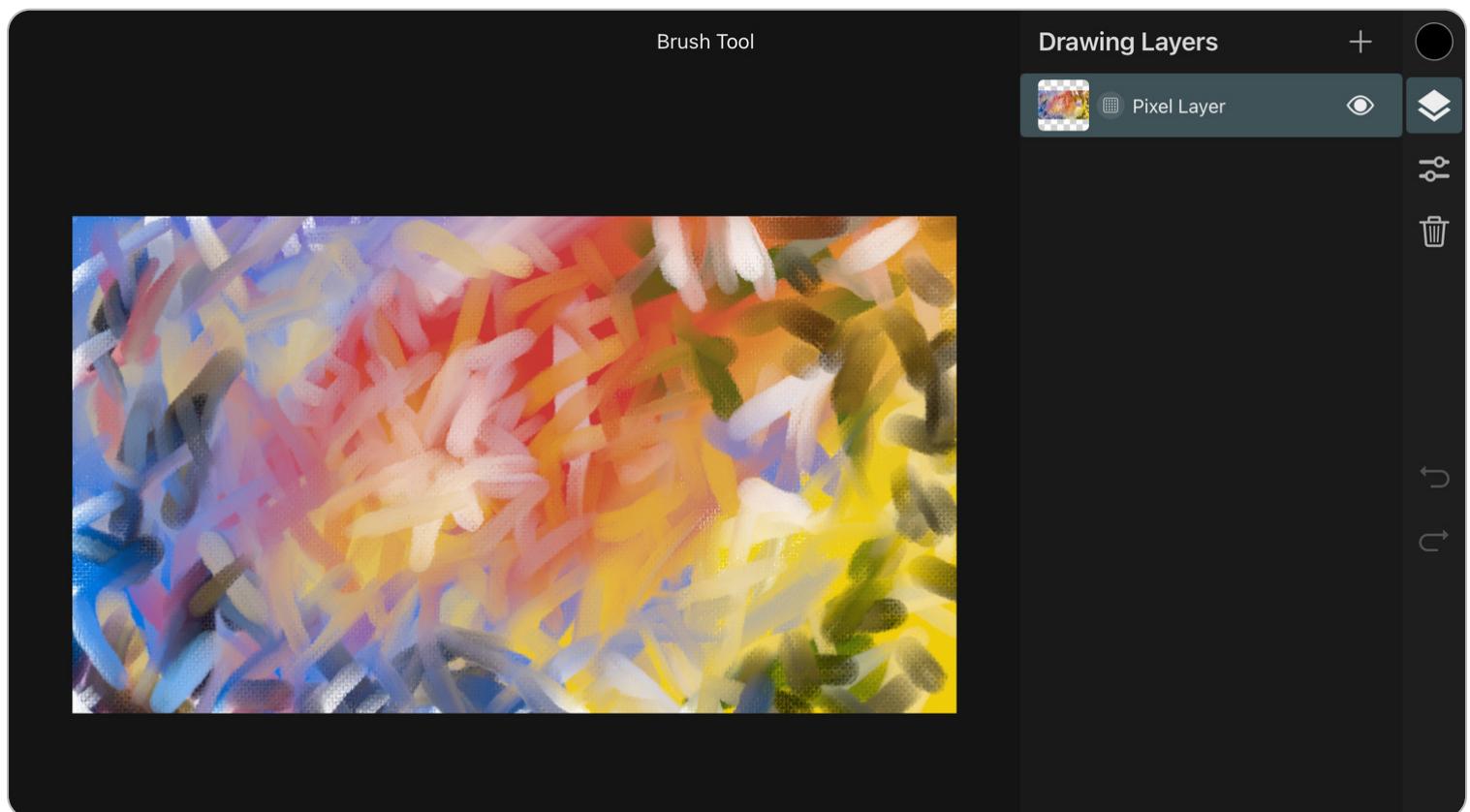
# Keyframing

The inspector shows property values at the most recent keyframe.

Changing values in the inspector when a property has more than one keyframe will automatically insert more keyframes if necessary. You can find more info on keyframes in the [keyframes chapter](#).

# Pixel Layer

Pixel layers are the drawing destination for pixel brushes, which are the most common type of brush in the brush library. They store their contents as a raster image, i.e. in a grid of pixels that can each store a single color.



The resolution of a pixel layer is determined by the [scene](#) or [animation clip](#) that it is in. Pixel layers with a large resolution result in larger project folder sizes and more system memory usage during editing. You can only draw on a pixel layer within the area defined by this resolution.

Pixel layers are also created when rasterizing vector-based layers.

By default, the transform tool can be used to edit and animate the transform property of the Pixel Layer, just like with any other layer. This moves the entire layer (and with that the area in which you can draw). However, you can also use the transform tool to [edit the layer's pixel contents](#) while keeping the transform properties unmodified.

# Lock Transparency

You can lock and unlock the transparency of the pixels via the [layer actions](#).

Drawing on a pixel layer with locked transparency will only modify the colors of the pixels but not their opacity.

This means that fully transparent areas of the layer will remain transparent when you move a brush over them. You can use this feature to easily shade the contents of your layers without having to worry about going over your carefully drawn edges.

The brush, smudge and fill tools all respect the "Lock Transparency" option. You can still edit the pixels without any limitations using the transform tool, even with this option enabled. You can also still use the eraser on such a layer. If you want to prevent both of these types of edits, you can use the [lock](#) option instead.

## Tip

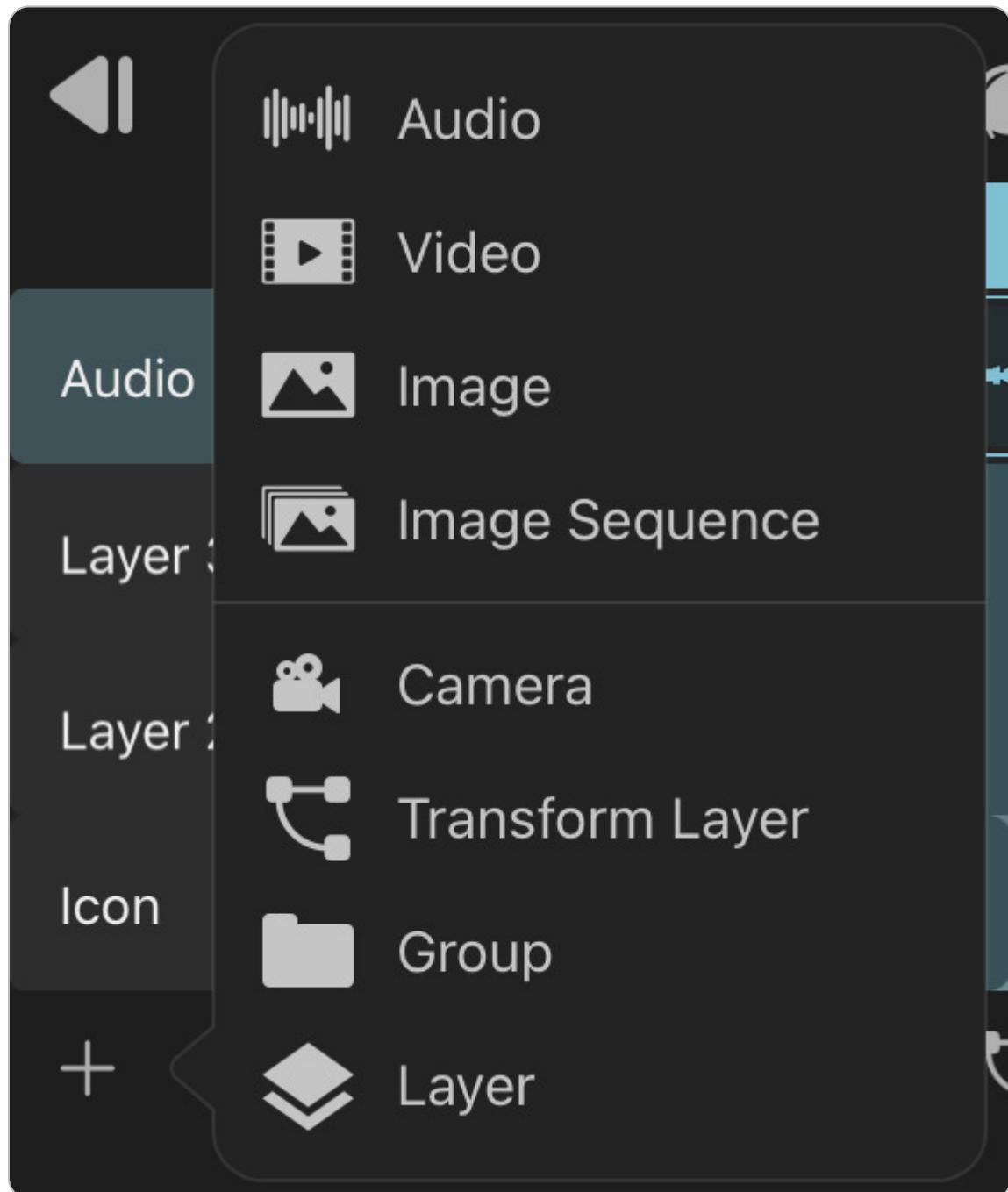
You can also set the transparency lock on an animation layer, which then automatically applies to all pixel layers in all drawings of that animation layer.

# Images

When you import images, they are rasterized into pixel layers in a separate, automatically created [animation clip](#).

## Adding Images

You can import an image into the timeline by tapping the + button in the timeline and selecting [Image](#).



Alternatively, you can also import images into your project via the library with these steps:

Sort by

Done



Import from Photos



Import from Files

1. Open the [library](#).
2. Tap the + button in the top right corner.
3. Tap [Import from Files](#) or [Import from Photos](#).
4. Select an image.

This will

- load the image pixels into a new pixel layer,
- automatically create a new animation clip into which the pixel layer is inserted,
- insert a [symbol](#) of this clip into the current timeline.

## Supported File Formats

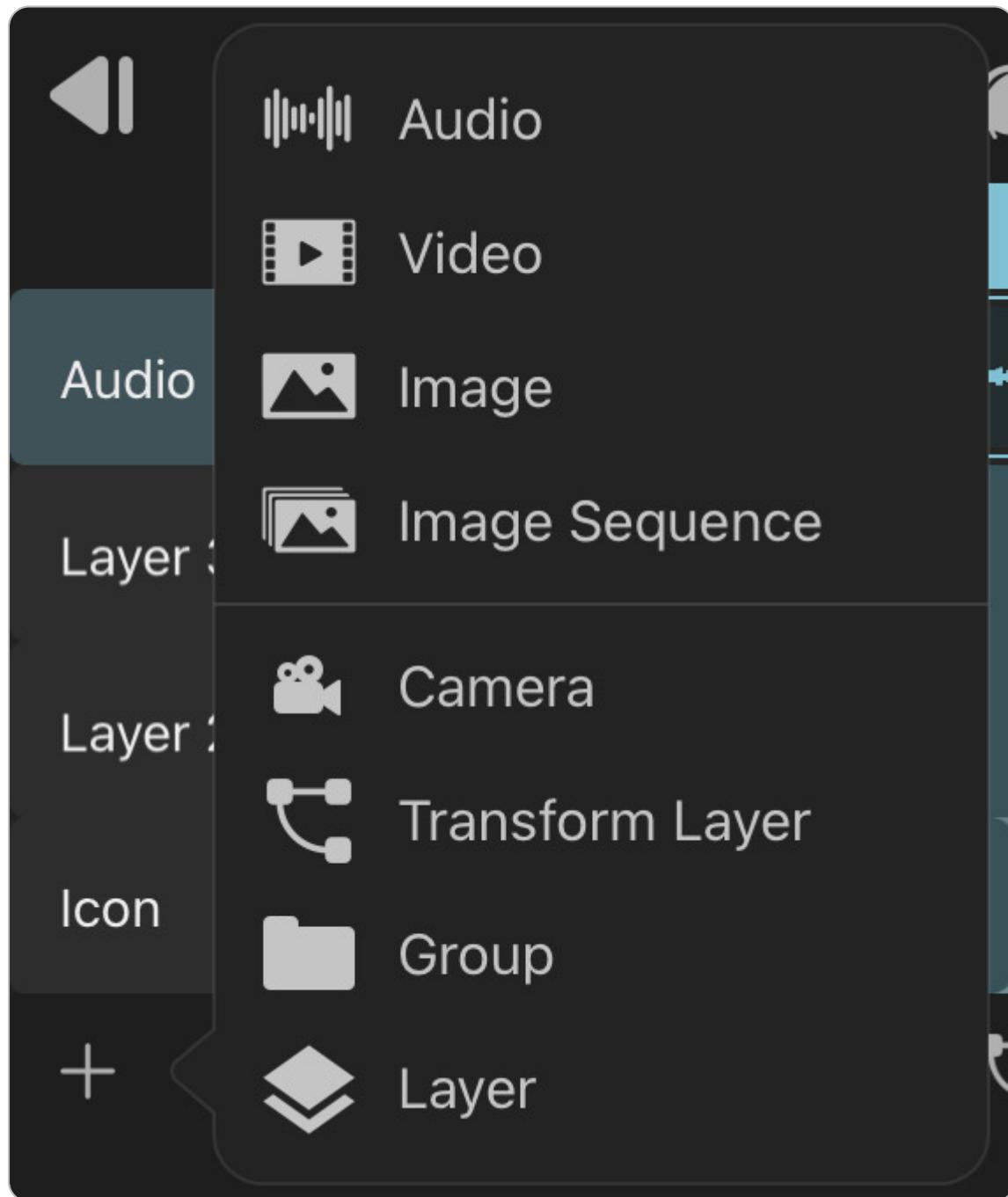
ToonSquid supports images with the following formats to be imported into your projects.

- PNG
- JPEG
- TIFF
- BMP
- HEIF
- GIF

## Image Sequence Import

To import a sequence of images directly into multiple drawings of a new animation layer, you can

1. Tap the + button in the timeline.



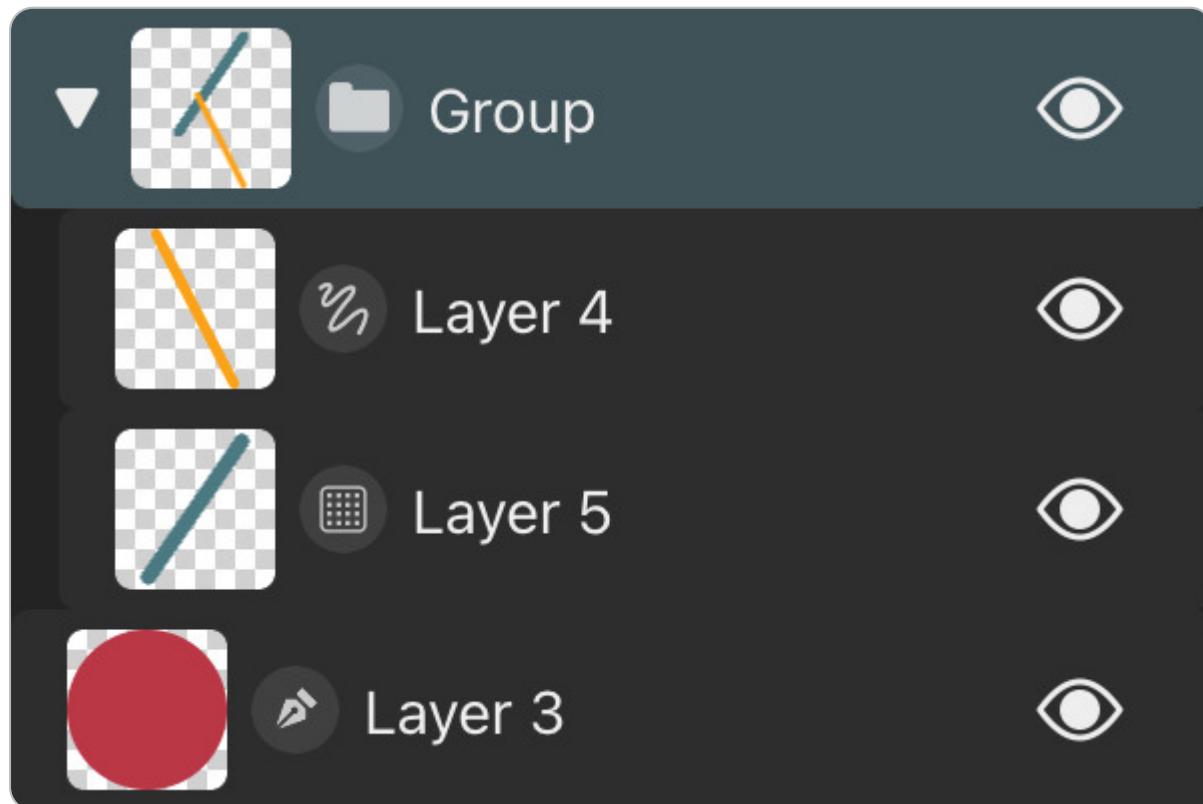
2. Select Image Sequence .

3. Choose the images that should be imported in the file dialog.

All selected images will be imported in alphanumeric order of their filenames into pixel layers in consecutive drawings. Each drawing is set to last one frame and the images are scaled to fit into the current project's resolution.

# Group Layer

Groups can be used to group layers in the timeline and within drawing layers for organizational purposes.



## Create a Group

Create a group by tapping the + button of the [layer list](#) and selecting Group .

## Add Layers to Groups

There are two options for adding layers to a group.

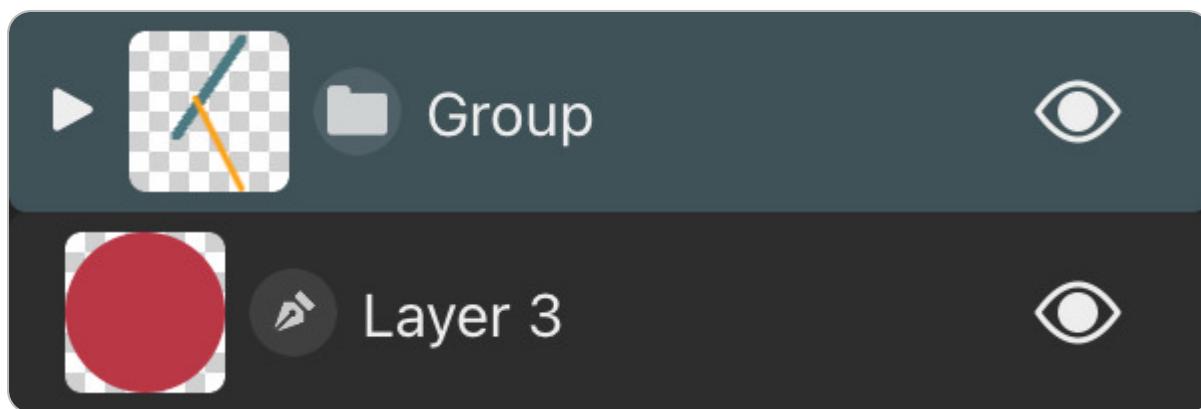
1. Select the group and add a new layer. The new layer will be added to the selected group layer.
2. Drag and drop an existing layer onto a group layer.

# Removing Layers from Groups

Drag and drop layers out of the group into a different part of the layer list to remove them from the group.

## Collapse

You can collapse and expand each group in the layer list using the small disclosure triangle to the left of its thumbnail. Collapsing a group will hide all the layers inside that group from the [layer list](#).



Collapsing a group has no impact on the appearance of the animation.

## Blending

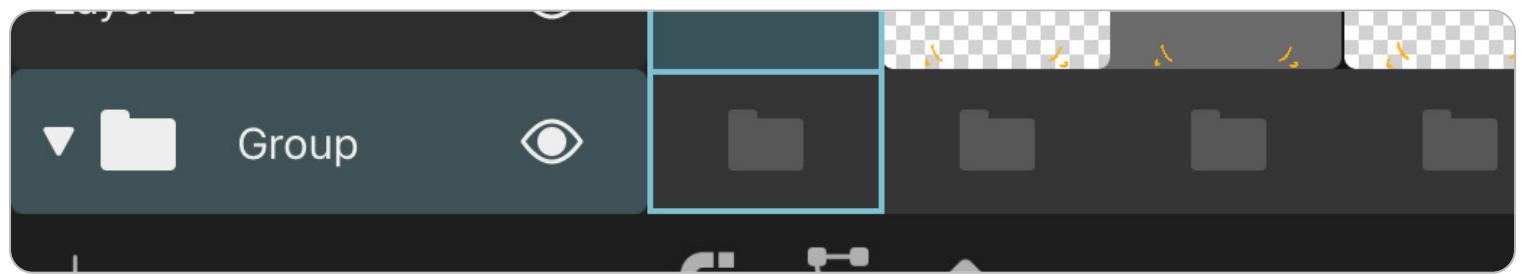
By default, group layers use the [Pass Through](#) blend mode, which means that the group does not affect the rendering of the layers inside and is only there for organizational purposes (given that the group also has an opacity of 100%).

Changing the blend mode or opacity of a group causes all layers inside to be composited (blended) together first before then being blended with the layers outside of the group using the group's blend mode and opacity.

Toggling the group's [visibility](#) will also hide all layers inside the group.

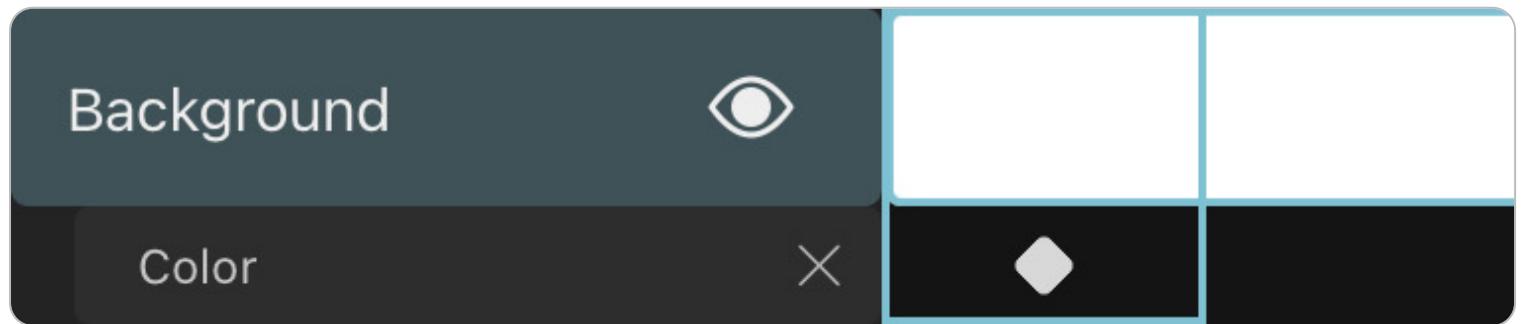
## Timeline

Group layers in the timeline stretch across the entire length of your animation, even if they don't contain layers with drawings on all of those frames.



# Background Layer

Background layers provide a solid background color to the animation. By default, they are the lowest layer in the timeline but can be reordered like any other layer as well.



There is always exactly one background layer in every timeline. Background layers cannot be duplicated or deleted. You also cannot draw on the background layer with the brush or other tools.

## Properties

Background layers have no transform or blending properties.

# Properties

Color



Infinite Background



Include in symbols



## Color

The solid color of the background layer. The background color can be animated using [keyframes](#).

## Infinite Background

Whether the background layer should fill the entire canvas instead of only being as large as the resolution of the current scene or animation clip.

This is particularly useful if you intend on using a [camera layer](#).

## Include in Symbols

Whether the background layer should be visible in a [symbol layer](#) that references this clip. This is disabled by default.

# Camera

Add a camera layer to your timeline to define the visible region of your animation. Only this region will be visible in the final export and in every symbol that references the clip with this camera.

The camera is shown on the canvas as a rectangular outline.

The camera layer can only be selected via the [layer list](#) in the timeline and not by tapping the canvas.

There can only be at most one camera layer in each timeline.



# Properties

You can use the transform property of the camera to move the camera and even animate it over time like a normal layer. This makes it easy to create appealing camera movements without having to manually animate everything on the canvas to move in the opposite direction. Just add a camera and animate it instead.

## Resolution

Defines the size of the visible region of the camera layer in pixels.

When a clip with a camera layer is referenced by a [symbol layer](#), the resolution property of the camera determines at what resolution the clip will be rendered in place of the symbol.

The resolution property is also used as the default resolution for the export, but this can be changed with the [export settings](#).

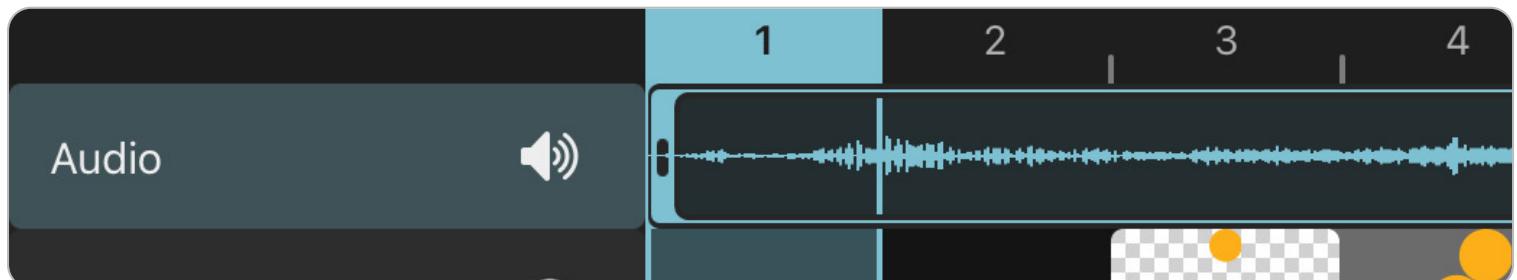
## Visibility

The visibility of the camera layer only affects its visualization in the editor. Therefore, hiding a camera layer does not change the export behavior.

Delete the camera layer instead if you don't want it to be used during the export.

# Audio

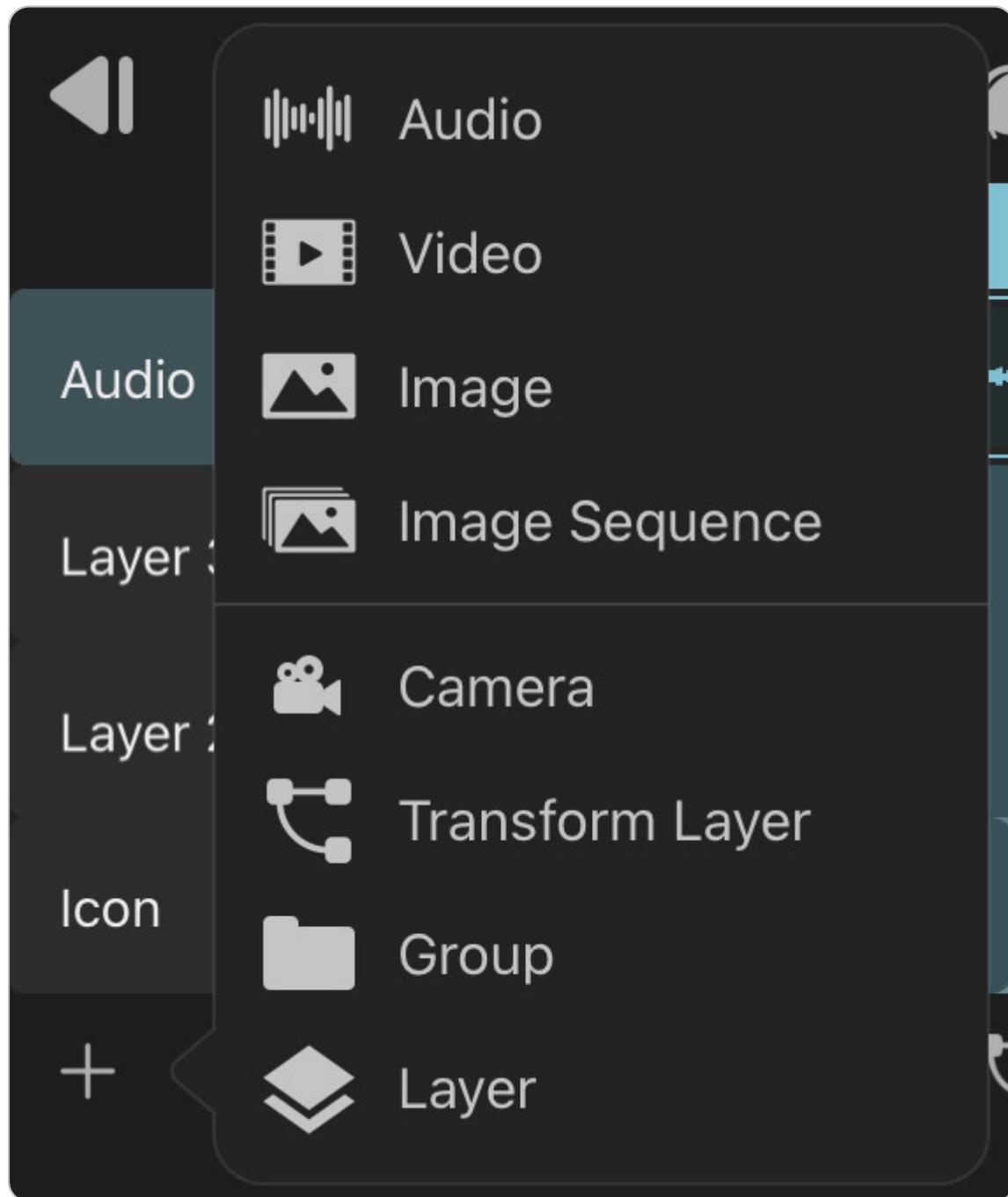
Use audio layers in order to add audio clips to the timeline to be played back together with the animation.



Audio clips behave similarly to drawings in the timeline. You can use the [retiming handles](#) to trim and shift them.

## Importing Audio

You can import audio files into the timeline by tapping the + button in the timeline and selecting `Audio`.



Alternatively, you can import audio files via the library with the following steps:

1. Open the [library](#).
2. Tap the + button in the top right corner.
3. Tap Import from Files .
4. Select an audio file.

This will add the file to the library under the `Audio Clips` tab and will automatically insert an audio layer with this clip into the timeline.

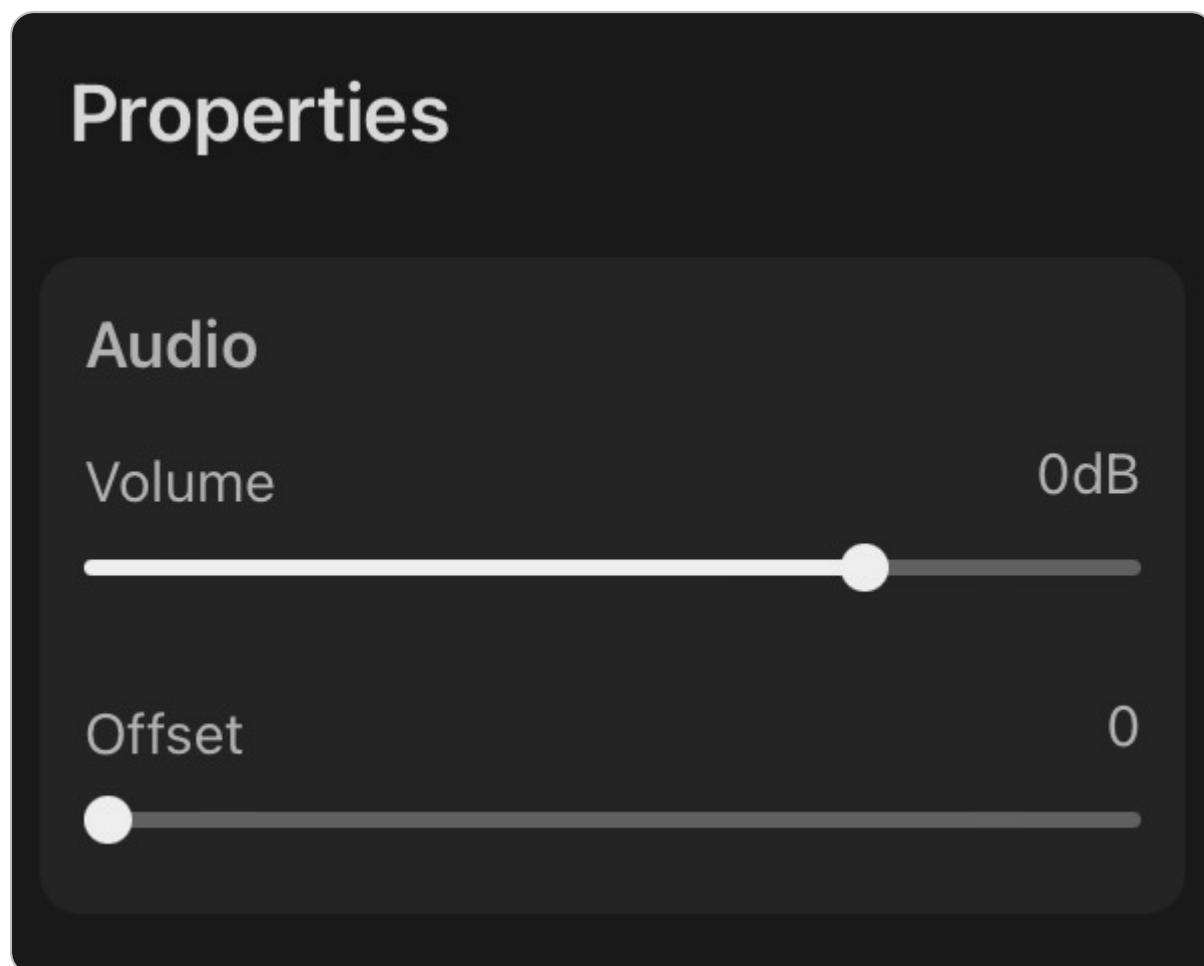
## Supported File Formats

ToonSquid supports audio files with the following formats to be imported into your projects.

- .wav
- .mp3
- .aiff
- .m4a
- .flac

All audio files are converted to 44.1 kHz .wav files during the import for more efficient playback. The converted audio file is saved as part of the project.

## Properties



## Mute

Audio layers can be muted entirely using the mute button (which is shown instead of the visibility button).

## Volume

Specifies by how many decibels the volume of the audio clip should be changed. Can be animated using [keyframes](#).

## Offset

The number of (visual) frames worth of audio that should be skipped when the current clip starts playing. This is used to trim the beginning of an audio clip, since dragging the left [retiming handle](#) just shifts the audio clip in the timeline. This offset is automatically updated when you [split](#) an audio clip.

# Audio Settings

## Play audio while scrubbing the timeline

Whether the audio of individual frames should be played while you scrub through the timeline. This can be helpful when performing lip-syncing or when you are otherwise trying to sync your animation to an audio layer.

Disable this to only play audio during playback.

## Split Audio Clip

When an audio clip is selected, you can use the "Split Audio Clip" button to split the clip into two clips at the current frame.

## Playback

Audio will always play in real-time. Therefore, changing the frame rate of a clip that has an audio layer can lead to the audio going out of sync with the rest of the animation. Attempting to do so will show a warning.

# Export

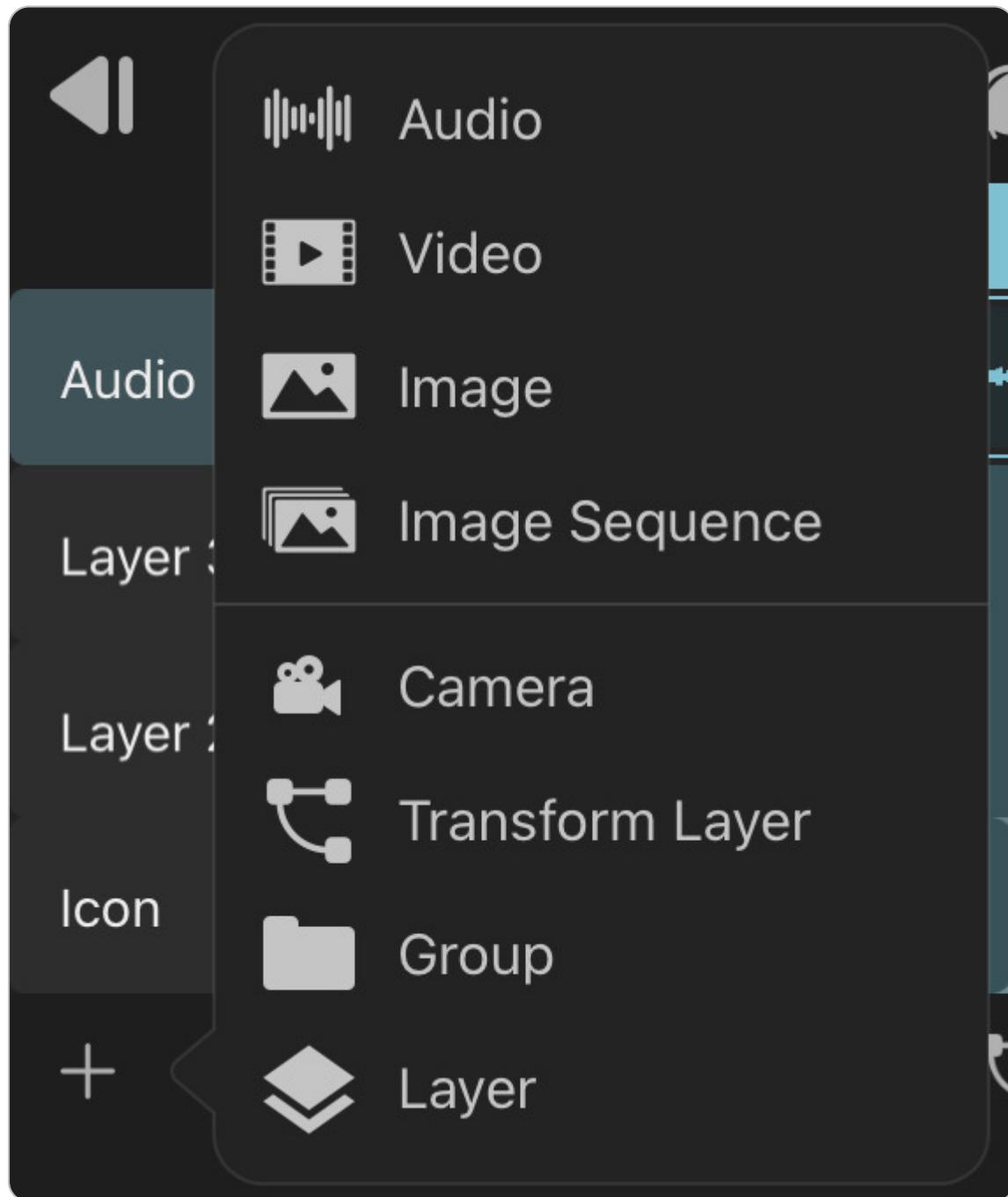
You can choose whether you would like to include the audio from your animation in the exported video in the [video export settings](#).

# Video

Video layers allow videos to be added to an animation. You typically don't interact with the video layer directly but via an automatically generated [symbol](#), which references a clip with the video layer.

## Importing Videos

You can import a video into the timeline by tapping the + button in the timeline and selecting Video .



Alternatively, you can also import videos into your project via the library with these steps:

1. Open the library.
2. Tap the + button in the top right corner.
3. Tap Import from Files or Import from Photos .
4. Select a video.

This will

- add the video to the library under the Videos tab,

- automatically create a new animation clip into which a video layer and an audio layer containing the video's audio track are inserted,
- insert a [symbol](#) of this clip into the current timeline.

## Supported File Formats

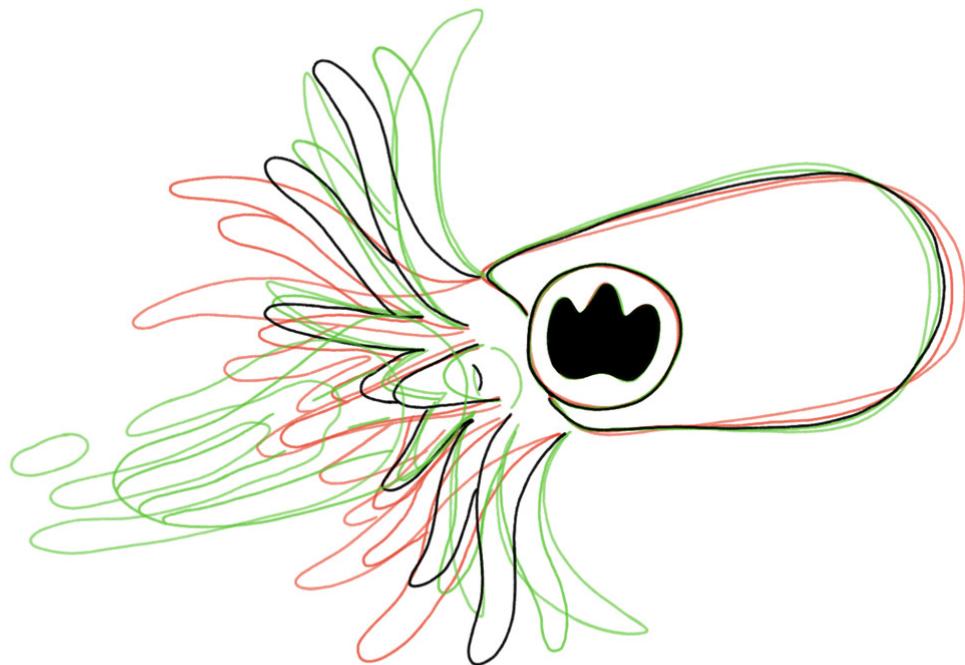
ToonSquid supports video files with the following formats to be imported into your projects.

- MP4
- M4V
- MOV (H.264 and H.265 with transparency)

The video is copied and saved as part of the project.

# Onion Skinning

Use the onion skinning feature to see the drawings or frames before and after the current frame. This helps with drawing in-betweens in a traditional animation workflow.



## Enabling Onion Skinning

Tap the [onion skin button](#) in the timeline to enable or disable onion skinning in the editor.

## Settings

Hold down the onion skin button to see more configuration options.

## Onion Skin

Drawings

Frames

Behind

In Front

2

Previous Drawings

Next Drawings

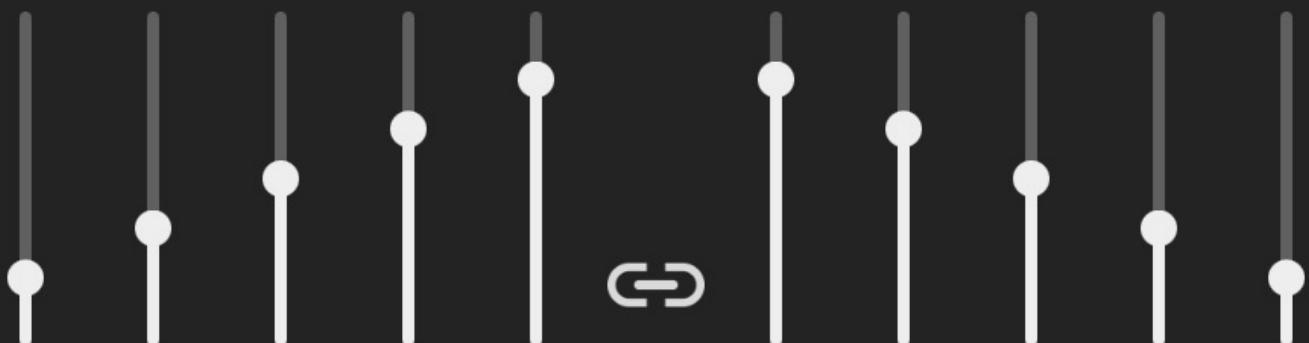
2

Tinted

Original Colors



Opacity



## Mode

Whether the onion skins should show neighboring drawings or neighboring frames.

## Drawings

In this mode, the onion skin numbers refer to how many drawings before and after the current drawing should be shown as onion skins. Only the first frame of each onion-skinned drawing is shown.

This mode is most useful for traditional frame-by-frame animation where the contents of each drawing don't change over the course of the drawing.

## Frames

In this mode, the onion skin numbers refer to how many frames before and after the current frame should be shown as onion skins. This way you can see multiple frames within the same drawing.

You probably want to choose this mode if you are animating the contents of your drawings using [keyframes](#).

## Order

Controls the order of onion skins and the current drawing.

### Behind

Onion skin frames appear behind the current drawing. This is the default.

### In Front

Onion skin frames appear in front of the current drawing.

## Previous Drawings / Next Drawings

You can configure how many of the drawings or frames before and after the current drawing you would like to see when onion skinning is enabled.

## Tint Mode

Controls how the onion skin drawings should be colored.

### Tinted

The colors of the onion skin drawings are replaced with a configurable tint color and a lowered opacity.

### Original Colors

The onion skins show the original colors of the drawings and only their opacity is reduced.

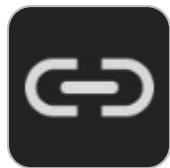
## Colors

You can customize the tint color for the previous and next drawings. Make sure that the [tint mode](#) of the onion skins is set to [Tinted](#).

## Opacity

By default, the opacity of the previous and next onion skin drawings decreases the further their distance is from the current drawing. You can use the opacity sliders in order to adjust the individual opacity of each onion skin frame.

### Linked Opacity



Initially, the opacity sliders are linked together for easier adjustment. You can unlink them with this button if you want to change only one slider value at a time.

## Layer Settings

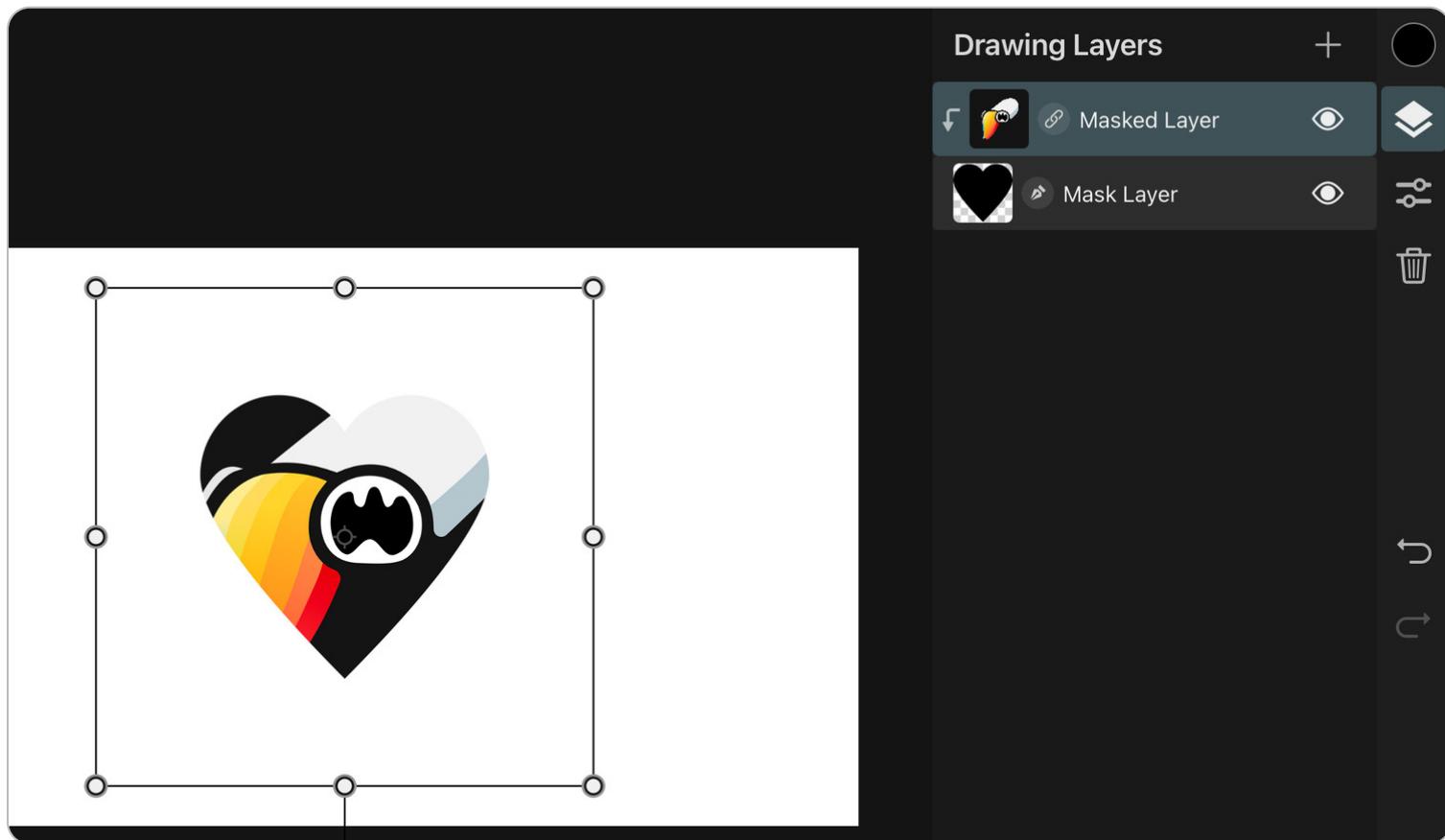
By default, onion skinning is enabled for all animation layers, however, it is also possible to disable it on individual animation layers if necessary.

Either use the [layer actions](#) or the [inspector](#) to disable onion-skins on a particular layer.

Such layers will show a greyed-out onion skin icon next to the layer name to indicate that they do not render onion skins.

# Masking

Layers can be masked using the alpha channel (i.e. the opacity of each pixel) of another layer.



## Definitions

### Mask Layer

The layer that defines the mask using its alpha channel is referred to as the "mask layer".

The colors in the mask layer have no impact on the mask - only the alpha channel is important.

Only layers with visual content can be mask layers. The camera layer, transform layer etc. cannot be used as mask layers.

Mask layers can also have animated contents. You can perform masking with both animation layers and drawing layers.

## Masked Layer

The layers whose contents are only visible in the areas defined by a mask layer are called "masked layers".

Masked layers show a small arrow next to their thumbnail pointing down towards the mask layer.

Multiple masked layers in a row all refer to the same layer as their mask.

## How to create Masks

1. Place the mask layer immediately below the layer to be masked in the layer list.
2. Select the layer to be masked.
3. Tap it again to show the layer actions.
4. Tap `Toggle mask`.

## Hide Mask Layer

By default, the mask layer itself remains visible and continues to behave like any other layer. You can hide the mask layer using the `Hide mask` layer action.

The mask will continue to work as it did before, but the contents of the mask layer will not be shown as part of the animation. This is in contrast to just toggling the `visibility` of the mask layer, which will also make all masked layers disappear.

## Invert Mask

Mask layers with hidden contents can be inverted using the `Invert Mask` layer action.

This causes previously visible areas of the masked layers to be invisible and previously hidden areas to now be visible.

# Groups

Group layers can also be used as mask layers. In that case, all group contents are combined to define the mask.

# Blend Modes

A blend mode defines how two colors should be blended to create a new resulting color.

Every visual layer in ToonSquid has a blend mode which controls how each pixel of that layer should be blended with the layers below. Brushes also have a blend mode which defines how the brush stroke should be blended with the existing surface.

## Definitions

In the explanations of every blend mode, we use the following vocabulary:

When blending color A onto color B, we refer to A as the "**top color**" and B as the "**bottom color**". The result of the blending operation is called the "**result color**".

The red, green and blue components of a color are known as "**channels**".

## Normal



Drawing Layers +

	Pixel Layer	
	Layer 1	

< Properties

NORMAL

Normal

DARKEN

Darken

Multiply

Color Burn

Linear Burn

Darker Color

LIGHTEN

Lighten

Screen

Color Dodge

This is the most common default blend mode of layers. The top color is mixed over the bottom color based on their transparency. If the top color is fully opaque, it simply replaces the bottom color.

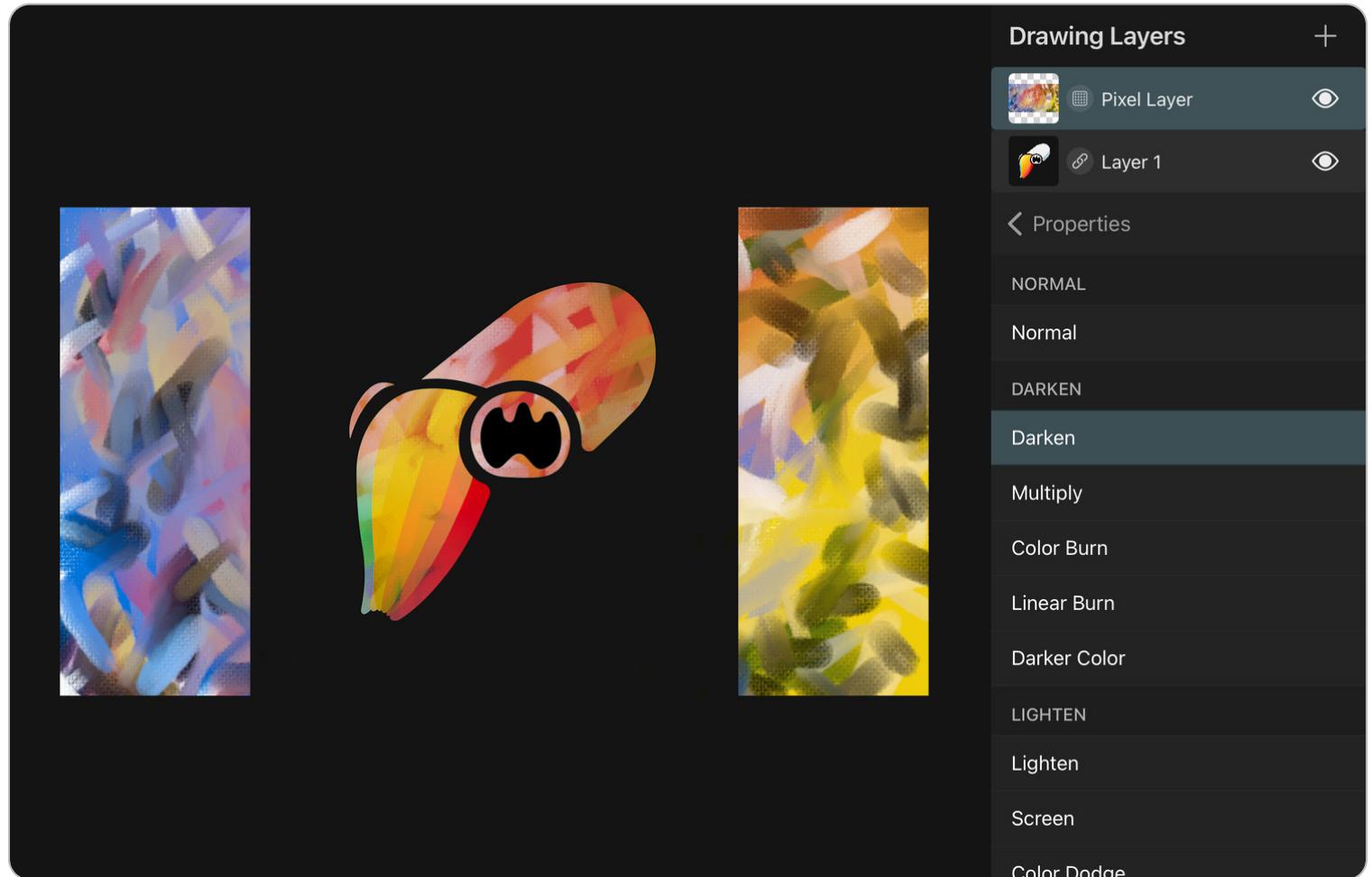
## Pass Through

This is a special blend mode that does not blend any colors itself. It is the default blend mode of the [symbol layer](#), [group layer](#) and [animation layer](#), i.e. all layers that themselves contain other layers.

It causes the blending to behave as if the layer with the Pass Through blend mode was simply replaced by all the layers inside of it, i.e. the layer should not perform any blending itself.

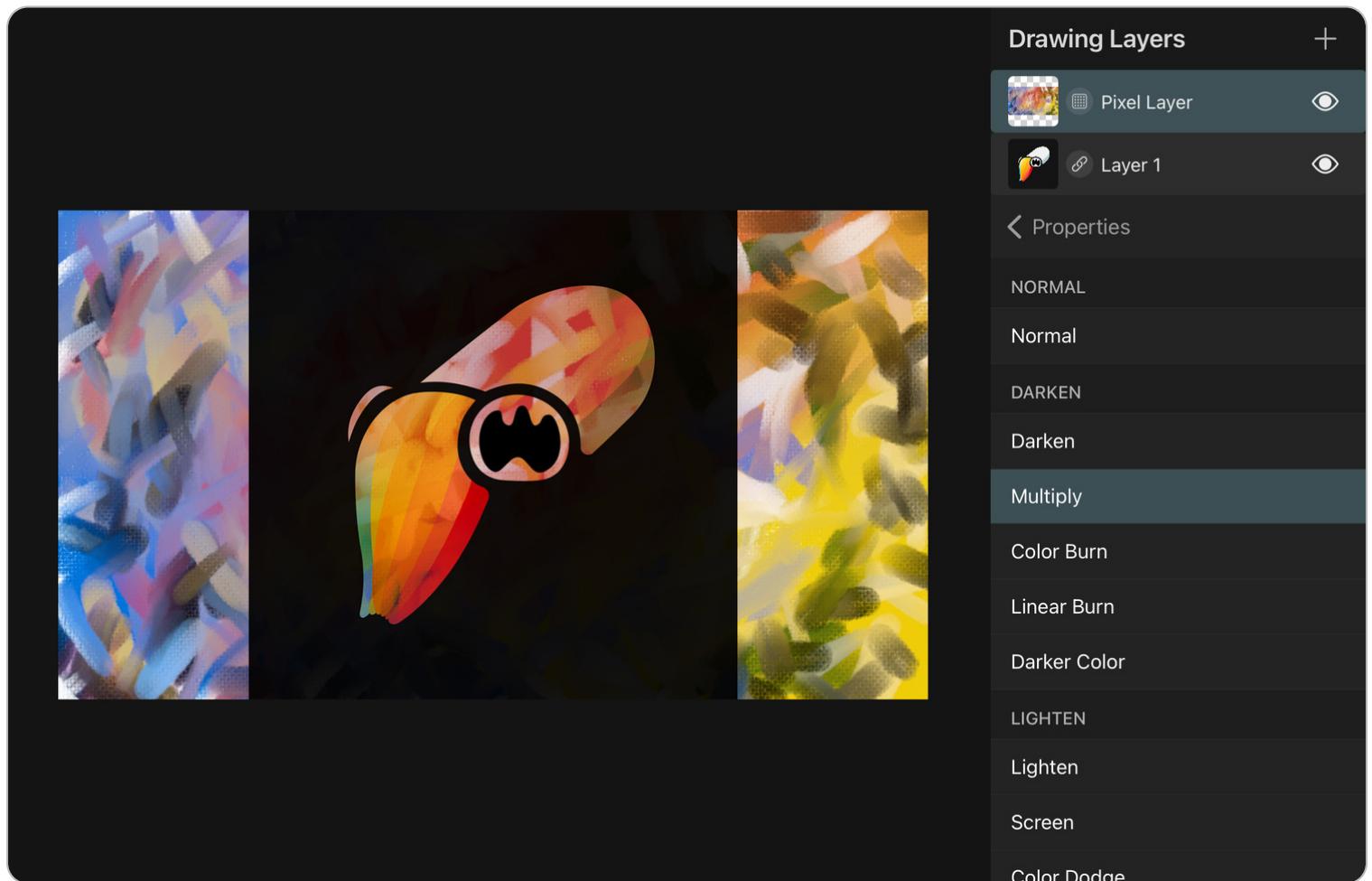
If the layer is forced to blend its contents - for example, due to an opacity of less than 100% - this behaves the same as the `Normal` blend mode.

# Darken



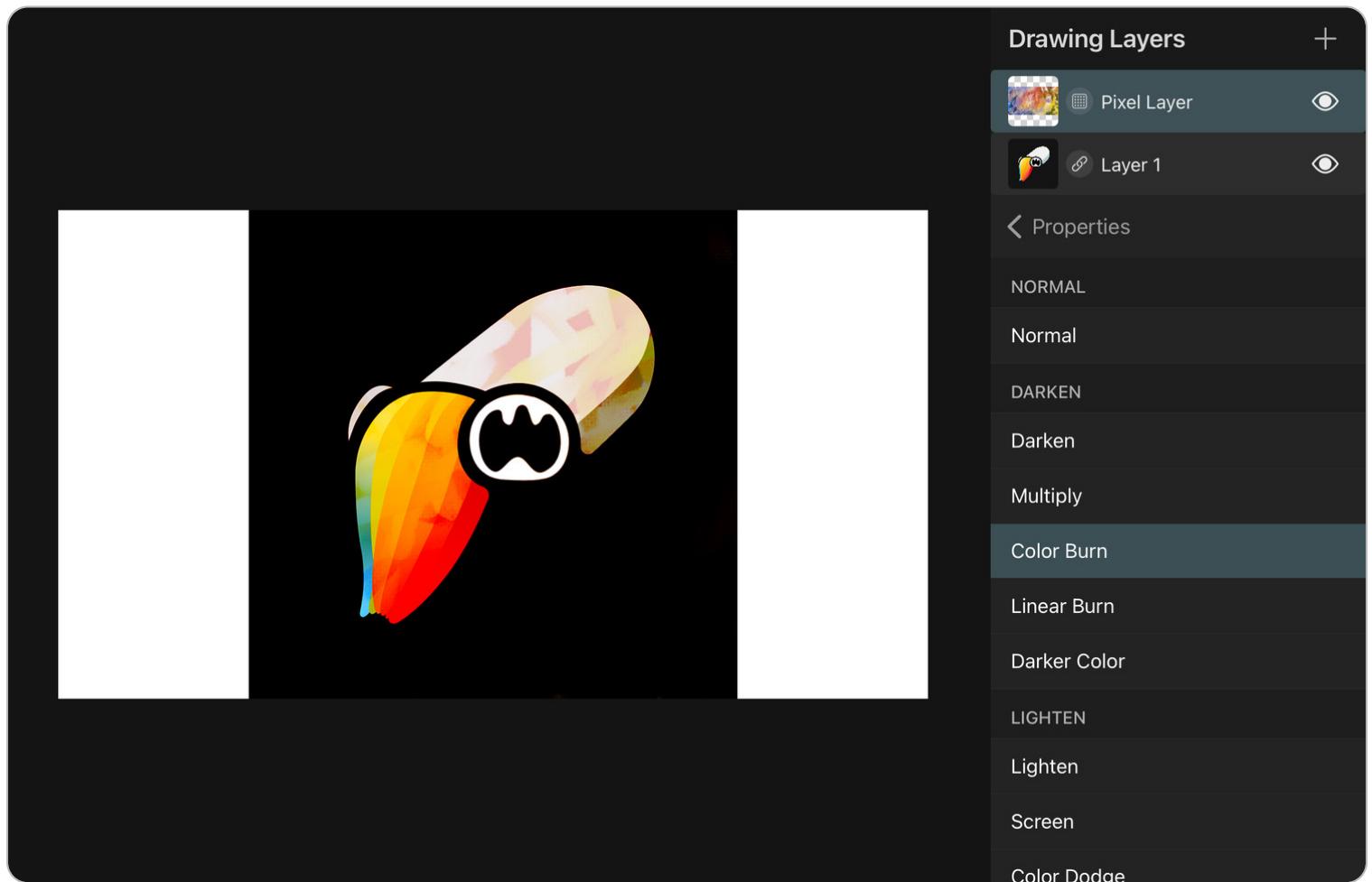
The result color uses the darkest channels of the top and the bottom color.

# Multiply



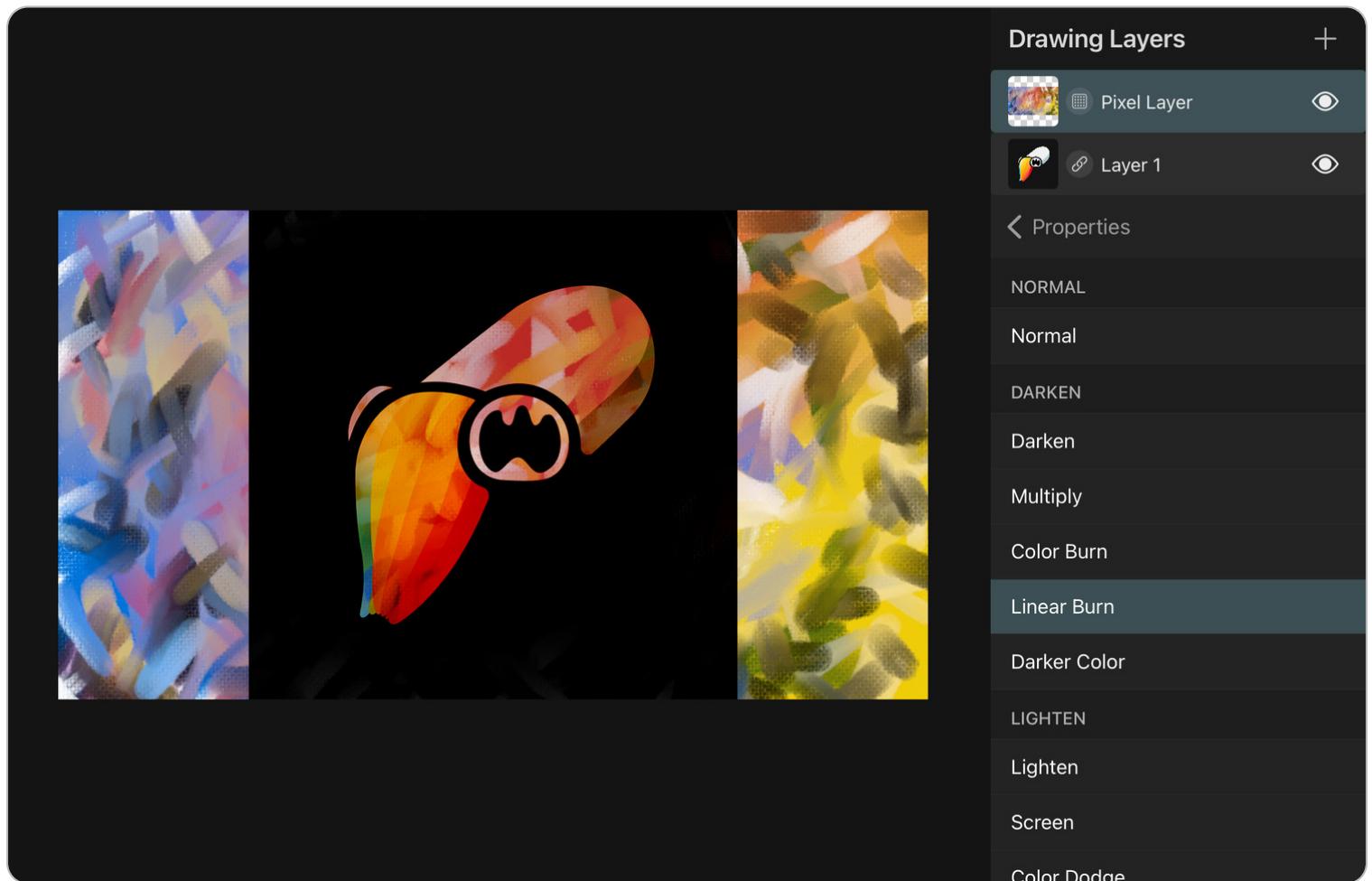
Multiplies the channels of the top color with the channels of the bottom color. The result is never brighter than either the top or the bottom color. When one of the colors is white, the result will be the other color. In all other cases, the result is darker than both initial colors. When either of the colors is black, the result is also black.

## Color Burn



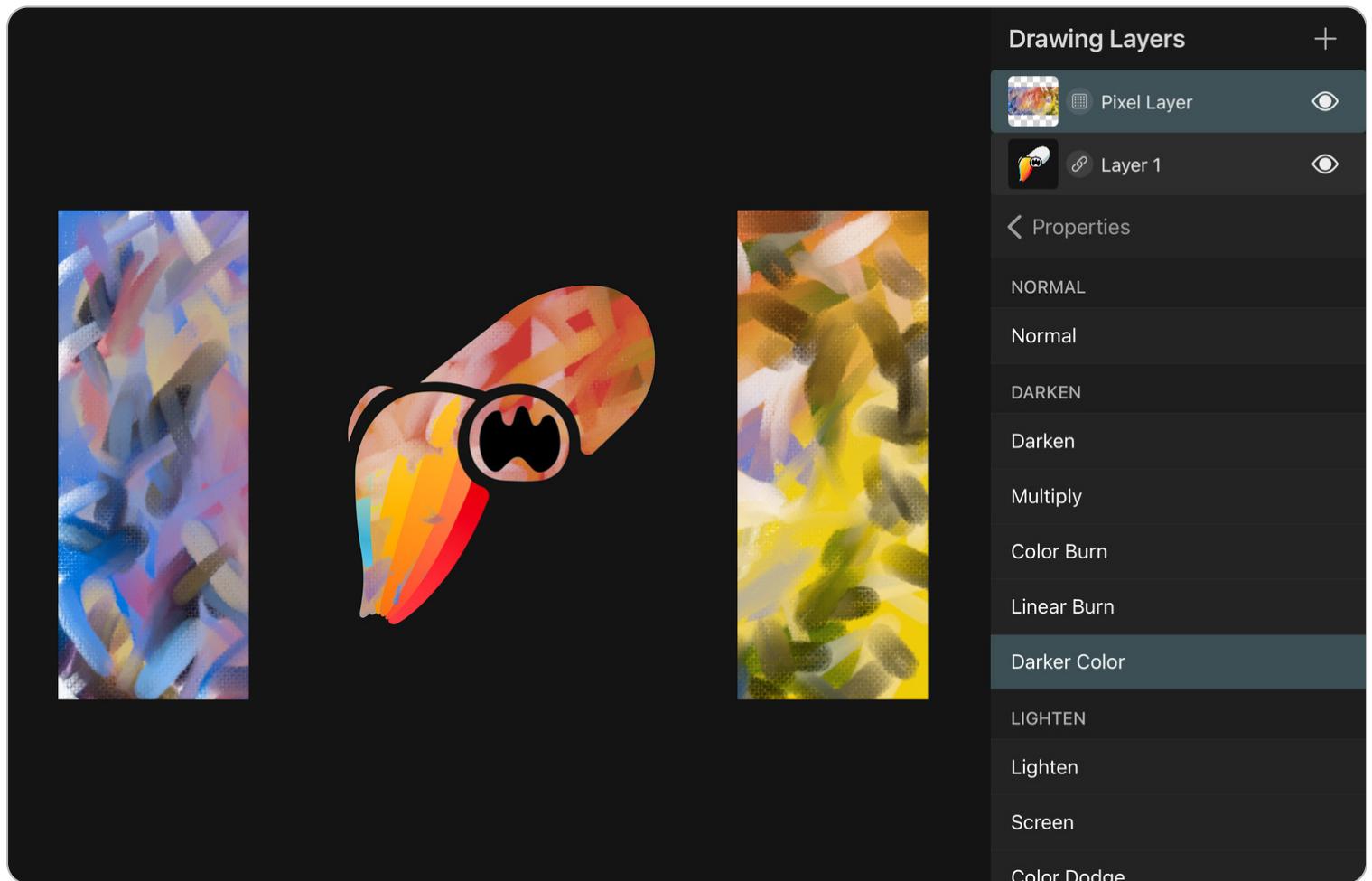
Darkens the bottom color channels to increase the contrast to the top color and then blends the top color on top.

## Linear Burn



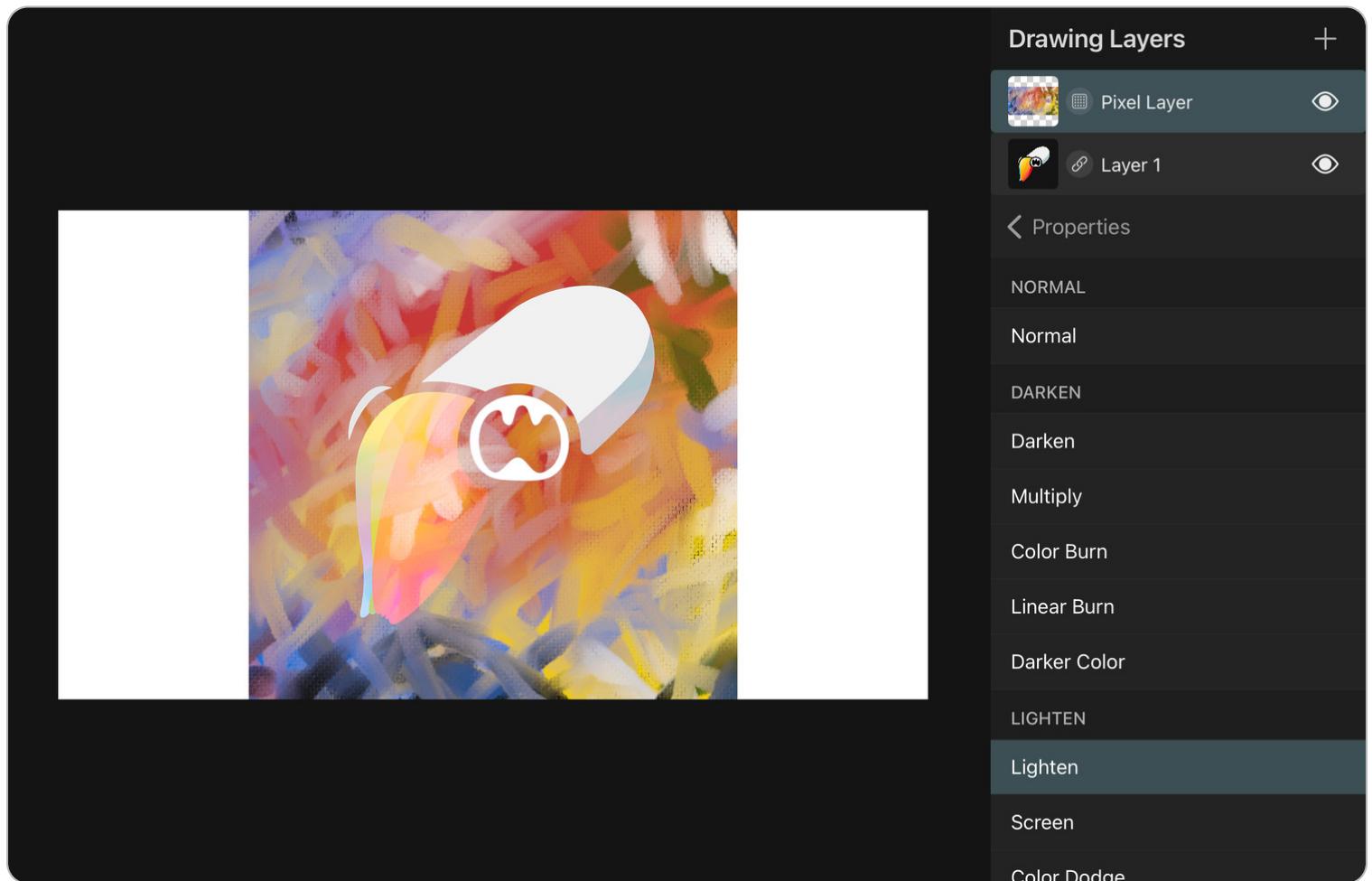
Darkens the bottom color channels based on the top color by reducing their brightness. The result is less saturated than with Color Burn .

## Darker Color



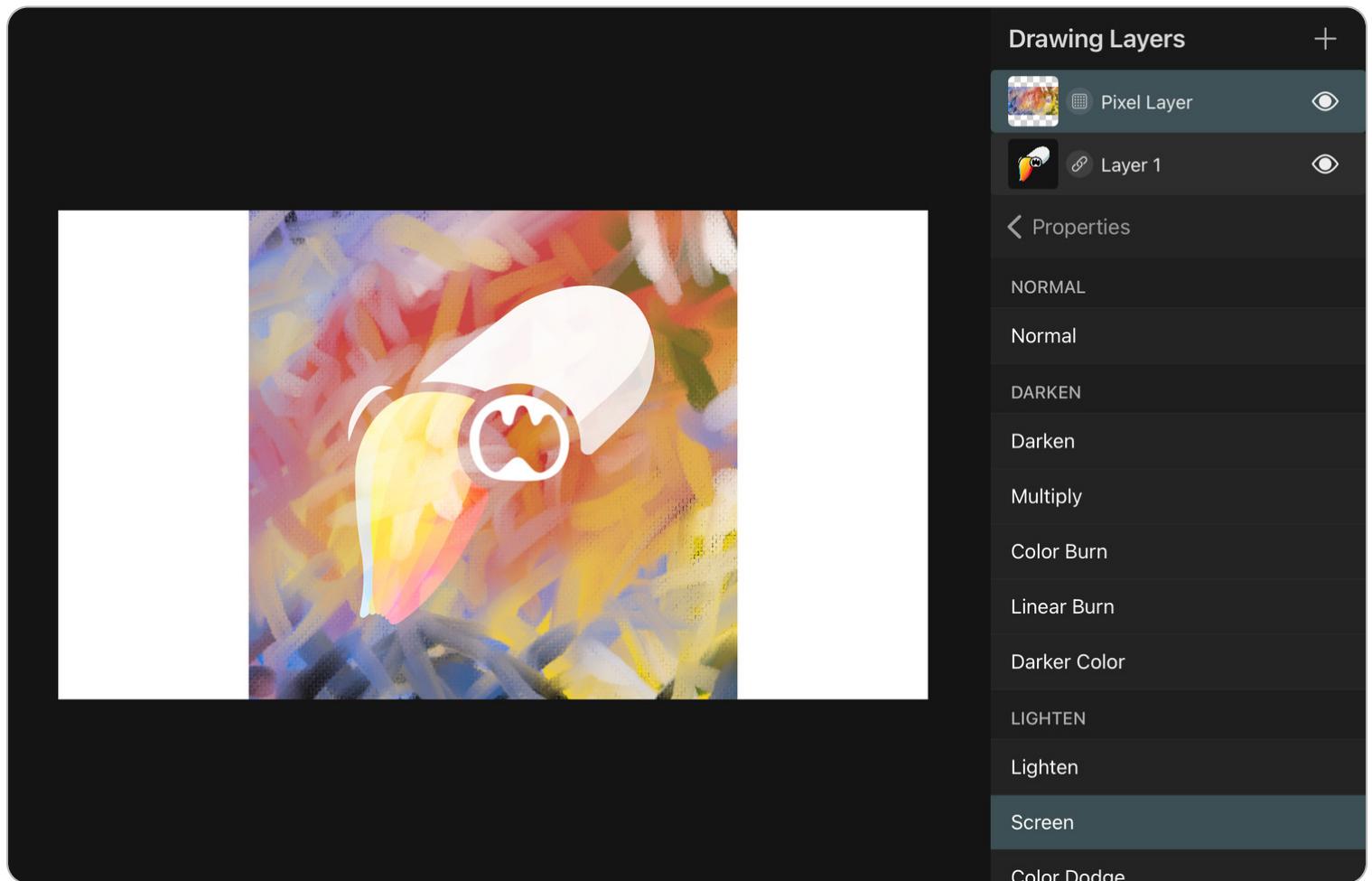
The result color is either the top color or the bottom color, depending on which one is darker. (The difference to the `Darken` blend mode is that `Darken` picks the darker value of each channel whereas `Darker Color` only cares about which color is darker overall).

# Lighten



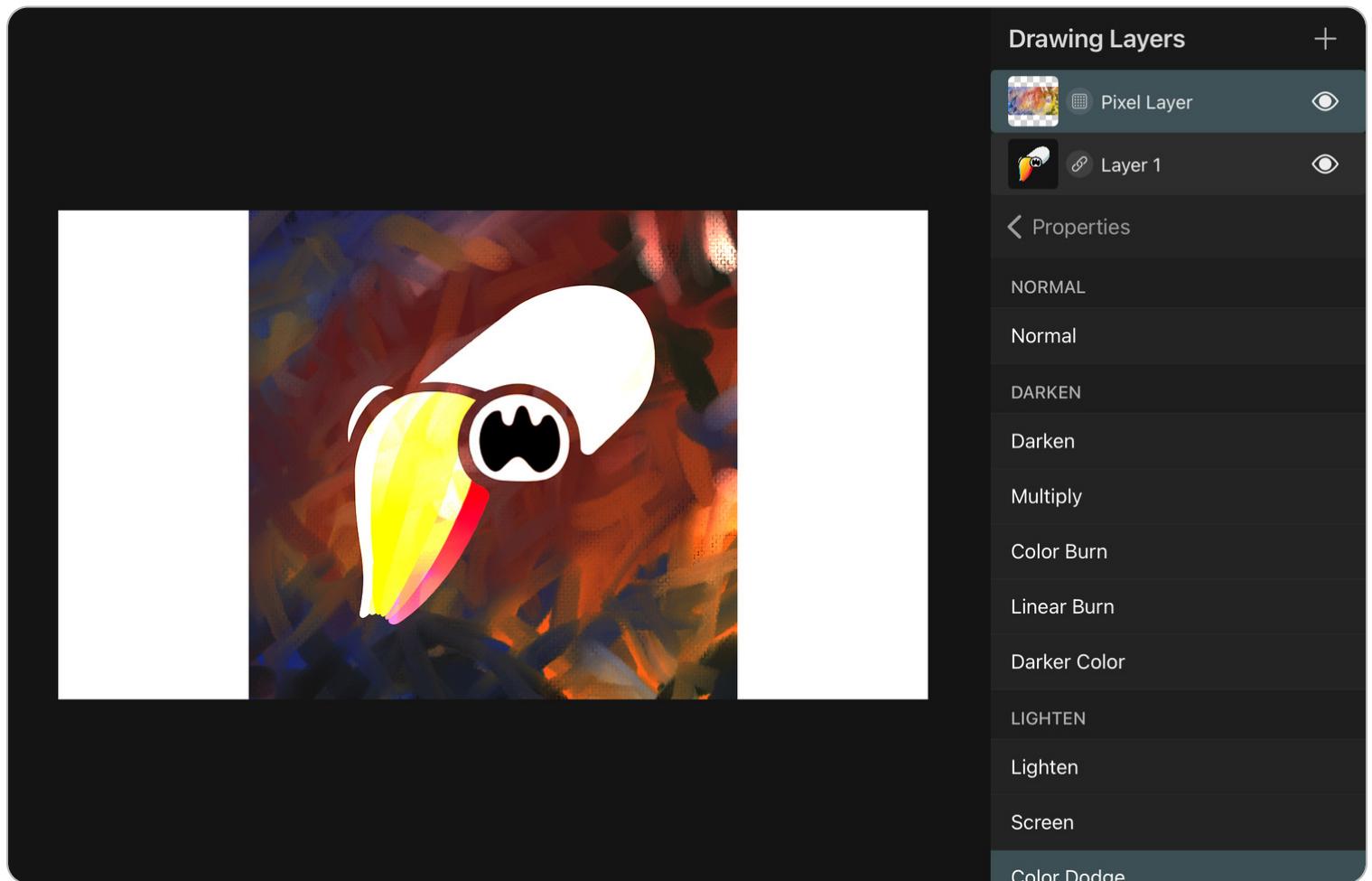
The result color uses the lighter channels of the top and the bottom color.

## Screen



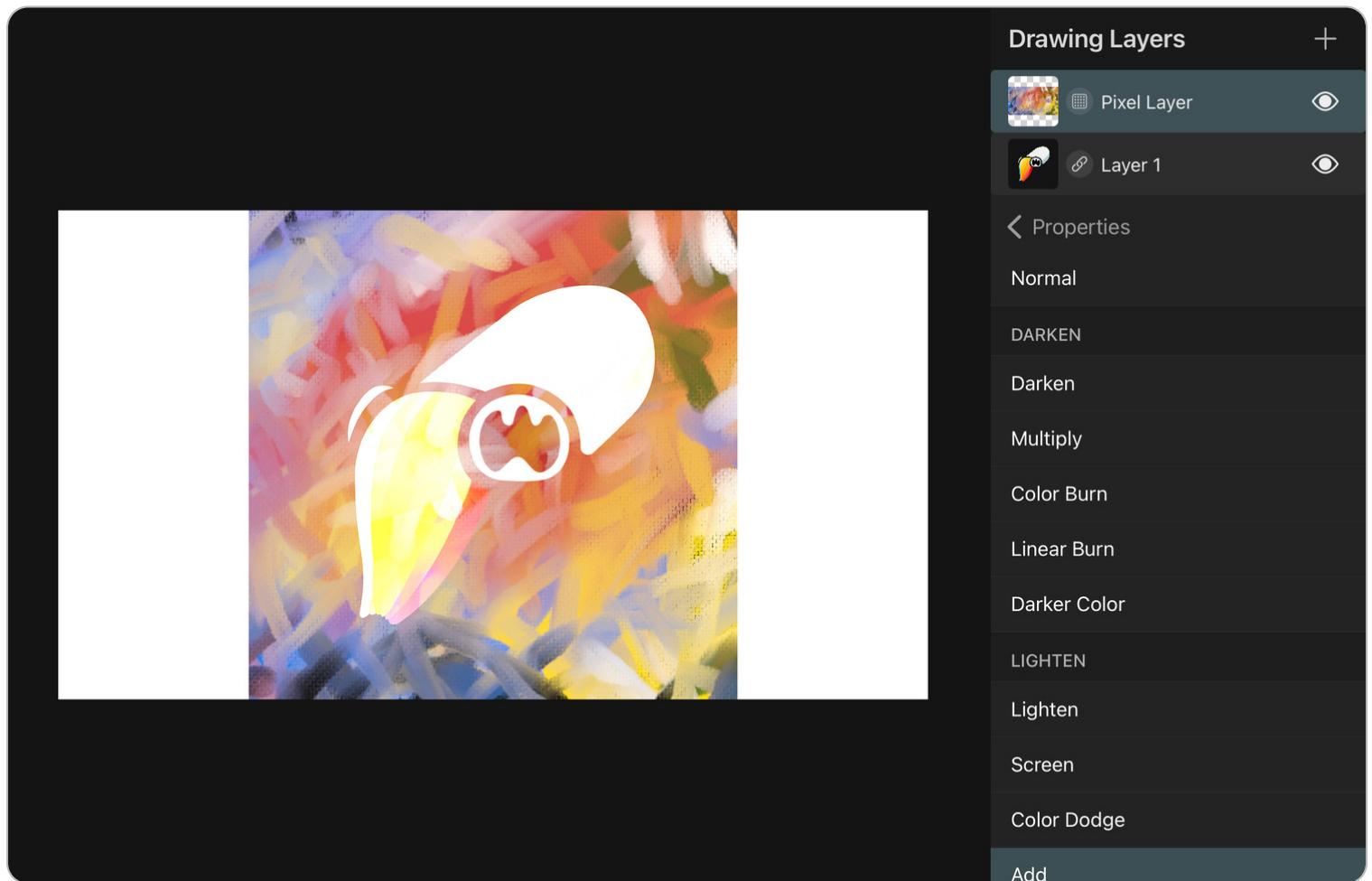
This is the inverse of the `Multiply` blend mode. It multiplies the inverse channel values of the top and bottom colors. The result is never darker than either the top or the bottom color. When one of the colors is black, the result will be the other color. When either of the colors is white, the result is also white.

## Color Dodge



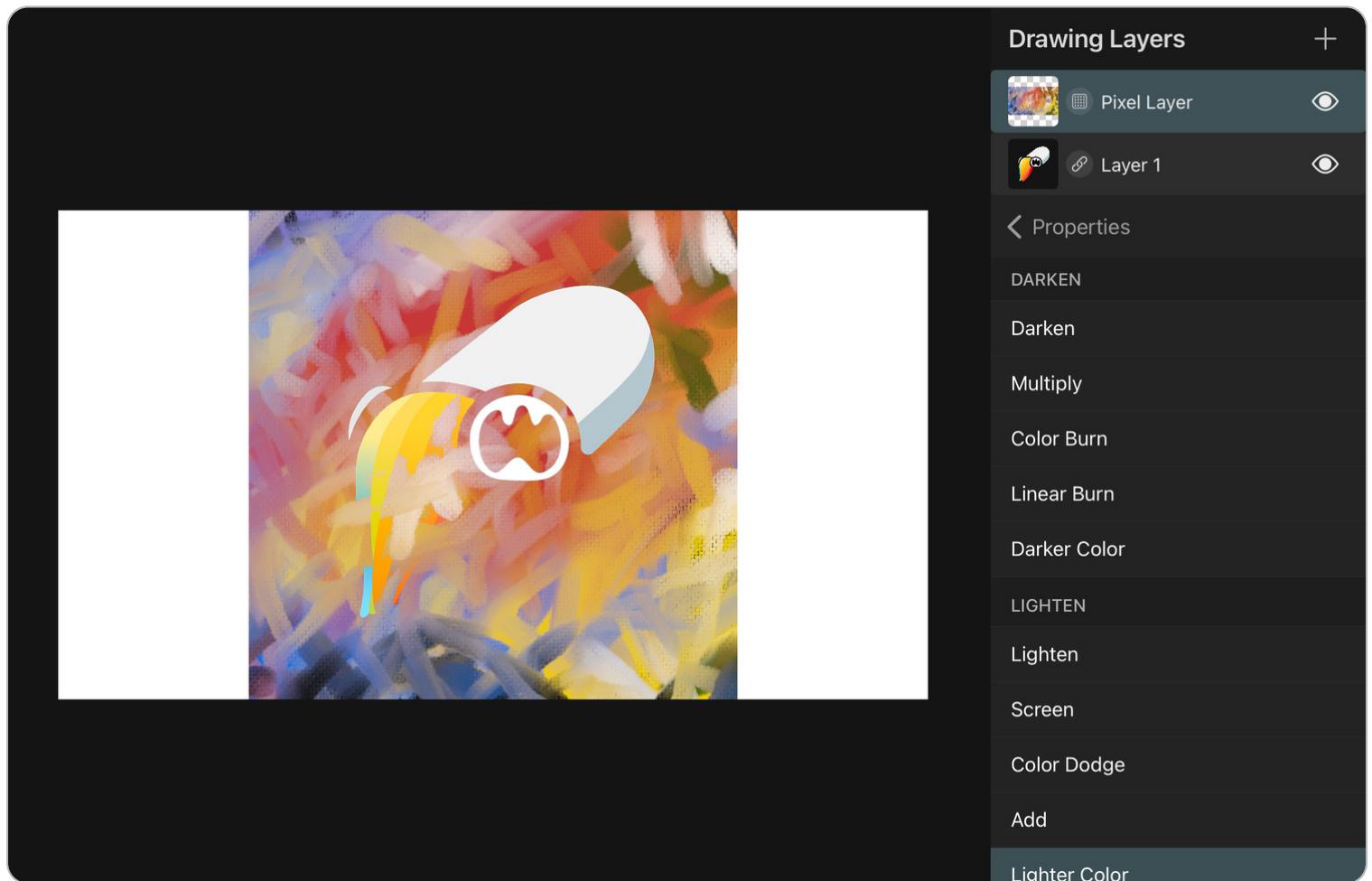
Lightens the bottom color channels to decrease the contrast to the top color and then blends the top color on top.

## Add



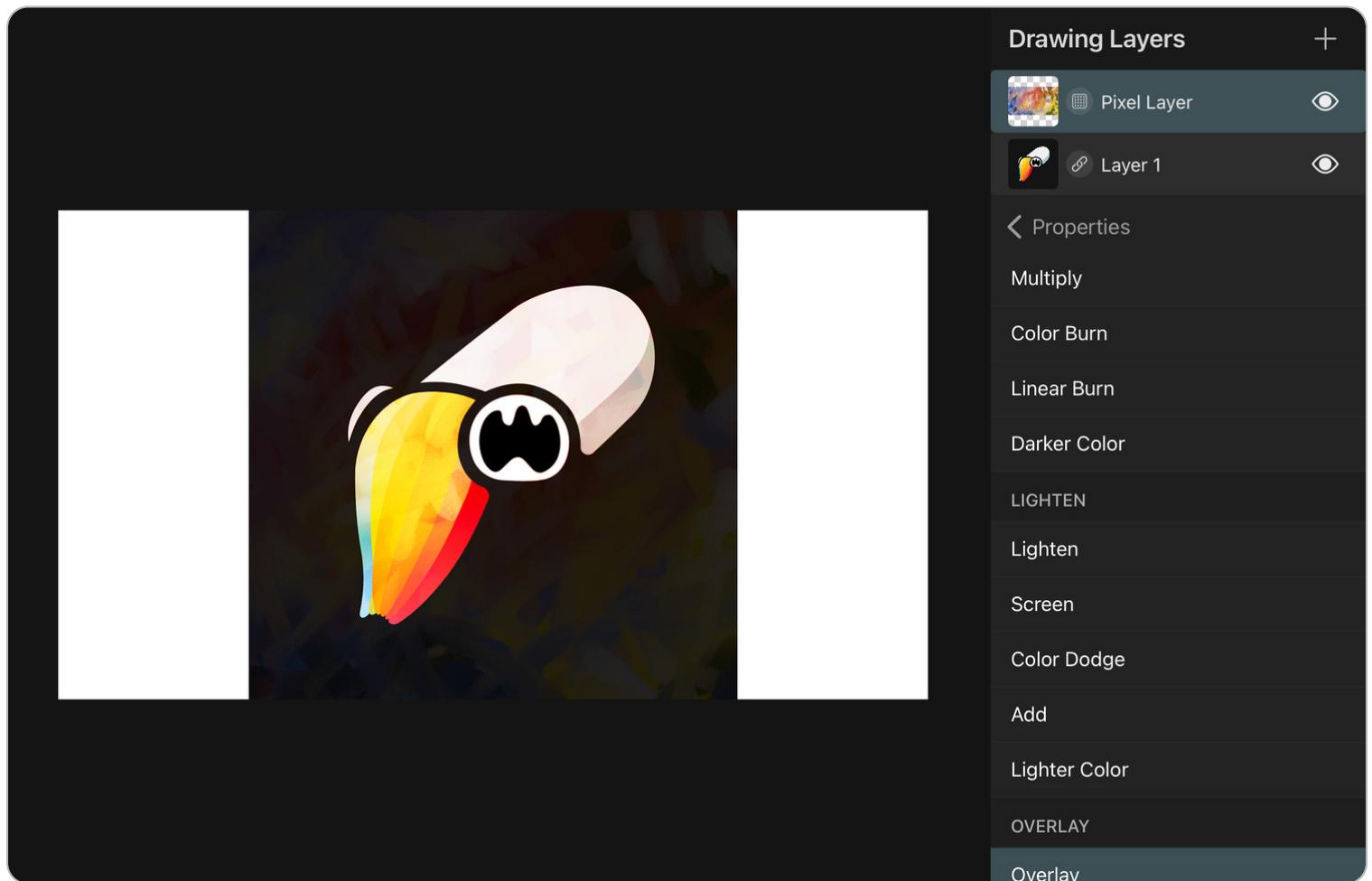
Lightens the bottom color channels based on the top color by increasing their brightness and then blends the top color on top.

## Lighter Color



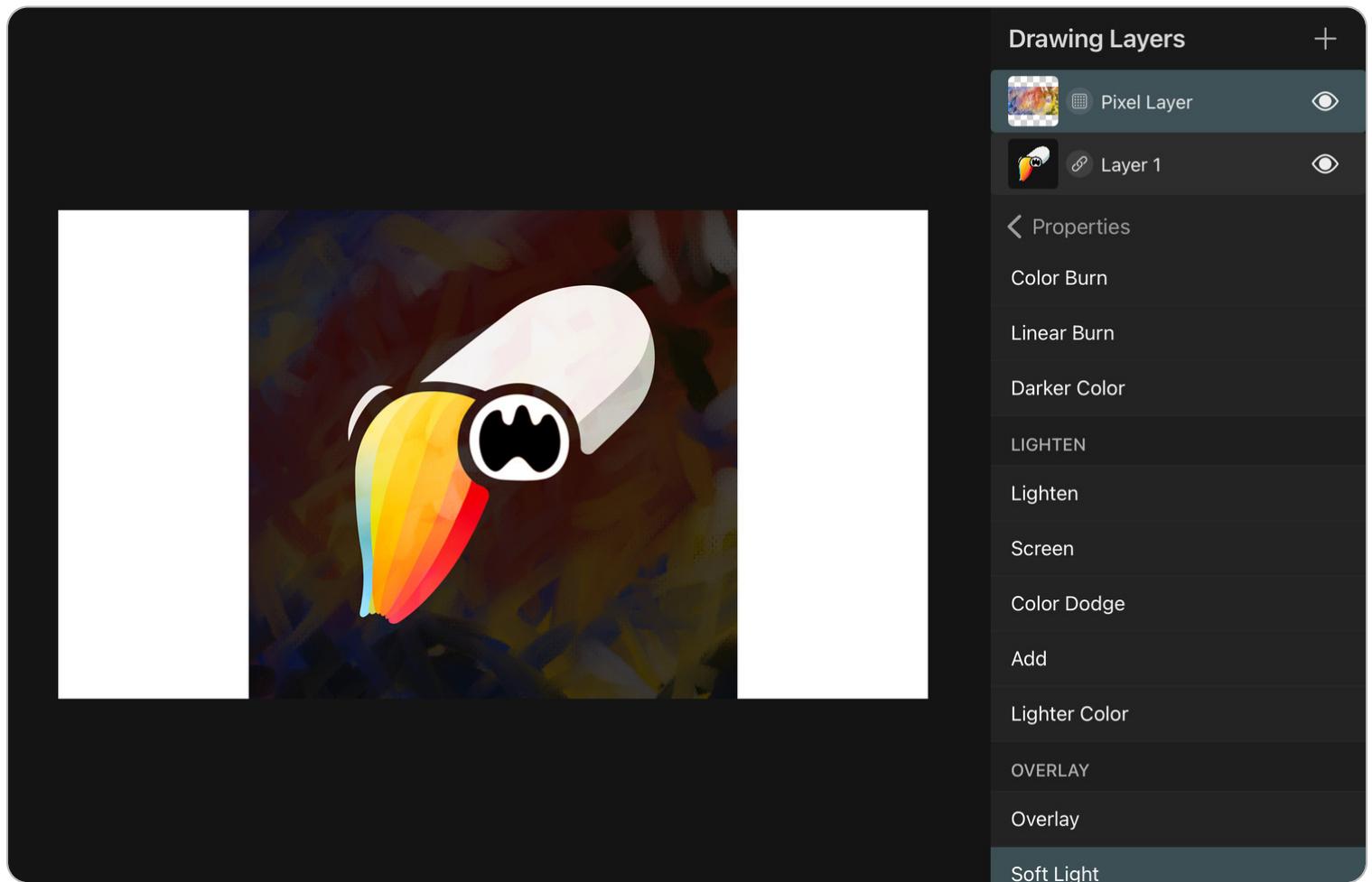
The result color is either the top color or the bottom color, depending on which one is lighter. (The difference to the `Lighten` blend mode is that `Lighten` picks the lighter value of each channel whereas `Lighter Color` only cares about which color is lighter overall).

## Overlay



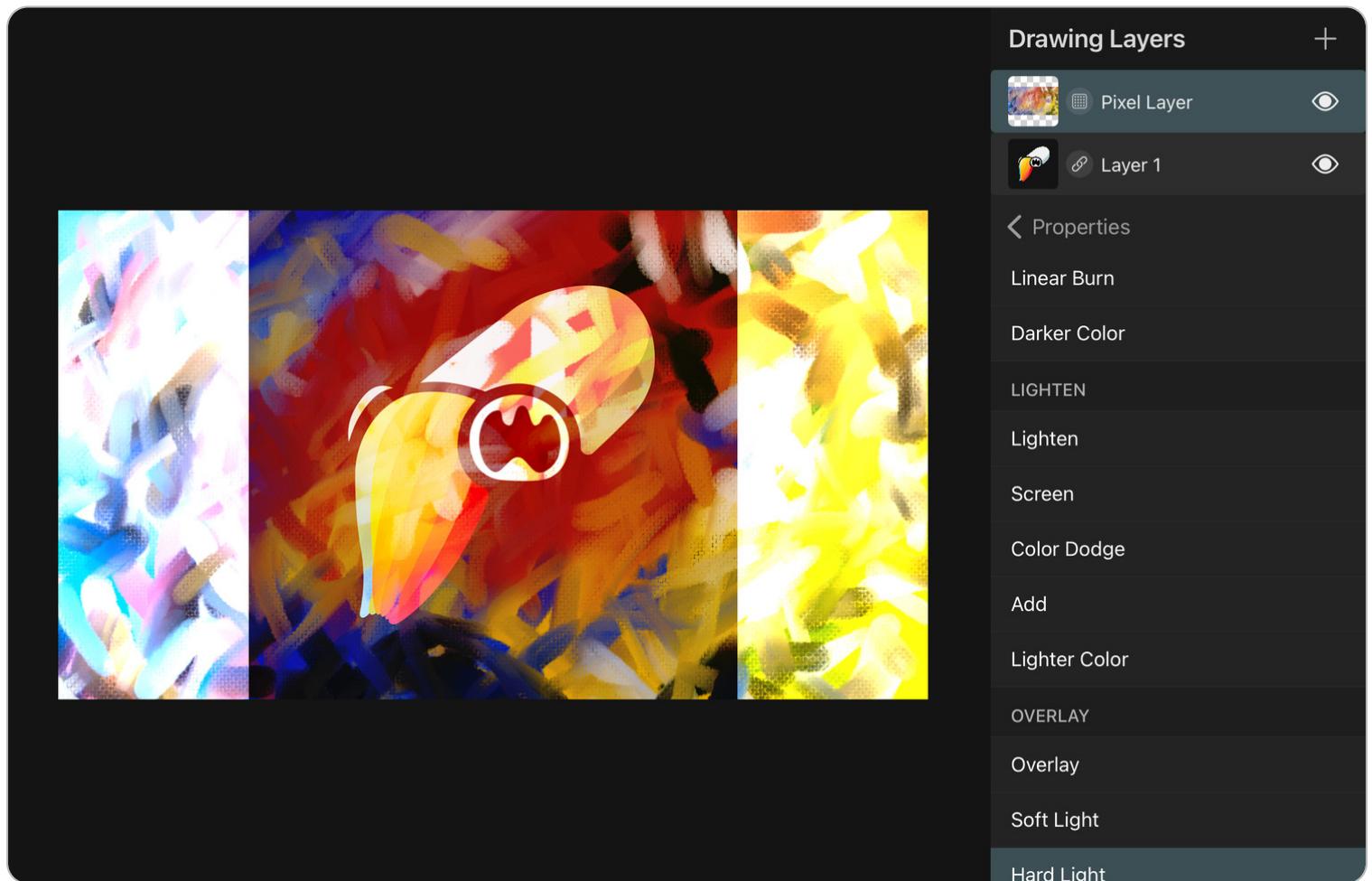
The Overlay blend mode performs Multiply blending at half strength if the bottom channel is darker than 50% gray and Screen blending at half strength if the bottom channel is lighter than 50% gray.

## Soft Light



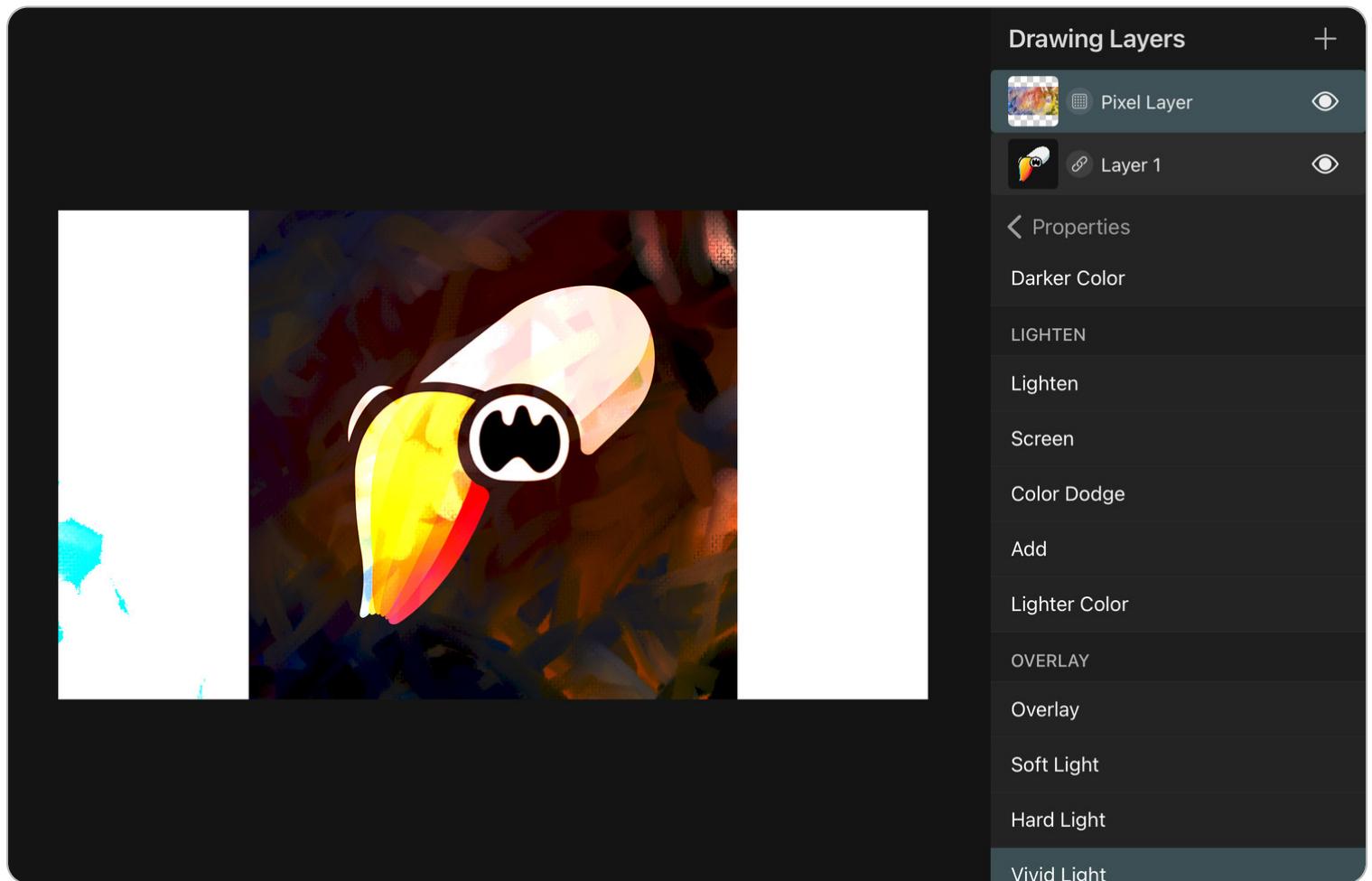
This mode darkens the colors if the top color is darker than 50% gray and lightens the colors if the top color is lighter than 50% gray.

## Hard Light



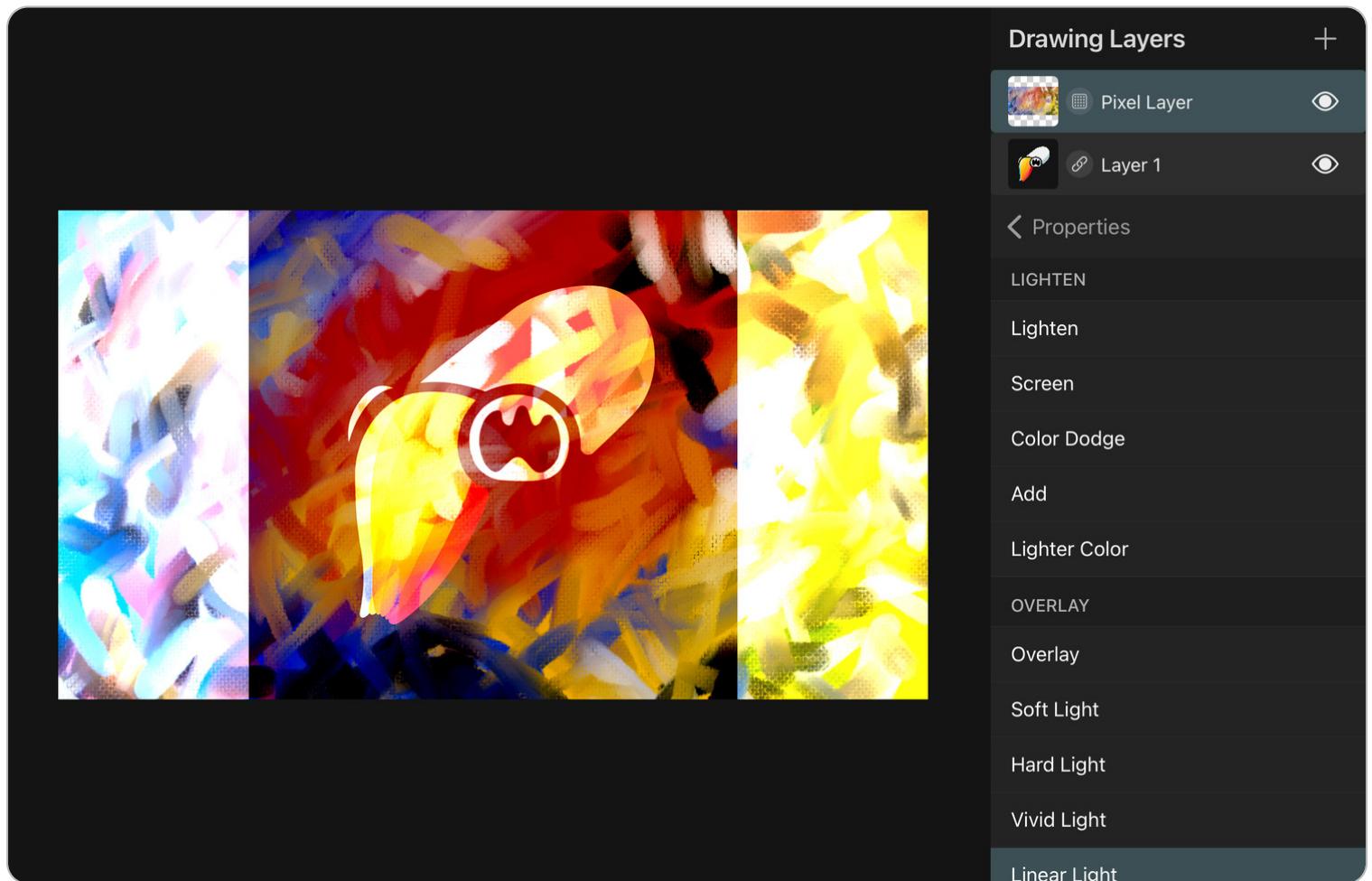
Similar to `Overlay`, but uses the colors of the top layer instead to determine whether to multiply or to screen the colors.

## Vivid Light



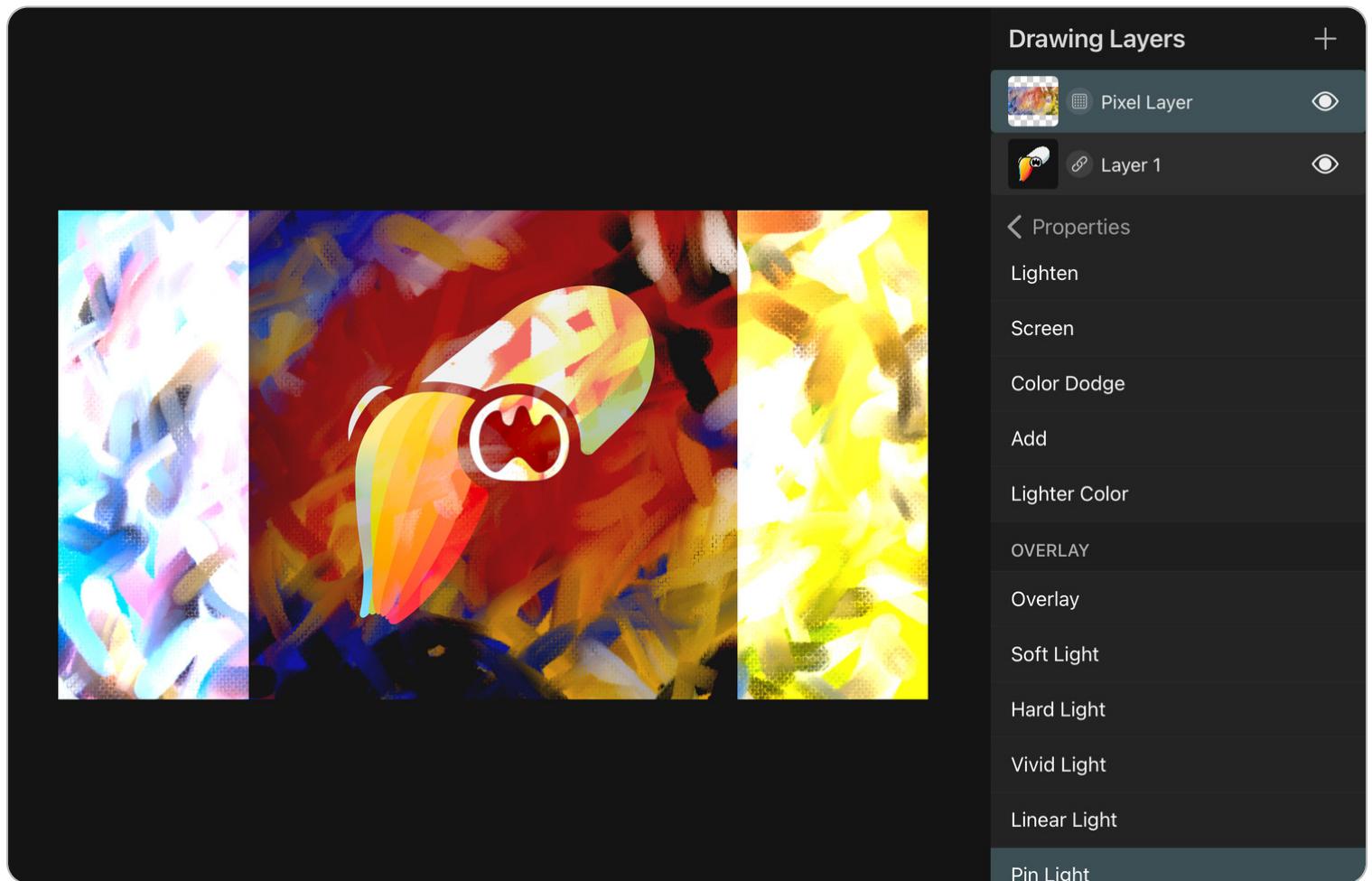
Increases or decreases the contrast depending on if the top color is darker or lighter than 50% gray.

## Linear Light



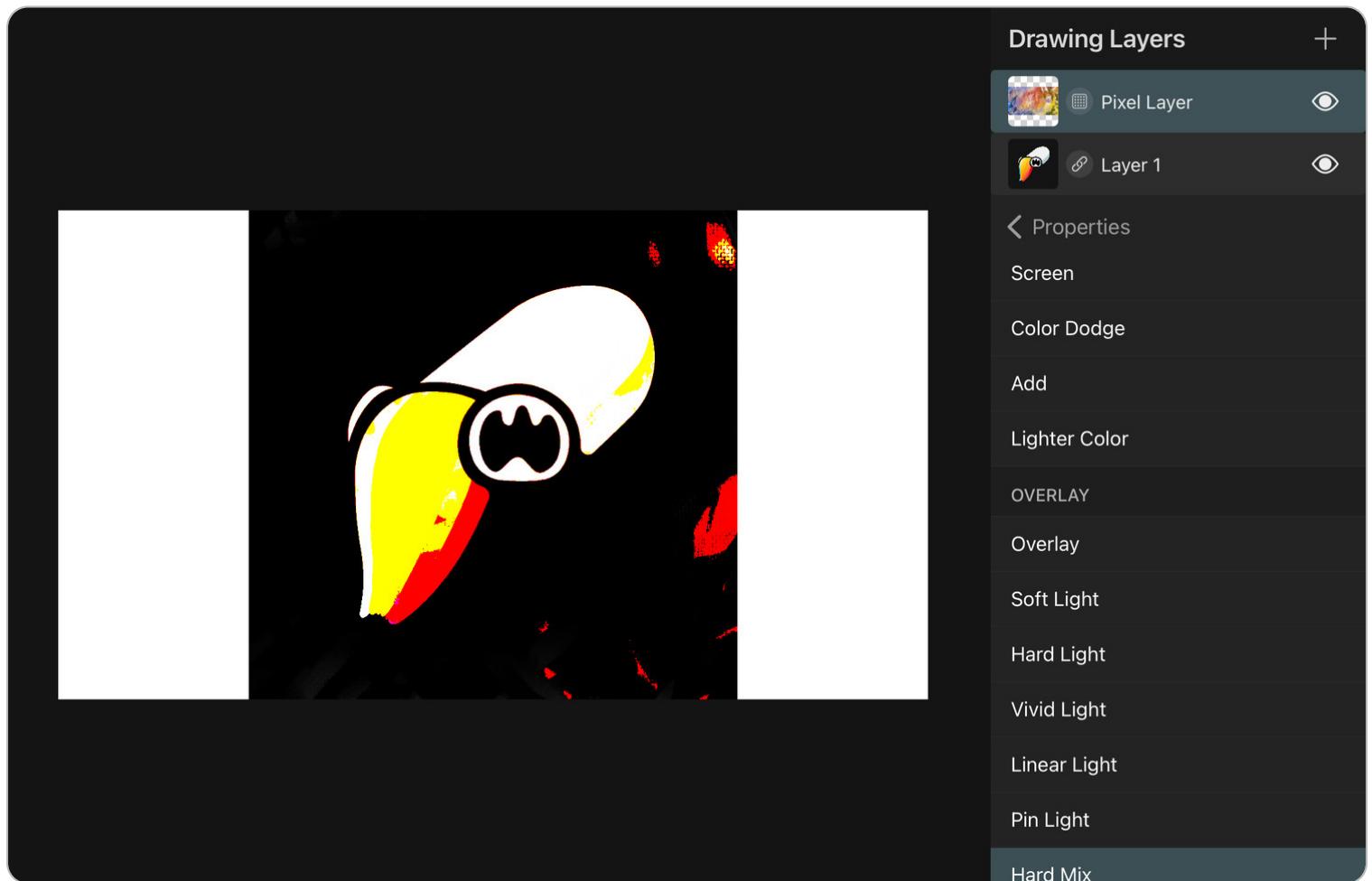
Increases or decreases the brightness depending on if the top color is lighter or darker than 50% gray.

## Pin Light



Performs the `Darken` blend mode if the top color is darker than 50% gray and performs the `Lighten` blend mode if the top color is lighter than 50% gray.

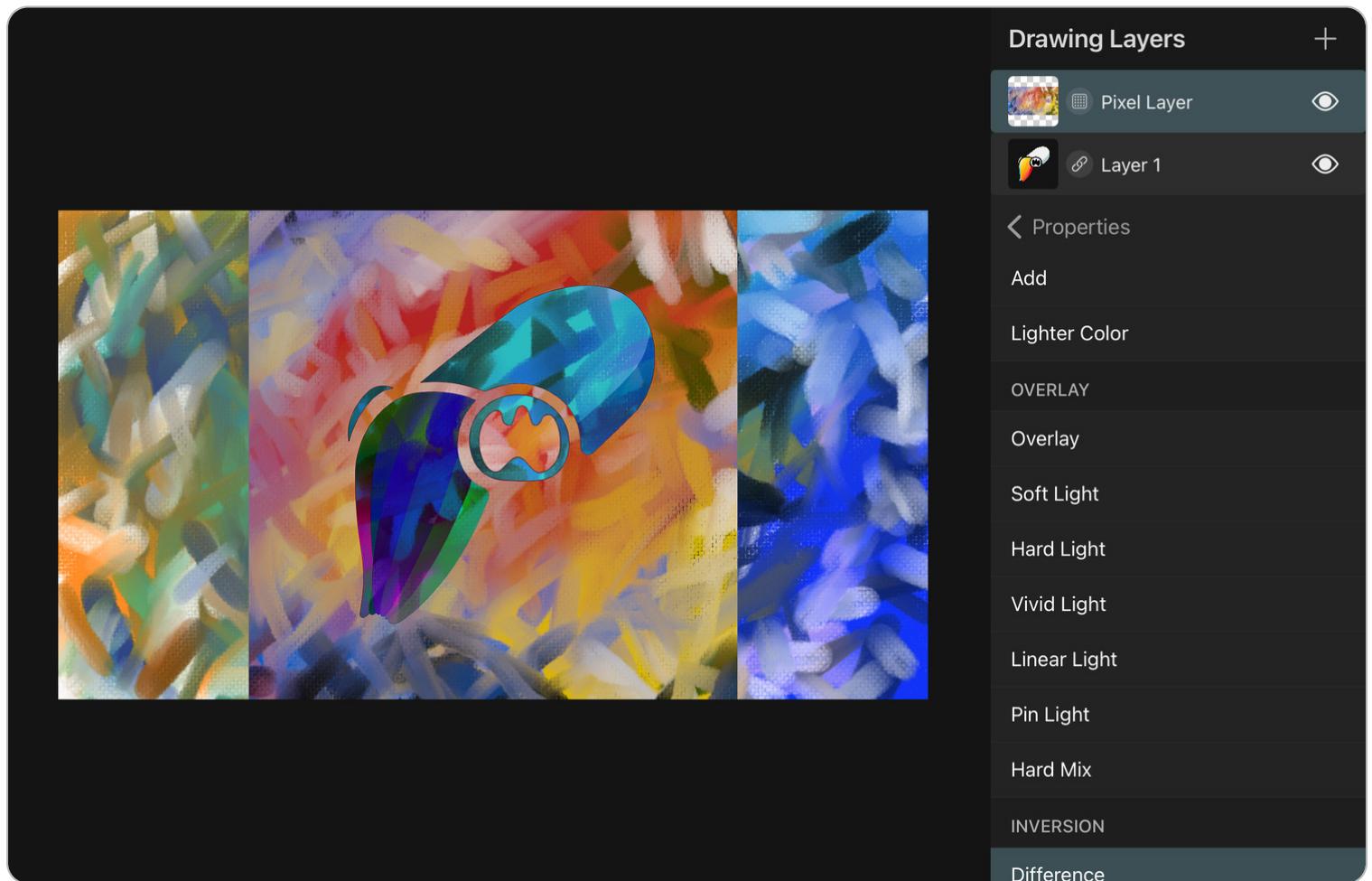
## Hard Mix



Adds the channels of the top and bottom colors together. If the resulting value in a channel is 100%, this channel is set to 100% in the result color. Otherwise, it is set to 0%.

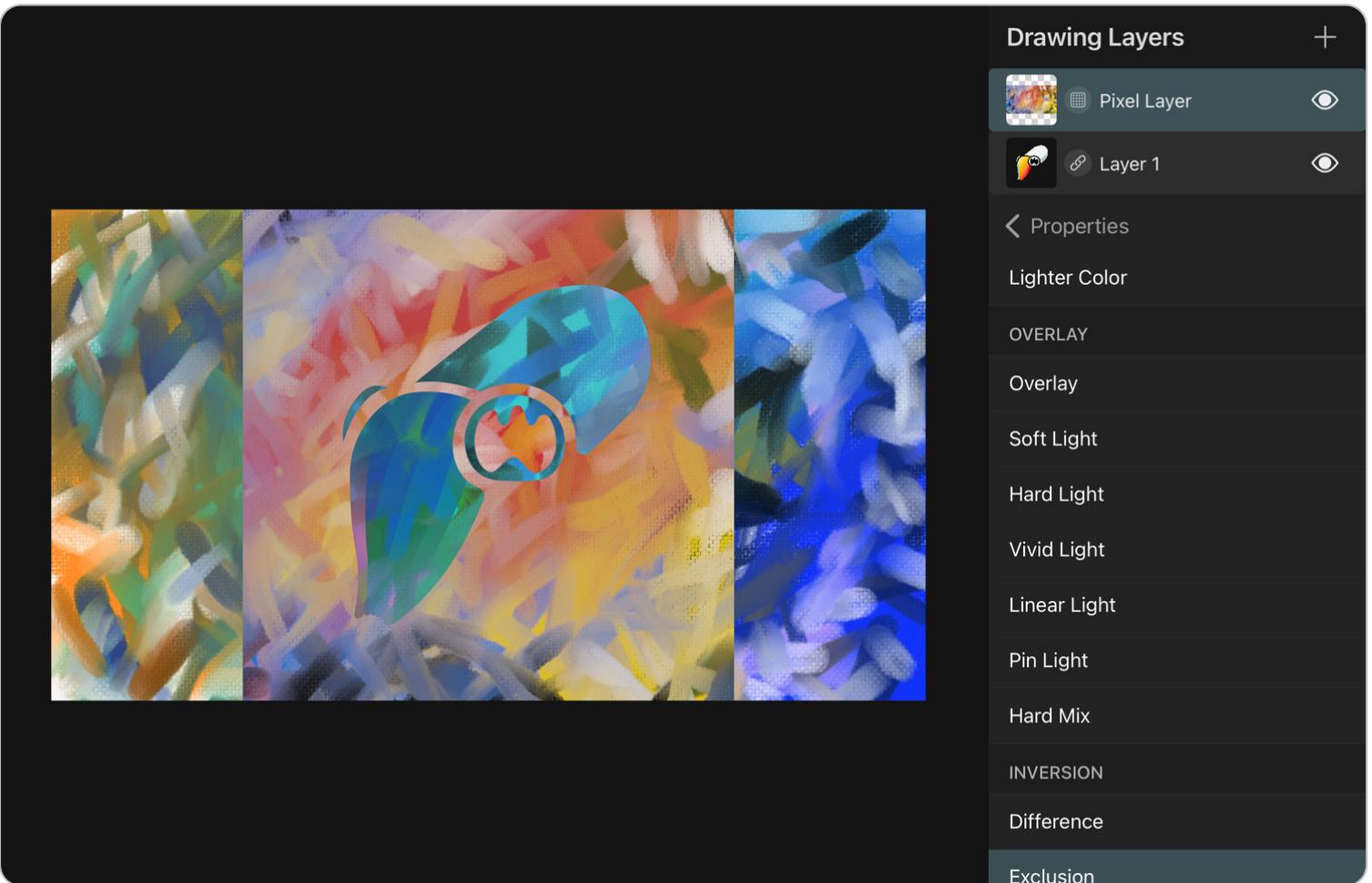
Therefore, the result color is always either, red, green, blue, black or white.

## Difference



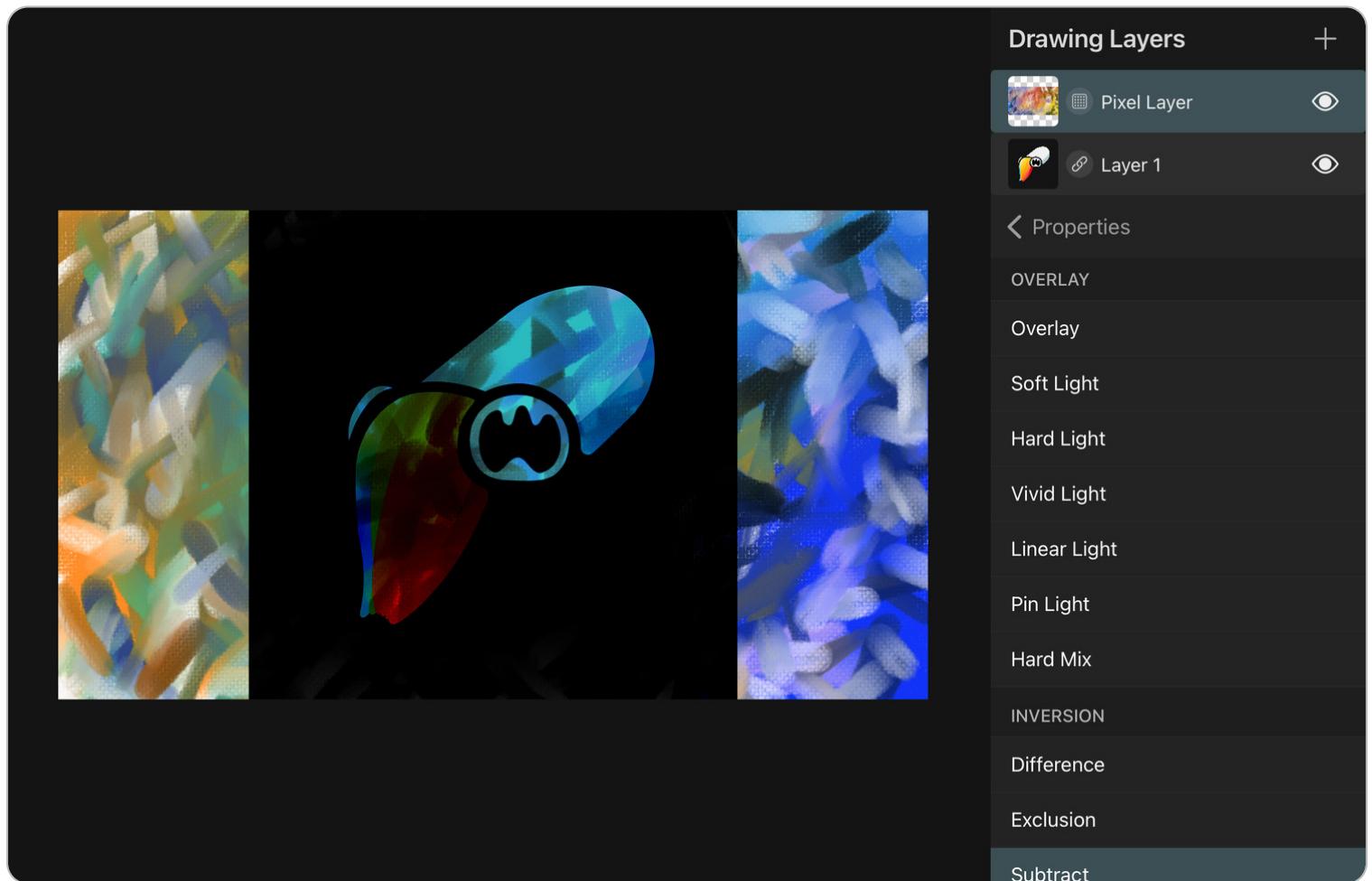
Subtracts the channel with the smaller value from the channel with the larger value for each of the three channels. Blend with white to invert the bottom color values.

## Exclusion



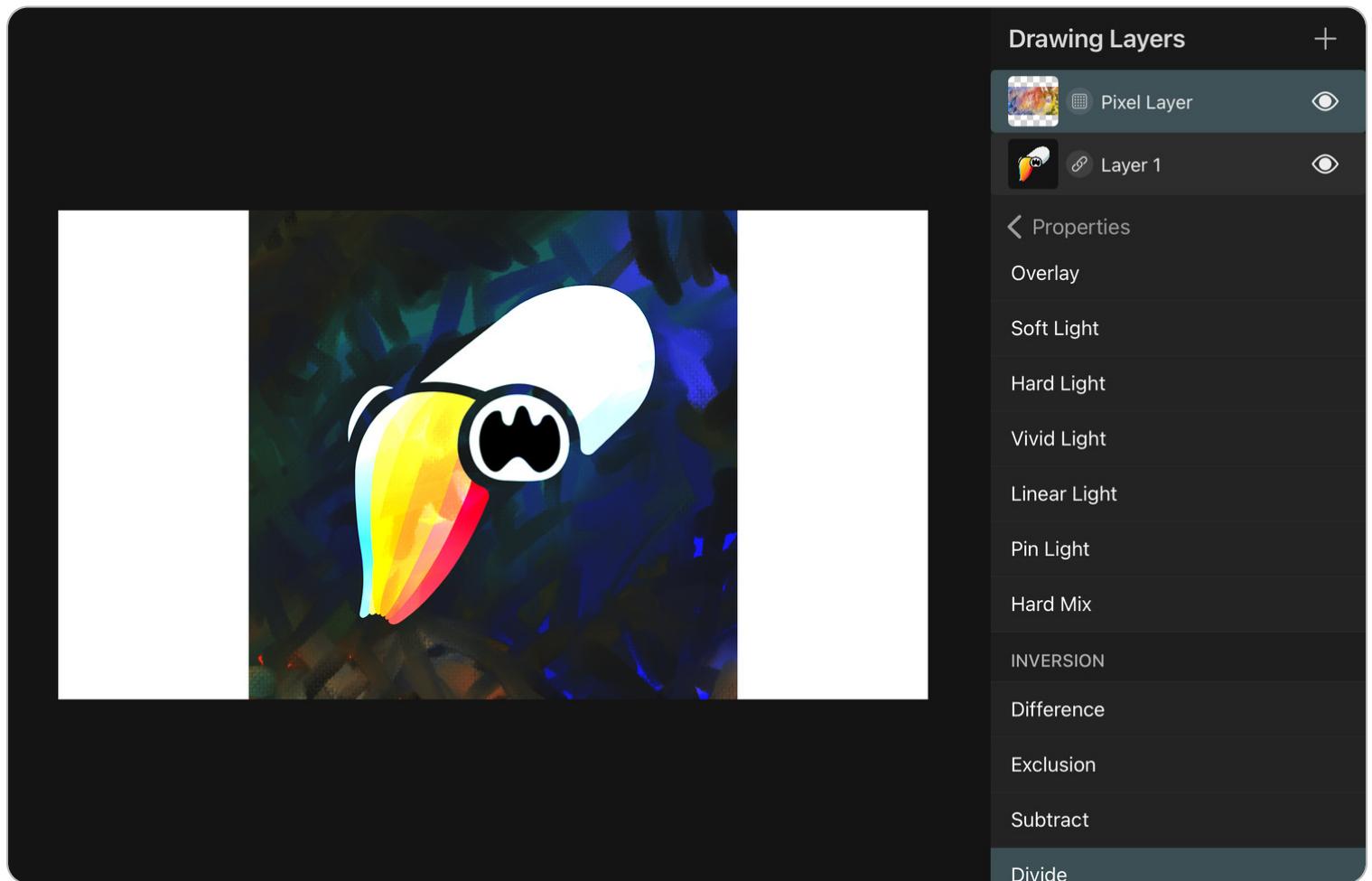
Behaves similarly to the `Difference` mode but results in lower contrast.

## Subtract



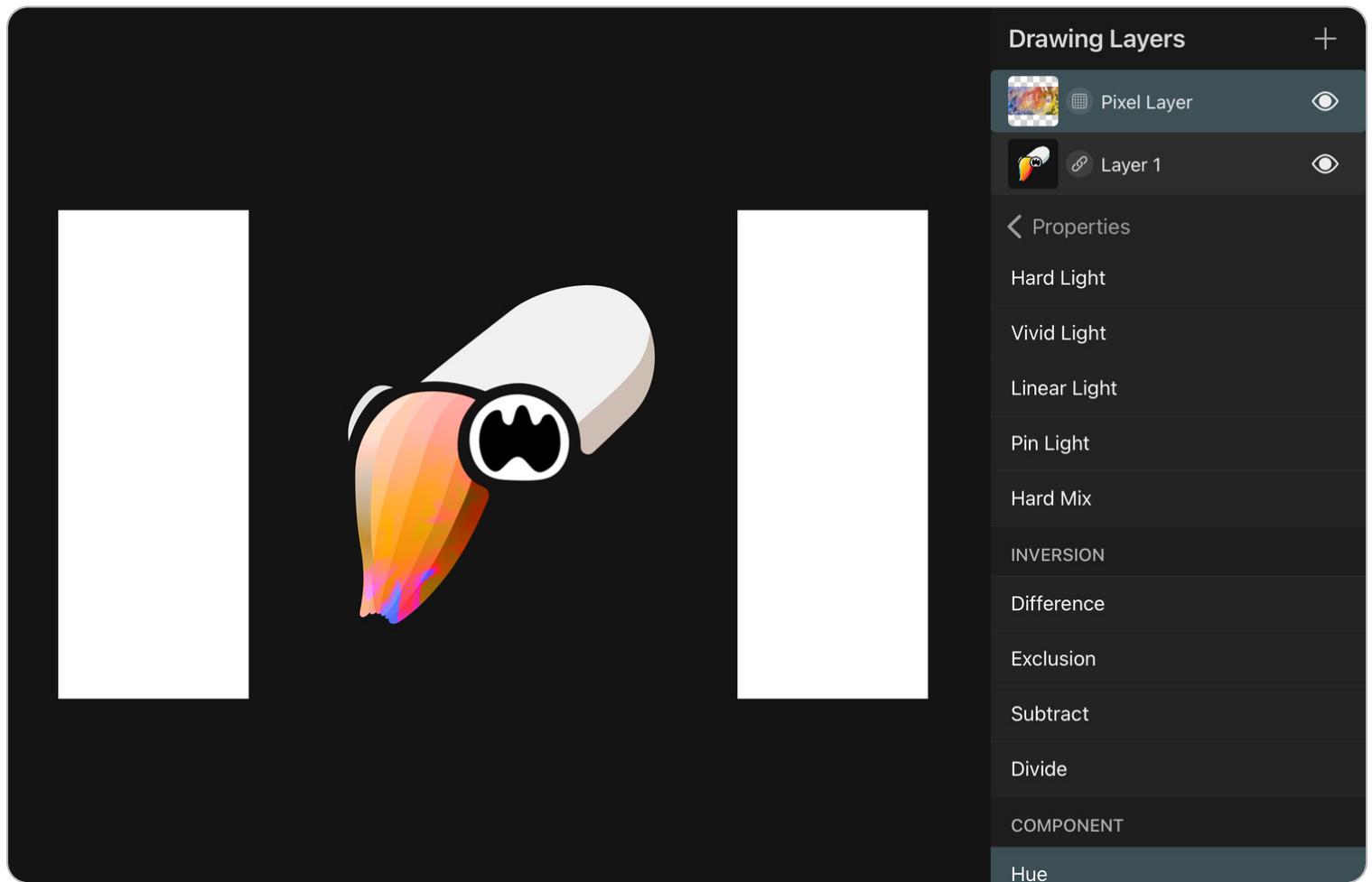
Subtracts the channels of the top color from the channels of the bottom color.  
Results less than 0 will be clamped to 0.

## Divide



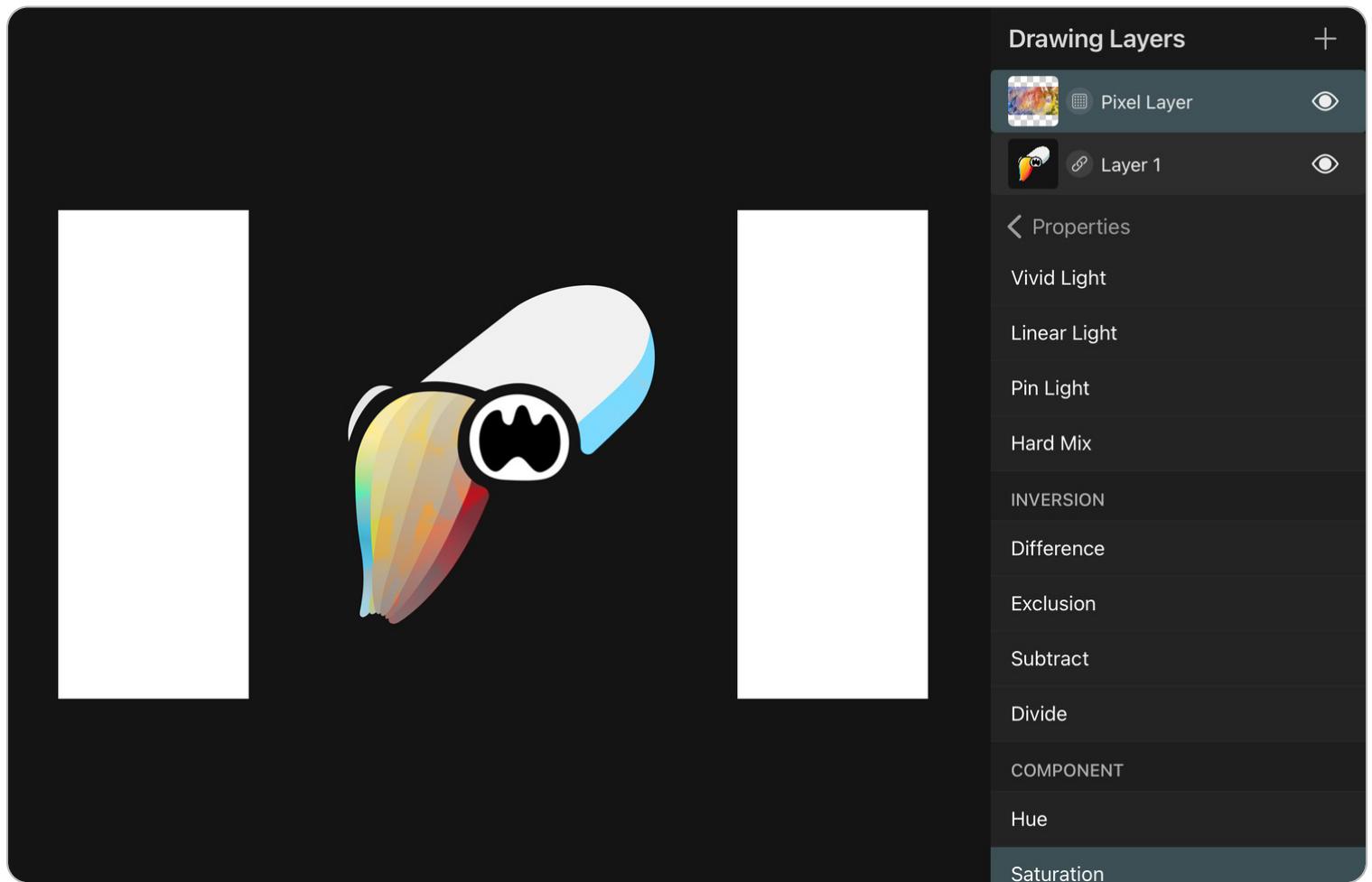
Divides the bottom color by the top color channels.

## Hue



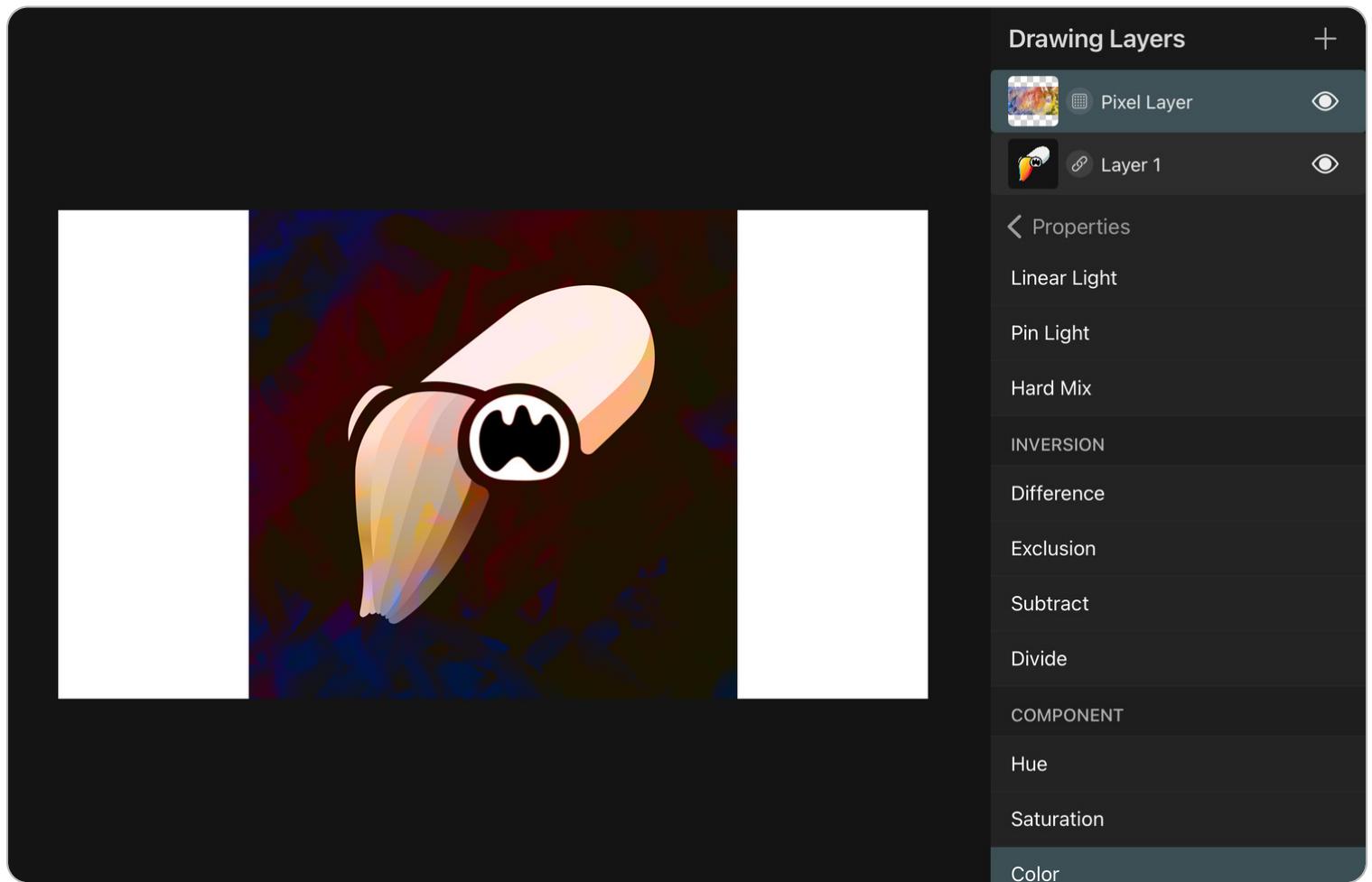
The result color uses the hue of the top color and the luminosity and saturation of the bottom color.

## Saturation



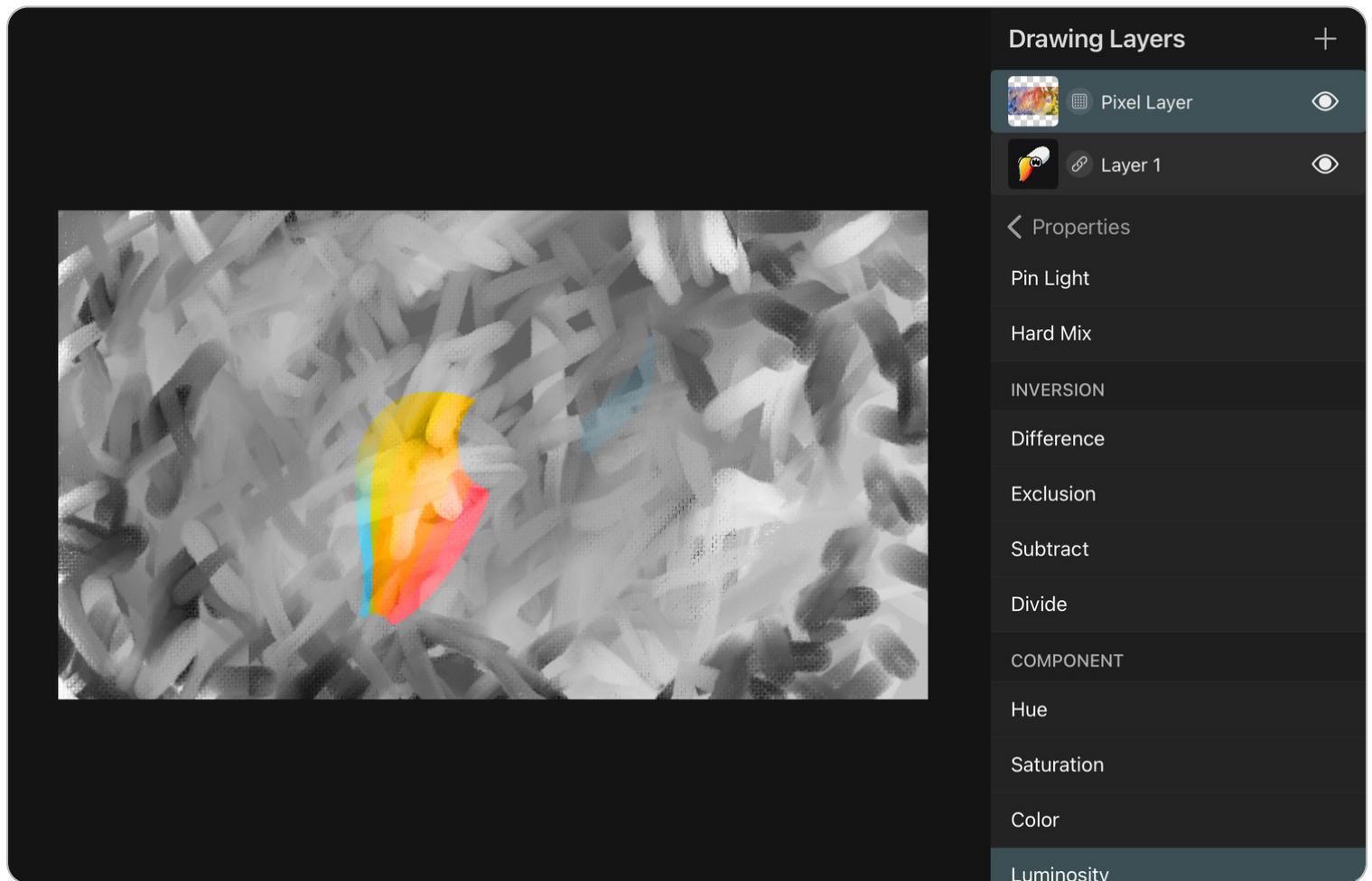
The result color uses the saturation of the top color and the luminosity and hue of the bottom color.

# Color



The result color uses the hue and saturation of the top color and the luminosity of the bottom color.

## Luminosity



The result color uses the luminosity of the top color and the hue and saturation of the bottom color.

# Overview

Keyframes allow you to define different values for layer properties at different points in time. ToonSquid will then take care of automatically animating the layer between those keyframes.

## Keyframes

Learn how to effectively use a keyframing workflow to create animations quickly without having to draw every frame separately by hand.

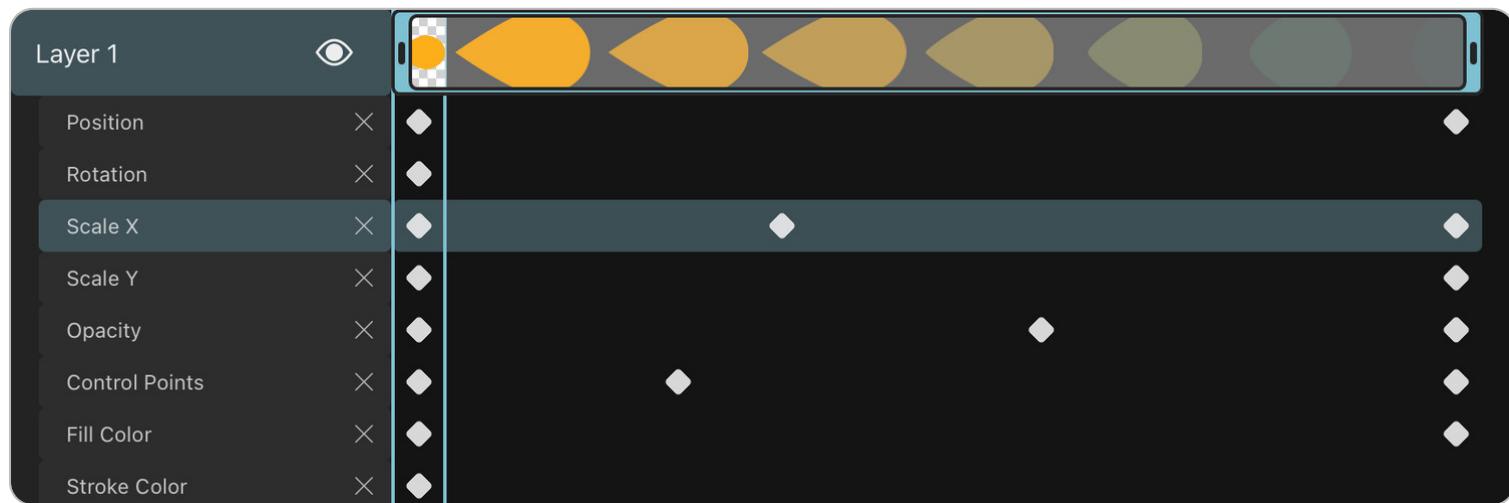
## Easing Curves

Easing curves define how the animation between two keyframes behaves. Use the customizable set of easing curve presets to create more organic motion.

# Keyframes

A keyframe is a value of a property at a specific point in time. Add keyframes to your layers to let ToonSquid automatically animate properties over time.

Many but not all layer properties support keyframes. All such properties have a keyframe on the first frame of the layer.



## Keyframing Mode



To start adding keyframes you need to switch the editor into keyframing mode. For this, tap the [keyframing button](#) in the timeline.

When the keyframing mode is enabled, the timeline shows layer properties and keyframes underneath the selected layer. You can [configure the editor](#) to also show keyframes in all layers in the timeline at once instead of just for the selected layer.

If an animation layer is selected, only the keyframes of the selected drawing layer inside the selected drawing as shown.

Keyframes are visualized in the timeline with a rhombus icon.

## Automatic Keyframe Insertion

By default, new keyframes are automatically inserted when a property is edited if either

- the [keyframing mode](#) is enabled
- the property already has more than 1 keyframe

Automatic keyframe insertion can be disabled in the [settings](#).

### Note

By default, the keyframing mode does not just show you the keyframes of a layer, but also changes the editing behavior regarding automatic keyframe insertion, so make sure that you don't keep this mode enabled unintentionally.

## Manual Keyframe Insertion

You can always manually add keyframes to a property using the following steps.

1. [Select](#) one or more properties.
2. Select the frame on which the keyframes should be added.
3. Tap the [Add Keyframe](#) button at the bottom of the timeline.

## Delete Keyframes

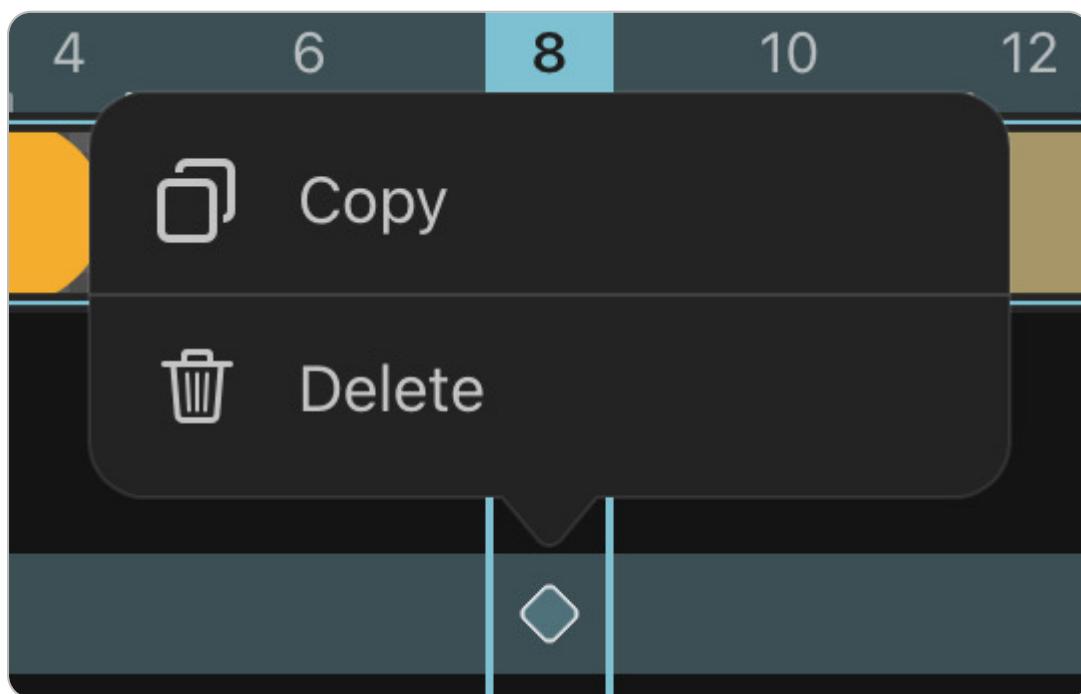
Use the following steps to delete keyframes.

1. [Select](#) one or more keyframes.
2. Tap the [Delete Keyframe](#) button at the bottom of the timeline.

Alternatively, select a keyframe in the timeline, tap it again and select the [Delete](#) action.

The first keyframe of properties cannot be deleted.

## Copy and Paste



All keyframes of a property can be copied using the [Copy](#) action. Paste the copied data on a different property to overwrite its existing keyframes.

You can also copy a selection of keyframes using the [Copy](#) action on the keyframes.

Pasting the selected keyframes maintains their relative distances between each other. Pasting a keyframe on an existing keyframe overwrites the existing values.

## Select Properties and Keyframes

Properties and keyframes can be selected by tapping them once. Selected properties and keyframes are highlighted in the timeline.

Multiple properties can be selected just like layers by swiping them to the right and then letting go. Multiple keyframes can be selected similarly to drawings using a

double tap and drag gesture.

## Move Keyframes

Keyframes can be moved using drag and drop, which also works for multiple selected keyframes at once. Similarly to when multiple keyframes are copied and pasted, dragging them also maintains their distance between each other (i.e. their timing).

Keyframes cannot be dropped onto frames that already have other keyframes, and they cannot be dropped in other properties either.

## Property Visibility

By default, all keyframeable properties of a layer are shown in the timeline. You can hide the ones you don't want to see using the `X` button on the property.

### Note

It is important to remember that keyframes are still automatically added for hidden properties as well. If you find this behavior unexpected, you can disable it in the [settings](#).

## Multidimensional Properties



Some properties (such as Position and Scale) are multidimensional, which means that they are in reality made up of two properties - one for the x-axis and one for

the y-axis.

Such multidimensional properties can be split into their separate dimensions using the [Separate X and Y property action](#).

They can then be collapsed again using the [Collapse dimensions](#) action, but this is only possible if both x and y properties have keyframes on all the same frames. When you edit a collapsed multidimensional property, your edits (e.g. regarding [easing curves](#)) are automatically applied to both of the underlying x and y properties.

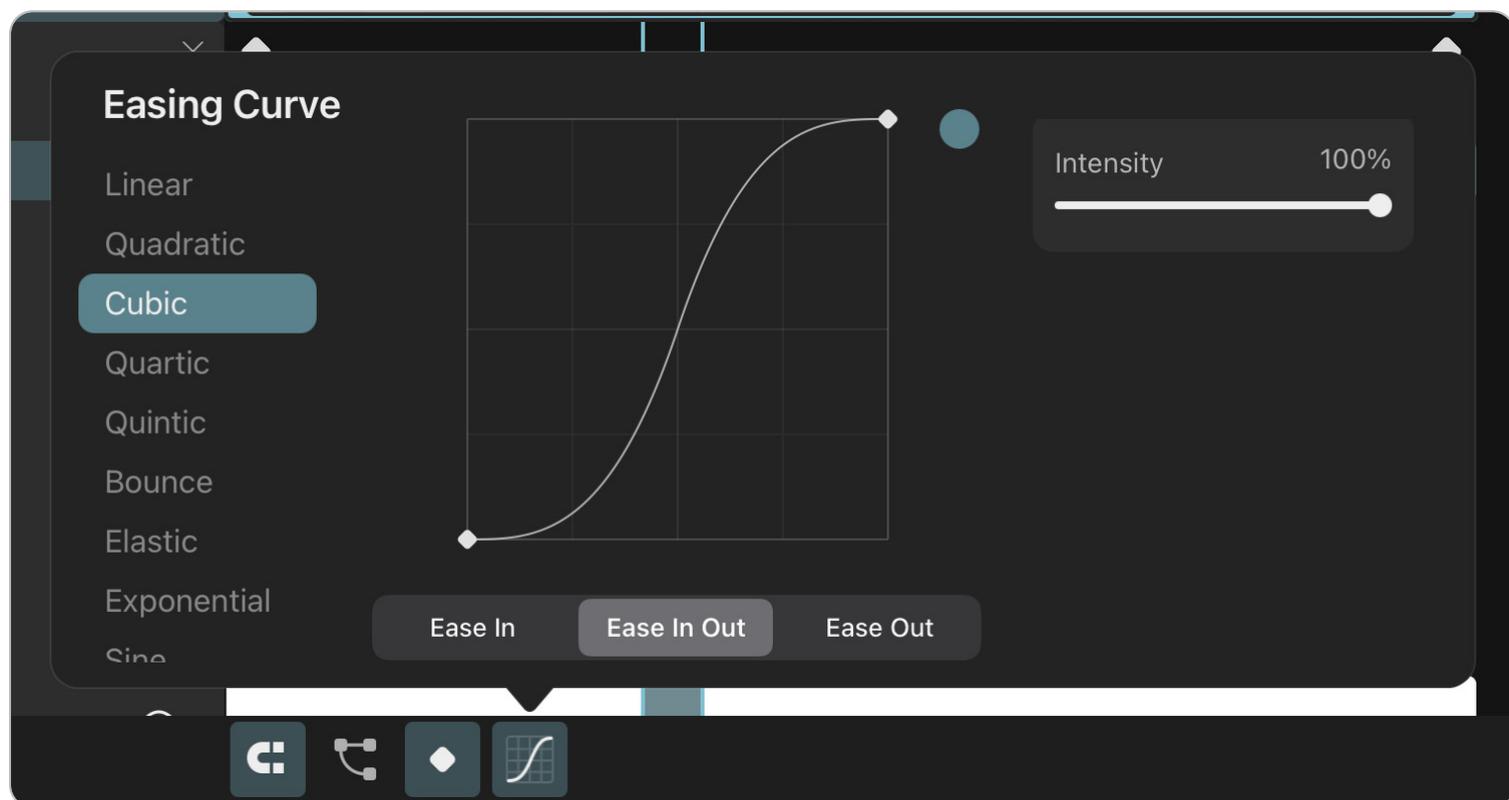
# Easing Curves

Easing curves control the interpolation behavior of the animation of a property between two keyframes. Every keyframe has an associated easing curve which controls the easing from that keyframe to the next.

Note that if the start and end keyframe values are the same, the easing curve has no effect, since it only controls the interpolation percentage over time.

## Easing Curve Editor

When the [keyframing mode](#) is enabled and a property is selected, the easing curve button will be shown next to the keyframing mode button, which you can use to open the easing curve editor for the easing curve of the most recent keyframe of that property.



## The Easing Curve Graph

The easing curve editor shows a graph of the current easing curve. It has the time on the horizontal axis and the values of the previous and next keyframes on the vertical axis.

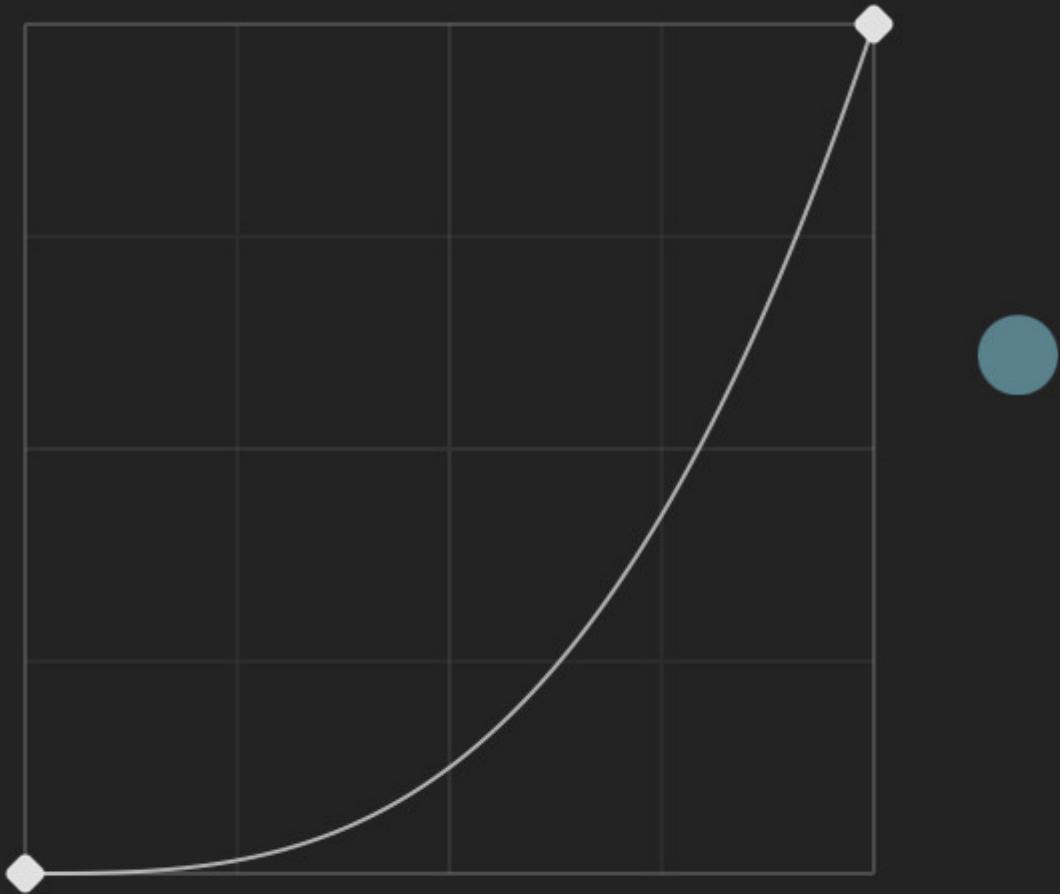
The circle to the right of the graph previews the behavior of the current easing curve if it were applied to two position keyframes.

## Easing Mode

Every easing curve has a mode which can be one of the following. The mode controls the basic shape of the curve

### Ease In

Slow at the start - fast at the end.



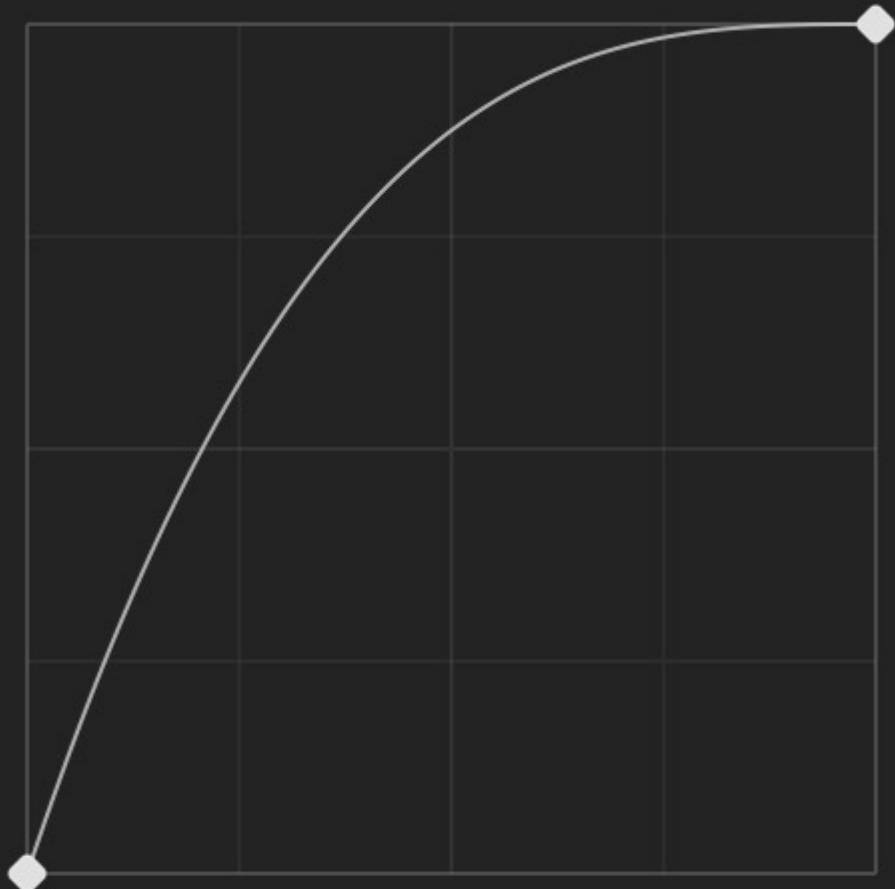
Ease In

Ease In Out

Ease Out

**Ease Out**

Fast at the start - slow at the end.



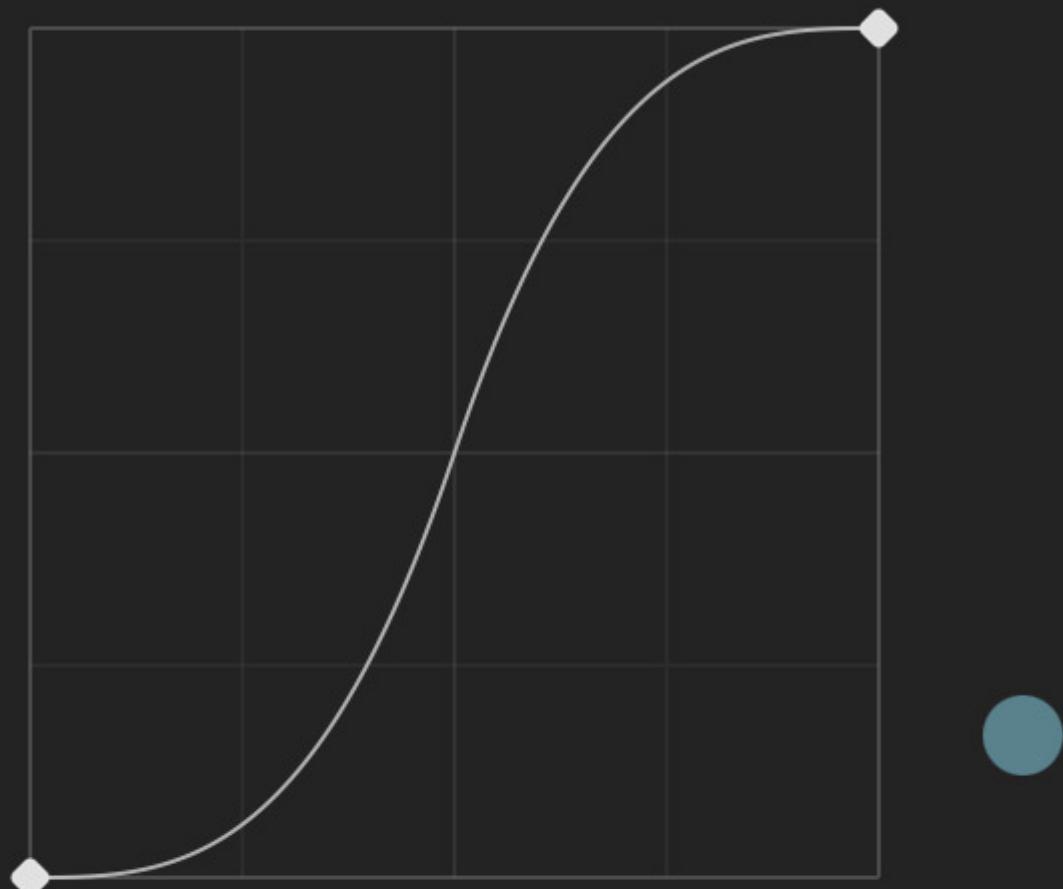
Ease In

Ease In Out

Ease Out

## Ease In Out

Slow at the start - fast in the middle - slow at the end.



Ease In

Ease In Out

Ease Out

## Presets

ToonSquid provides a variety of customizable easing curve presets that you can pick to quickly get the easing behavior that you are looking for.

### Linear

## Easing Curve

Linear

Quadratic

Cubic

Quartic

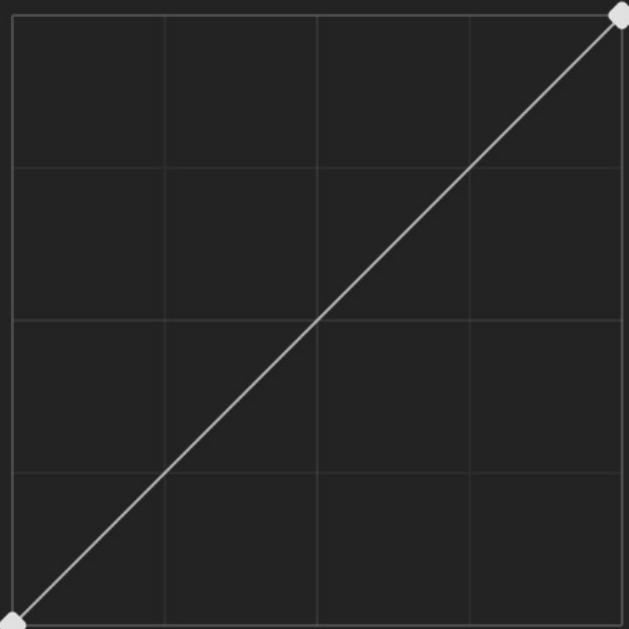
Quintic

Bounce

Elastic

Exponential

Sine



Ease In

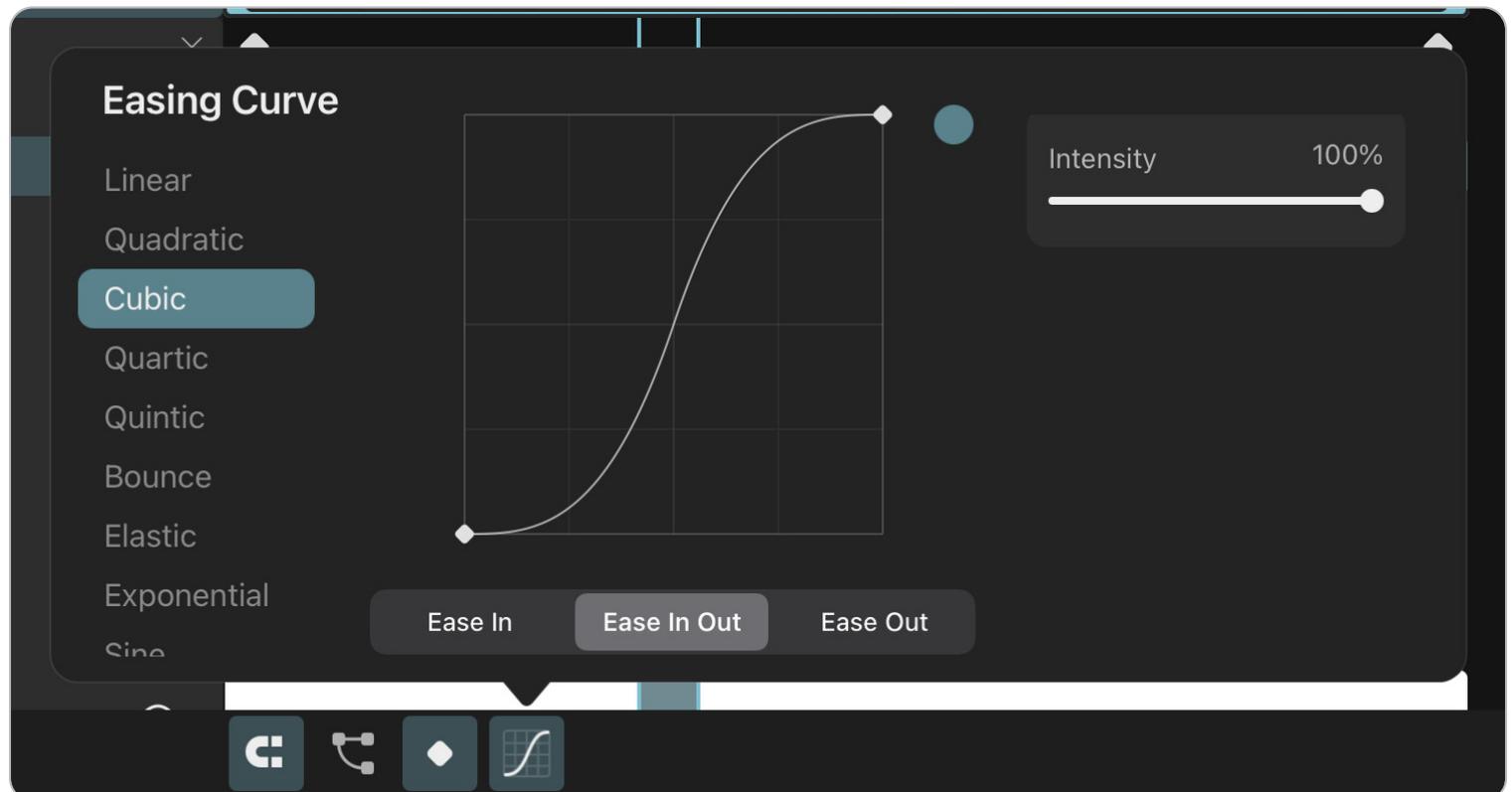
Ease In Out

Ease Out



This is the default easing curve. It interpolates at a constant speed from the start to the end value.

## Polynomial (Quadratic / Cubic / Quartic / Quintic)

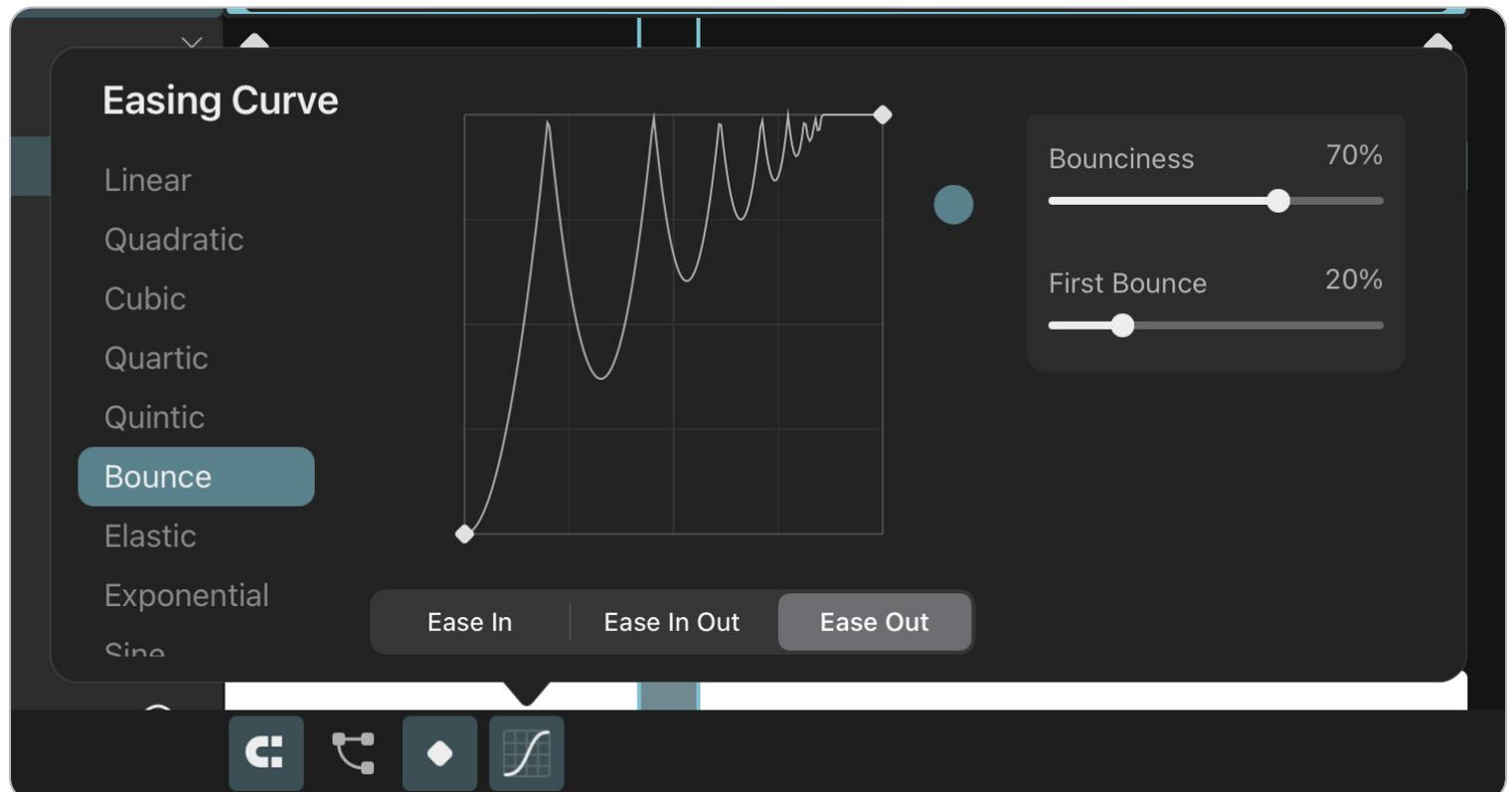


These presets use a polynomial function as the basis for the easing curve. The higher the polynomial degree, the more extreme the difference between the slow and fast segments of the curve.

## Intensity

The polynomial easing curves provide an intensity setting to fine-tune the curve. Setting the intensity to 0 results in a linear easing curve.

## Bounce



This curve approximates the behavior of a bouncing ball. It is typically used with Ease Out mode.

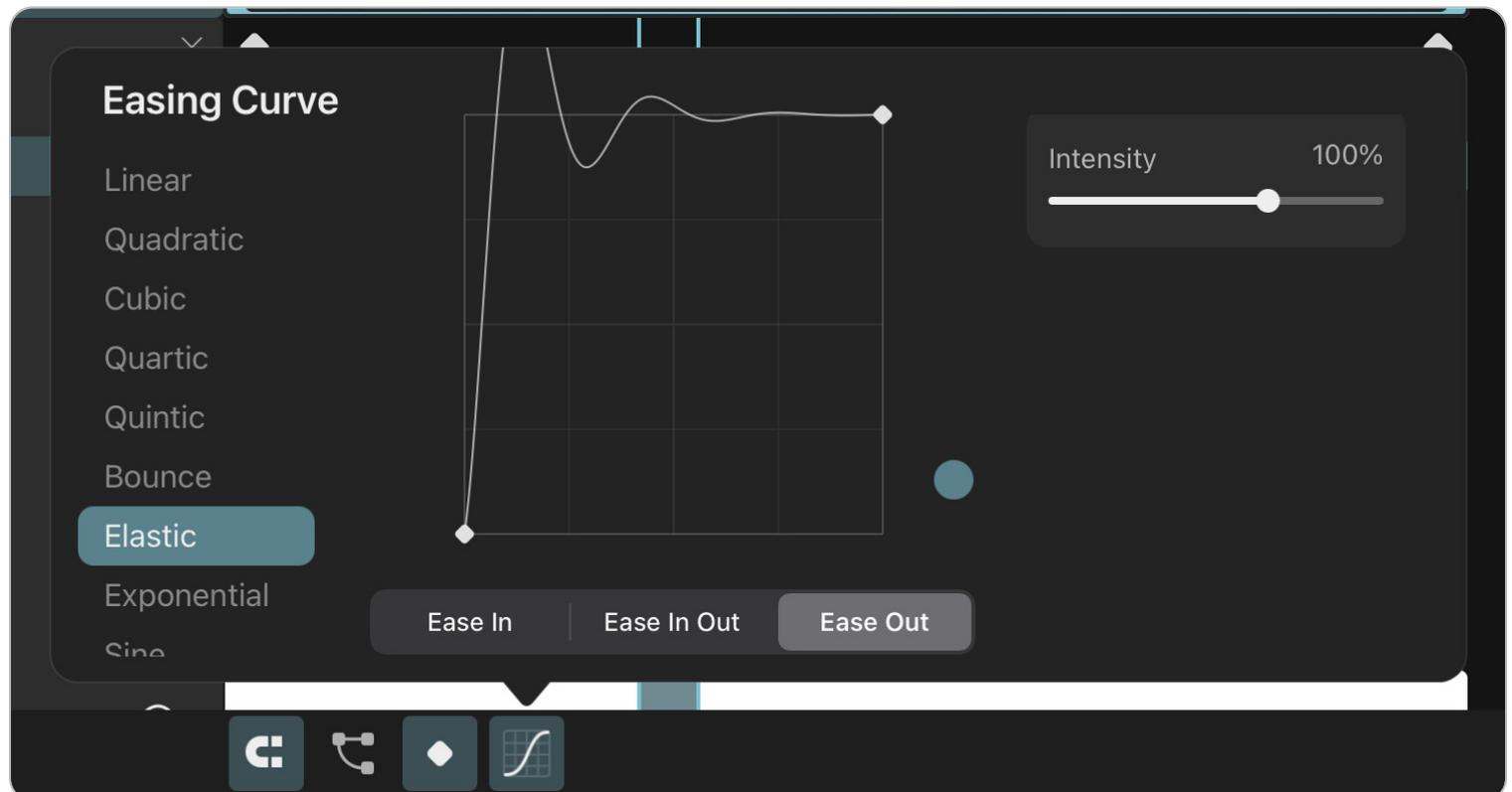
## Bounciness

How far the value should bounce back after each bounce.

## First Bounce

How far down the time axis the first bounce should occur. This effectively squashes and stretches the curve along the time axis.

## Elastic



This easing curve models damped harmonic motion. It overshoots and oscillates around the start and/or target values and is typically used with the Ease Out mode.

## Intensity

It provides an intensity slider to control the amount of overshoot.

## Exponential

# Easing Curve

Linear

Quadratic

Cubic

Quartic

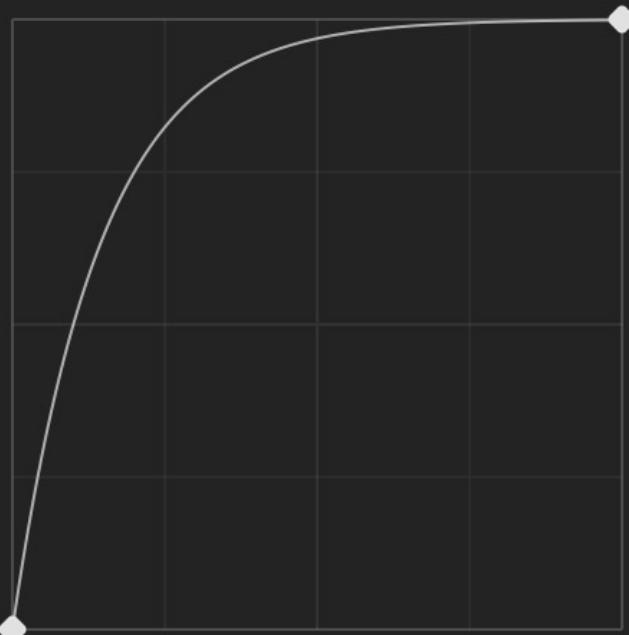
Quintic

Bounce

Elastic

Exponential

Sine



Ease In

Ease In Out

Ease Out



With this preset, an exponential function forms the basis of the curve. It is similar to polynomial curves in its behavior but more extreme.

## Sine

# Easing Curve

Quadratic

Quintic

Bounce

Elastic

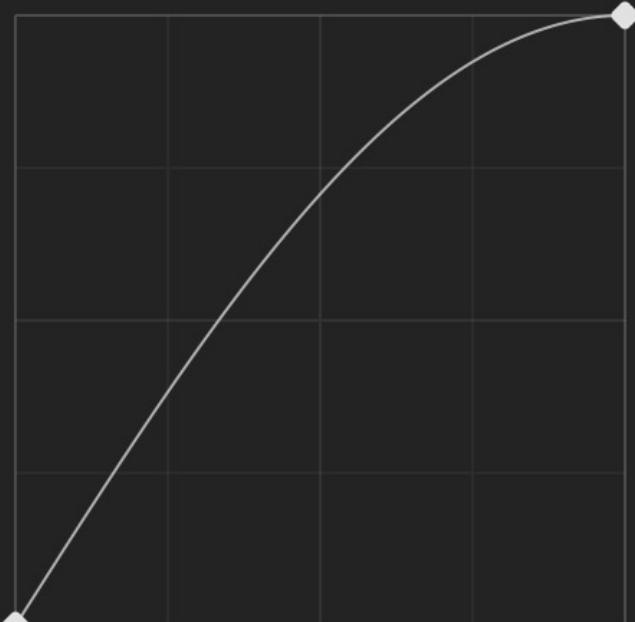
Exponential

Sine

Circular

Back

Hold



Ease In

Ease In Out

Ease Out



A partial sine curve forms the basic shape of the easing curve.

## Circular

# Easing Curve

Cubic

Quartic

Quintic

Bounce

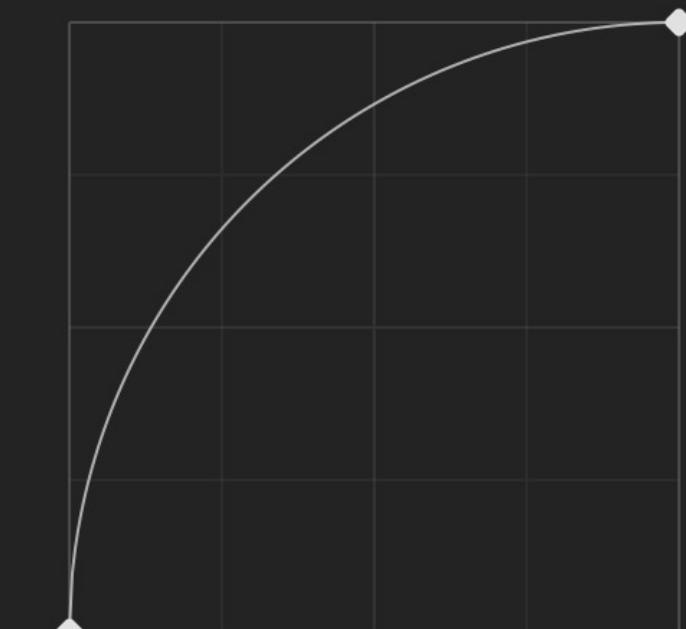
Elastic

Exponential

Sine

**Circular**

Back



Ease In

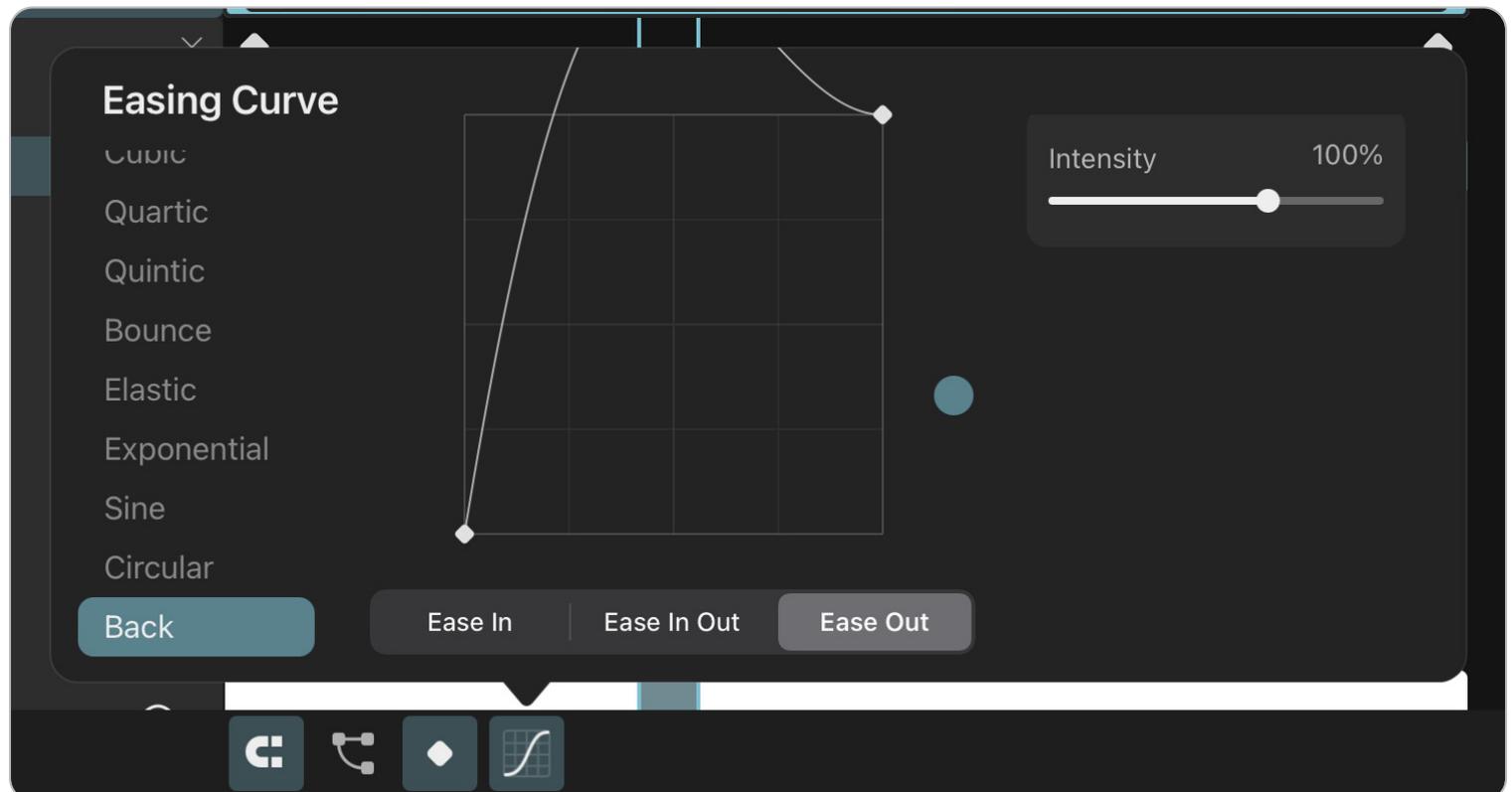
Ease In Out

Ease Out



A square root function forms the basic shape of this easing curve.

## Back



This easing curve behaves similarly to `Elastic` but only overshoots once and has no harmonic motion.

## Intensity

The intensity slider controls the amount of overshoot.

## Hold

## Easing Curve

Quadratic

Quintic

Bounce

Elastic

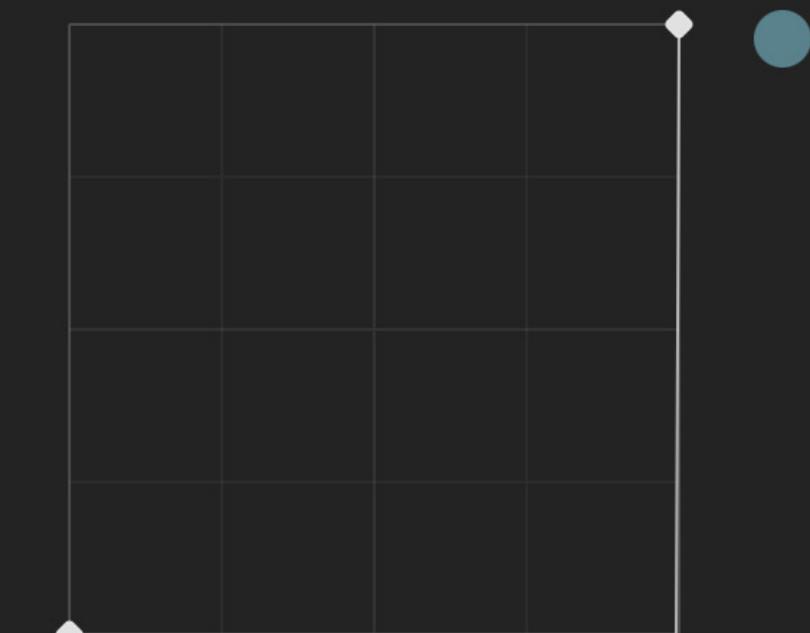
Exponential

Sine

Circular

Back

Hold



Ease In

Ease In Out

Ease Out



The value of the keyframe stays constant until the next keyframe, where it then jumps to the new value.

# Overview

ToonSquid's powerful state-of-the-art brush engine offers fully customizable and shareable brushes that take full advantage of the iPad Pro's 120Hz display.

## Brush Tool

Learn how to draw, erase and smudge with brushes in ToonSquid using the brush, eraser and smudge tools.

## Vector Brushes

Use vector brushes to draw brush strokes that have perfectly sharp edges, no matter how far you scale them up afterwards.

## Brush Editor

The brush editor is your interface to the many customizable brush settings of every ToonSquid brush. Modify the existing brushes or create your own from scratch and share them with others.

## Brush Settings

Explore every available brush setting in detail and become a master at creating your own custom brushes.

## Brush Textures

Every brush uses textures to generate a unique look and feel. Learn how to change brush textures and even import your own.

# Import and Export

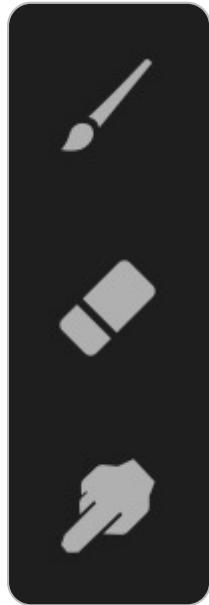
ToonSquid brushes and brush collections can be easily shared with others by exporting them from the app. ToonSquid also allows you to import your existing collection of Adobe Photoshop® brushes.

## Brushes

# Brush Tool

ToonSquid provides different variations of the brush tool that allows you to create hand-drawn artwork using ToonSquid's powerful digital brushes.

Select the brush tool to draw, the eraser tool to erase and the smudge tool to smear pixel layer contents using brushes.



While ToonSquid brushes can take full advantage of Apple Pencil, it is not required to use them. However, certain brush properties (such as pressure-sensitive controls) will not work when you use your finger instead of Apple Pencil to draw.

## Drawing

Touch and drag on the canvas to draw brush strokes with the selected brush. A drawing and layer for the brush to draw on are created automatically if needed, so you can just select a frame in the timeline and start drawing.

## Pixel Brushes

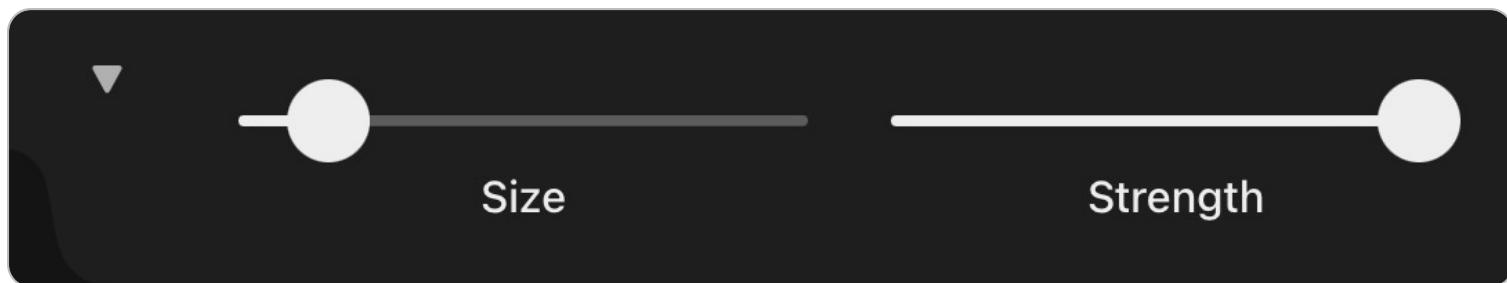
Most ToonSquid brushes are pixel brushes, which means that they draw rasterized brush strokes into pixel layers. They can therefore only draw within the region

defined by the resolution of the pixel layer. The allowed painting region is automatically visualized with a rectangle if necessary.

Pixel brushes can be used to achieve various beautiful brush stroke effects, for example using the [wet mixing](#) settings and by choosing detailed brush textures. Their downside is that their brush strokes are rasterized at the fixed resolution of the pixel layer, so you cannot later scale up the layer without the drawing looking pixelated or blurry.

All ToonSquid bushes can be switched into vector mode to draw vector strokes instead, which have no fixed resolution and are sharp at all scales. Learn more about vector brushes on the [next page](#).

## Tool Options



### Size and Strength Sliders

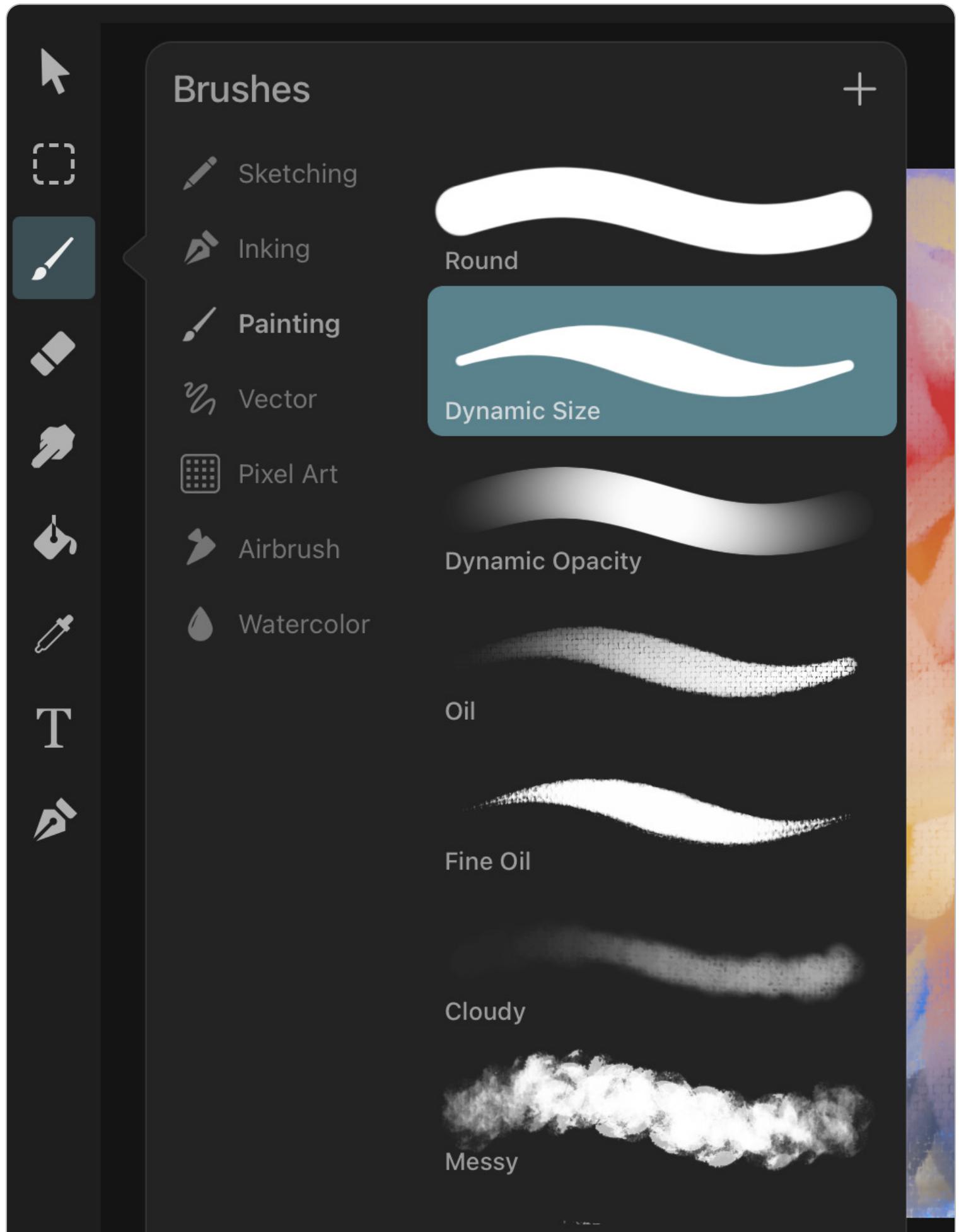
Use these two sliders to change the size and strength of the currently selected brush. A preview of the new size or strength is shown while you drag the slider.

The meaning of "strength" depends on the context. Most commonly, it just controls the overall opacity of the brush stroke. In the smudge tool, it controls the strength of the smudging.

Your most recent size and strength settings are remembered for each brush and are automatically applied when you switch brushes.

## Brush Library

Tap the brush tool button again to see the brush library, where you can select a brush by tapping it once.



## Edit brush

Brushes are organized into brush collections. You see the list of collections in your library on the left. ToonSquid comes with various default brush collections for different types of painting.

The brushes in the selected collection are shown in the list on the right. The brushes inside a collection (and also the collections themselves) can be reordered using drag and drop. Drag and drop can also be used to move brushes into another collection.

## Add Brushes

You can add a new brush or a new collection with the + button at the top. This is also where you can import existing ToonSquid brush files and collections into the app.

## Customization

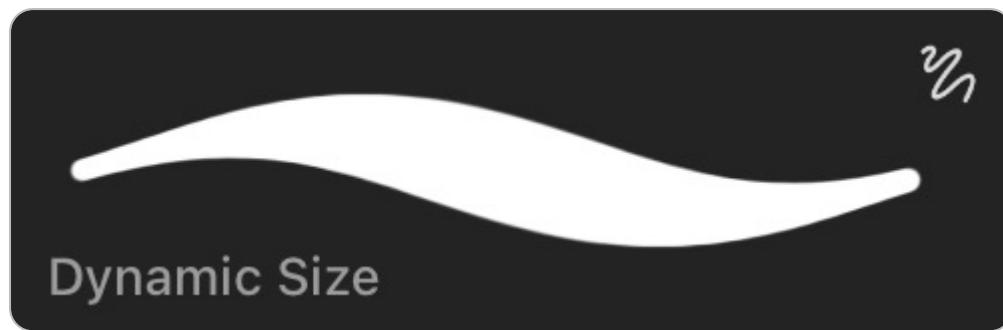
ToonSquid brushes have many customizable settings which empower you to create a large collection of custom brushes that perfectly fit your needs. Select a brush and tap the Edit brush button at the bottom of the brush library to start editing its settings in the brush editor.

# Vector Brushes

While pixel brushes can create strokes with lots of intricate details and textures, the final drawing always exists at a fixed resolution. Scaling up brush strokes of pixel brushes makes them look blurry or pixelated.

Vector brushes, on the other hand, create vector shapes as their brush strokes, which remain sharp when viewed at any scale. These vector brush strokes are stored in vector layers.

ToonSquid comes with a default vector brush collection containing some dynamic and high-quality vector brushes. Vector brushes are highlighted in the brush library by a squiggle next to the brush.



## Creating Vector Brushes

Every brush can be turned into a vector brush by simply enabling `Vector Mode` in the brush settings.

When doing this, remember that vector brushes with simple shapes work best. Furthermore, vector brush strokes all have well-defined borders and the same opacity everywhere, so they don't support brush textures with soft edges very well.

## Eraser

The eraser tool automatically puts the selected brush into the correct mode (pixel or vector mode) based on the selected layer, so you can just pick a brush and start erasing immediately.

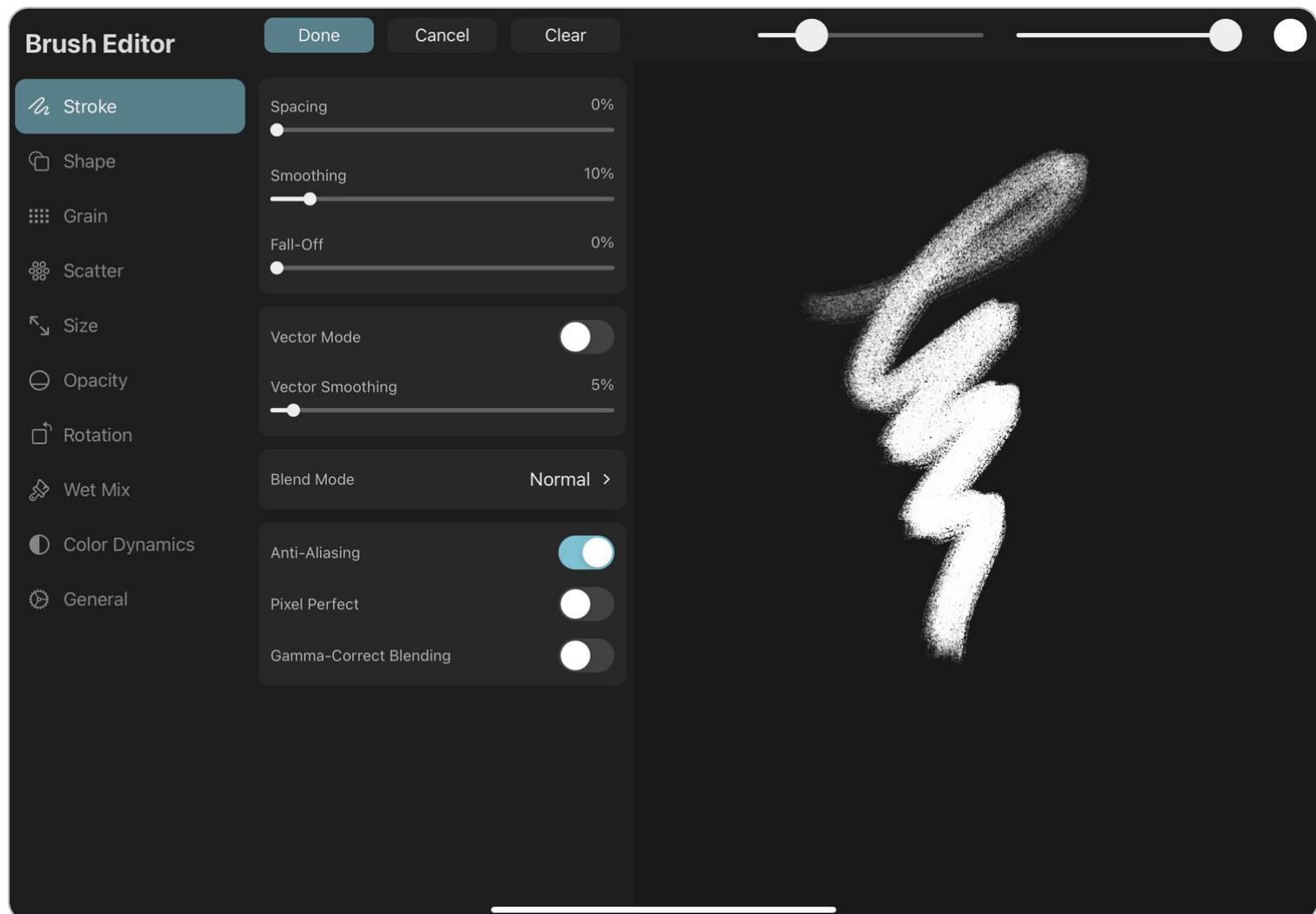
## Smudge

The smudge tool does not support vector brushes, so vector brushes behave exactly like pixel brushes in the smudge tool.

# Brush Editor

The brush editor is the interface for customizing brushes. All brush settings can be found and edited here.

Open the brush editor for the selected brush with the `Edit brush` button in the brush library.



You can find all available brush settings explained in detail on [the next page](#).

## Settings Structure

In the brush editor, the different brush settings categories can be found on the left. All settings of the selected category are shown in the inspector in the middle of the screen.

The settings categories each represent a general aspect of the brush that can be customized and all settings that can be used to control that aspect can be found in that category.

## Sketchpad

Use the sketchpad on the right for quick testing of the current brush configuration. Any stroke that you draw on the sketchpad uses the current brush settings. Changing the settings will update previously drawn strokes to reflect the new settings.

Just like in the regular editor, you can use the [size and strength sliders](#) to change the brush size and opacity. You can change the brush color by opening the color picker with the color button in the top right corner.

Clear the sketchpad using the `Clear` button at the top of the settings inspector.

## Finish Editing

When you are done editing, either select `Done` to save the settings changes you made or choose `Cancel` to dismiss all changes made since the brush editor was opened.

# Brush Settings

## Stroke

The following properties control the general behavior of the brush stroke.

The screenshot shows the 'Stroke' tab selected in a dark-themed brush settings interface. On the left, a sidebar lists other tabs: Shape, Grain, Scatter, Size, Opacity, Rotation, Wet Mix, Color Dynamics, and General. The main area contains several sliders and a switch for stroke properties:

- Spacing:** Set to 4%.
- Smoothing:** Set to 10%.
- Fall-Off:** Set to 0%.
- Vector Mode:** Enabled (switch is white).
- Vector Smoothing:** Set to 5%.
- Blend Mode:** Set to Normal > (with a right-pointing arrow).
- Anti-Aliasing:** Enabled (switch is blue).
- Pixel Perfect:** Enabled (switch is white).
- Gamma-Correct Blending:** Enabled (switch is white).



ToonSquid brushes draw their strokes by combining their **shape** and **grain** textures and "stamping" these resulting brush marks onto the layer at various points along the path that you draw with Apple Pencil or your finger.

## Spacing

The spacing between consecutive brush marks relative to the brush size. A spacing of 100% results in neighboring brush marks touching at their edges. A spacing of 0% will place all brush marks 1px apart.

Lower values make the brush stroke appear smoother but also create more brush marks which can slow down the performance of the brush.

## Smoothing

Controls how much ToonSquid should attempt to remove wobbles due to shakiness in your brush strokes to create a smoother final stroke. ToonSquid will use a moving average of the most recent input positions to calculate the final inputs that will be used for the stroke.

## Fall-Off

Controls whether and how quickly the brush stroke should fade out. A value of 0% represents an infinite amount of paint that never decreases. Lower values will cause the brush to slowly run out of its selected brush color throughout the brush stroke.

## Vector Mode

Enable this to turn your pixel brush into a vector brush.

# Vector Smoothing

If this brush is a [vector brush](#), the `Vector Smoothing` controls how much the final vector strokes are simplified and smoothed compared to the fully-detailed pixel brush stroke of the same brush. More smoothing results in vector strokes that are represented by fewer Bézier curves and are therefore more performant but are also not as accurate at approximating the original stroke.

## Blend Mode

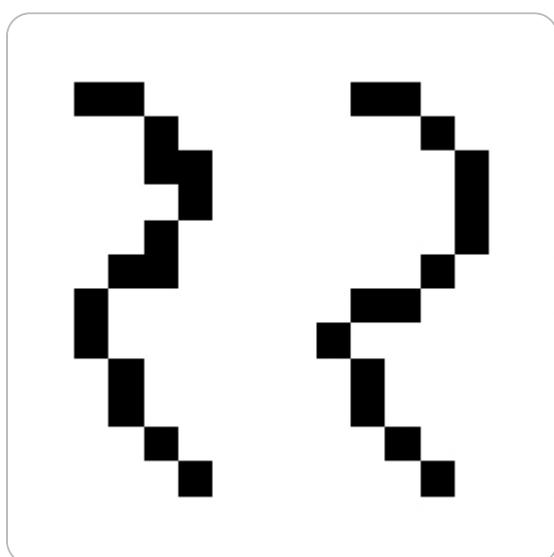
The `blend mode` with which the brush stroke should be blended onto the existing contents of the layer. This setting is only relevant for pixel brushes.

## Anti-Aliasing

Whether the edges of the stroke should be anti-aliased or not. Anti-aliasing will remove jagged edges from the brush strokes. Disable this if you are looking for that jagged appearance, for example when creating brushes for pixel art.

## Pixel Perfect

With this setting enabled, the brush attempts to prevent visually uneven stroke thicknesses when the brush size is 1 px. The image below shows an example with the setting disabled on the left and enabled on the right.



## Gamma-Correct Blending

Enables gamma-correct (linear) blending for the brush strokes, as opposed to the default sRGB blending.

# Shape

These settings control the shape of the brush marks.



The image shows a large, circular brush stroke on a dark background. The stroke has a radial gradient, transitioning from black at the center to white at the edges, creating a sunburst or starburst effect. The texture of the brush is visible throughout the stroke.

**Stroke**

**Shape** (highlighted)

**Grain**

**Scatter**

**Size**

**Opacity**

**Rotation**

**Wet Mix**

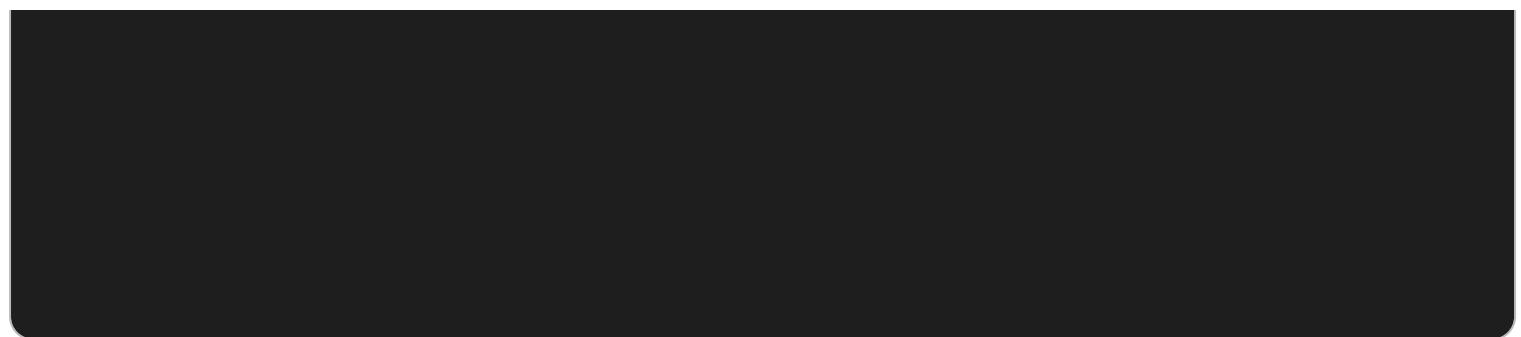
**Inverted**

**Color Dynamics**

**Flip X**

**General**

**Flip Y**



## Shape Texture

The image that should be used as the shape texture of the brush. Learn more about selecting and importing brush textures [here](#).

The shape texture is combined with the grain texture to form the final brush marks.

## Inverted

Inverts the shape texture. Areas of the shape that are currently transparent will then show up in the brush stroke and currently visible portions will be invisible.

## Flip X

Flips the shape texture horizontally.

## Flip Y

Flips the shape texture vertically.

## Grain

The image shows a user interface for brush settings. On the left, there are three buttons: 'Stroke' with a wavy line icon, 'Shape' with a square icon containing a circle, and 'Grain' with a grid icon. The 'Grain' button is highlighted with a blue background. To the right is a preview window displaying a uniform grey grid pattern, representing the grain texture.

 Scatter

 Size

 Opacity

 Rotation

 Wet Mix

Per Stamp

Per Stroke

 Color Dynamics

Inverted

 General

Movement

100%

Scale

57%

Blend Mode

Subtract >

Brightness

-24%

Contrast

18%

In addition to the [shape texture](#), ToonSquid brushes use another texture - the so-called grain - to add more variety and detail to your brush strokes. The grain can also be used to create the effect of painting on a textured surface.

## Grain Texture

The image that should be used as the grain texture of the brush. Learn more about selecting and importing brush textures [here](#).

The grain texture is combined with the [shape texture](#) to form the final brush marks.

## Rendering Mode

The grain supports two rendering modes, which define how it is combined with the shape texture to create the final brush stroke.

### Per Stamp

The grain texture is blended with the shape texture for each brush mark (stamp) before the new mark is then added to the current stroke.

### Per Stroke

The individual brush marks just consist of the shape texture. The grain texture is then blended with the entire brush stroke at once.

## Inverted

Inverts the grain texture. Areas of the Grain that are currently transparent will then show up in the brush stroke and currently visible portions will be invisible.

## Movement

The grain movement defines how the grain texture is positioned when it is blended with the brush marks. A movement value of 100% causes the grain texture to match the drawing surface. As you move your brush, it will therefore blend with different parts of the grain, as if the surface is textured.

A value of 0% causes the entire grain texture to be blended with each brush mark, no matter where you are drawing.

This setting is only available if the grain rendering mode is set to [Per Stamp](#).

## Scale

Use this to change the scale of the grain texture.

## Blend Mode

Defines the [blend mode](#) to be used to blend the grain and shape textures together.

The Linear Height and Height blend modes are unique to the grain texture and cannot be selected for layers. Height multiplies the shape with the grain depth before then subtracting the grain. Linear Height uses the same result or that of multiplying the grain instead of subtracting it, depending on which result is brighter.

## Tip

The different grain blend modes are a very powerful tool to create significantly varying brush effects using the same shape and grain textures.

## Brightness

You can use this setting to adjust the brightness of the grain texture before it gets blended.

## Contrast

You can use this setting to adjust the contrast of the grain texture before it gets blended.

## Depth

The grain depth controls the intensity of the grain. If the rendering mode is set to Per Stamp , the grain depth can be further controlled by the following settings.

## Jitter

Use this to apply a random offset to the baseline grain depth for each brush mark.

## Pressure Control

Controls the grain depth based on the amount of pressure applied with Apple Pencil. Positive values increase the depth when there is more pressure, negative values decrease it with added pressure.

## Tilt Control

Controls the grain depth based on the tilt angle of Apple Pencil.

# Speed Control

Controls the grain depth based on the speed at which you draw your stroke. Positive values increase the depth at higher speeds, negative values decrease it.

## Scatter

Stroke

Shape

Grain

**Scatter**

Stamp Count

Stamp Count Jitter

Stamp Count Pressure Control

Color Dynamics

General

Scatter 9%

All Directions

Pressure Control 0%

Stamp Count 1

Stamp Count Jitter 0%

Stamp Count Pressure Control 0%



Use the settings in the scatter category to randomly shift the individual brush marks away from their regular position in the brush stroke.

## Scatter

Applies a random offset to the position of every brush mark, thereby scattering them away from their original points. The slider controls how far the marks can be moved away from their original positions as a percentage of the brush size.

## All Directions

If this is enabled, the brush marks are scattered in all directions. Disable this to only shift them perpendicularly to the brush stroke.

## Pressure Control

Controls the amount of scattering based on the pressure you apply with Apple Pencil during the stroke. Positive values increase the scattering with increased pressure, negative values decrease it.

## Stamp Count

Defines how many brush marks should be created at each [spacing](#) interval. This is set to 1 by default. Note that higher values for the stamp count will slow down the rendering of your brush strokes.

## Stamp Count Jitter

Randomly changes the [stamp count](#) at each spacing interval.

## Stamp Count Pressure Control

Controls the stamp count based on the pressure you apply with Apple Pencil during the stroke. Positive values increase the stamp count with increased pressure, negative values decrease it.

# Size

Stroke

Jitter

0%

Shape

Pressure Control

61%

Grain

Tilt Control

0%

Scatter

Speed Control

0%

Opacity

Min Size

1px

Rotation

Max Size

512px

Wet Mix

Default Size

25%

Color Dynamics

General



These settings control the size of each brush mark in the stroke.

## Jitter

Determines how much the size of each stamp can randomly deviate from the base size.

## Pressure Control

Controls the brush size based on the pressure you apply with Apple Pencil during the stroke. Positive values increase the size with increased pressure, negative values decrease it.

## Tilt Control

Controls the brush size based on the tilt angle of Apple Pencil. The more you tilt Apple Pencil, the larger the brush marks will get, the amount of which depends on this setting.

## Speed Control

Controls the brush size based on how fast you draw the stroke. Positive values decrease the brush size during slower movement, negative values decrease the brush size during faster movement.

## Min Size

The smallest allowed size for this brush. The range of the [brush size slider](#) is also limited by this.

## Max Size

The largest allowed size for this brush. The range of the brush size slider is also limited by this.

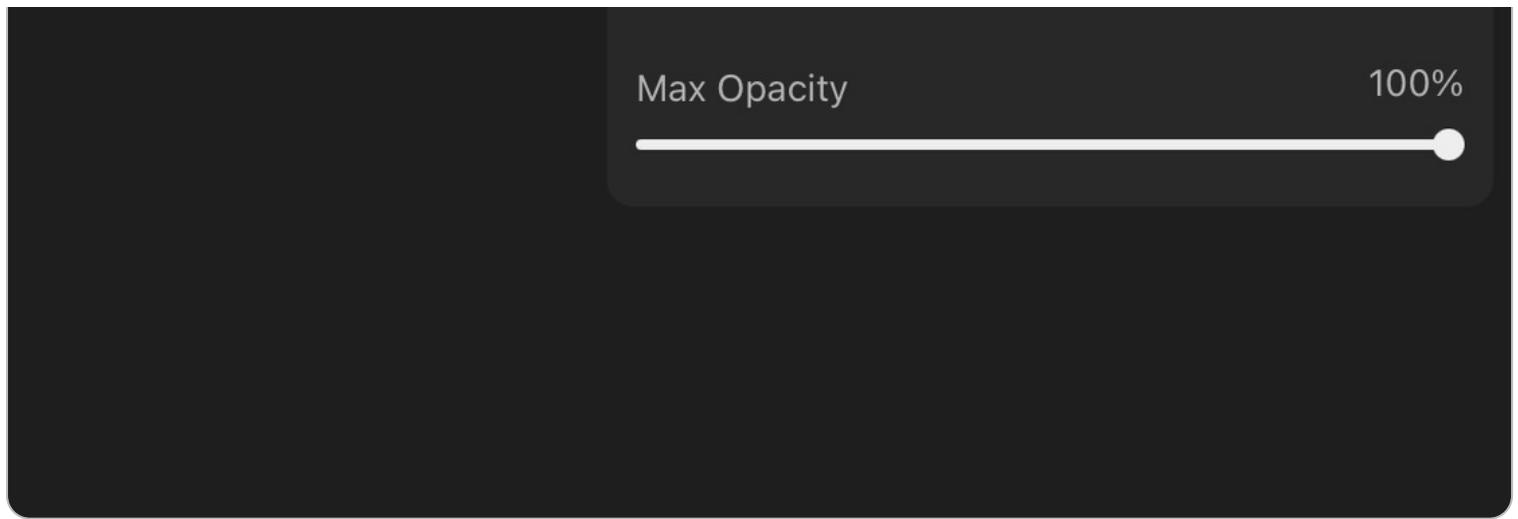
## Default Size

The default size of this brush when it is imported into a brush library. The value is specified as a percentage in the range between the [minimum](#) and [maximum](#) sizes.

## Opacity

The image shows a dark-themed brush settings interface. On the left, a vertical list of categories is displayed with icons: Stroke (brush), Shape (square), Grain (grid), Scatter (dots), Size (arrow), Opacity (circle), Rotation (square with arrow), Wet Mix (shovel), Color Dynamics (circle with dot), and General (gear). The 'Opacity' category is highlighted with a teal background. To the right of each category is a panel containing a slider and a percentage value. The panels are labeled: Flow (Flow 46%), Jitter (Jitter 0%), Pressure Control (Pressure Control 0%), Tilt Control (Tilt Control 0%), Speed Control (Speed Control 0%), Opacity (Pressure Control 0%), and Min Opacity (Min Opacity 0%).

Category	Control	Value
Flow	Flow	46%
	Jitter	0%
Size	Pressure Control	0%
	Tilt Control	0%
General	Speed Control	0%
	Min Opacity	0%



## Flow

The flow is an opacity multiplier for each individual brush mark, as opposed to the opacity of the entire stroke.

## Jitter

Determines how much the flow of each stamp can randomly deviate from the base flow value.

## Pressure Control

Controls the flow based on the pressure you apply with Apple Pencil during the stroke. Positive values decrease the flow with decreased pressure, negative values decrease it with increased pressure.

## Tilt Control

Controls the flow based on the tilt angle of Apple Pencil. The more you tilt Apple Pencil, the lower the flow will be, the amount of which depends on this setting.

## Speed Control

Controls the flow based on how fast you draw the stroke. Positive values decrease the flow during slower movement, negative values decrease the flow during faster movement.

## Opacity Pressure Control

Controls the opacity of the brush stroke based on the pressure you apply with Apple Pencil during the stroke. Positive values decrease the opacity with decreased pressure, negative values decrease it with increased pressure.

The opacity controls the opacity of the stroke after the brush marks get blended as opposed to the flow which controls the opacity of the individual marks.

## Min Opacity

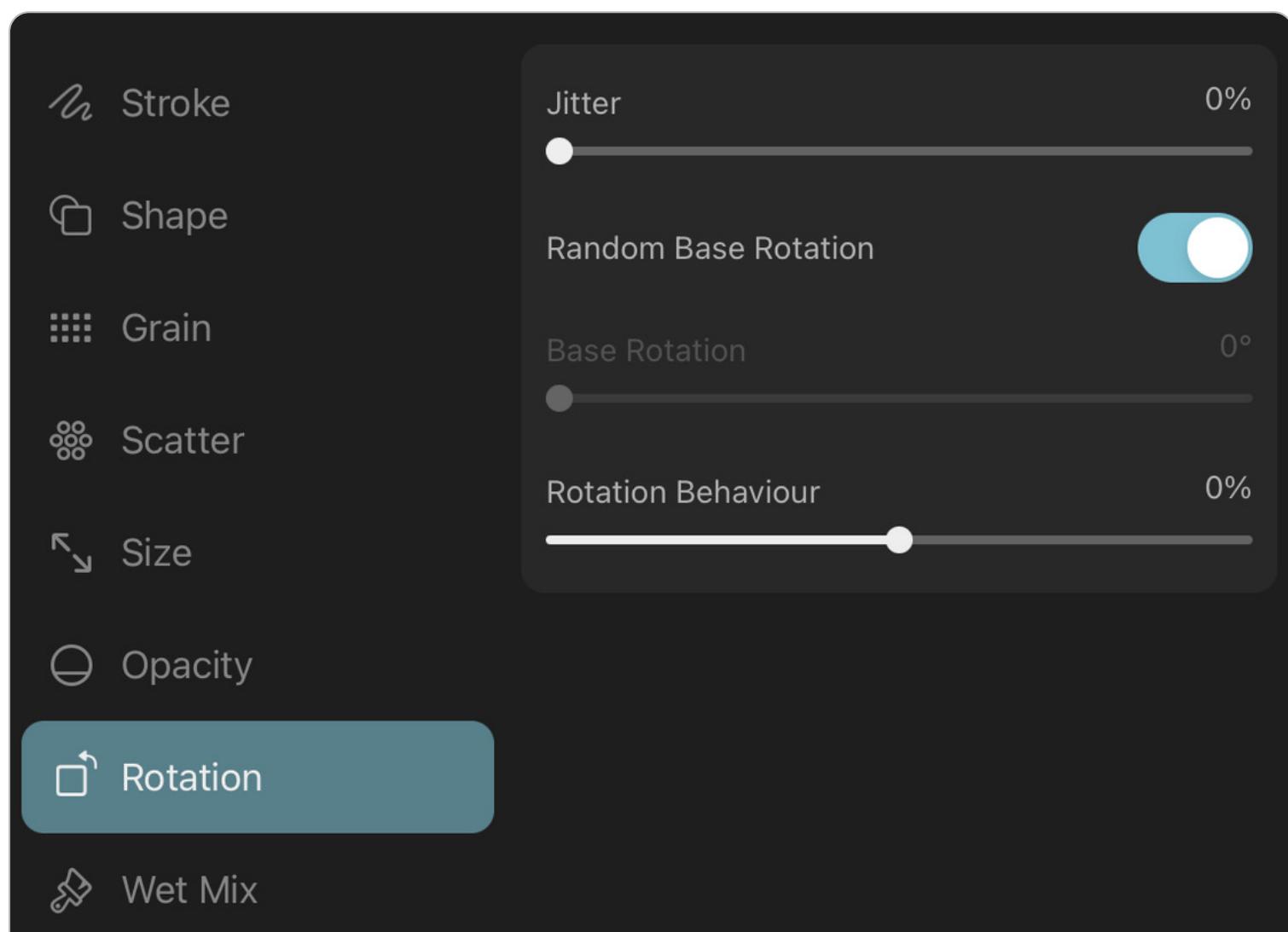
The lowest allowed opacity of each brush mark.

## Max Opacity

The highest allowed opacity of each brush mark.

## Rotation

These settings control the rotation behavior of the brush shape.



## ① Color Dynamics

### ⚙️ General

## Jitter

How much the rotation of each brush stamp should randomly deviate from the base rotation.

## Random Base Rotation

Whether the base rotation of the shape texture should be randomly chosen for every stroke.

## Base Rotation

The baseline rotation angle of the shape texture. If the rotation jitter is 0, then all brush marks will have this rotation.

This option is unused if Random Base Rotation is enabled.

## Rotation Behavior

Defines how the rotation of each brush mark should be controlled.

A value of 0 just uses the base rotation and the optional jitter specified above.

A value of 100% keeps the rotation perpendicular to the direction of the brush stroke.

A value of -100% keeps the rotation perpendicular to the azimuth tilt angle of Apple Pencil.

# Wet Mix

Stroke

Wetness 100%

Shape

Wetness Pressure Control 89%

Grain

Wetness Jitter 0%

Scatter

Attack 74%

Size

Attack Pressure Control 57%

Opacity

Attack Tilt Control 0%

Rotation

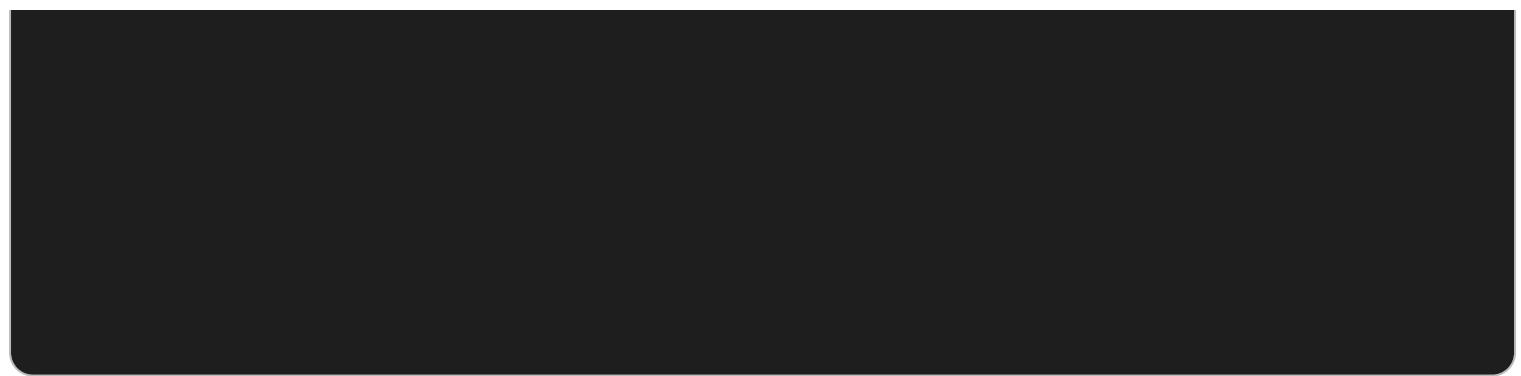
Attack Jitter 0%

Wet Mix

Load 100%

Color Dynamics

General



Use the following settings to create beautiful wet paint effects which cause your brush to drag the existing paint on the layer around as you draw.

## **Wetness**

Controls the overall strength of the wet mixing effect. Increase this value to drag and mix the paint on the layer for longer distances during each brush stroke.

When this is set to 0%, all following wet mix settings do not affect the stroke.

## **Wetness Pressure Control**

Controls the wetness based on the pressure you apply with Apple Pencil during the stroke. Positive values decrease the wetness with decreased pressure, negative values decrease it with increased pressure.

## **Wetness Jitter**

Determines how much the wetness of each stamp can randomly deviate from the base wetness value.

## **Attack**

The attack controls how much of the selected brush color should be added to the mix of the current surface color and color that the brush picked up from the surface throughout the stroke.

## **Attack Pressure Control**

Controls the attack based on the pressure you apply with Apple Pencil during the stroke. Positive values decrease the attack with decreased pressure, negative values decrease it with increased pressure.

## Attack Tilt Control

Controls the attack based on the tilt angle of Apple Pencil. The more you tilt Apple Pencil, the higher the attack will be, the amount of which depends on this setting.

## Attack Jitter

Determines how much the attack of each stamp can randomly deviate from the base attack value.

## Load

Describes how much paint is initially loaded on the brush.

## Color Dynamics

Use ToonSquid's color dynamics settings to apply color variations within your brush strokes.

Stroke	Primary / Secondary Jitter	0%
Shape	Primary / Secondary Pressure Control	0%
Grain		
Scatter	Hue Jitter	0%
Size	Saturation Jitter	0%
Opacity	Brightness Jitter	0%
Rotation		
Wet Mix		

## Color Dynamics

### General

## Primary / Secondary Jitter

Controls how far the brush color can randomly deviate from the [primary color](#) towards the [secondary color](#) at each brush mark.

## Primary / Secondary Pressure Control

Controls the primary / secondary jitter based on the pressure you apply with Apple Pencil during the stroke. Positive values decrease the jitter with decreased pressure, negative values decrease it with increased pressure.

## Hue Jitter

Controls how far the hue of the brush color can randomly deviate from the [mix](#) between the primary and secondary color at each brush mark.

## Saturation Jitter

Controls how far the saturation of the brush color can randomly deviate from the [mix](#) between the primary and secondary color at each brush mark.

# Brightness Jitter

Controls how far the brightness of the brush color can randomly deviate from the mix between the primary and secondary color at each brush mark.

## General

 Stroke

Name

Oil

 Shape

Actions

Reset

 Grain

Share

 Scatter

 Size

 Opacity

 Rotation

 Wet Mix

 Color Dynamics

 General



## Name

The name of the brush in the [brush library](#). This name is also used when the brush is [exported](#).

## Reset

Resets all brush settings to their values when this brush was first created.

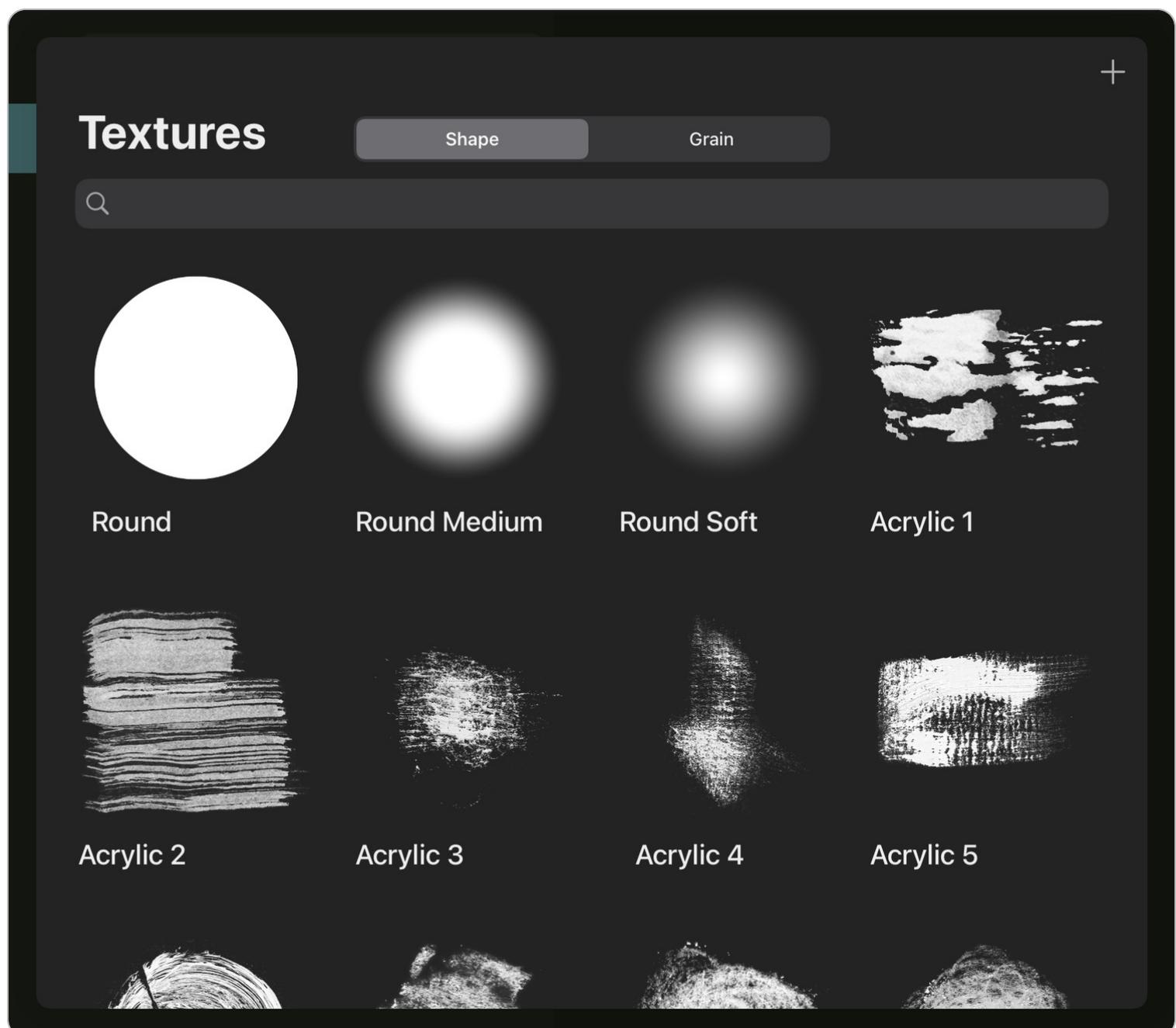
## Share

[Exports](#) the brush as a `.tsbrush` file.

# Brush Textures

ToonSquid brushes use a [shape](#) and a [grain](#) texture to generate the brush strokes while you draw. You can select the textures that you want your brush to use from the brush texture library via the [brush editor](#).

## Library



The brush texture library interface has a tab for shape textures and a tab for grain textures, but you can choose from either of these tabs when selecting a texture for your brush shape and grain.

Shape textures typically contain shapes that don't extend to the edges of the image, since they form the basis of the shape of the brush stroke. Grain textures on the other hand are mostly used to add more variation and to simulate surface textures. Therefore, most of them fill the entire image and are seamlessly repeating.

## Import

ToonSquid already comes with numerous shape and grain textures that you can use to create hundreds of different brushes, but you can also add your own custom brush textures by importing more images into the brush texture library.

1. Tap the + button in the top right corner.
2. Choose Import from Photos or Import from Files .
3. Select the image you want to use as a brush texture in order to copy it into the currently selected tab of the texture library.

## Grayscale

All brush textures are grayscale images since they only control the shape of a brush stroke and not its colors. The amount of white at each pixel determines where the brush will apply paint onto the layer.

If you import a grayscale image, it is used as-is. If you import an RGB image, it is converted to grayscale based on the brightness of each pixel. Importing an image with transparencies will only use the alpha channel as the grayscale pixels of the new brush texture. The colors are completely ignored in this case.

# Import and Export

ToonSquid brushes and brush collections can be exported and shared outside of the app.

## Export

With the collection or brush to be exported selected, tap it again and select Share .

## File Extensions

Brush collections are exported as a file with the `.tsbrushes` extension. When you export a single brush, you get a file with a `.tsbrush` file extension.

The files contain all brush settings and textures needed for the brush or collection that was exported.

You can use this to easily [backup](#) all of your custom brushes outside of your iPad or to share your unique brushes with others.

## Import

To import a brush or brush collection into your ToonSquid brush library, tap the `+` button and choose Import . Then select the `.tsbrush` , `.tsbrushes` or `.abr` file that you want to import.

The new brushes are copied to the brush library and can then be used in all of your projects.

## Adobe Photoshop® Brush Compatibility

`.abr` files can be imported into ToonSquid. Most of the Photoshop brush settings are compatible with ToonSquid.

However, since the underlying brush engines are different, the brush behavior is not guaranteed to be exactly the same in both applications.

Note that ToonSquid currently does not support Photoshop's dual brush feature, so importing brushes that use the dual brush settings will likely look and behave differently in ToonSquid.

# Overview

Movement lies at the core of all animation workflows. Whether you just want to move and resize a portion of a drawing during editing or you are looking to animate a layer's position, rotation and scale using keyframes, ToonSquid provides you with easy-to-use tools to achieve these goals.

## Transform Properties

Every movable layer has position, rotation and scale properties that can be animated using keyframes. Dive into the basics of layer movement in ToonSquid.

## Transform Tool

Use the transform tool to edit a layer's position, rotation and transform directly on the canvas. It also allows you to select layers with a simple tap.

## Motion Path

When a layer has multiple position keyframes, you can see and edit the entire motion path of the layer directly on the canvas.

## Hierarchy

Position layers relative to each other, create basic character rigs and simplify more complicated movement animations using the transform hierarchy.

## Transform Layer

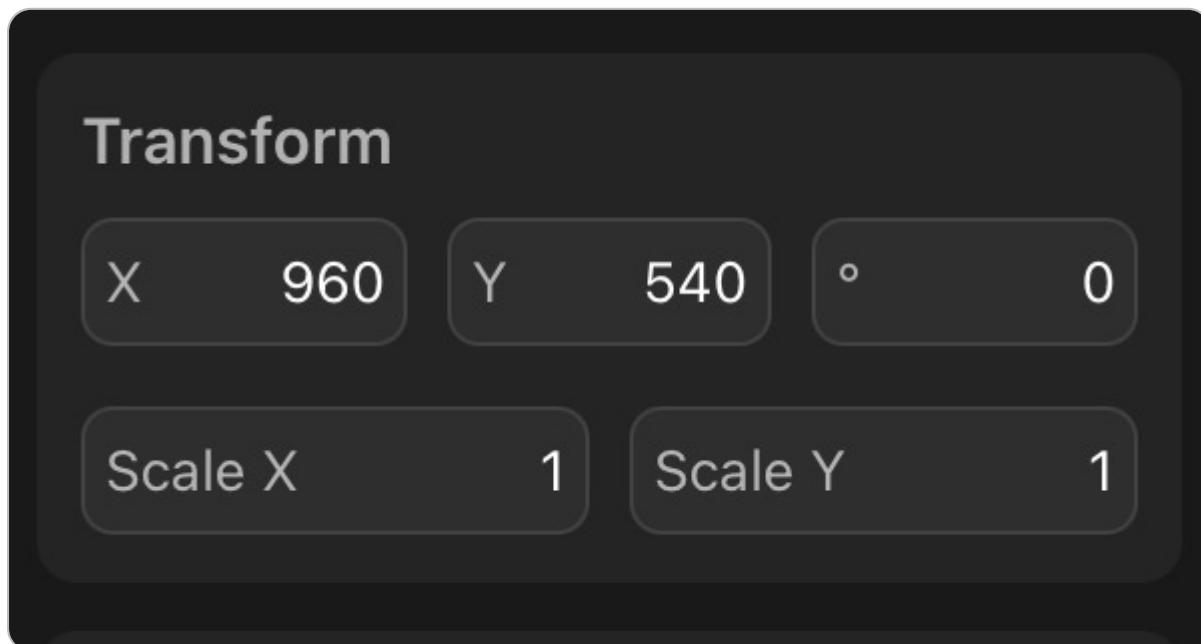
Use the transform layer to add an intermediate coordinate system to the hierarchy and to animate multiple layers in sync with the same movement.

# Transform Properties

All movable layers have a transform, which consists of the following properties.

## Transform

The following three properties all support [keyframes](#).



## Position

The position of a layer is the offset of its [pivot](#) from the origin of the layer's parent coordinate system on the x- and y-axis.

## Rotation

The rotation of the layer around its [pivot](#). In ToonSquid, positive rotations are clockwise, and negative rotations are counterclockwise.

Additionally, rotations have an infinite range and are not restricted to the range 0° - 360°. This allows you to use [keyframes](#) to interpolate toward very large rotation values and therefore create an animation that rotates a layer multiple full revolutions.

# Scale

The scale of the layer around its **pivot** relative to the layer's original content size on the x- and y-axis. This is 1 (on both dimensions) by default.

For example, setting a scale of 2 on a layer will make the layer twice as big on the canvas.

# Pivot



The layer pivot is the origin of the layer's coordinate system. It is highlighted when the layer is selected in the transform tool via a cross-hair.

As mentioned above, the pivot is the reference point for the position, rotation and scale properties.

## Editing the Pivot

The position of the layer pivot can be manually edited. By default, the pivot is automatically placed in the center of the layer, even when the layer contents are edited.

Editing of the layer pivot is disabled by default since it is not needed very often. To edit the layer pivot, you need to

1. Select the layer.
2. Select the **transform** tool.
3. Tap the layer on the canvas.
4. Select **Enable pivot editing**

Now the pivot can be dragged around. Place the pivot where you want it to be and tap **Disable pivot editing** to lock the pivot in place again and prevent it from being accidentally edited.

The layer pivot does not support keyframes.

## Tip:

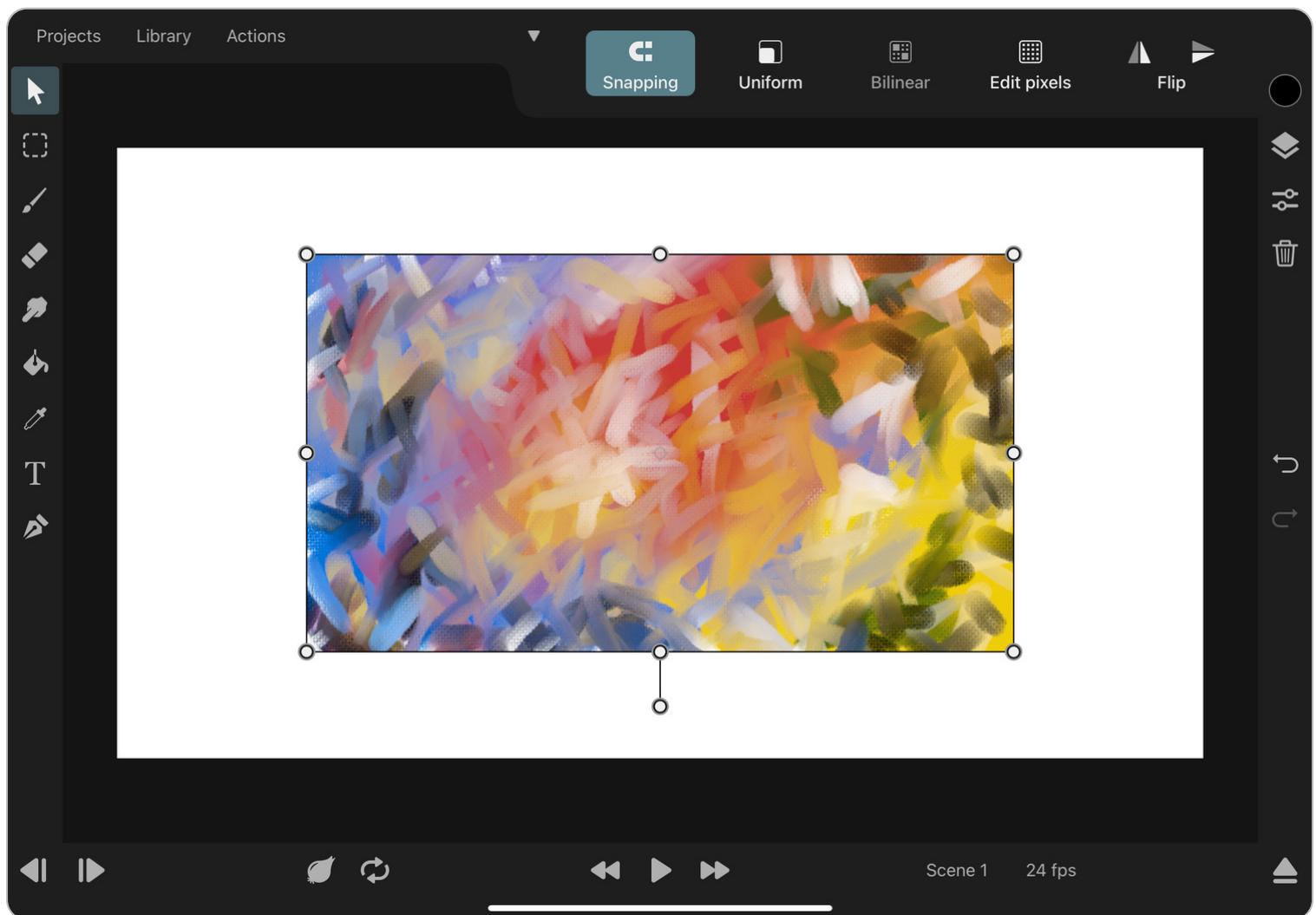
If position, rotation and scale already have keyframed animations, editing the pivot afterwards will (by definition) result in a change of the behavior of that animation. It is therefore recommended, that you first choose where you want the layer pivot to be and only afterwards animate the layer transform.

# Editing the Transform

The transform properties of a layer can be edited both in the [inspector](#) and on the canvas using the [transform tool](#).

# Transform Tool

The transform tool is used to edit both layer transforms and transform layer contents directly on the canvas. It also allows layers to be selected by simply tapping them on the canvas.



## Transform Editing

When a transformable layer is selected, the transform tool shows various handles on the canvas that can be used to edit the layer's transform.

### Move

Drag the layer to change its position.

## Rotate

Drag the rotation handle to rotate the layer. Rotate the layer multiple full revolutions to increase the [rotation value](#) beyond 360° and -360°.

The rotation handle is placed at the bottom of the layer if the [pivot](#) is in the center, but it might also be on a different corner if you have manually adjusted the pivot.

## Scale

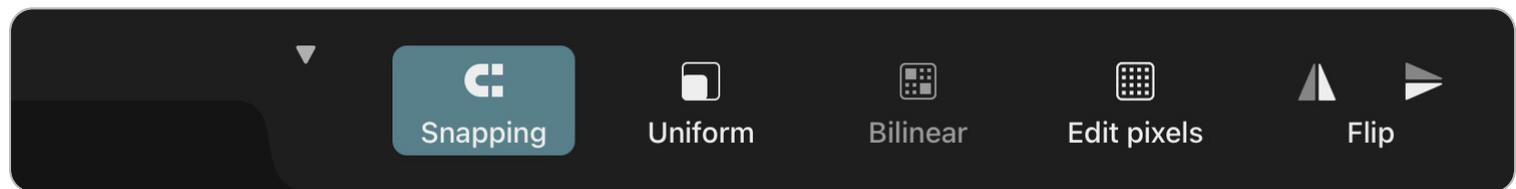
Use the scale handles around the edges of the layer to edit the layer's [scale](#).

## Pivot

The pivot is automatically placed in the center of your layers by default, but you can also change its position manually as described [here](#)

# Tool Options

The available [options](#) in the transform tool depend on the type of the selected layer.



## Snapping

Whether the layer should snap its position and its edges to other layers while being edited with the transform tool. This can help with centering and aligning layers to each other.

## Scaling Mode

How the layer should be scaled when one of the [scale handles](#) is dragged.

### Uniform

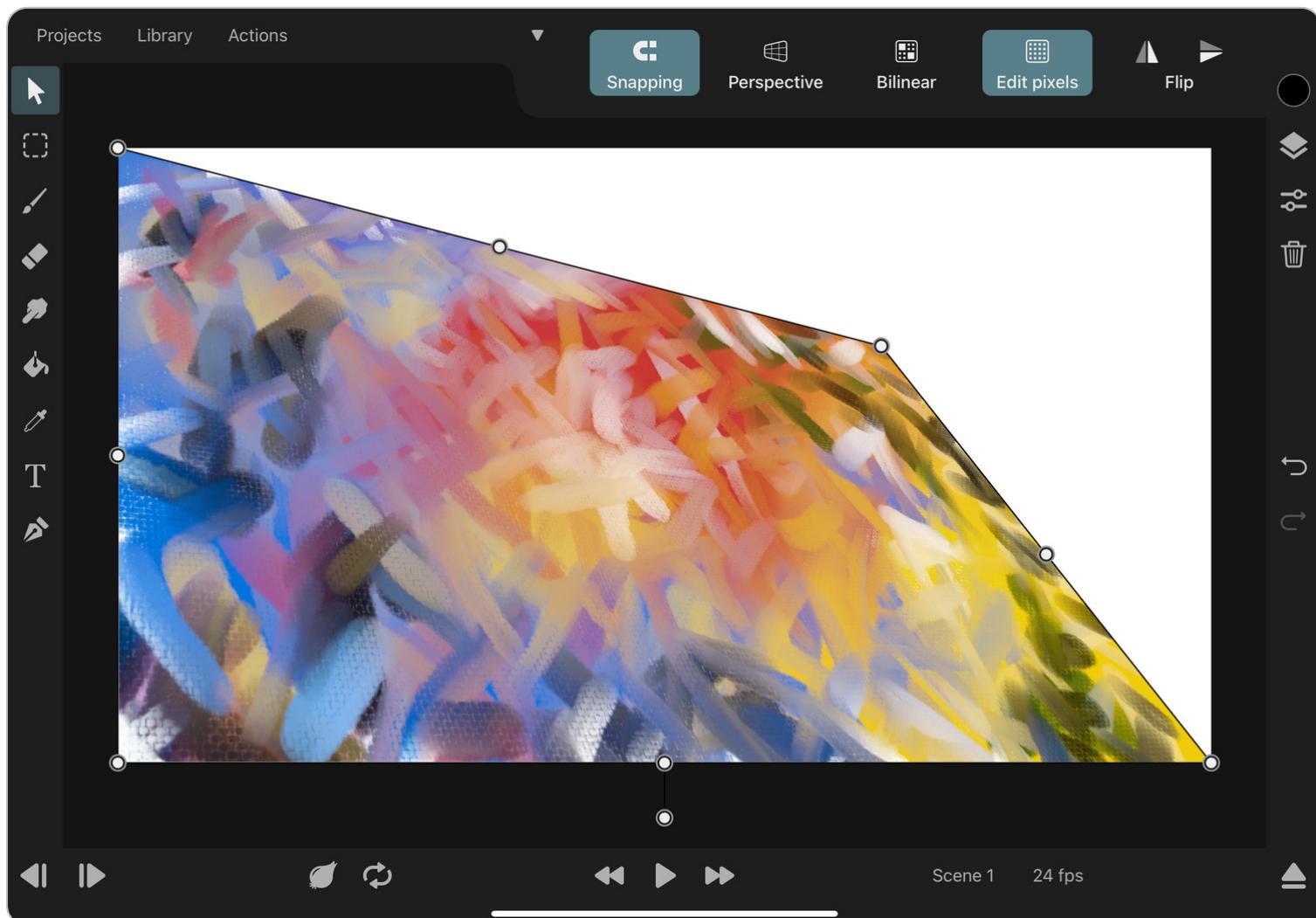
The layer will be scaled evenly in the horizontal and vertical directions and therefore keep its current aspect ratio.

## Freeform

The horizontal and vertical scale of the layer can be edited separately.

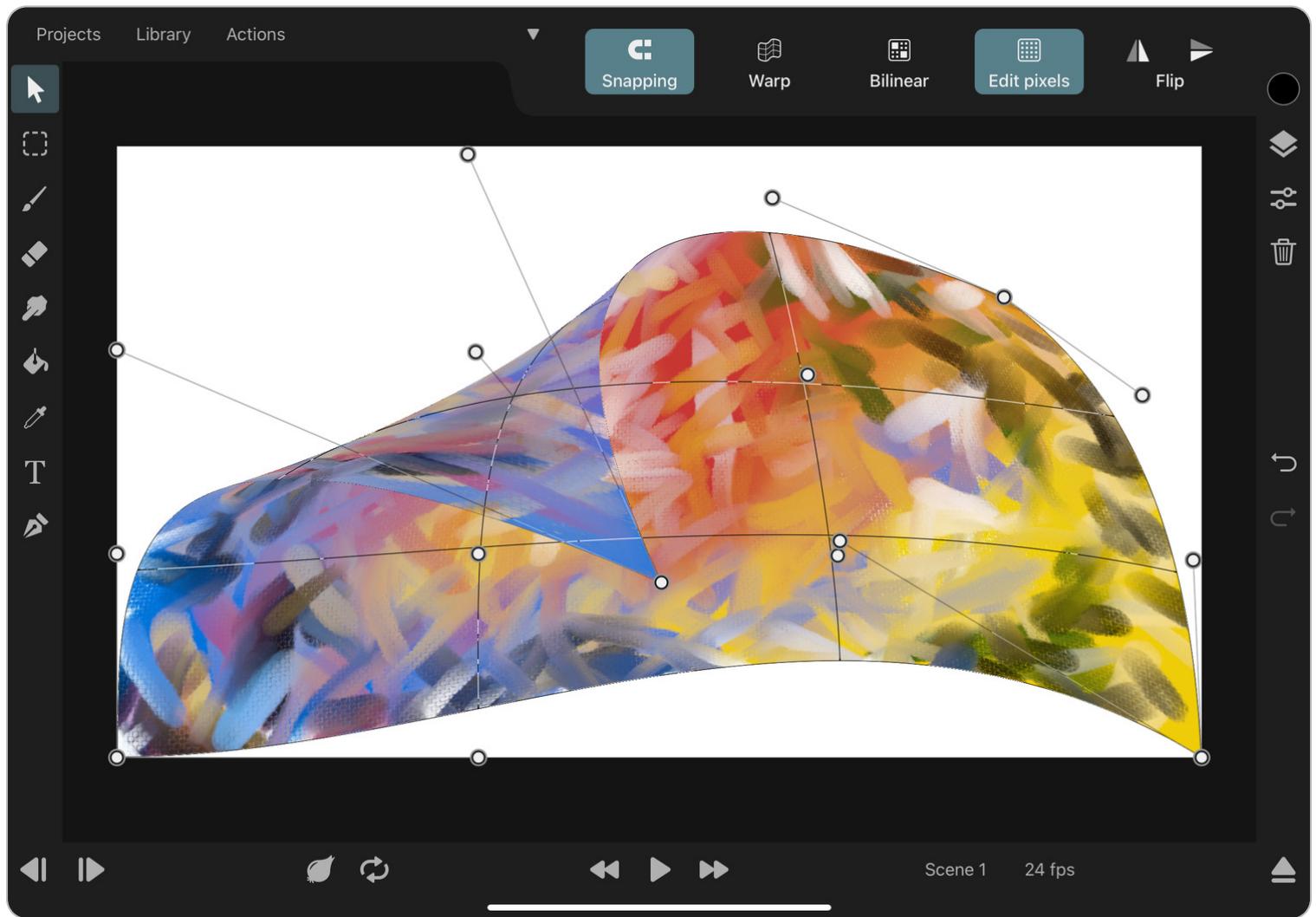
## Perspective (Pixel Layer)

Drag the four corner points or edges in order to apply a perspective distortion to the layer.

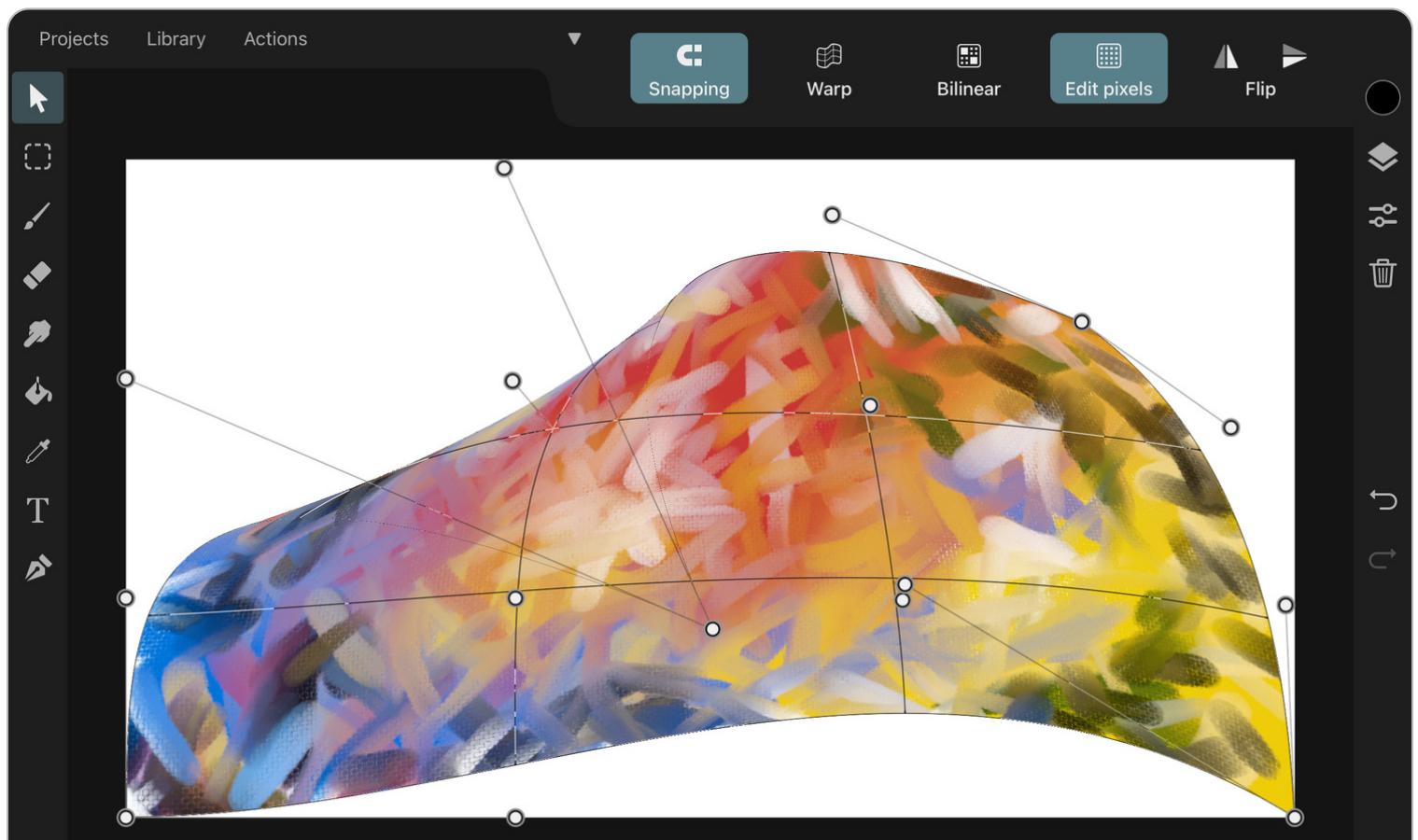
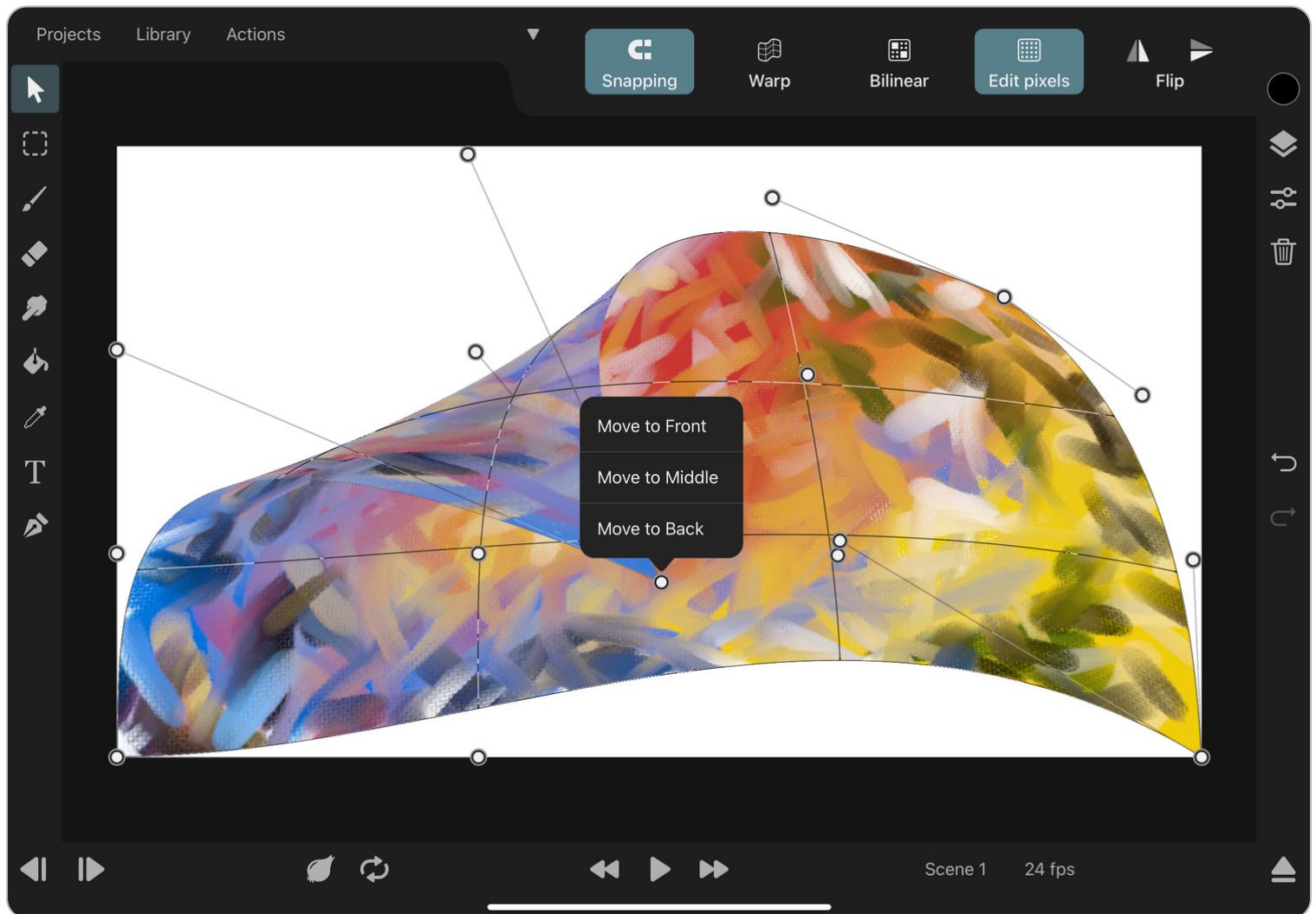


## Warp (Pixel Layer)

Drag the control points or anywhere within the layer in order to warp and reshape the layer's surface. This even allows you to fold parts of the layer over itself.



In order to define the overlap order, you can tap each control point and move it to the front, the middle or the back.



## Flip

Use the flip horizontally button (on the left) and the flip vertically button (on the right) to flip the layer around its pivot.

## Edit pixels (Pixel Layer)

If enabled, the transform tool will move, rotate and scale the pixel layer contents (the pixels) instead of the layer's transform property. Moving the layer contents outside the limits of the [layer region](#) (as defined by resolution) will cause them to be clipped when the tool is exited.

This option is disabled by default.

## Resizing Filter (Pixel Layer)

Defines how to filter (resample) the pixels of a pixel layer when they are scaled. This option is only available if `Edit pixels` is enabled.

### Nearest

Uses nearest neighbor interpolation. This filter keeps hard pixel edges, so the layer contents appear "pixelated" when upscaled.

### Bilinear

Uses bilinear interpolation. This causes previously sharp edges to be blurry when they are upscaled.

## Edit path (Vector Layer, Path Layer)

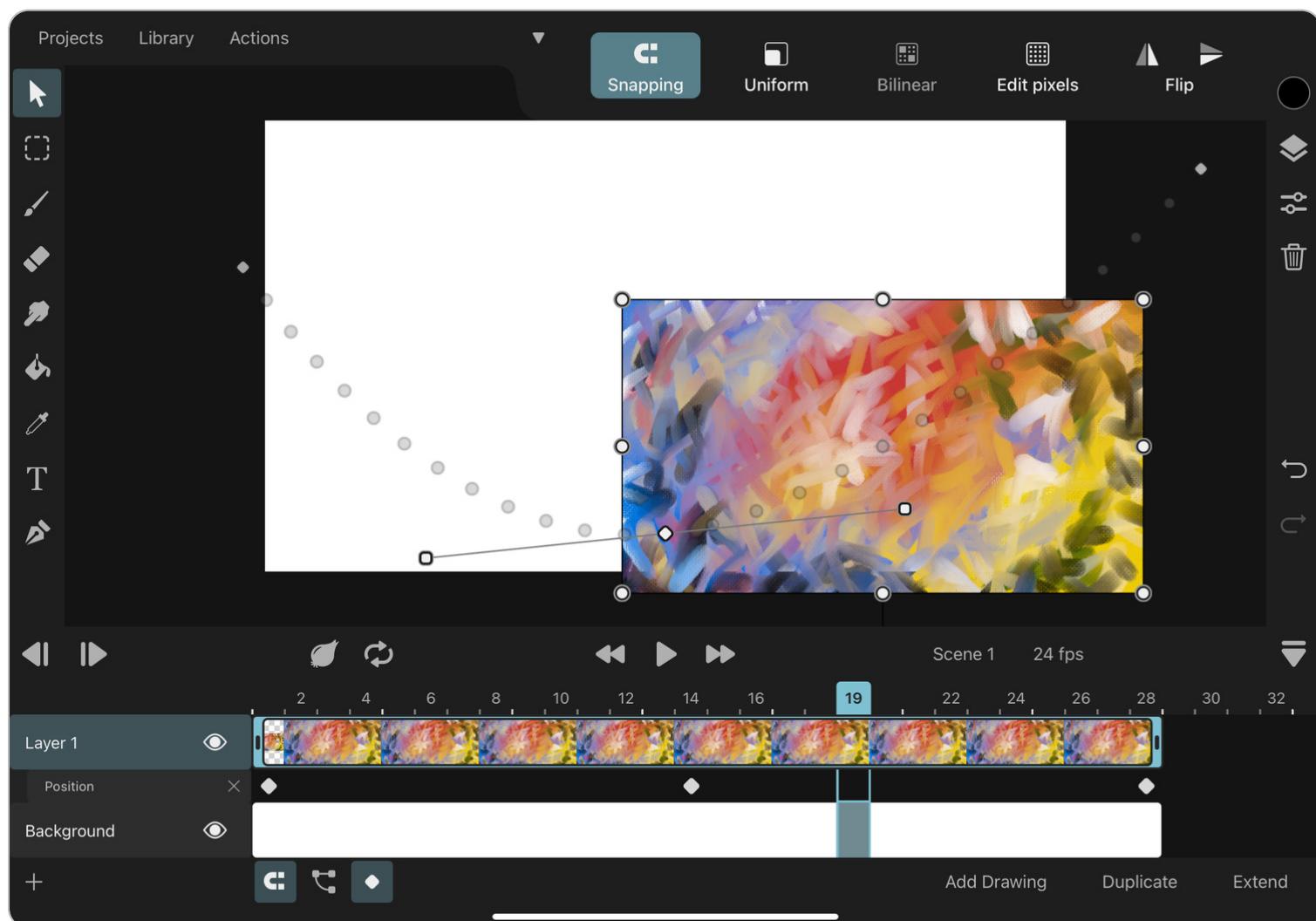
If enabled, the transform tool will move, rotate and scale the path control points instead of the layer's transform property.

## Groups

Selecting a group in the transform tool will edit the transform of all layers inside of the group since groups don't have a transform property themselves.

If you instead want to animate the transform of multiple layers at once, use a [transform layer](#).

# Motion Path



The motion path of a layer is shown in the transform tool if both of the following conditions are true.

- The position property of the layer has more than one keyframe.
- The underlying [position x](#) and [position y](#) properties have all of their keyframes on the same frames.

The motion path shows all intermediate positions of the layer's [pivot](#) between all of the layer's position keyframes.

You can use it to edit the position keyframes and therefore the path of the layer directly on the canvas using Bézier curves, similar to how you can edit the path outline of a [path layer](#) in the [path tool](#). Refer to those pages for all available options.

# Hierarchy

## Coordinate Systems in ToonSquid

ToonSquid uses a right-handed coordinate system with the origin in the top left corner, the x-axis pointing to the right and the y-axis pointing downwards. Positive rotations are therefore clockwise.

Every layer has its own local coordinate system and by default, all layers are placed in the global coordinate system of the scene (making that their "parent coordinate system"). The origin of the local coordinate system of a layer is the layer's [pivot](#).

## Transform Hierarchy

Layers in the timeline can also be placed in each other's local coordinate system to chain movement animations together. When this is the case, scaling, rotating and moving the parent layer will automatically do the same for the child.

# Transform Hierarchy

All layers

Hierarchy

Audio

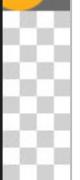
↳ Parent Layer

Icon

↳ Child Layer 1

↳ Child Layer 2

4



# How to create a Hierarchy

1. Tap the transform hierarchy button in the timeline.
  - All layers that are currently not part of the hierarchy are listed on the left.
  - All layers that are part of the hierarchy are listed on the right.
2. Drag layers from the list on the left to the right to create the hierarchy.
3. Drop a layer A on top of another layer B in the hierarchy list to parent A to B. A will now be positioned in B's local coordinate system.

The order of the layers in the hierarchy section does not matter. The visual order is still defined by the regular [layer list](#) in the timeline.

## Remove Layers from the Hierarchy

Drag layers from the hierarchy section to the list of all layers to remove them from the hierarchy.

# Transform Layer

The transform layer has no visual content but has a [transform property](#). It is used to add another coordinate system into a [transform hierarchy](#).

Transform



## Animate the movement of multiple layers at once

1. Add a transform layer via the [layer list](#).
2. Open the [transform hierarchy](#) screen.
3. Drag the transform layer into the hierarchy section.
4. Parent [all layers](#) that you want to be animated to the transform layer.
5. Select and animate the transform layer using [keyframes](#) and the [transform tool](#).

# Overview

ToonSquid has all the tools you need to add text to your animations.

## Text Editing

Edit your text directly on the canvas, without the need for separate input fields. ToonSquid also supports right-to-left text input and IMEs for non-Latin-based languages.

## Text Layer

Text layers let you customize and animate many text properties. Use the trim property to make your text appear letter by letter.

## Fonts

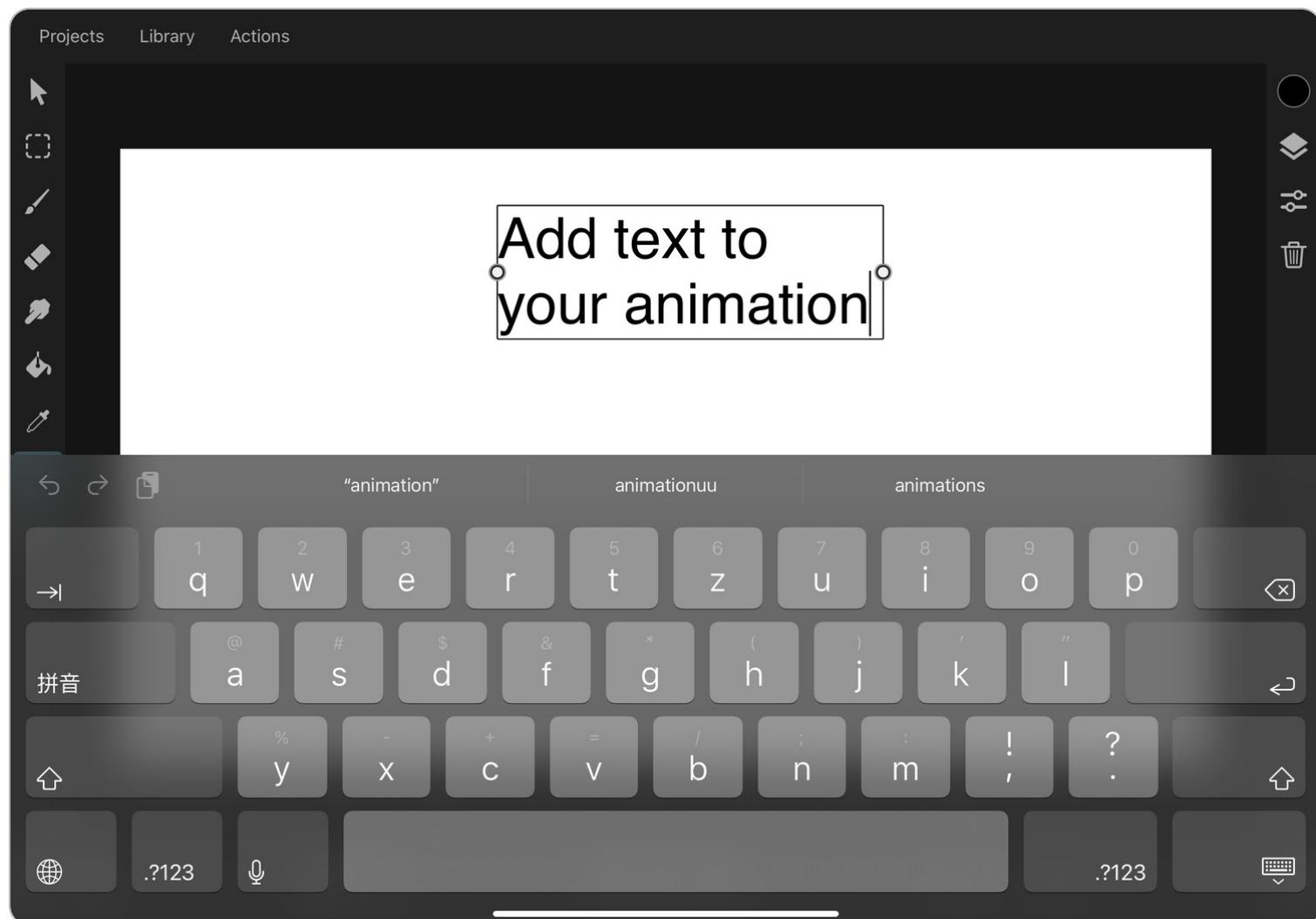
Choose any font that is installed on your iPad or import your own fonts to be used with the text layers.

Text

# Text Editing

Use the text tool to add and edit text layers on the canvas.

## Add Text Layers



Select the text tool and tap anywhere on the canvas to add a new text layer and immediately start typing to fill it with text.

Alternatively, tap an existing text layer in the text tool to start editing the text inside.

## Text Wrapping

By default, the text in a text layer will only wrap to a new line when the enter key is pressed.

You can use the handles on the left and right of the text to increase the width of the text box. Once the width is manually defined, the text wraps when it reaches this width.

## Selection

Double-tap on a word to select it and triple-tap to select the entire text. You can then use the handles at the start and end of the selection to change the range of the selected text.

By default, you can move the text layer in the text tool by dragging it on the canvas. You can also [change this behavior](#) so that a drag results in a text selection instead.

## Text Actions

Tap the cursor or a selected region to bring up the text [actions](#).

- 
-  Copy
  -  Cut
  -  Deselect
  -  Select all

## Copy

Copies the selected text to the clipboard so that it can be pasted somewhere else.

## Paste

Allows pasting text from the clipboard at the current text cursor location. If a range of text is selected, that selection is replaced with the pasted text.

## Cut

Copies the selected text to the clipboard and removes it from the layer.

## Deselect

Removes the selection and shows the single text cursor again.

## Select all

Selects the entire text in the layer

# Features

## Move the Cursor with the Space Bar

Just like elsewhere in iOS, ToonSquid also allows you to hold the space bar and then drag your finger on the keyboard to move the text cursor.

## Emojis

You are not limited to just typing Latin characters in ToonSquid, but you can also use emojis and other Unicode symbols.

## Right to Left Text

ToonSquid also supports right-to-left and bidirectional text input.

If you place the cursor in an ambiguous location within bidirectional text, two text cursors will be shown to indicate both potential continuation positions of the text, depending on the next character that you type.

Additionally, the cursors are tilted to indicate where the next character will appear, depending on whether it uses a left-to-right (LTR) or right-to-left (RTL) writing direction.

The cursor that is tilted clockwise (with its top towards the right and the bottom towards the left) indicates the location for RTL text to appear.

The cursor that is tilted counter-clockwise (with its top towards the left and the bottom towards the right) indicates the location for LTR text to appear.

## IMEs

ToonSquid's text tool supports input method editors for languages such as Chinese, Japanese and Korean.

# Text Layer

Text layers are used to add text to an animation. Refer to the [text editing page](#) to learn how you can [add a text layer](#) and edit it on the canvas using the text tool.

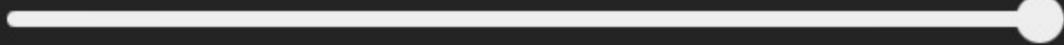
The text layer provides many properties that you can use to customize the appearance of your text.

## Properties

[Text Layer](#)      [Animation Layer](#)

### Blending

Opacity 100%



Blend Mode Normal >

### Transform

X <span>1003</span>	Y <span>217.1</span>	° <span>0</span>
Scale X <span>1</span>	Scale Y <span>1</span>	

## Font

Typeface

Helvetica >

Weight

Normal >

Style

Normal >

Font Size

100px

Style

Color

## Font

### Typeface

The typeface (or design family) of the font to be used by the layer. This is commonly loosely referred to as the "font", even though not technically correct.

You can choose the typeface from any font that is installed on the iPad or imported into ToonSquid.

### Weight

The font weight defines how bold or light the text should be.

The available options depend on which fonts are installed for the selected typeface. These are all options in increasing order:

- Thin
- Extra Light
- Light
- Normal
- Medium
- Semi Bold
- Bold
- Extra Bold
- Heavy

## Style

Whether the text should be italic or not.

The available options depend on which fonts are installed for the selected typeface.

## Font Size

The font size in pixels (in the local coordinate system of the text).

## Style

## Color

The text color. This property only supports solid colors and no gradients.

## Stroke Color

The color of the stroke along the edges of each glyph. This is only relevant if `Stroke Width` is greater than 0 so that a stroke is shown at all.

## Stroke Width

The width of the stroke as a percentage of the font size.

# Layout

## Text Alignment

The horizontal alignment of the text within the layer. Available options are

- Left
- Center
- Right

## Line Spacing

The distance of the baselines of each line of text from each other as a percentage of the default line-height for the chosen font.

## Letter Spacing

The additional amount of spacing between the glyphs as a percentage of the font size.

## Trim

The percentage of the characters in the text that should be shown.

The trim can be animated. You can use this, for example, to make text appear or disappear letter by letter over time very easily.

Note that text can only be [edited on keyframes](#) where this value is 100% (i.e. where all the text is visible).

# Fonts

All fonts installed on the iPad or imported into ToonSquid can be used for any text layer. You can also import additional fonts to be available in ToonSquid.

## Import

Custom fonts can be imported in one of the following three ways:

### Via the Inspector

1. Select a text layer.
2. Open the [inspector](#).
3. Open the Typeface dropdown.
4. Tap the Import Font button.

### Via the Library

1. Open the [asset library](#).
2. Tap the + button.
3. Select Import from Files .

### Via the Files App

1. Copy your font files into the Files app under On My iPad > ToonSquid > Fonts .
2. Quit and restart ToonSquid.

## Fonts and the Project

The font files themselves are not stored as part of a project and are not included when a project is exported. This means that they don't increase the size of a project and can be used in every project after being imported once.

This also means that importing a project that uses custom fonts on a different iPad will use fallback fonts instead until the fonts used by the project are installed on the iPad.

# Overview

Add fully-customizable shapes to your animation. They are vector-based, so they will remain sharp at every scale.

## Path Tool

With the path tool you can create vector shapes from scratch and edit all of the curve control points of existing shapes right on the canvas.

## Path Layer

Path layers define vector shapes. Control their fill color or gradient, stroke and corner radius and animate their trim to a certain percentage.

## Shape Library

Double tap the path tool to open up the shape library and choose from a variety of shape presets so that you don't have to waste any time creating basic shapes by hand.

## Morphing

Animate the position of all path control points over time using keyframes to smoothly morph one shape into another.

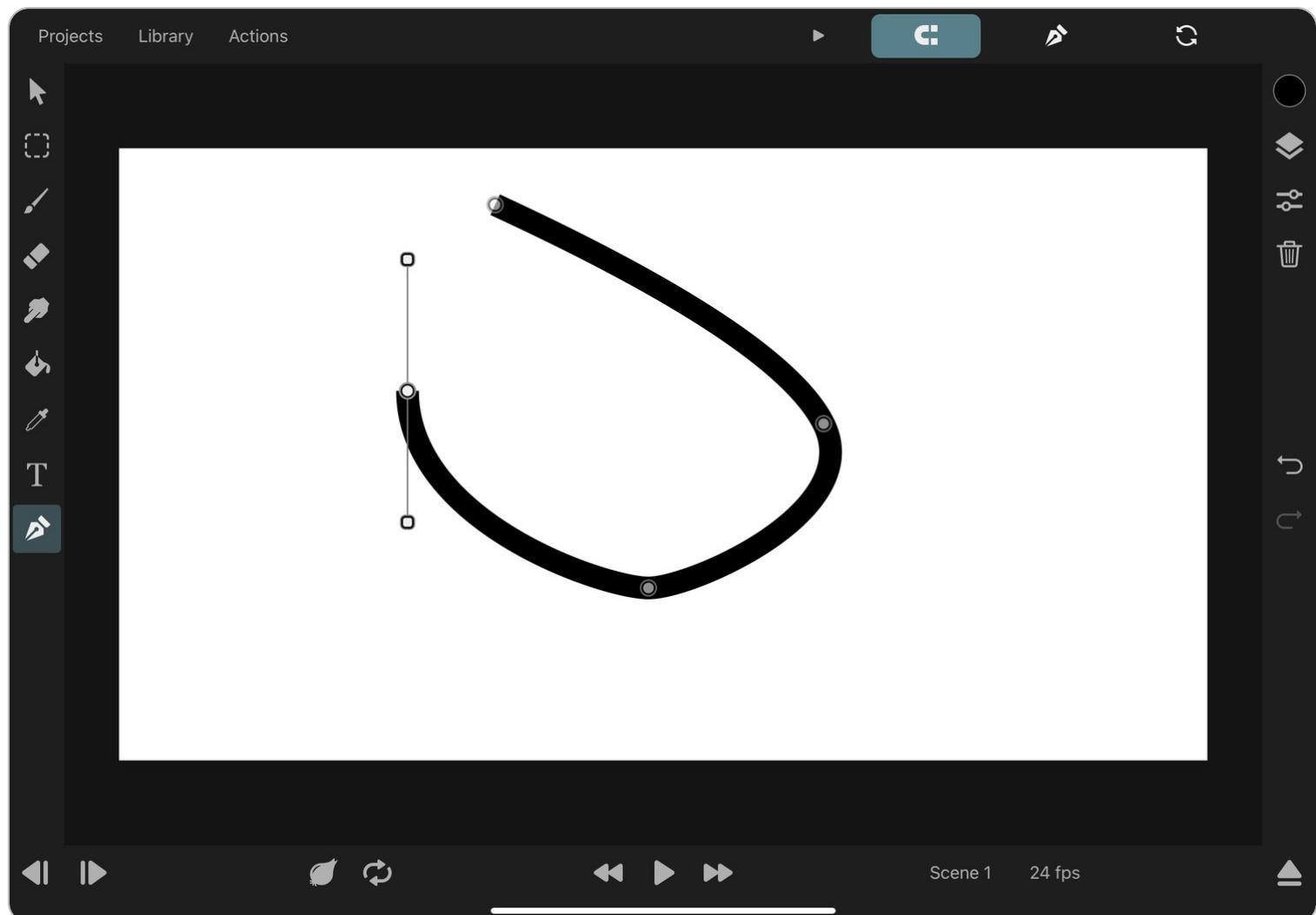
# Path Tool

Use the path tool to create vector shapes. Vector shapes are made up of control points with piecewise Bézier curves in-between.

## Editing

Tap on the canvas to add control points to the path. A new path layer is created automatically if necessary.

Tap and immediately drag to add a control point and pull out Bézier control handles at that control point. Tap any control point once to see its control handles. You can drag the control points or Bézier handles to edit the path.



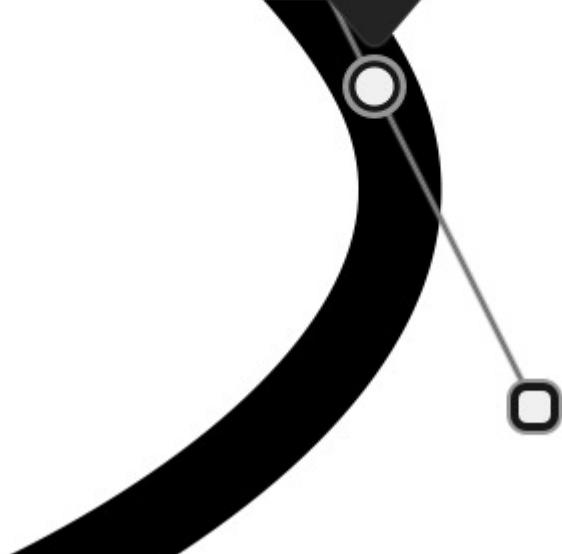
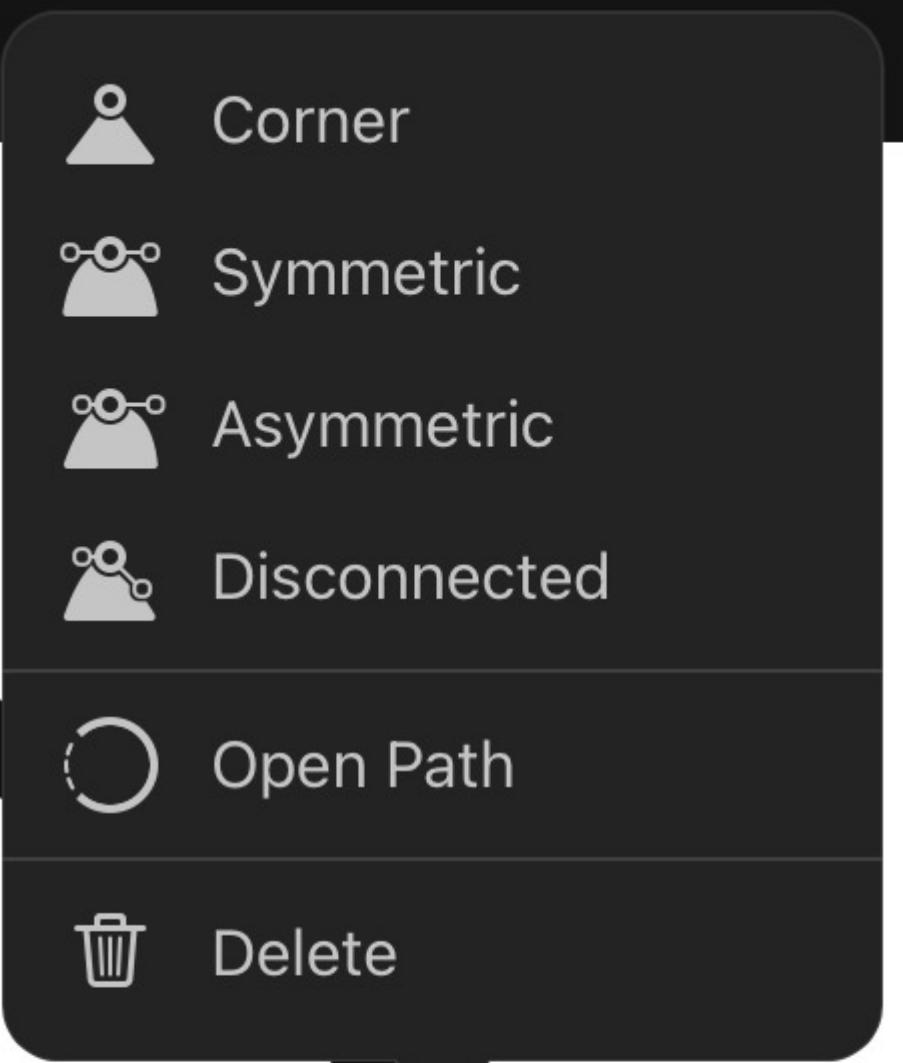
Tap the selected control point again and select `Delete` to remove that point from the path entirely.

## Close the Path

When the last control point is selected, tap the first control point to close the path. Tap a control point of a closed path twice and select the `Open Path` action to open the path at that control point.

## Control Point Mode

Each control point has a mode, which defines how the Bézier control handles behave at that point.



## Corner

The control point acts as a sharp corner and no Bézier control handles are shown. Only control points with the `Corner` mode are affected by the `corner radius` property of the path layer.

## Symmetric

The Bézier control handles maintain the same distance and opposite direction to the control point. This creates a perfectly smooth curve at the control point.

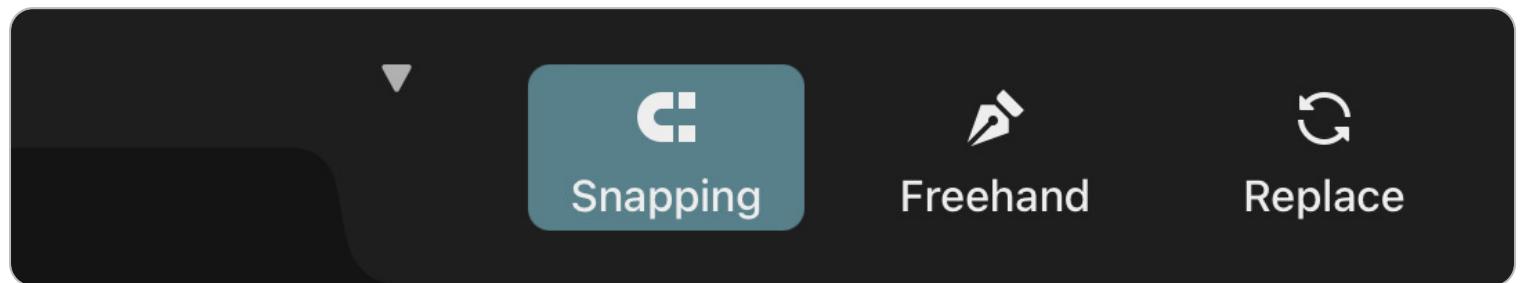
## Asymmetric

This is the same as the `Symmetric` mode, except that the control handles can have different distances to the control point.

## Disconnected

There are no limitations on the Bézier control handles. Both can be moved independently of each other.

## Tool Options



## Snapping

If enabled, control points and Bézier handles will snap to other control points and the centers and edges of other layers when they are being dragged.

## Path Mode

The path mode defines how new paths are created with the path tool.

## Freehand

This is the default mode. It lets you add one control point at a time per tap on the canvas.

## **Ellipse / Rectangle / Rounded**

Touch and drag to create a new shape between the first touch and the current drag location.

## **Replace**

Opens the shape library, where you can choose a shape preset which should replace the current control points of the selected path layer.

If no path layer is already selected, a new one with the chosen shape will be created.

### **Tip**

With a path layer selected in the transform tool, double-tap the layer to switch to the path tool.

### **Tip**

The [editor color picker](#) automatically connects to selected path layer in the transform and path tools, so you can use that to change the layer fill and stroke colors.

# Path Layer

The path layer stores a single vector shape. It has the following properties, which can be edited in the [inspector](#).

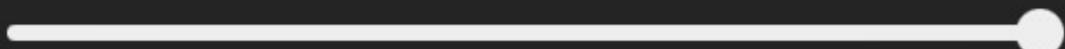
## Properties

Path Layer

Animation Layer

### Blending

Opacity 100%



Blend Mode Normal >

### Transform

X 882.1

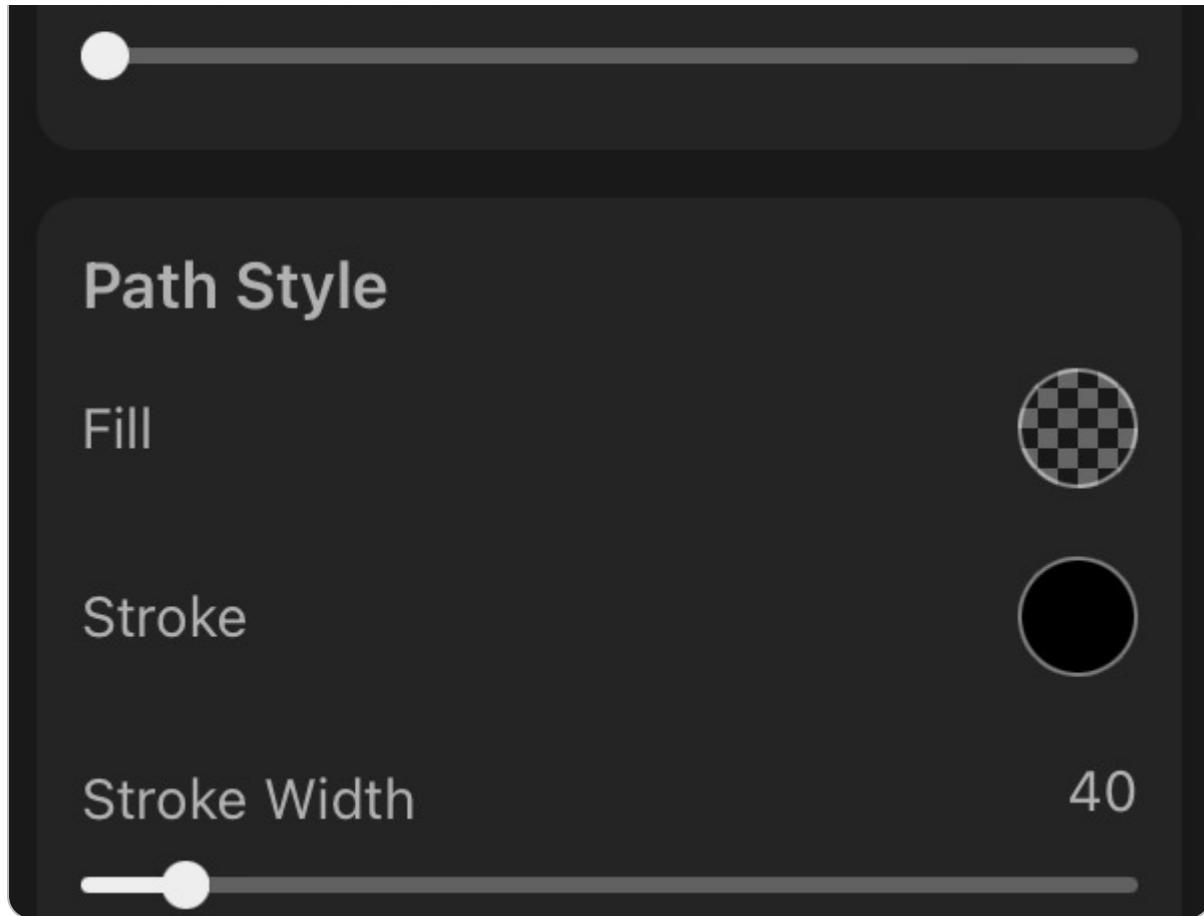
Y 437.6

° 0

Scale X 1

Scale Y 1

Corner Radius 0



## Corner Radius

You can use this slider to control the corner radius of every control point that has the [Corner mode](#). If a specific control point is selected, only the radius of that one is edited.

## Path Style

### Fill

The color or gradient with which the shape should be filled.

### Stroke

The color or gradient of the stroke around the edge of the shape. This is only relevant if the stroke width is greater than 0.

### Stroke Width

The width of the stroke in pixels (in the local coordinate system of the layer).

## Stroke Alignment

Whether the stroke should be fully inside the shape, fully outside or centered along the edge.

## Cap style

The shape of the two open ends of the stroke. This has no effect on closed paths.

### Butt

The ends are cut off straight and do not extend beyond the first and last control points.

### Round

The ends are rounded and extend past the first and last control points.

### Square

The ends are cut off straight and extend past the first and last control points.

## Join Style

The shape of the connection of two curve segments of the stroke at a corner control point.

### Miter

The outer edges of the stroke are extended past the corner until they come together at a point.

### Round

The connection is rounded.

### Bevel

A bevel is used at the outer edge of the stroke at the control point.

# Trim

The trim property can be used to only show a certain percentage of the entire path.

This can be animated with [keyframes](#) to let the path grow or shrink over time.

## Start trim

Trims the beginning of the path.

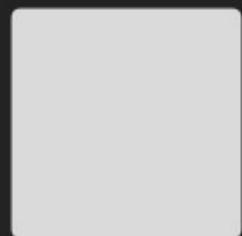
## End trim

Trims the end of the path.

# Shape Library

After selecting the path tool, tap the path tool icon again to open the shape library.

## Add Shape



T



Here, you can choose a shape preset to add a new layer with that shape to the current drawing.

Adding a shape from the shape library automatically switches to the transform tool so that you can immediately begin moving it to its correct location.

# Morphing

The control points property of a path layer is keyframeable. You can use this to create an animation that morphs one shape into another.

When you add multiple keyframes to this property, the control points at the same index in the path are interpolated between the keyframes.

Both the control point position and its Bézier control handles are interpolated.

## Tip

Use the same number of control points at both keyframes for more control over the animation. Otherwise, the missing control points are automatically inserted during the animation outside of your control.

# Overview

Explore the concept of symbols and animation clips in ToonSquid and learn how you can use frame markers to significantly speed up your animation workflow.

## Animation Clips

Animation clips form the basis of all animation in ToonSquid. Creating separate clips for different parts of your animation allows you to reuse those in other parts of the animation using symbols.

## Symbol Layer

Symbol layers reference other animation clips that should be displayed as the content of the symbol layer. You can animate them around like any other layer but also control how they should loop and at which speed they should play back in your current timeline.

## Create Symbols

Learn about the different ways in which you can create symbols in ToonSquid.

## Animate with Frame Markers

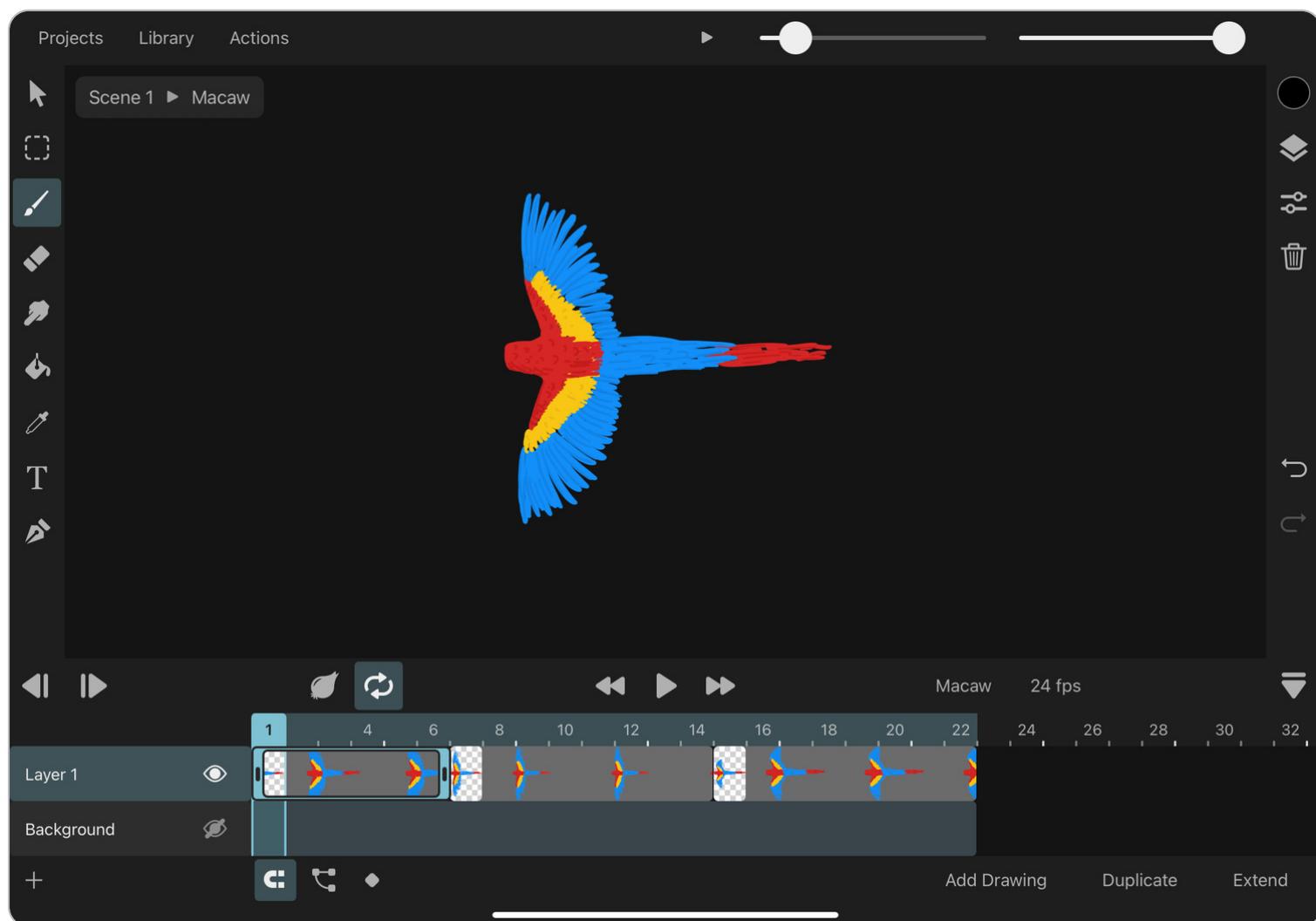
Frame markers, symbols and [keyframes](#) can be used to quickly switch between different variations of parts of your animation, for example, different mouth shapes of a character during lip-syncing. Learn all about this process in this chapter.

## Symbols

# Animation Clips

Animation clips are used to add and reuse separate parts of your animation in a ToonSquid project.

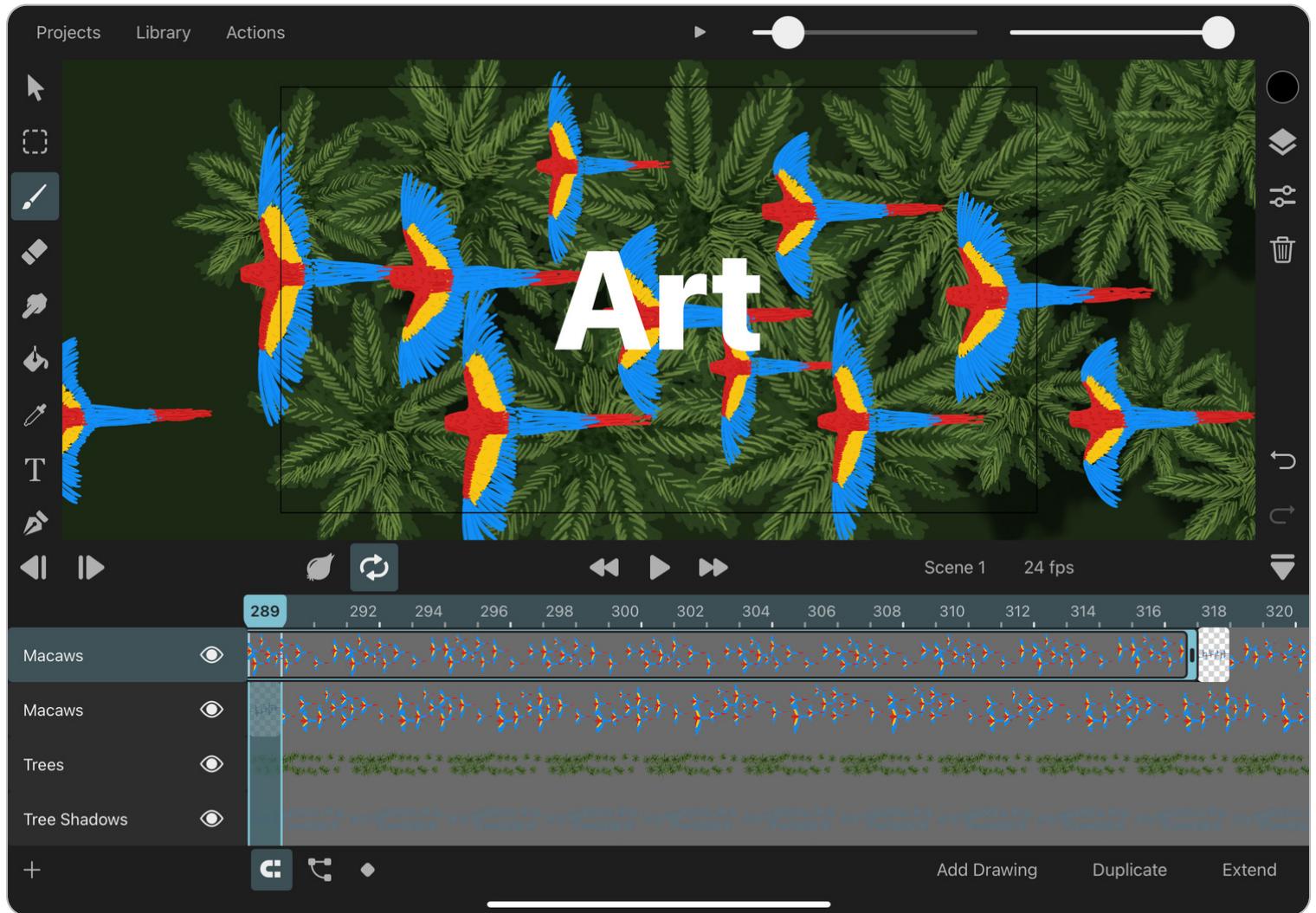
They provide a [timeline](#), in which you create your animation using layers. Every animation clip has a resolution and a frame rate and is part of a [project](#).



## Symbol

Animation clips in your project's [asset library](#) can be inserted into other animation clips and scenes using [symbol layers](#). This allows you to reuse entire animations and therefore organize your projects more efficiently.

For example, you can animate a tree once in a separate animation clip and insert it multiple times in your main scene at different positions and scales to create a forest quickly without having to draw and animate every tree in the forest separately.



You can create animation clips in the library.

## Scenes

At this point, you are probably already familiar with scenes since this is where the majority of your animation takes place.

Scenes generally behave in the same way as animation clips as far as their timeline is concerned but are more limited in some aspects.

They are not shown in the asset library, they all have the same resolution and fps settings as the project, and they cannot be used as symbols.

# Symbol Layer

A symbol layer references an [animation clip](#) in the project asset library and shows the contents of that clip as its own content. The referenced clip will also play back over time inside the symbol layer.

Symbol layers have a [transform](#) that can be used to position, rotate and scale the referenced clip just like any other layer.

Symbol layers use the [Pass Through](#) [blend mode](#) by default, which results in the same appearance as if the layers of the referenced were directly in the timeline instead of the symbol layer.

## Properties

### Properties

[Symbol Layer](#) [Animation Layer](#)

#### Blending

Opacity 100%

Blend Mode Pass Through >

#### Transform

X 1635.2

Y -63

° 0

Scale X

0.7

Scale Y

0.7

## Symbol

Clip

Macaw >

Loop Mode

Normal >

Use own frame rate



Muted



## Clip

The animation **clip** whose contents should be played back in the symbol layer. You can select any animation clip from the library.

## Loop Mode

The loop mode controls the playback of the animation clip if the symbol layer is longer than the referenced animation.

### Don't loop

No looping takes place. Once the animation clip runs out of content, the symbol layer will appear empty.

## Normal

The referenced animation clip will play again from the beginning once it reaches its last frame. This is the default loop mode.

## Boomerang

The clip is first played forwards until its last frame is reached. It is then played in reverse until the first frame and then the loop starts again.

## Use own frame rate

This setting is only relevant if the clip that the symbol layer is in and the referenced symbol animation clip have different frame rates.

It defines whether the symbol should play back at the frame rate of its own referenced clip or the timeline that it's currently in.

Note that audio is automatically muted if it's coming through a symbol that is not playing back at its own frame rate.

### Example: Importing a 60fps video into a 30fps timeline via a symbol

If `Use own frame rate` is enabled, the video plays back in real-time (every second frame is skipped to maintain its natural speed).

If `Use own frame rate` is disabled, the video plays back at half-speed (no frames are skipped - one frame in the timeline equals one frame in the symbol clip (i.e. video)).

## Time

The frame of the referenced clip at which the playback in the symbol should begin. This works similarly to the `Offset` property of an audio clip.

If the referenced clip uses frame markers, you can also tap on `Select from Markers` in order to quickly pick the time from the list of markers. Learn more about that workflow [here](#).

## Muted

Whether audio layers should play through this symbol.

## Camera Behavior

If the referenced clip has a [camera layer](#), the resolution of that camera defines the resolution in which the clip is displayed in its symbols.

### Tip

When a symbol layer is selected in the transform tool, double tap it to open the referenced clip in the editor.

# Create Symbols

There are multiple ways in which you can create symbols in ToonSquid.

## Create in the Library

1. Open the library.
2. Tap the + button.
3. Select Create Animation Clip .
4. Configure the clip.
5. Tap Create .
6. Edit the contents of the new clip.
7. Switch to the scene or clip in which you want to insert the symbol. You can do this either via the breadcrumbs, the scene selection, or the library.
8. Insert a symbol from that clip by tapping the clip to be inserted in the asset library.

## Create from a Drawing

1. Select the drawing in the timeline.
2. Tap the drawing again to show drawing actions.
3. Select Create Symbol .
4. A new animation clip is created with the contents of this drawing. The contents of the drawing are replaced with a symbol referencing the new clip.

## Create from Timeline Layers

1. Select one or more layers in the timeline.
2. Tap the selected layer again to show the layer actions.
3. Select Create Symbol .
4. A new animation clip is created containing the selected layers. The layers are replaced in their old clip with a new animation layer containing a drawing with a symbol layer that references the new clip.

# Animate with Frame Markers



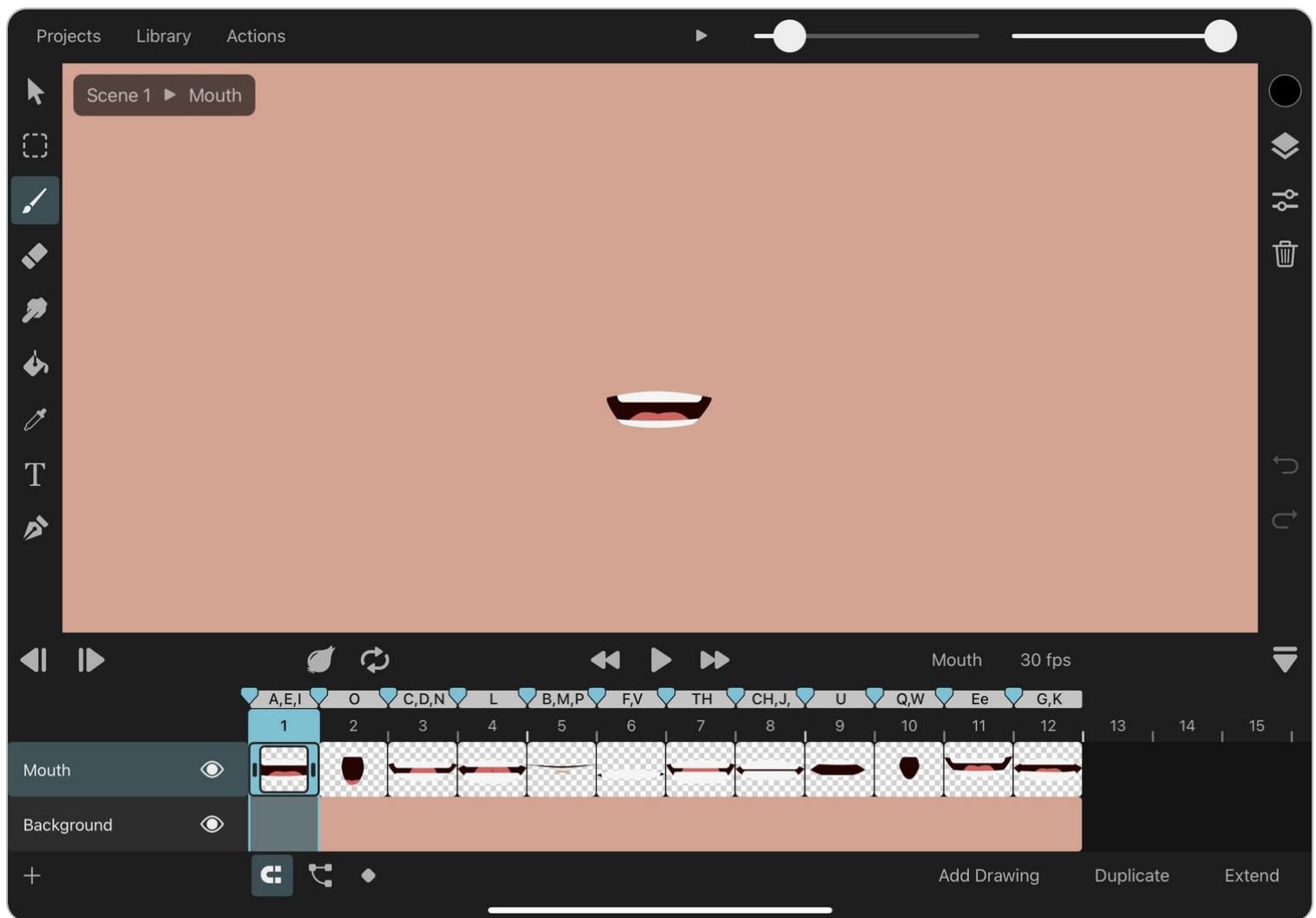
Frame markers, symbols and keyframes can be used to quickly switch between different variations of parts of your animation.

Let's look at how this can help us to speed up a lip-syncing workflow. Our scene contains an audio layer with the spoken sentences to which we want to sync the mouth of a character.

## Creating a Mouth Symbol

We create a symbol which will hold all of the different mouth shapes that are needed for lip-syncing. Each mouth shape lives in a separate drawing.

We then add frame markers to each one of the frames with the drawings and use the marker comments to highlight which sounds / letters each mouth shape corresponds to.



## Adding Time Keyframes using Markers

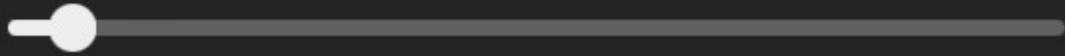
We can now return to our main scene in which we have placed the mouth symbol on our character's face.

## Time

Select from Markers >

Time

5



When you add frame markers to an animation clip that is used as a symbol, you get the option to edit the `time` property of the symbol layer by selecting from the list of frame markers instead of having to use a slider or having to manually input the frame numbers by hand.

Whenever we select a marker from this grid, a new keyframe is added to the `time` property on the current frame. This means that we can now just scrub through our timeline while listening to the sounds of the audio layer at each frame and then simply pick the corresponding mouth shape for each moment from the inspector.

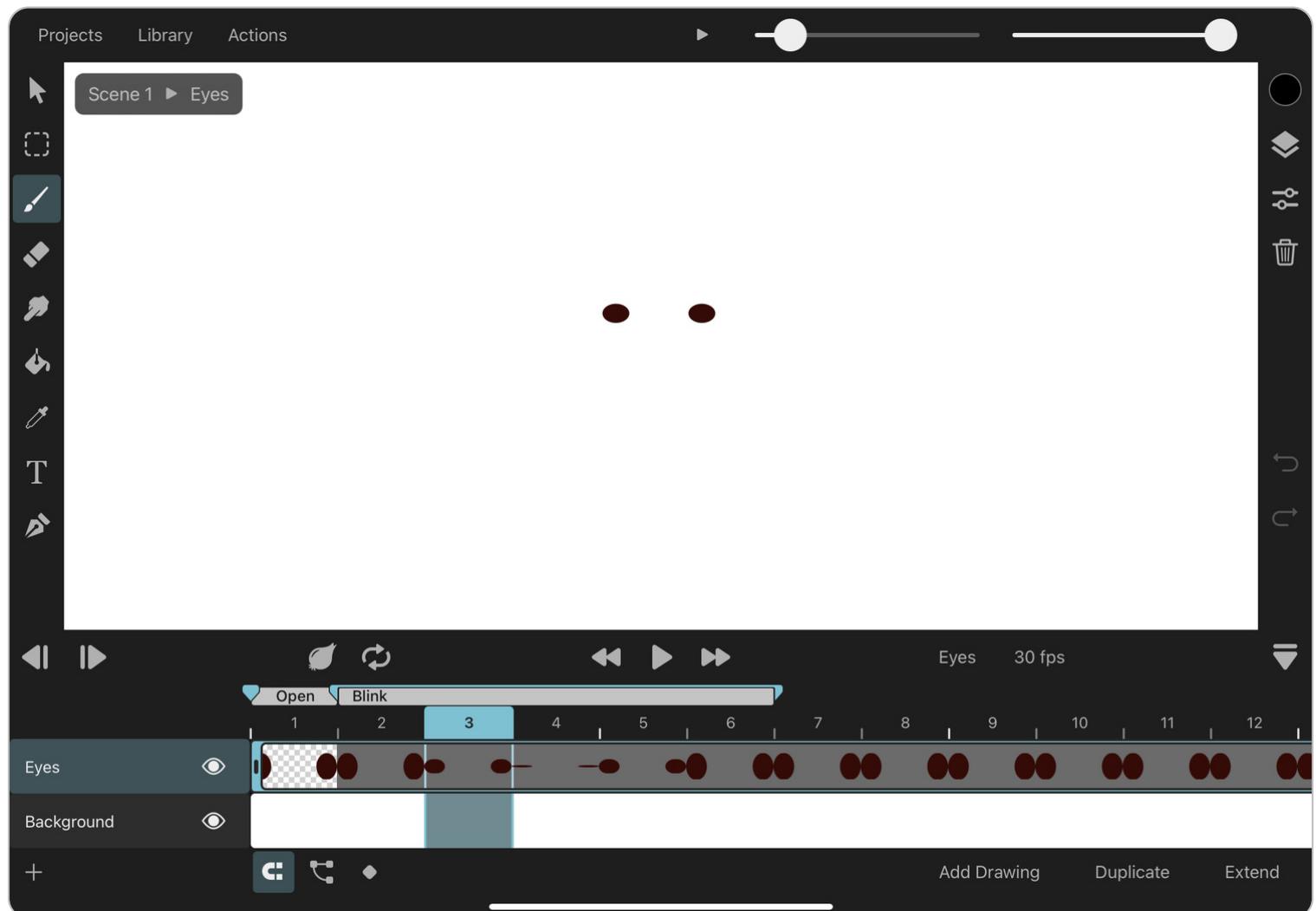
## Frame Marker Ranges

When you select a marker that only spans a single frame, the new time keyframe will have a `Hold` easing curve which causes that same frame to remain visible until the next keyframe.

If you select a marker that spans a range of multiple frames, two time keyframes are inserted which will cause the entire marked range to be played.

One way to use this is shown below. We move the eyes of our character into their own separate symbol, where we then create two animations. On the first frame, we keep the eyes in their normal open state and annotate this frame with a marker.

Between frames 2 and 6, we animate the eyes blinking and also annotate this range.



In our main scene we can now select the "Open" frame marker on the first frame of the eyes' symbol layer and whenever we want our character to play the blinking animation instead, we just move the play cursor to that frame and then select the "Blink" marker.

# Overview

## Selection

Create selection areas in the editor to define which parts of your animation the brush tool, fill tool and transform tool are allowed to edit.

## Selection Tool

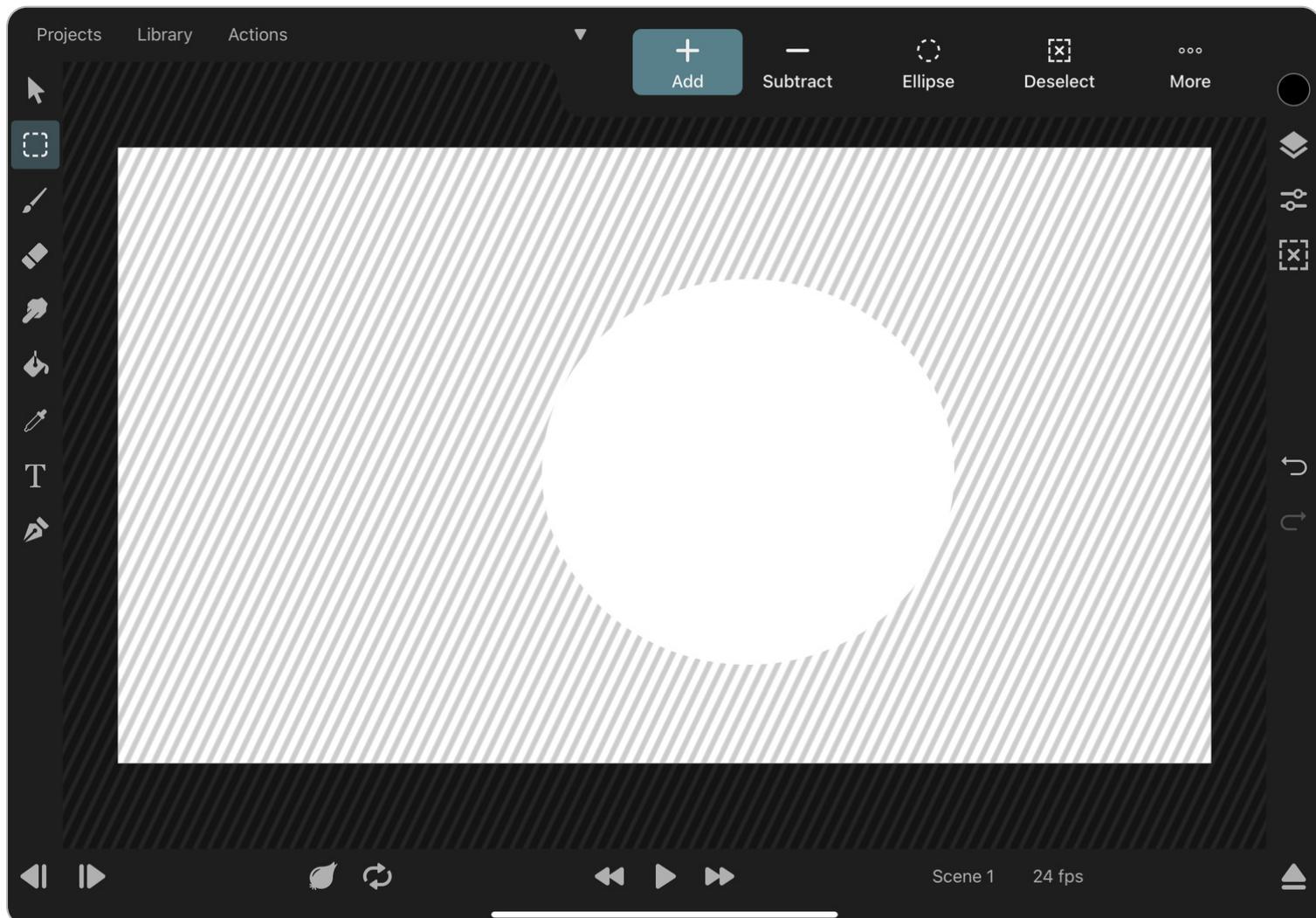
You use the selection tool to add, modify and remove selection areas on the canvas.

### Tip:

This tool is not used to select or move layers. Use the [transform tool](#) for that.

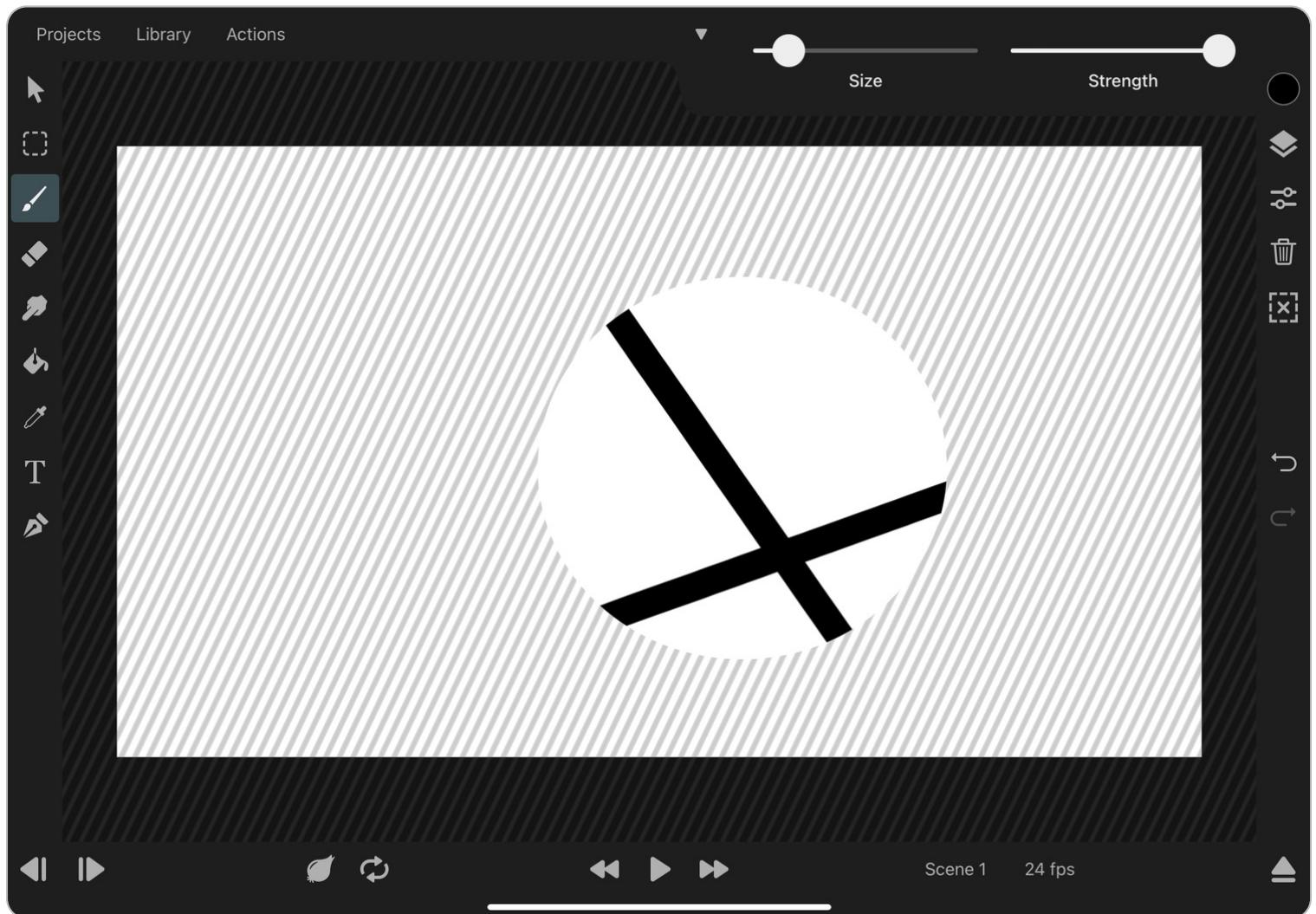
# Selection

You can use the **selection tool** to define a selection area on the canvas. Certain tools work differently when there is an active selection area.



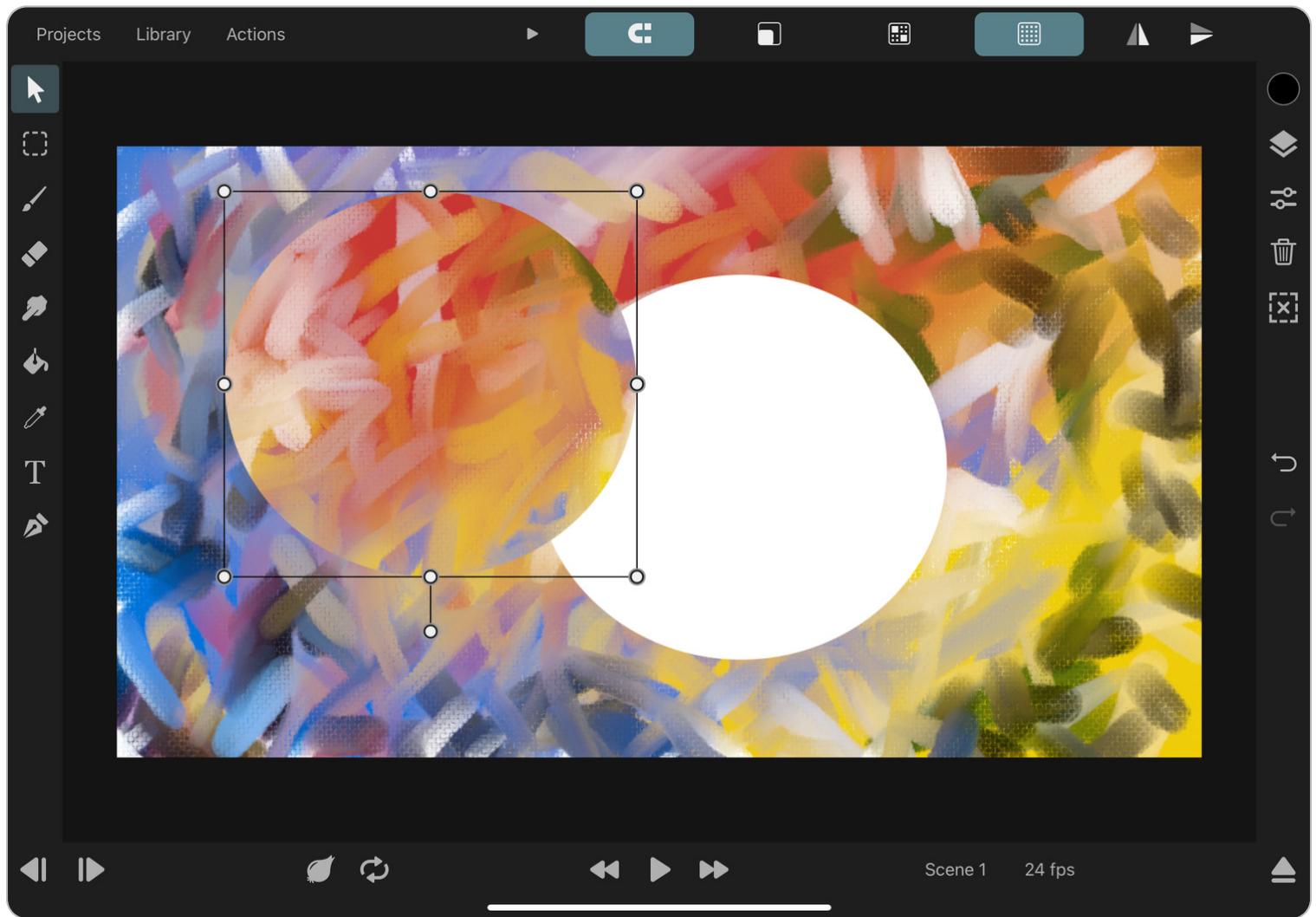
## Brush Tool

The brush tool only draws, erases and smudges within the selection area.



# Transform Tool

When the [pixel edit mode](#) is enabled in the transform tool, the tool only transforms the region of a pixel layer within the selection area.

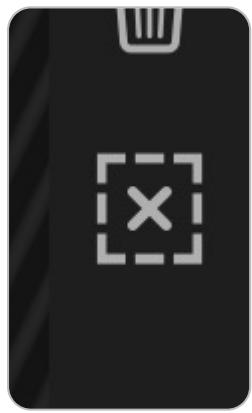


## Fill Tool

The fill tool only fills the selected canvas region.

## Quick Deselect

You can use the deselect button in the right sidebar in order to quickly deselect the current selection no matter which tool you are currently in.

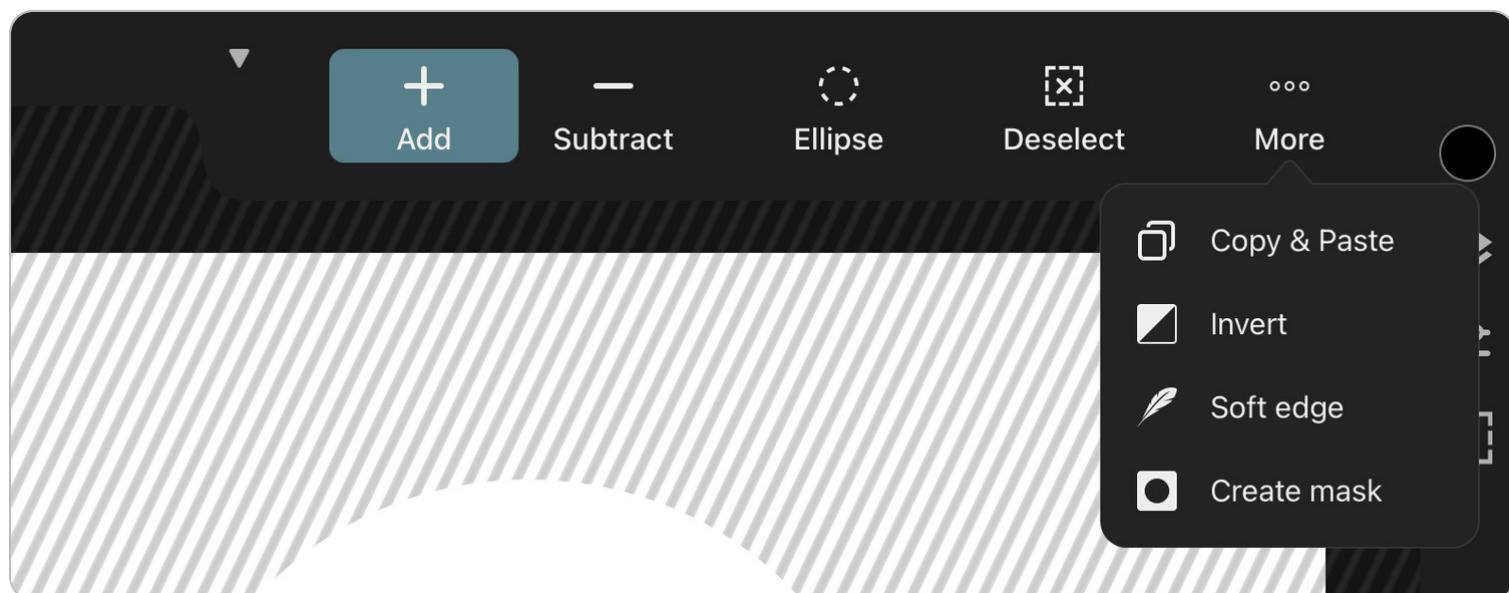


# Selection Tool

The selection tool allows modifying the [selection area](#) by touching and dragging on the canvas. All changes that you make to the selection area are undoable.

If a selection area exists, regions outside the area are highlighted with diagonal lines on the canvas.

## Tool options



The options under the `More` button are only available if an active selection area exists.

## Combine Mode

The combine mode defines how the next selection area that you draw is combined with the current selection.

### Add

New regions that are drawn are added to the current selection.

### Subtract

New regions that are drawn are removed from the current selection.

## Path Mode

The path mode defines what shapes are added to or subtracted from the current selection when you draw on the canvas.

### Freehand

The edges of the new selection region are manually drawn by hand. Letting go will close the currently open region with a straight line back to the starting point.

### Rectangle

New rectangular selection regions can be created by touching and dragging. The rectangles are added between the first and last touch positions.

### Ellipse

Similar to the `Rectangle` mode but this mode adds an ellipse shape instead of a rectangle.

### Deselect

Removes the current selection.

### Copy & Paste

Copies the selected region of the selected layer and pastes it into a new `pixel layer`. The selection is cleared and the editor switches to the `transform tool` so that you can immediately move or otherwise transform the pasted region.

#### Tip:

If you want to quickly merge the new pasted layer with the one below it, you can simply tap it once on the canvas in the transform tool and select "Merge down" from the list of options.

### Cut & Paste

This option is only available if the selected layer is a [pixel layer](#). It behaves the same as the [Copy & Paste](#) option but also cuts out the selected region from its original layer.

## Invert

Inverts the selection areas. Areas that were previously selected become deselected and ones that were not selected become selected.

## Soft edge

Presents a slider that can be used to blur the edge of the current selection. The slider controls the blur radius in pixels.

## Create mask

Tap this button to use the current selection area as a [mask](#) for the selected [drawing layer](#). The selection is rasterized into a new pixel layer which then acts as the [mask layer](#) of the selected layer.

# Overview

Learn how to select colors with the color picker and pipette, save them into palettes, fill entire regions with them quickly and create beautiful gradients.

## Color Picker

The color picker is your central hub for selecting colors for the brush and for text and path layers. Explore the different color picker interfaces that let you quickly choose the next color you are looking for.

## Pipette

The pipette tool allows you to easily pick a color straight from the canvas.

## Fill Tool

Fill connected regions of a pixel layer quickly with the same color using the fill tool.

## Color Palettes

Store colors that you use most often in a color palette to have them right at your disposal in the color picker. ToonSquid comes with a selection of beautiful palettes, but you can also create your own and even share them with others.

## Gradients

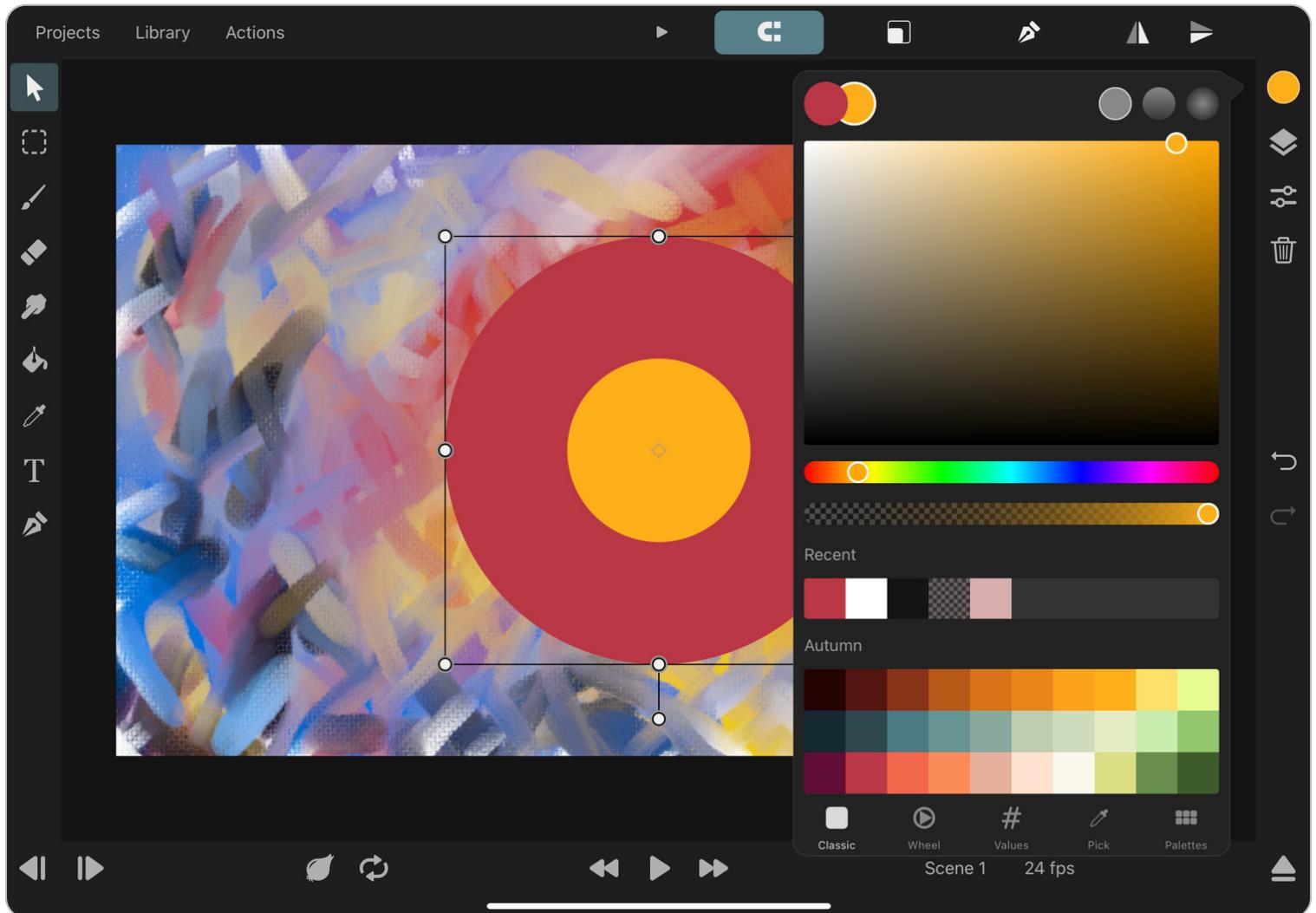
Instead of solid colors, you can also choose gradients for the fill and stroke of a path layer. Edit gradient control points in the color picker and right on the canvas.

## Color Spaces

Learn about the color spaces that are supported by ToonSquid.

# Color Picker

The color picker allows you to select colors to be used with the brush tool or by the selected layer.



## Color Button

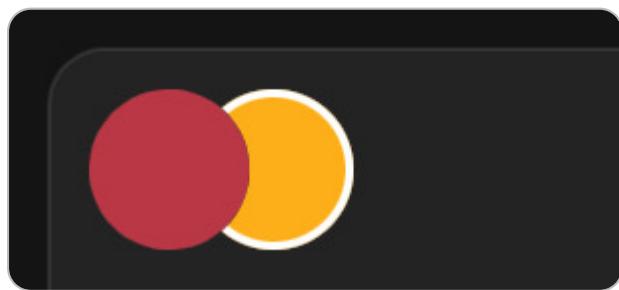
You open the color picker either with the color button in the sidebar or via a layer property in the [inspector](#).

The behavior of the color picker that is opened via the sidebar depends on the selected layer and tool.

This color picker generally selects the color for the brush tool, however, when a

text or path layer is selected and the transform, text or path tools are selected, the color picker controls the fill and stroke colors of the selected layer instead.

## Primary and Secondary Color



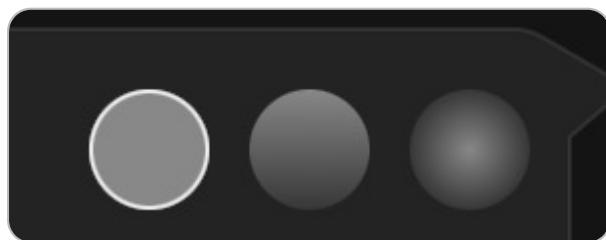
You can see the currently selected primary and secondary colors in the top left corner. Refer to the [color dynamics settings](#) to learn about how the brush tool uses the primary and secondary colors.

If the layer color and stroke are being [controlled](#) by the color picker, then the stroke is shown in the primary color slot and the fill is shown in the secondary slot below.

You can swipe the primary color cell to the right to quickly swap the primary and secondary colors.

## Color Types

If the color picker is opened in a context in which gradients can be selected, the different color type options are shown in the top right corner.

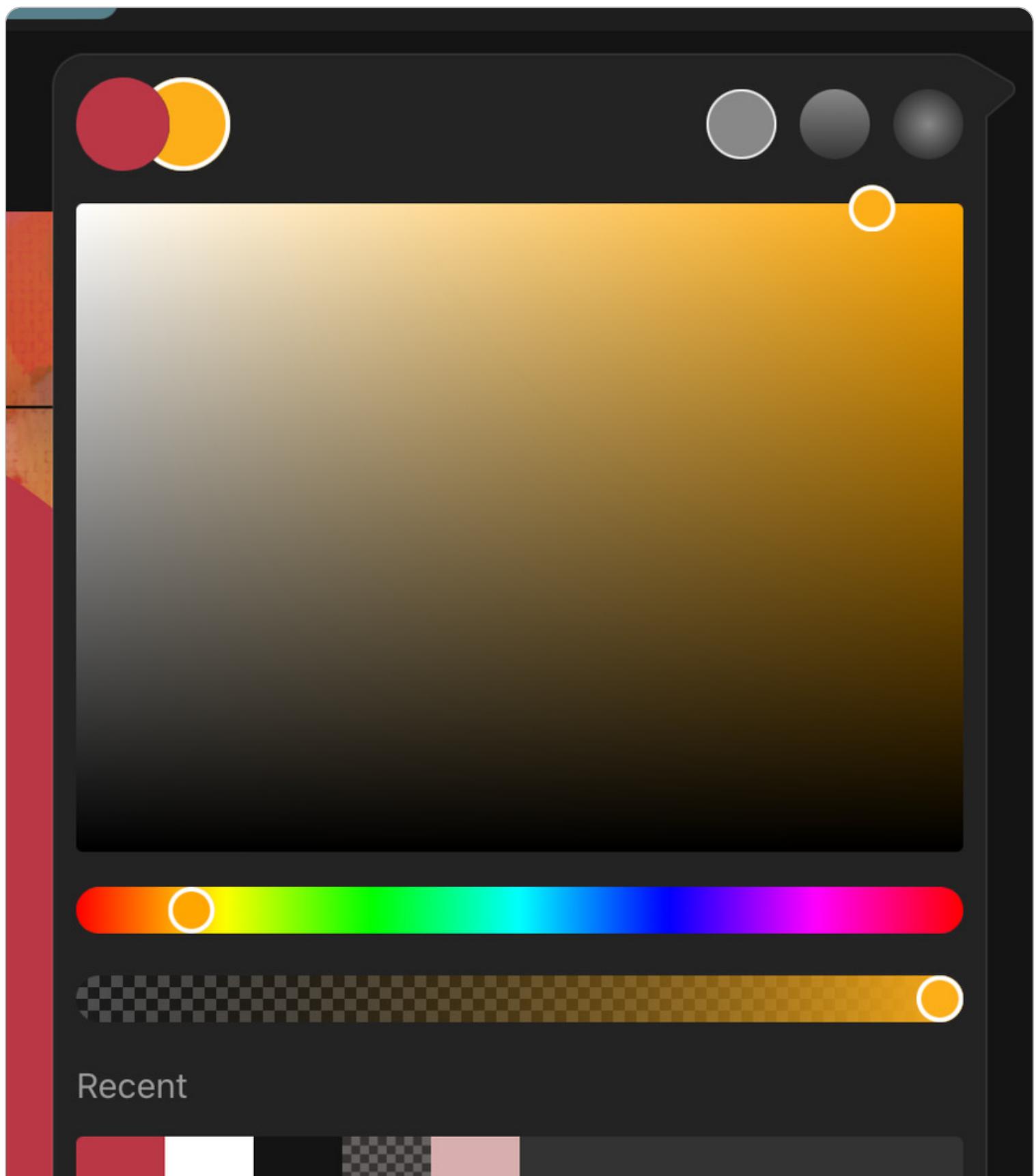


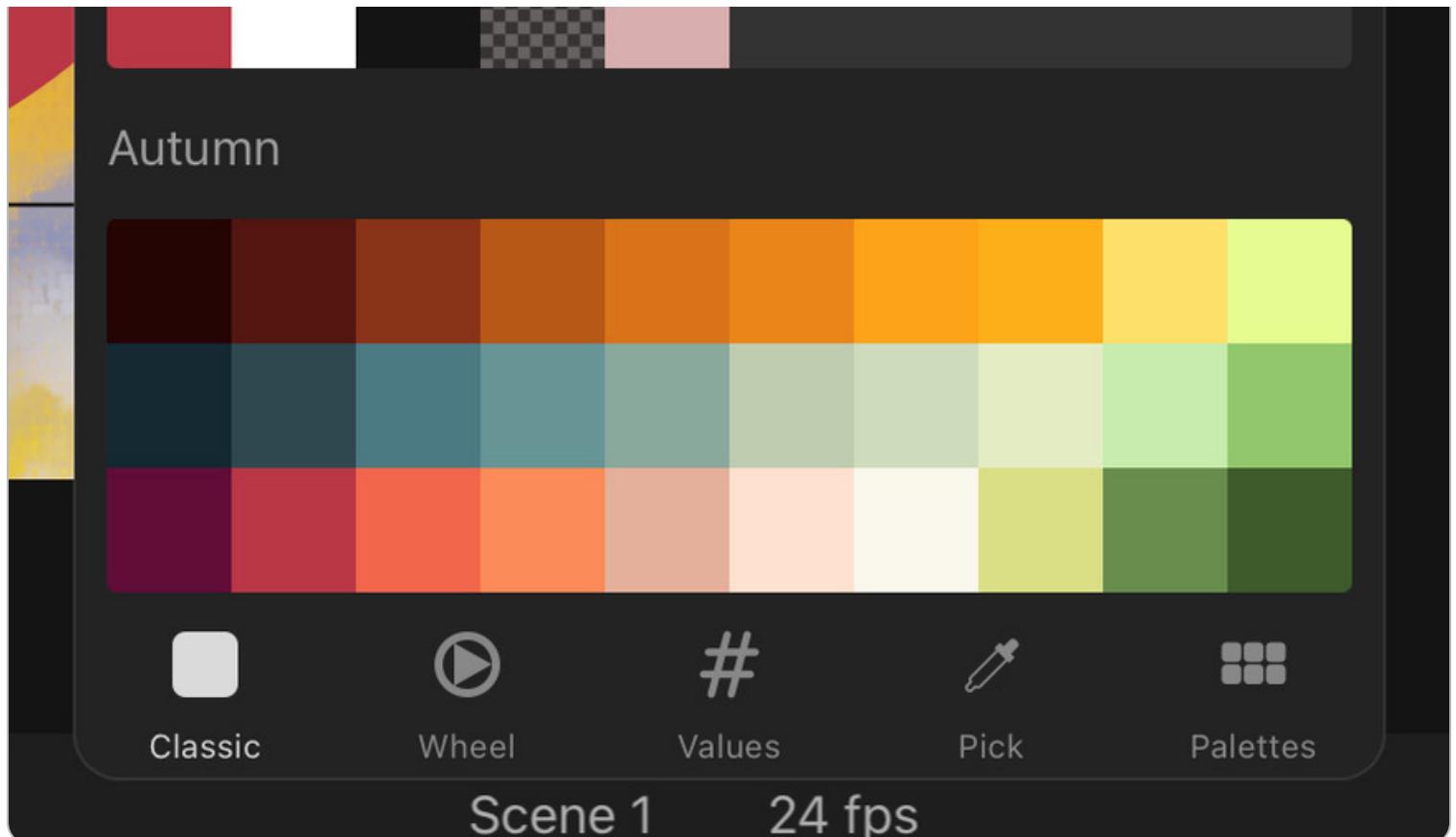
You can then either choose a single solid color, a [linear gradient](#) or a [radial gradient](#).

# Tabs

You can choose different tabs of the color picker at the bottom to switch between different interfaces, depending on how you prefer to select colors.

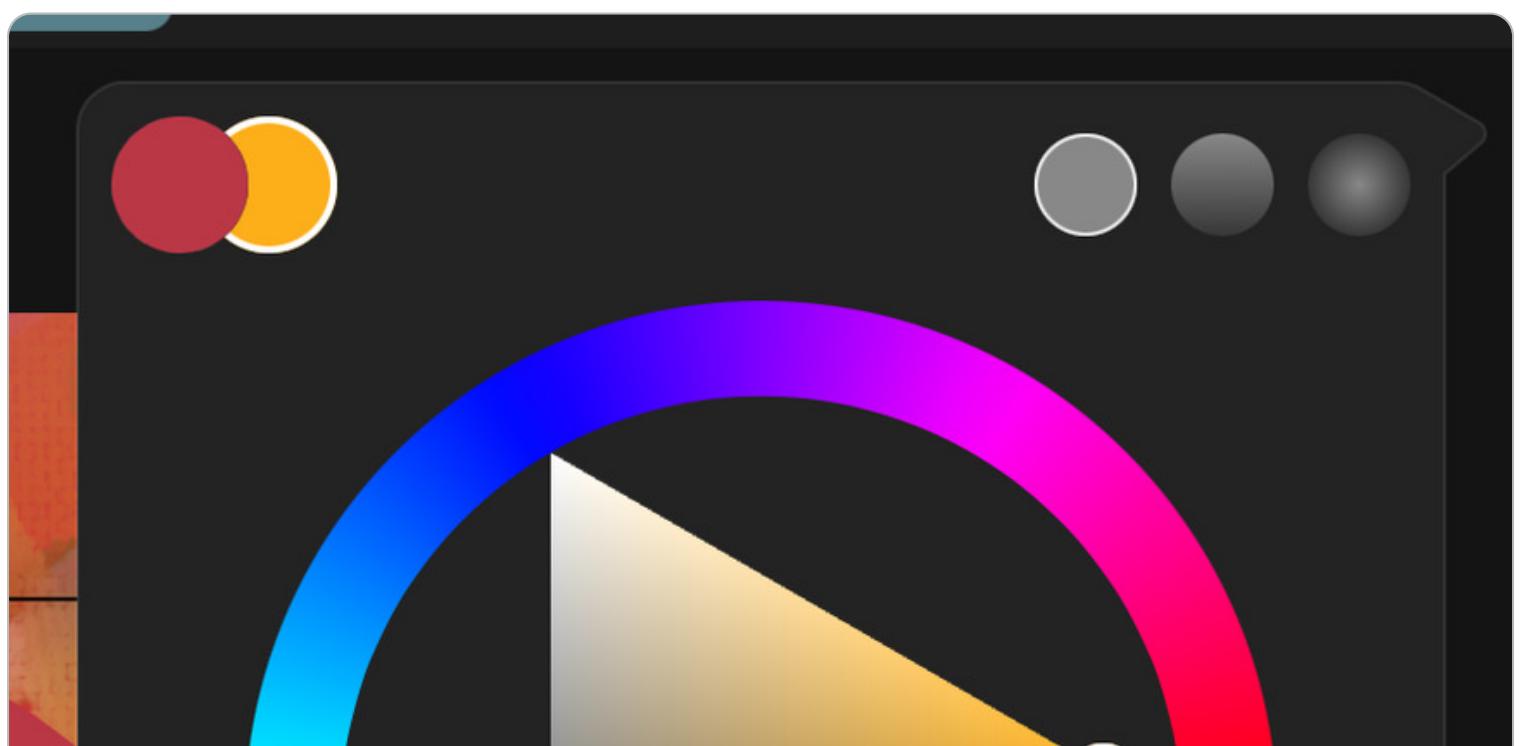
## Classic

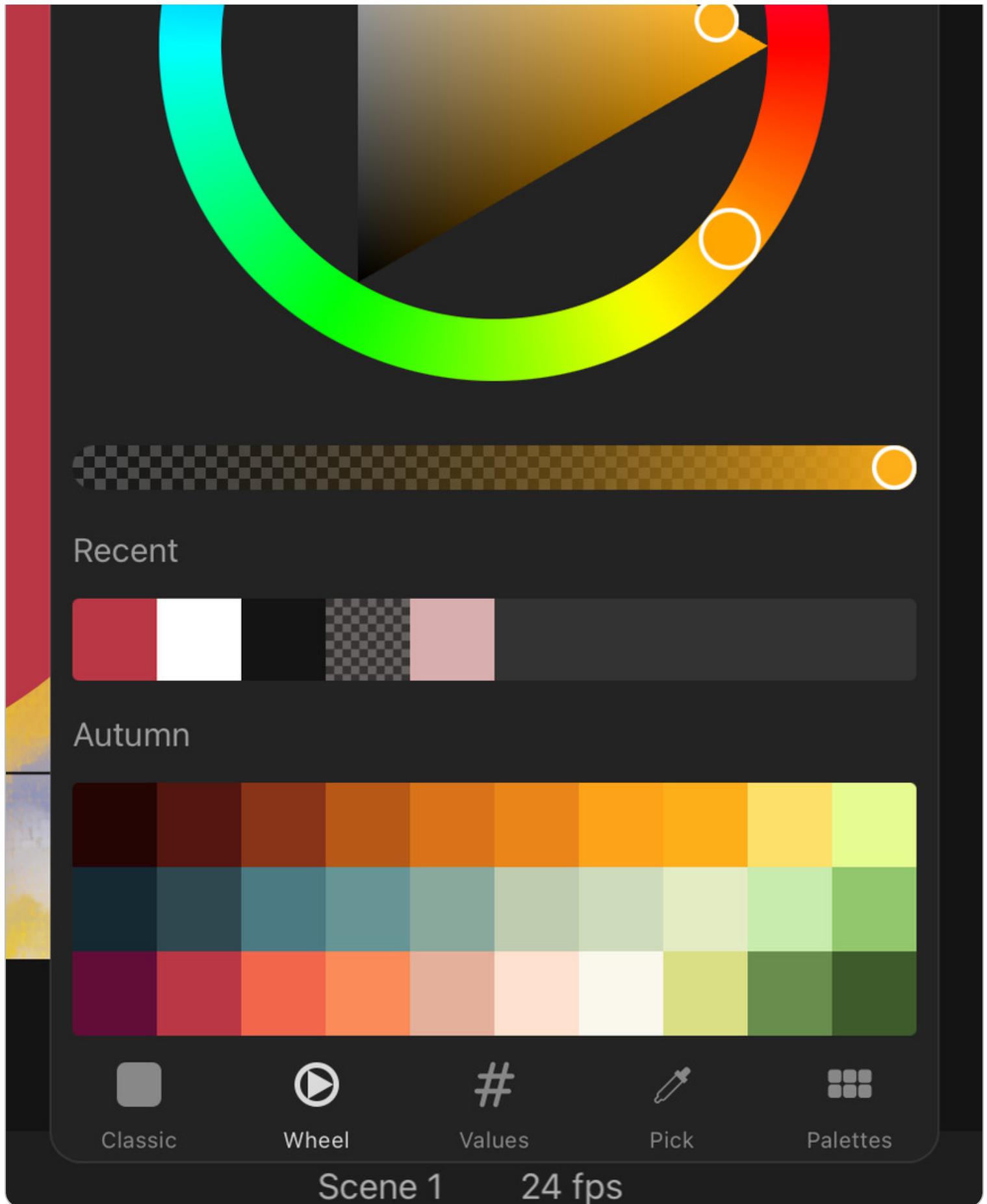




The classic color picker interface shows a rectangular saturation-brightness picking area, where the saturation increases horizontally from left to right and the brightness increases from bottom to top. Below this, you will find a simple hue slider.

## Wheel





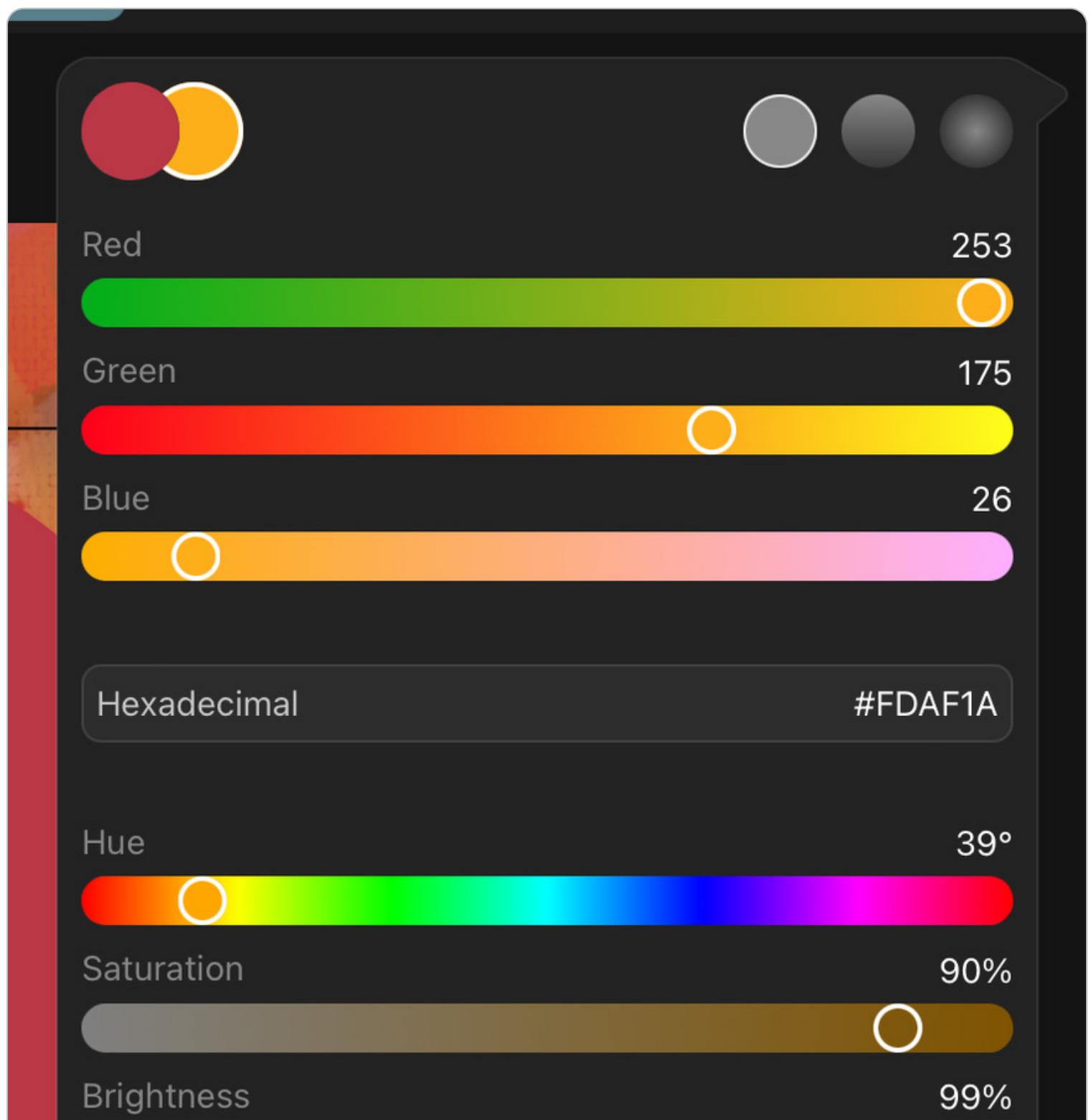
The wheel color picker shows a triangular saturation-brightness picking area. The minimum saturation is at the left edge and the maximum saturation is at the

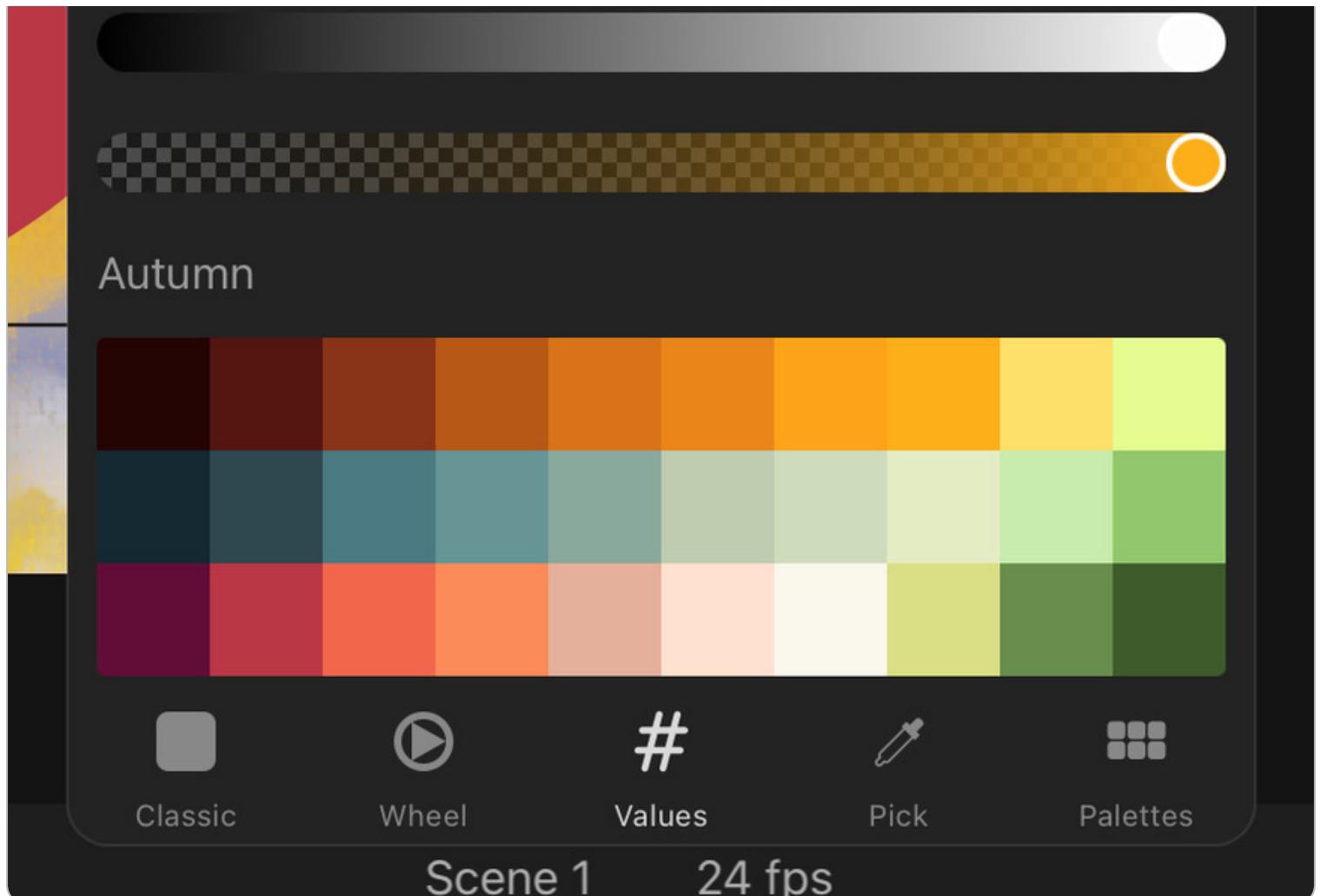
bottom-right edge. The saturation increases with the angle between the two edges.

The lowest brightness (i.e. black) is found at the bottom corner and the highest brightness (i.e. white) at the opposite edge.

This saturation-brightness area is surrounded by a circular hue slider, which makes picking the hue a little easier than it is in the classic color picker.

## Values



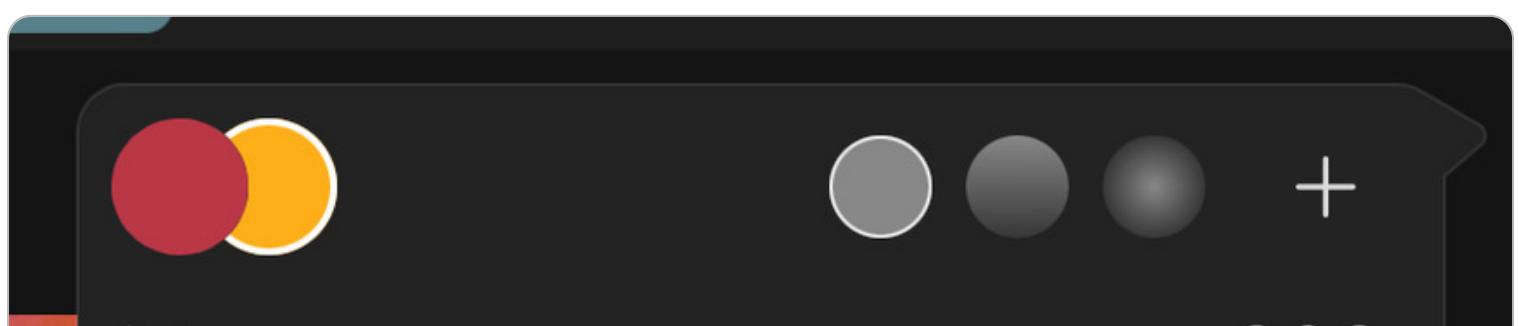


The values tab shows three sliders to input the red, green and blue components, three alternative sliders to select the hue, saturation and brightness of the color and an input field where you can enter the color value in hexadecimal format.

## Pick

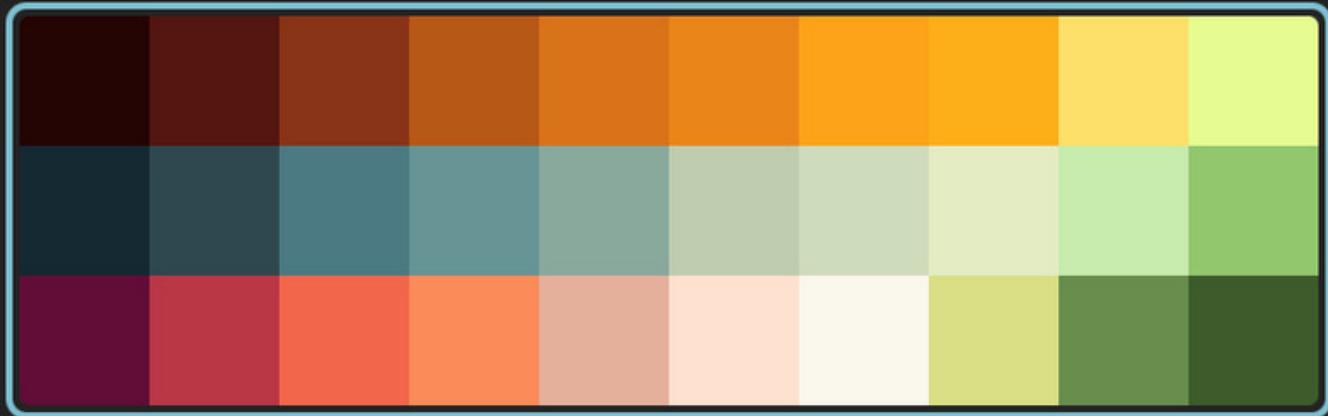
This is the only tab button that does not change the color picker interface but instead switches to the pipette tool to pick the color for the color picker from the canvas.

## Palettes



Autumn

○ ○ ○



Amalfi

○ ○ ○



Tranquil

○ ○ ○



This tab shows the color palette library, where you can add, select and manage your color palettes.

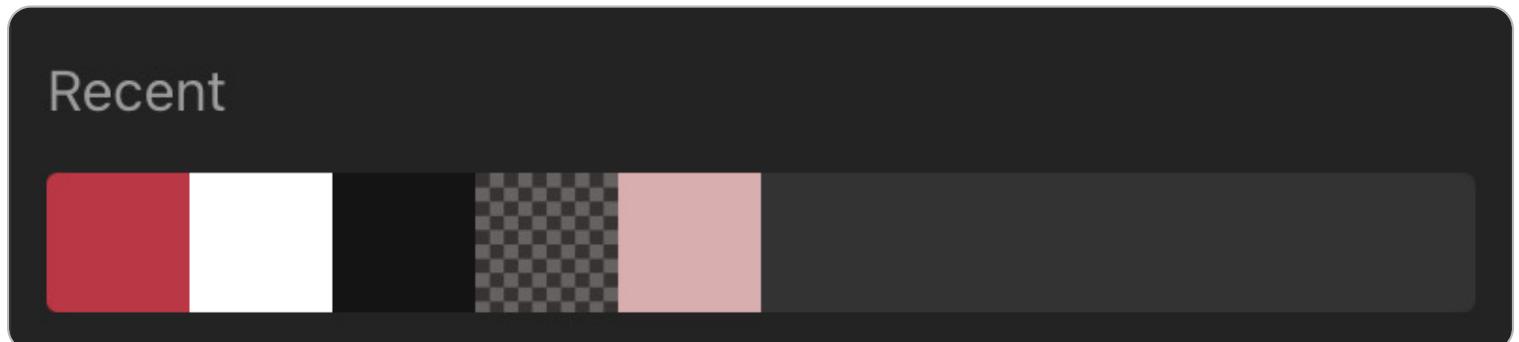
## Opacity



If the color to be selected can have a transparency component, an opacity slider is shown in addition to the controls mentioned above.

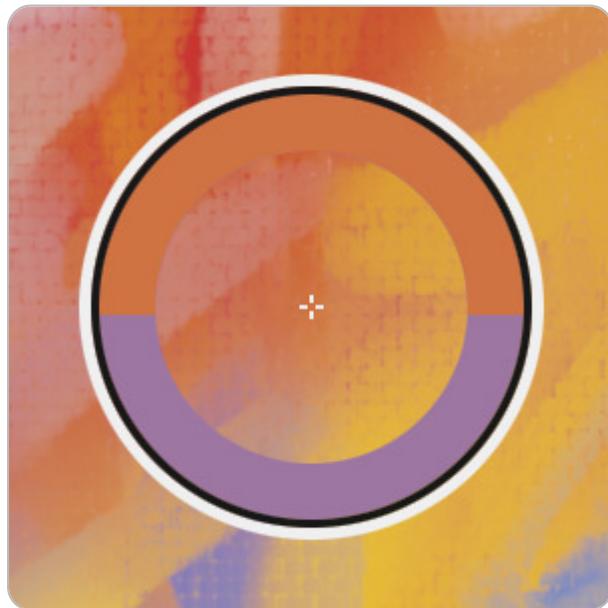
## Quick Palettes

The Classic and Wheel tabs show a list of the 10 most recently selected colors and the selected color palette. The current palette is also shown in the Values tab. You can change which color palette is shown here in the color palette library.



# Pipette

The pipette tool allows you to select a color directly from the canvas.



If the pipette tool is selected via the [color picker](#), the selected color feeds into the color picker and therefore to the color property that is currently being controlled by the picker. The pipette disappears from the canvas when the color picker is closed.

If the pipette tool is instead selected via the [toolbar](#) in the editor, it is used to select a new brush color. In this case, the pipette stays on the canvas until a different tool is selected.

## Gestures

You can drag the pipette on the canvas to change which pixel it reads its color from.

You can also temporarily switch to the pipette tool by touching and holding on the canvas. By default, this is only possible with your finger, not with Apple Pencil. However, this can be changed in the [settings](#).

When you enter the pipette tool using a long press, the editor exits the pipette tool and automatically switches back to the previous tool once you lift your finger from

the screen.

# Anatomy

The pipette shows a reticle in the middle, which points to the pixel whose color is being read by the pipette.

The reticle is surrounded by a ring, which shows the previously selected color in its bottom half and the new color currently being picked by the pipette in its top half.

# Fill Tool



The fill tool is used to fill a closed region in a [pixel layer](#) or [vector layer](#) with the selected solid color.

If the fill tool is used on an empty layer, it creates a completely filled pixel layer.

If a [selection](#) exists, only the regions within the selection area are filled.

## Fill Reference Layers

It is common to keep linework separate from coloring layers. In order to use the fill tool on one layer based on the contents of another, you can mark the layer containing your linework as the fill reference using the [Set as Fill Reference](#) layer action.

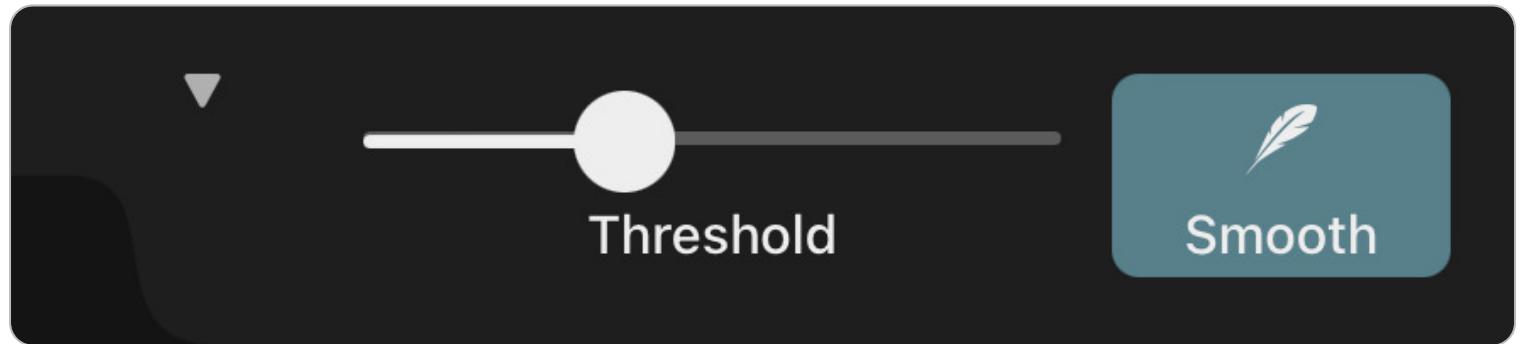


[Set as Fill Reference](#)

You can set this for both [animation layers](#) and [drawing layers](#). There can at most be one reference layer in each drawing and at most one reference animation layer.

When an animation layer is defined to be a fill reference layer, the combined contents of all of its drawing layers on the current frame form the limits of the fill region.

## Tool Options



## Threshold

The fill tool re-paints all neighboring pixels that have the same or a similar color to the pixel that was tapped. The threshold slider limits how similar the pixels have to be to still be filled with the new color. The lower the threshold value, the fewer differing pixels get filled.

## Smooth

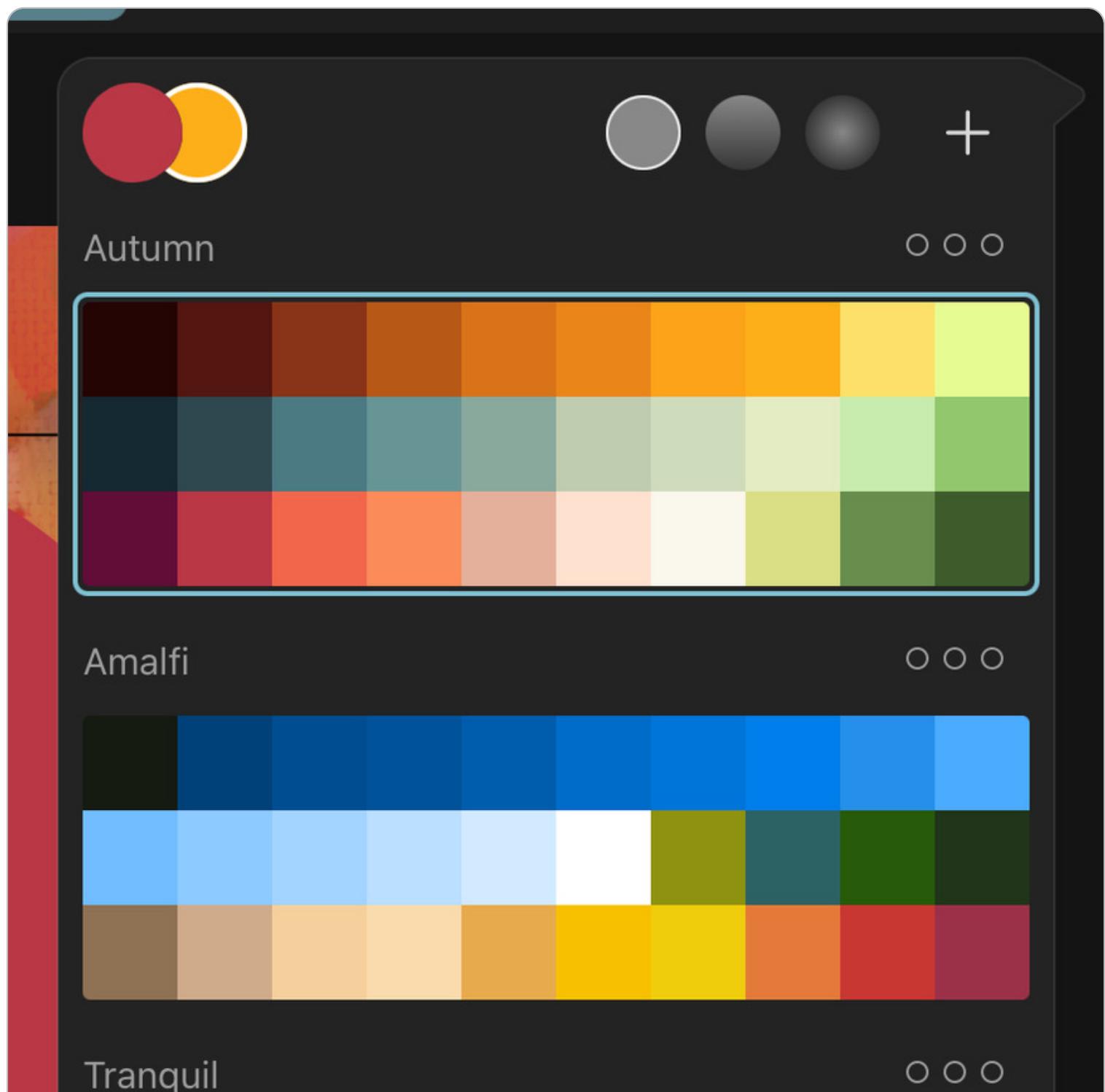
This option controls whether the filled region should smoothly transition into the boundary color or not. If it is disabled, the pixels are only filled with exactly the selected color and no transition is created at the boundary. This can result in a hard, jagged edge of the filled region.

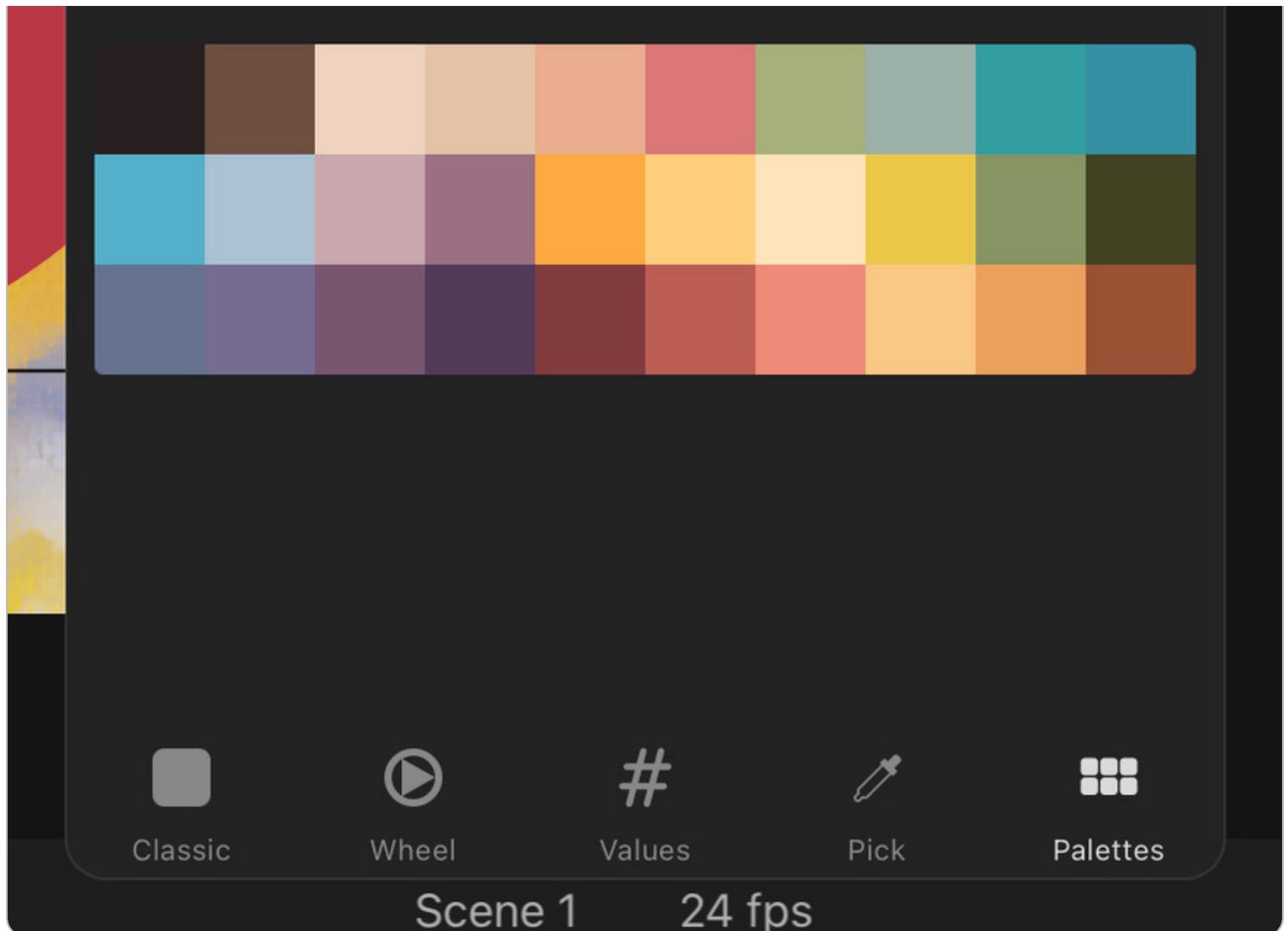
This option is only available when filling a pixel layer.

# Color Palettes

A color palette stores up to 30 colors so you can then quickly select them whenever needed. Color palettes are available globally, meaning that you can use all of them in every project.

The palettes tab in the color picker shows the color palette library. The currently selected palette has a blue border around it. This is the palette that is shown in the Classic, Wheel and Values tabs of the color picker for quick access.





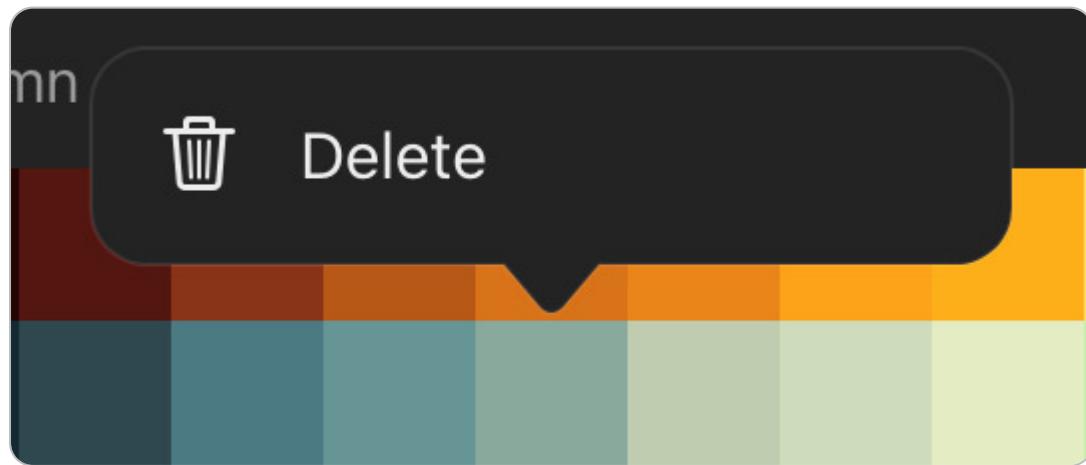
In addition to simple RGB colors, palettes can also store gradients and colors with transparency. If a gradient is selected from a palette when only solid colors are supported, the first gradient color is used instead. The alpha channel of a selected color is ignored if transparency is not supported by the context, for example when choosing a brush color.

## Custom Palettes

ToonSquid comes with multiple beautiful default color palettes, which you can use immediately or modify if you want. You can also create as many fully-custom color palettes as you like.

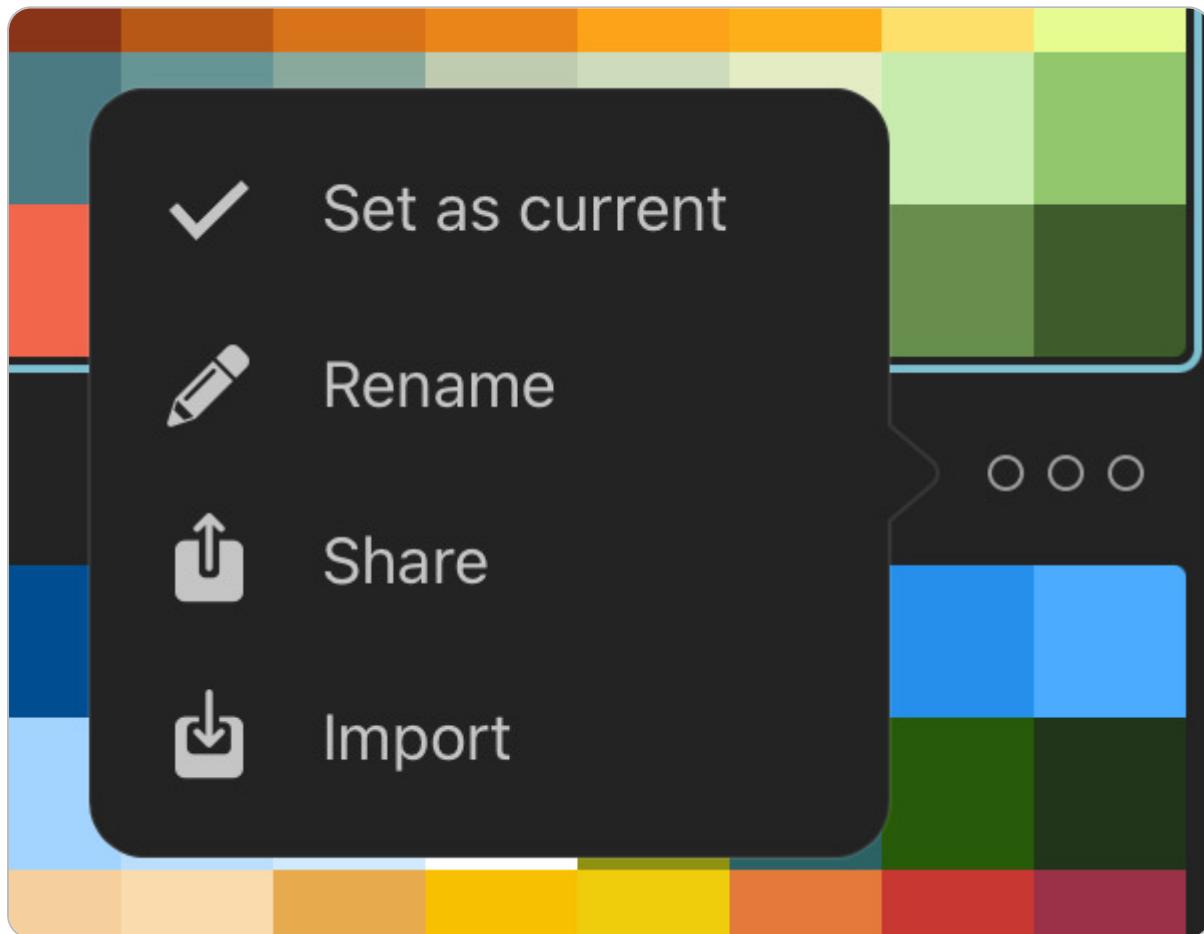
1. Open the color palette library in the color picker.
2. Tap the + button. This will add a new empty palette to your library.
3. Tap one of the empty slots in the palette to save the currently selected primary color to that slot.

4. Tap and hold a slot in a palette to show the option to delete the color from that slot.
5. Tap and hold, then drag to reorder the colors in a color palette.



## Palette Actions

Tap the three dots to the right of a color palette to view the available actions for that palette.



## **Set as current**

Selects the palette. You can also select a palette just by tapping its name in the library.

## **Rename**

Allows you to change the name of the color palette.

## **Share**

Exports the palette in a file with the `.palette` extension that can be shared and saved outside of the app.

## **Import**

Prompts for a `.palette` file to be imported into the color palette library. Every palette that you add to your library can immediately be used in all of your projects.

## Delete

Deletes the selected palette. This option is only available for custom color palettes and cannot be undone! You can use the `Share` button to create a backup of the palette before deleting it, in case you change your mind later.

# Gradients

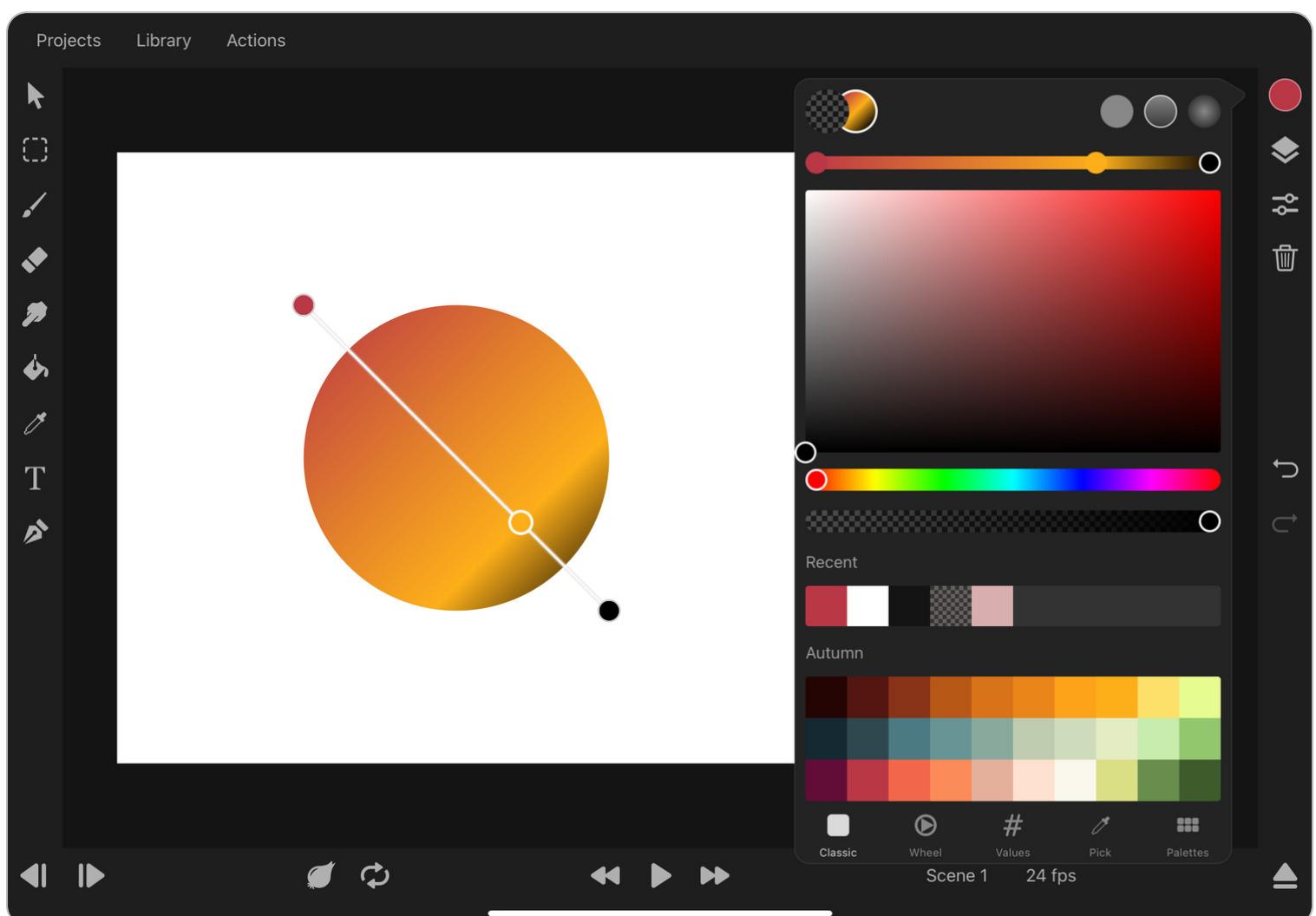
Gradients allow you to show transitions between multiple colors at different positions in a layer.

The fill and stroke properties of a [path layer](#) can be set to gradients.

In order to use a gradient instead of a solid color, use the [color type selector](#) in the color picker. You can choose between linear and radial gradients.

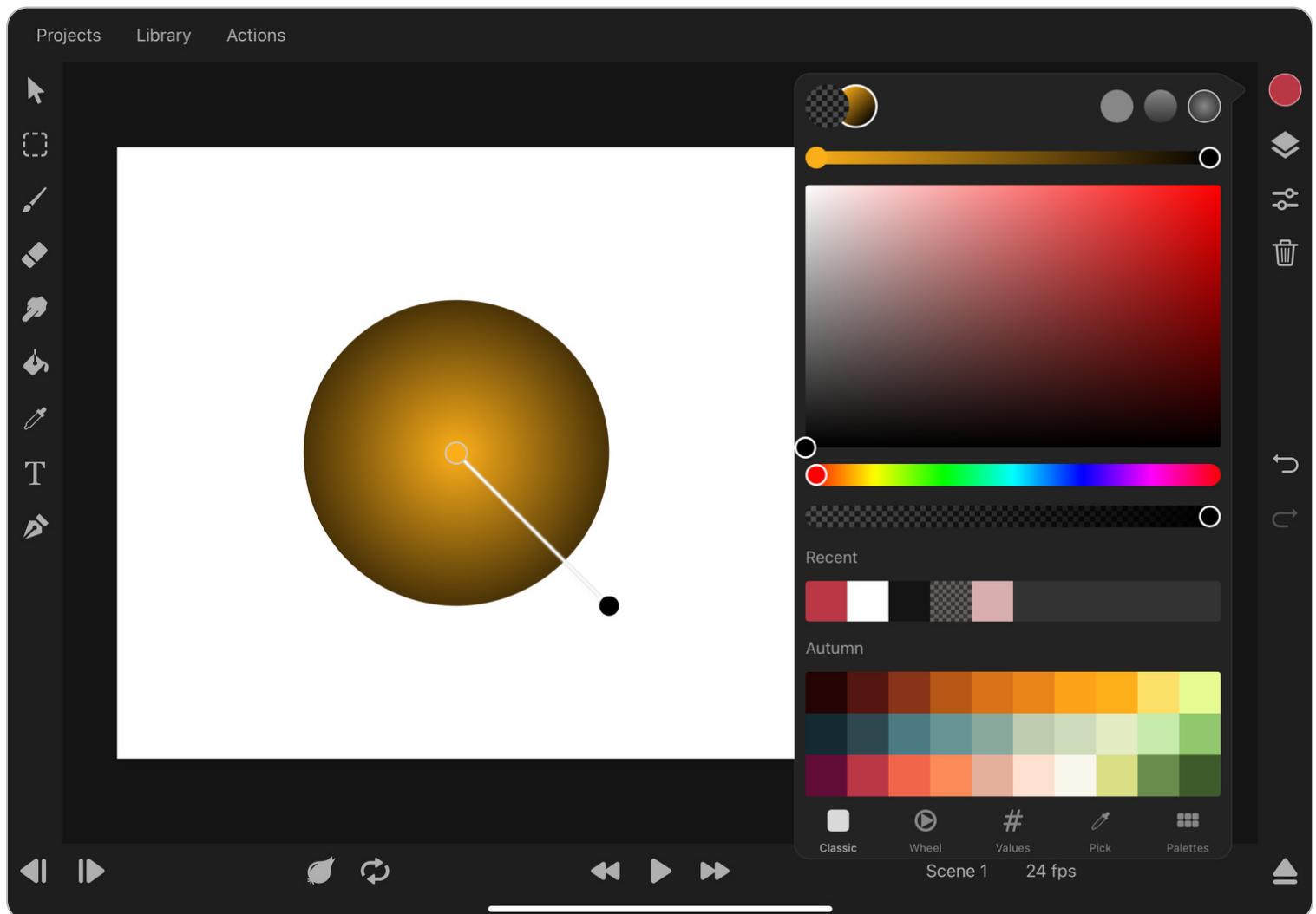
## Linear Gradient

Linear gradients create a color transition between two or more points in a straight line.



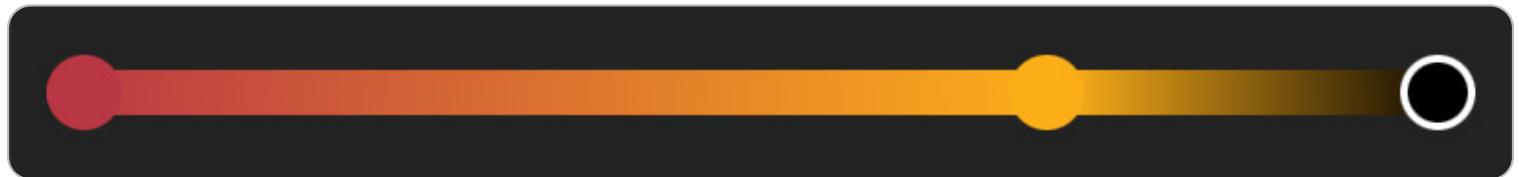
# Radial Gradient

Radial gradients transition between the gradient colors outwards from a center point until a specified radius is reached.



## Editing

When a gradient type is selected, the color picker shows a gradient slider at the top. You can use this slider to select, add or remove [color stops](#) or to change their relative position within the gradient.



The color picker also shows gradient handles on the canvas, which you can use to move the start and end points of the gradient within the layer in addition to the edits that you can make with the gradient slider.

## Color Stops

Every gradient consists of two or more color stops. A color stop defines the color and relative position of a color in the gradient.

The gradient then interpolates between neighboring color stops.

You use the gradient handles on the canvas to define the position of the gradient in a layer. The gradient is positioned in the local [coordinate system](#) of the layer. This means that any [transform edits](#) to the layer will automatically apply to the gradient as well but moving the individual path [control points](#) will not move the gradient.

## Editing Color Stops

You can add new color stops by tapping in the region between two existing stops either on the canvas or in the gradient slider of the color picker.

Drag the color stops to change their relative positions within the gradient.

Select gradient stops by tapping them on the canvas or the gradient slider. The selected gradient stop has a white outline. The color picker always selects the color of this selected color stop.

## Delete Color Stops

Tap the selected color stop again to show an option to delete it. The color stops at the very beginning and the end of the gradient cannot be deleted.

# Color Spaces

A color space defines how digital colors are represented and stored.

ToonSquid currently uses 8-bit sRGB colors for pixel layers. 16-bit layers will be supported in the future.

## Brushes

ToonSquid brushes blend colors in the sRGB space by default. This prevents heavy banding artifacts for dark colors.

Linear blending can be optionally enabled in the [brush settings](#).

## Export

# Overview

Choose from a variety of widely-supported file formats to export your art and animations and share it outside of ToonSquid.

## Video

Exporting your animation as a video is the most natural export option for you to share your work for others to see.

## GIF

Export shorter animations as GIFs with a custom quality for easy sharing on the internet.

## Image

Export individual frames of your animation as still images in formats such as PNG, JPEG and more.

## Image Sequence

You can also export each frame of the animation as a sequence of images.

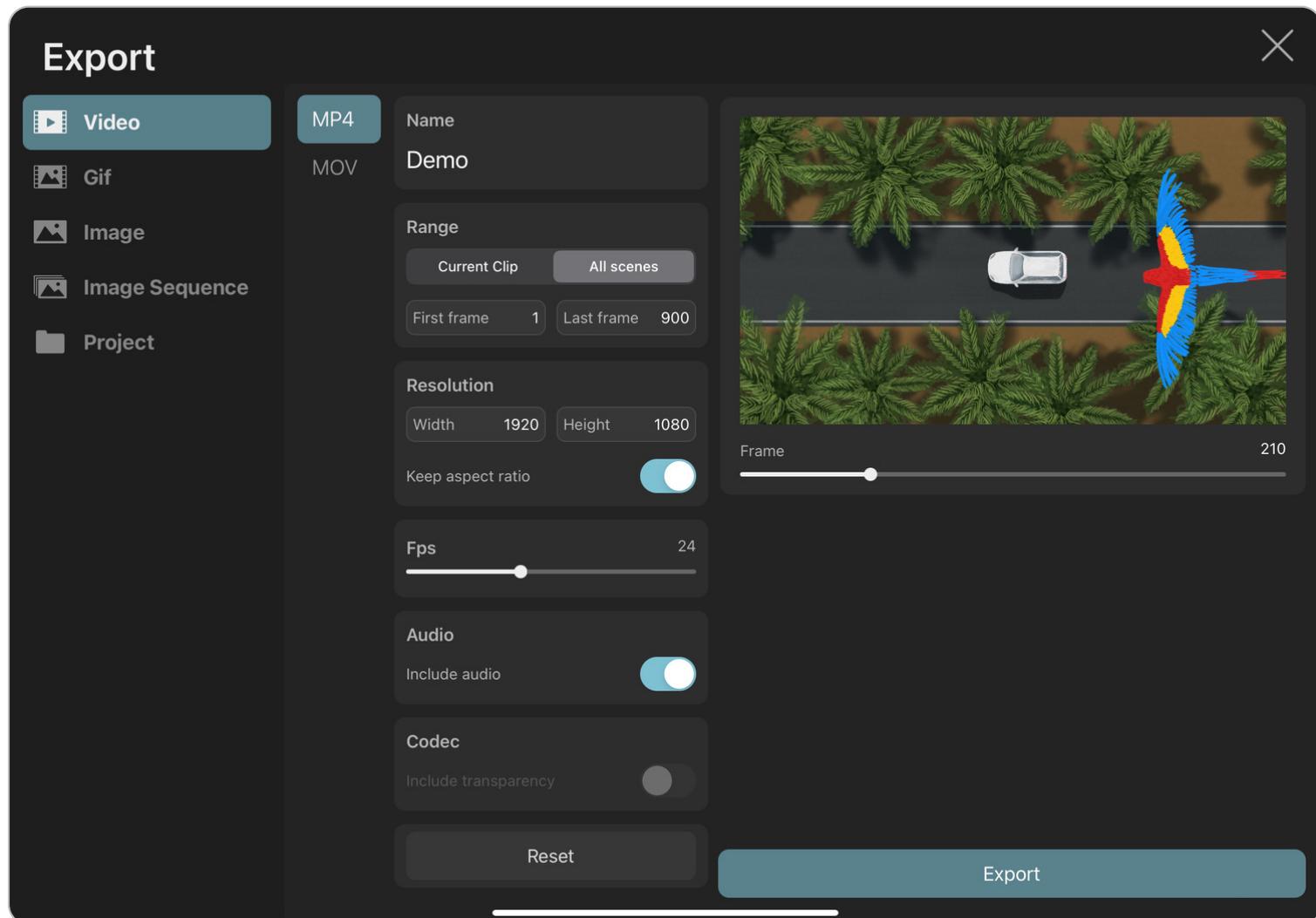
## Project

Use the export interface to share your ToonSquid project as a file that you can then import on another iPad or keep as a backup.

## Export

# Video

Video formats are the most natural export option for your animations. They are also the only options that allow you to include audio in your export.



## Available File Formats

You can export your ToonSquid animations as videos in the following formats

- MP4
- MOV

## Settings

## Name

This will be the name of the exported video file.

## Range

Controls which part of your timeline should be exported.

### Current clip

Only frames from the clip or scene currently selected in the editor should be exported.

### All scenes

Every [scene](#) of the current project should be exported as one video.

## First frame / Last frame

The range of frames to be exported.

## Resolution

The resolution of the exported video. Choosing a different value here will simply scale the export and not crop anything. Changing the resolution disproportionately will therefore stretch the animation in the final export.

### Keep aspect ratio

Whether changing the resolution's width or height should also update the other value proportionally to keep the current resolution's aspect ratio.

## Fps

The frame rate of the exported video.

Choosing a different frame rate here will not cause the animation to be slowed down or sped up in the export. The animation will be re-sampled to match the desired output resolution.

## Include audio

Whether any audio should be included in the exported video. This option is only shown if there is an audio layer in the animation.

## Include transparency

Whether the exported video should include transparency information for each pixel using the H.265 (HEVC) codec. This is currently only supported for the MOV file type and on devices with an A10 chip or above.

## Reset

Use this button to reset all settings back to their defaults.

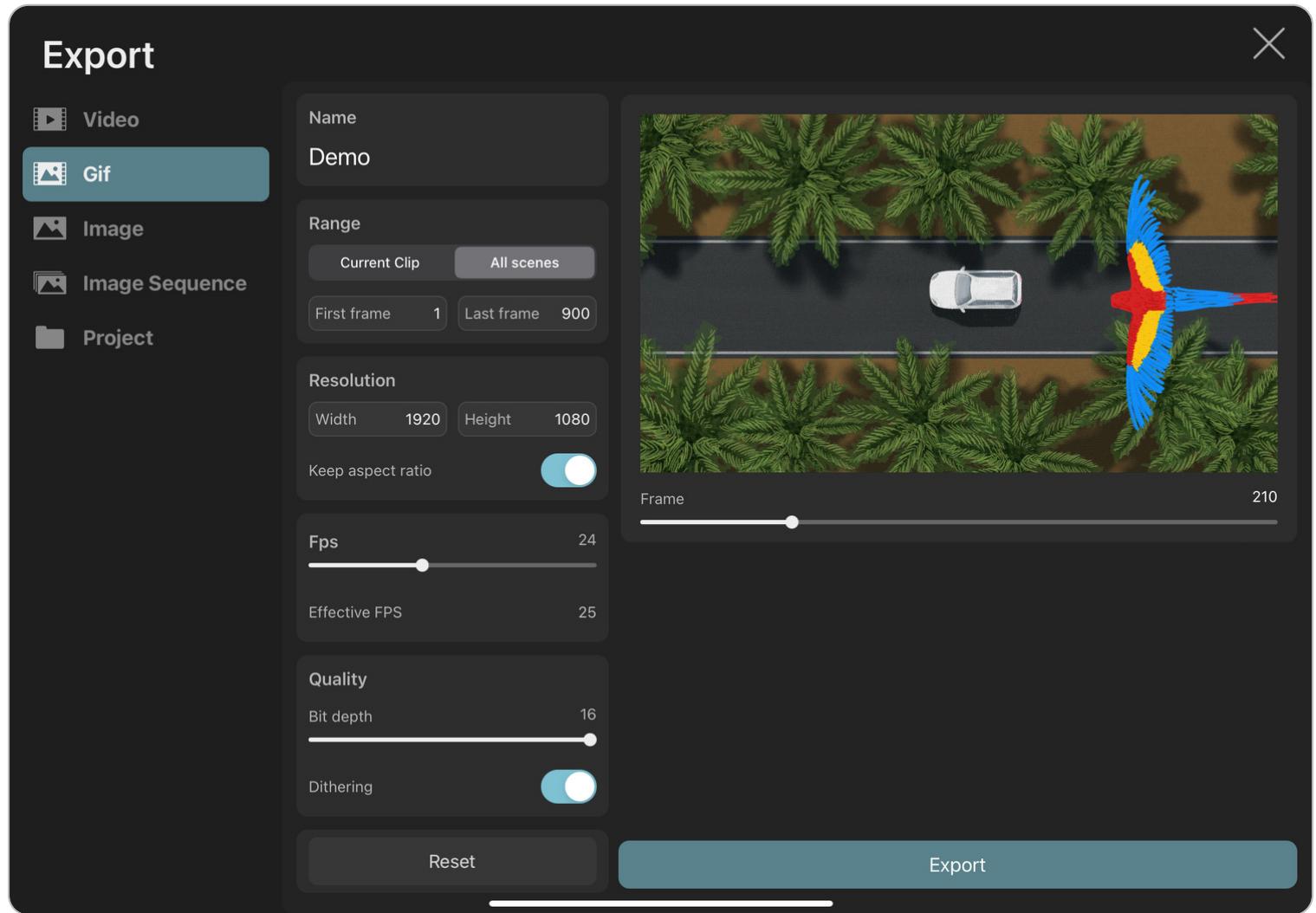
## Preview

You can use the frame slider under the preview on the right to preview the range of the animation that will be exported.

## Export

# GIF

The GIF image format is commonly encountered on the internet and is supported by web browsers. It can be a good choice for exporting short animations without sound.



## Limitations

This format does not support semi-transparent pixels (i.e. pixels are either fully opaque or fully transparent) and it does not support audio.

Long and high-resolution animations can lead to very large files, so it is not recommended in this case.

# Settings

## Name

This will be the name of the exported GIF file.

## Range

Controls which part of your timeline should be exported.

### Current clip

Only frames from the clip or scene currently selected in the editor should be exported.

### All scenes

Every [scene](#) of the current project should be exported as one GIF.

## First frame / Last frame

The range of frames to be exported.

## Resolution

The resolution of the exported GIF. Choosing a different value here will simply scale the export and not crop anything. Changing the resolution disproportionately will therefore stretch the animation in the final export.

### Tip

Choose a low resolution if you are trying to reduce the size of the exported GIF.

## Keep aspect ratio

Whether changing the resolution's width or height should also update the other value proportionally to keep the current resolution's aspect ratio.

## Fps

The frame rate of the exported GIF.

Choosing a different frame rate here will not cause the animation to be slowed down or sped up in the export. The animation will be re-sampled to match the desired output resolution.

## Effective FPS

The GIF format does not support arbitrary frame rates, so the user-chosen value is rounded to the closest supported frame rate. This label shows the actual frame rate that the exported GIF will have.

### Tip

Choose a low frame rate if you are trying to reduce the size of the exported GIF.

## Quality

The quality settings that can be used to reduce the visual quality of the GIF in favor of reducing the file size.

### Bit depth

The bit depth to use for each pixel. Choosing higher values results in a better quality GIF and larger file size, whereas lower values will result in lower quality but also smaller files.

### Dithering

Dithering refers to the use of dot patterns to emulate more colors and gradients with fewer distinct colors stored in the GIF.

If this option is enabled, the visual output quality is significantly improved, but the export takes slightly more time to complete.

## Reset

Use this button to reset all settings back to their defaults.

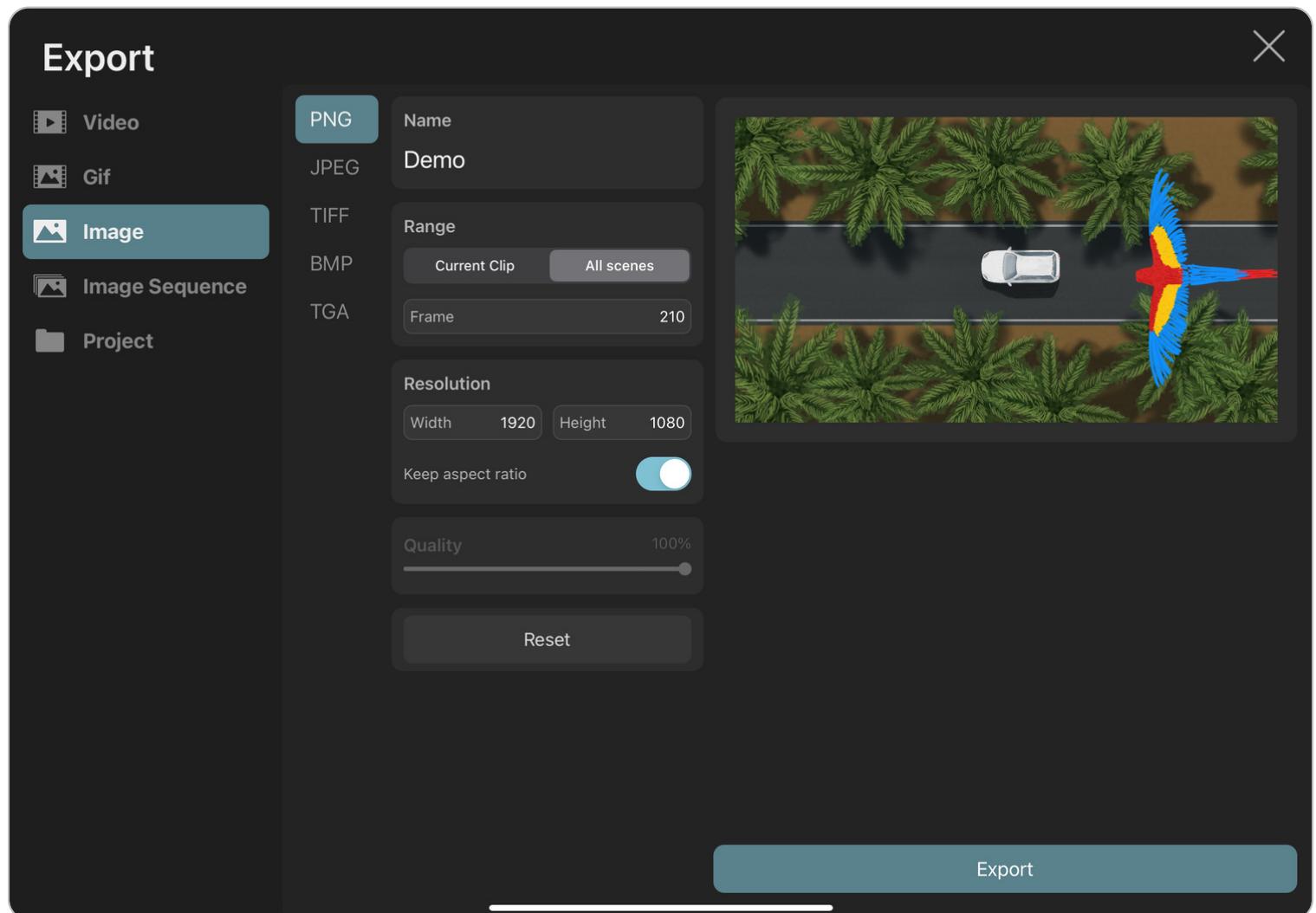
# Preview

You can use the frame slider under the preview on the right to preview the range of the animation that will be exported.

## Export

# Image

You can export individual frames of your animation as still images.



## Available File Formats

You can export your ToonSquid animation as images in the following formats

- PNG
- JPEG (no transparency)
- TIFF
- BMP (no transparency)
- TGA

# Settings

## Name

This will be the name of the exported image file.

## Range

Controls which part of your timeline should be exported.

### Current clip

The frame specified below only refers to the clip or scene currently selected in the editor.

### All scenes

The frame specified below refers to the range of all [scenes](#) in the current project.

## Frame

The frame of the animation to be exported.

## Resolution

The resolution of the exported image. Choosing a different value here will simply scale the export and not crop anything. Changing the resolution disproportionately will therefore stretch the animation in the final export.

### Keep aspect ratio

Whether changing the resolution's width or height should also update the other value proportionally to keep the current resolution's aspect ratio.

## Quality

The quality slider controls the amount of JPEG compression that should be applied to the exported image. Setting it to 100% results in the highest quality output but also the largest file size, whereas setting it to 0% results in the smallest file sizes but also the worst visual quality.

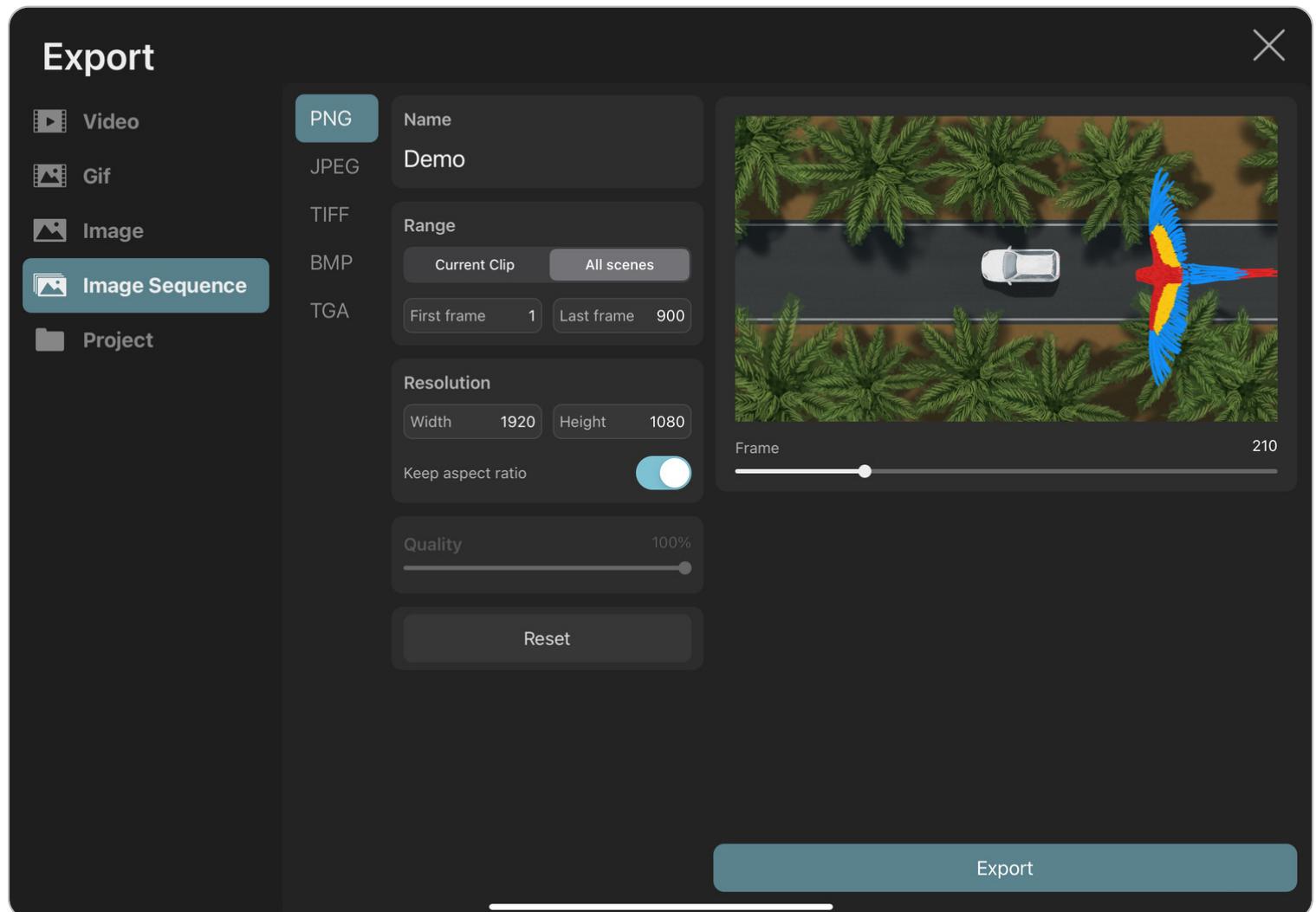
## **Reset**

Use this button to reset all settings back to their defaults.

## Export

# Image Sequence

You can export your ToonSquid animation as a sequence of images - one for each frame.



## Available File Formats

You can export your ToonSquid animation as images in the following formats

- PNG
- JPEG (no transparency)
- TIFF
- BMP (no transparency)
- TGA

# Settings

## Name

This will be the name of the exported image file.

## Range

Controls which part of your timeline should be exported.

### Current clip

Only frames from the clip or scene currently selected in the editor should be exported.

### All scenes

Every [scene](#) of the current project should be exported.

## First frame / Last frame

The range of frames to be exported.

## Resolution

The resolution of the exported images. Choosing a different value here will simply scale the export and not crop anything. Changing the resolution disproportionately will therefore stretch the animation in the final export.

### Keep aspect ratio

Whether changing the resolution's width or height should also update the other value proportionally to keep the current resolution's aspect ratio.

## Quality

The quality slider controls the amount of JPEG compression that should be applied to the exported image. Setting it to 100% results in the highest quality output but also the largest file size, whereas setting it to 0% results in the smallest file sizes but also the worst visual quality.

## **Reset**

Use this button to reset all settings back to their defaults.

## **Preview**

You can use the frame slider under the preview on the right to preview the range of the animation that will be exported.

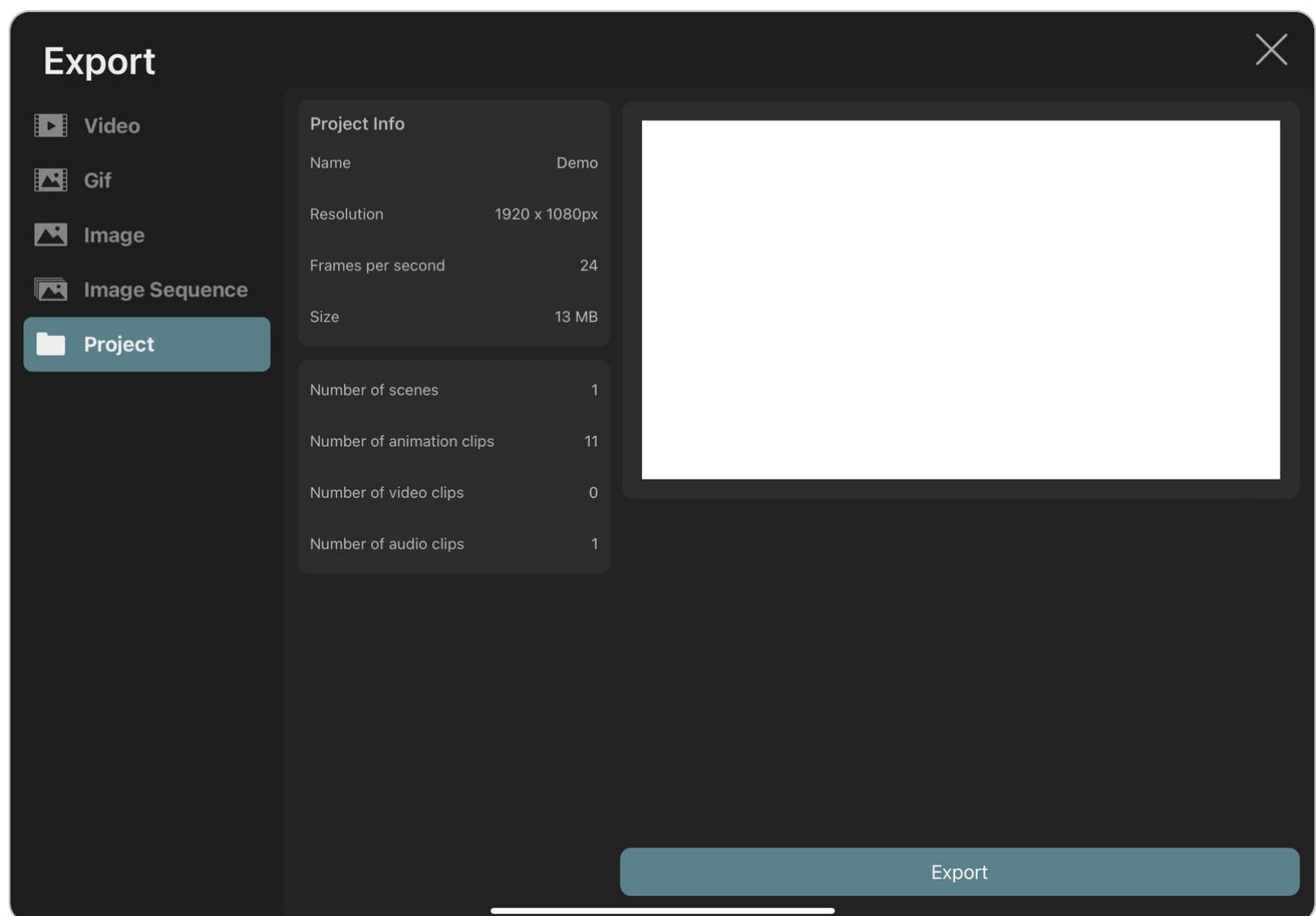
## Export

# Project

The `Project` tab allows you to export the current project as a `.tsproj` file. This can be used as a [backup](#) or to later import the project on a different iPad.

There are no configuration options available when you export the entire project.

This page instead shows general information about your project, for example, the size of the project folder.



# Overview

The ToonSquid editor can be customized to better fit your needs in the settings menu.

## General

This tab contains general editor behavior settings, such as whether keyframes should be added automatically.

## Gestures

Customize the various touch gestures in ToonSquid to create the most efficient workflow for you.

## Project Info

View general information about your project, such as how much memory it currently uses.

# General

This page contains the general app settings with which you can configure ToonSquid's editor behavior to your needs.

The screenshot shows the 'General' tab selected in the 'Settings' sidebar. The main content area displays various global configuration options:

- General**
  - Play audio while scrubbing the timeline: Enabled (blue switch)
  - Quick layer delete button
    - Delete drawing layer
    - Delete animation layer
  - Layer pivot editing enabled: Disabled (grey switch)
  - Follow the camera layer during playback: Enabled (blue switch)
  - Reset the frame after pausing playback: Disabled (grey switch)
  - Forward / Backward buttons should move between
    - Frames
    - Drawings
- Drawings**
  - Default drawing length (in frames): 1
  - Start frame of new drawings
    - First frame
    - Current frame
- Keyframes**
  - Show keyframes for
    - The selected layer
    - All layers

## Play audio while scrubbing the timeline

By default, whenever you change the selected frame, you will hear the portion of the audio that corresponds to that frame in the editor. Disable this setting to only play audio during playback.

## Quick layer delete button

This setting defines what should be deleted when the delete button (trash icon) in the sidebar is pressed.

### Delete drawing layer

The selected [drawing layer](#) is deleted.

### Delete animation layer

The entire selected animation layer is deleted, including all drawings inside.

## Layer pivot editing enabled

Whether the layer pivot should be [editable](#) in the [transform tool](#).

## Follow the camera layer during playback

If this option is enabled and a camera layer exists, the camera will stay focused on the canvas during playback of the animation. This makes it easier to visualize the final output when there is an animated camera.

Once the playback stops, the canvas is automatically reset to its state before the playback.

## Reset the frame after pausing playback

If this option is enabled and you pause the playback, the selected frame of the editor will automatically reset to its value before you hit play.

## Forward / Backward buttons should move between

This setting defines how the selected frame should change when you tap the forward and backward buttons on the left edge of the timeline.

## Frames

The play cursor should move to the next or previous frame in the timeline.

## Drawings

The play cursor should move to the beginning of the next or previous drawing in the selected layer.

# Drawings

The drawing settings belong to the scene or clip that is currently open in the editor. You can define a different value for this in each [scene](#) and [animation clip](#) of the project.

## Default drawing length (in frames)

The default duration of new drawings that you add to the timeline, specified as a number of frames. This value is initially selected based on your [default workflow](#) choice when configuring the project or animation clip.

## Start frame of new drawings

This setting defines whether new drawings in empty layers should begin on the first frame of the timeline or on the currently selected frame.

This value is initially selected based on your [default workflow](#) choice when configuring the project or animation clip.

# Keyframes

## Show keyframes for

This setting controls which keyframes are shown in the timeline if the [keyframing mode](#) is enabled.

### The selected layer

The timeline only shows keyframes for the selected drawing layer.

### All layers

The timeline shows keyframes in all layers in the timeline.

In the selected animation layer, keyframes for the selected drawing layer are shown. In other animation layers, the keyframes for the first drawing layer in the first drawing are shown.

## Automatically add keyframes

This can be used to disable the [automatic keyframe insertion](#) behavior.

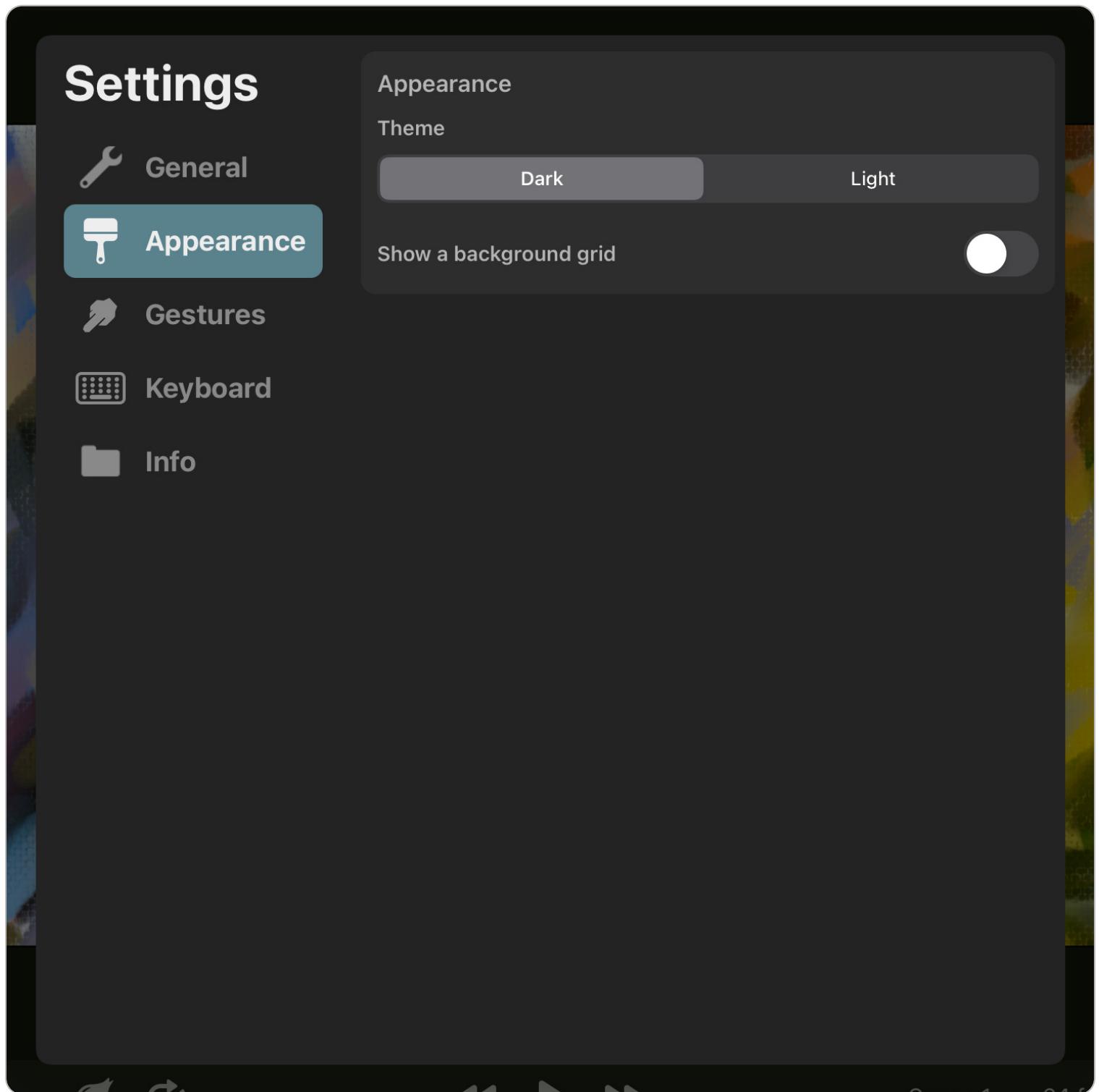
# Brush

## Minimum / Maximum Tilt

The Apple Pencil tilt angles that should be used as the limits of the tilt input range. This affects all [brush settings](#) that are controlled by the tilt angle of Apple Pencil.

# Appearance

This page contains the app settings with which you can configure ToonSquid's editor appearance.

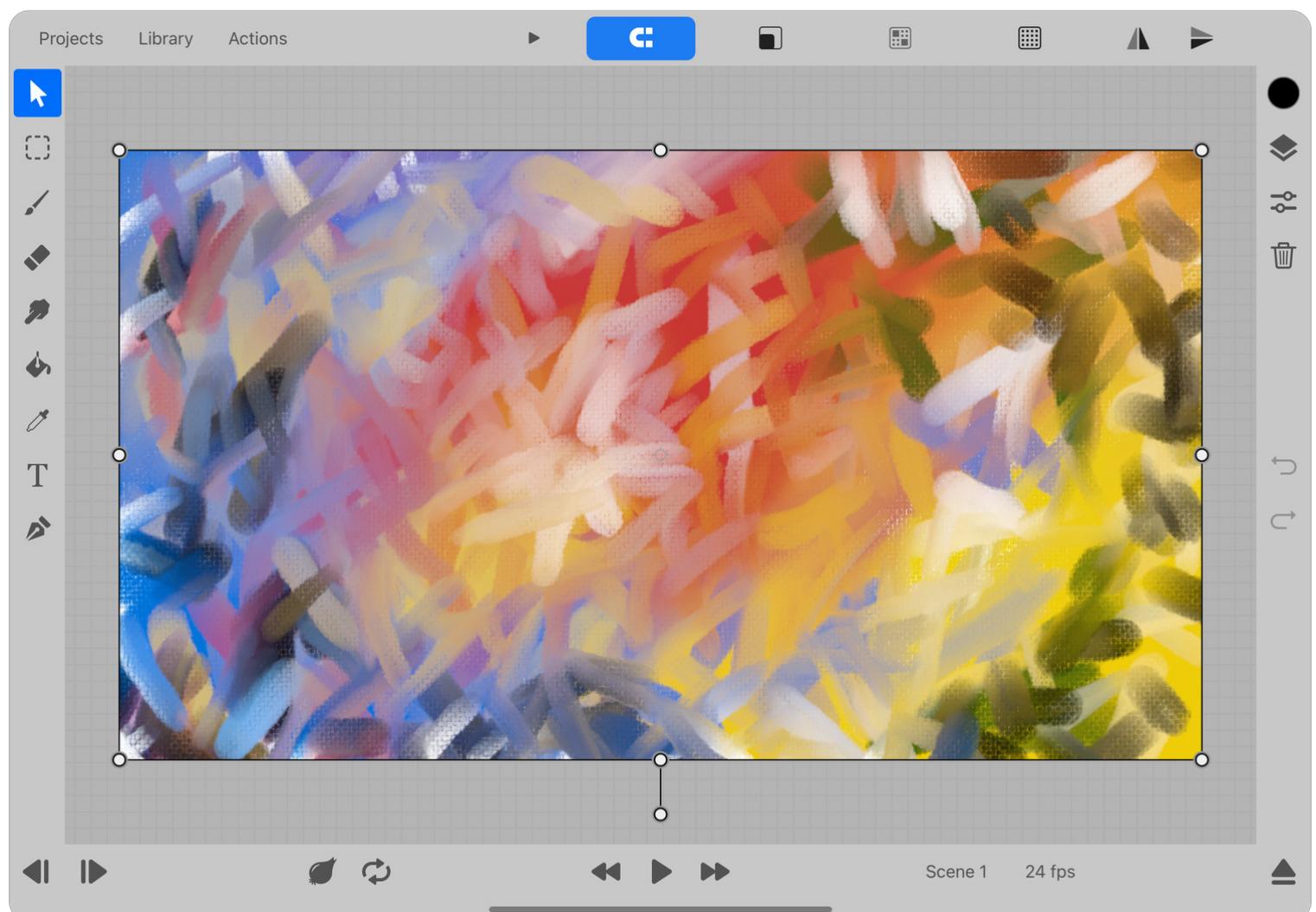


## Theme

You can switch the colors of the user interface between dark mode and light mode based on your personal preference.

## Show a background grid

When this is enabled, a screen-aligned grid is displayed as the background of the canvas.



# Gestures

This tab contains settings regarding touch gestures in the ToonSquid editor.

The screenshot shows the 'Settings' screen with the 'Gestures' tab selected. The left sidebar lists 'General', 'Appearance', 'Gestures' (selected), 'Keyboard', and 'Info'. The main content area is divided into sections: 'General', 'History', 'Pipette', and 'Page Flip'. Each section contains one or more settings with toggle switches. In the 'General' section, 'Finger drawing' is enabled. In the 'History' section, both 'Two finger tap to undo' and 'Three finger tap to redo' are enabled. In the 'Pipette' section, 'Long press for pipette (with finger)' is enabled, while 'Long press for pipette (with pencil)' is disabled. In the 'Page Flip' section, 'Three finger swipe (up / down) to flick through frames' is enabled, and the 'Number of frames before and after to flip through' slider is set to 10. The 'Swipe sensitivity' slider is set to 50%. The 'Invert swipe direction' and 'Reset to original frame after swipe' options have their toggle switches off.

**General**

Finger drawing

**History**

Two finger tap to undo

Three finger tap to redo

**Pipette**

Long press for pipette (with finger)

Long press for pipette (with pencil)

**Page Flip**

Three finger swipe (up / down) to flick through frames

Number of frames before and after to flip through

Swipe sensitivity

Invert swipe direction

Reset to original frame after swipe

## Finger drawing

When this option is disabled, only Apple Pencil can be used in the brush, eraser, smudge and selection tools. Touches with a finger will not result in brush strokes but can still be used for performing other gestures such as zooming or undo and redo.

## History

### Two finger tap to undo

Whether tapping the screen with two fingers should undo the previous edit.

### Three finger tap to redo

Whether tapping the screen with three fingers should re-apply the previously undone edit.

## Pipette

Whether long pressing with a finger or Apple Pencil should temporarily switch to the [pipette tool](#). By default, only long presses with a finger cause the pipette to appear.

## Page Flip

These are settings for the [page flip gesture](#), which allows you to flick through neighboring frames of the animation by swiping three fingers up or down on the screen.

### Three finger swipe (up / down) to flick through frames

This setting controls whether the page flip gesture should be enabled or not.

### Number of frames before and after to flip through

Controls the range of frames that can be reached by the flip gesture.

## **Swipe sensitivity**

A lower sensitivity requires a larger swipe distance to flip through the same number of frames than with a higher sensitivity.

## **Invert swipe direction**

By default, swiping up moves backwards in the timeline and swiping down moves forwards. Toggle this option to invert that behavior.

## **Reset to original frame after swipe**

If this option is enabled, the timeline will jump back to the frame that was selected before the swipe gesture began once the fingers are lifted from the screen.

# **Text**

## **Drag in text tool**

This setting defines whether dragging on the screen in the [text tool](#) should move the selected text layer or select a range of text instead.

# Project Info

This tab displays general information about the current project. Most fields here are just labels and are not editable.

The screenshot shows the 'Project Info' tab within a mobile application's settings menu. The tab is titled 'Settings' at the top left. On the left side, there is a vertical navigation bar with five items: 'General' (represented by a wrench icon), 'Appearance' (represented by a paintbrush icon), 'Gestures' (represented by a hand icon), 'Keyboard' (represented by a keyboard icon), and 'Info' (represented by a folder icon). The 'Info' item is highlighted with a blue background. The main content area contains several sections with project statistics:

- Name:** Wet Mix
- Resolution:** 1280 x 720px
- Frames per second:** 24
- Memory**
  - Storage usage:** 4 MB
  - Cache usage:** 20 KB
  - Clear cache** (button)
- Number of scenes:** 1
- Number of animation clips:** 1
- Number of video clips:** 0
- Number of audio clips:** 0
- Thumbnail**
  - Frame:** 1
  - Set to current frame** (button)

# Name

The name of the project. This can also be edited here.

# Resolution and Fps

The resolution and [frame rate](#) of the project.

# Memory

## Storage usage

This is the size of the project folder on disk.

## Cache usage

The amount of iPad storage that is being used for cached files for this project.

Some files that are generated during the editing of a project are cached for better performance. Cached files can always be safely deleted since they can be regenerated whenever needed.

## Clear cache

Deletes all currently cached files for this project.

# Number of scenes / animation clips / video clips / audio clips

These labels show the number of various assets in this project.

# Thumbnail

## Frame

The frame number that is currently used as the project thumbnail.

## Set to current frame

Tapping this button will use the current frame of the selected [scene](#) or [clip](#) as the thumbnail of the project or the selected clip.

# ToonSquid

ToonSquid is a powerful 2D art and animation studio for your iPad. No matter whether you are a beginner, hobbyist or professional, ToonSquid allows you to create stunning and high-quality animations with ease.

## Handbook

This handbook covers every feature of ToonSquid - from the buttons in the user interface down to every single configurable brush setting. If you run into questions while using the app, the handbook should contain the answer.

Simply use the search field above or the chapters list on the left to quickly find the pages you are looking for.

## Features

With its flexibility and large set of features, ToonSquid supports many workflows and styles of animation.

### Traditional and Keyframing Animation

Do you want to create hand-drawn frame-by-frame animations in the traditional style you know and love from cartoons and anime? Or would you rather use keyframes and let ToonSquid automatically animate property changes over time? You can also mix both styles in the same animation!

### Pixel and Vector Brushes

ToonSquid's high-quality and [fully-customizable](#) brushes with state-of-the-art performance make full use of Apple Pencil and the iPad Pro's 120Hz display to deliver gorgeous brush stroke effects. They support pixel art, wet mixing, inking, sketching and many more styles of painting. The [vector brush](#) mode allows you to paint vector shapes that look perfectly sharp at every zoom level.

### Symbols

Create [symbols](#) and reuse [animations](#). Any change you make to the referenced animation immediately shows up in all of its symbols.

## Text

Add [text layers](#), import [custom fonts](#) and animate the [text appearance](#). ToonSquid also supports [bidirectional text](#) and [IMEs](#) for non-Latin-based languages.

## Vector Shapes

[Path layers](#) let you create vector shapes, add [gradients](#) and create dynamic [path trimming](#) animations. Quickly add shapes from the [shape library](#) and customize them or create your own with the [path tool](#) that gives you full control over every control point.

## Color

ToonSquid's powerful color picker provides plenty of options to choose the exact colors you want to work with. Create custom [color palettes](#) to speed up your workflow. You can even [share](#) them with others.

## Camera

Add a [camera layer](#) to define which areas of the animation should be visible in the export. The camera can also be animated to simplify the creation of general movement in your scene.

## Transform

Every layer's [position](#), [rotation](#) and [scale](#) can be animated. Additionally, [transform layers](#) and the [transform hierarchy](#) make it possible to define more advanced movement and simulate character rigs.

## Audio and Video

Of course, you can also add [videos](#) and [audio clips](#) to your animation to perform lip-syncing and finish your animation all in one place without the need for another editor.

## Export

Once you are happy with your work, ToonSquid lets you [export](#) and share it in a variety of widely-used formats. Create MP4 [videos](#), [GIFs](#) or export individual frames of your animation as still [images](#).