

The Everbright

art you make art with

Operations Manual

What can you make with this interactive light wall?

STEP 1

- Turn a dial. Keep turning it. Do you see the colors change? It's so satisfying to just turn one dial in either direction through the color spectrum.

STEP 2

- Can you make a pattern? Something with triangles, hexagons, stars? Can you write your name? Design a sunset? A house? A garden? What else can you make?

STEP 3

- Press the BLUE button to erase and reset (press for 1 second and release).
- Press the GREEN button to see a new interactive canvas.

The Everbright is a modern re-imagining of the giant Lite-Brite, with dials that change hundreds of colors. Conceived by designer-neuroscientist Dr. Alan Rorie of Hero Design, it considers the integration of the hands and eyes in the development of humankind. This Everbright was made by artisans in Sacramento, California.

Everbright Interaction Studio Setup

Before we begin.

If you never take the tablet out of the box, your Everbright will operate just fine. Your Everbright is ready for you to begin creating as soon as you power it on. The Everbright has already been pre-programmed with a variety of dynamically generating interactive canvases. It is completely self-contained and does not need the tablet in order to function.

So go ahead and become an anthropologist. Spend some time just observing people in your space. Witness the discoveries. Watch them watch each other as they use their their mirror neurons to mimic the way others are creating.

Once you've spent some time just observing how people experience the Everbright in your space, you can use the tablet to configure and customize your Everbright for your visitors. Read on to discover how.

WHAT'S IN THE BOX

- One 10.1" Android Tablet pre-loaded with your individually licensed copy of the Everbright app. This one-of-a-kind tablet should be kept in a safe and secure place. The tablet lets you configure your Everbright to the unique requirements of your space and your visitors.
- One charger with cable

The Everbright Interaction Studio allows you to configure your Everbright, and to load new interactive canvases as they become available. The tablet has been pre-loaded with your individually licensed copy of the Everbright app.

Whom the tablet is for

The Everbright app is designed to allow the owner or trusted staff members to configure, customize and optimize the Everbright for use in their spaces. The app is not designed for public use, and cannot be downloaded from any stores or onto any other devices. The tablet is not interchangeable. You do not want to lose it. No other device can connect to your Everbright, as the app is not commercially available. Before inviting a colleague to use the app, please ensure they read this operations manual, and return the tablet to a safe place when they are finished using it. Replacement tablets may be ordered from Hero Design for \$1,000. Please keep it in a safe place.

Updates will be available when we develop new features. You will be notified by email every time there is a new release.

What You Can Do with the Everbright App

When and how can you use the tablet? The tablet is useful to help you configure the Everbright for your unique preferences and visitor patterns.

10 ways you can customize the experience with the tablet:

1. Showcase your saved design throughout the day. Create a pattern on the Everbright, then save it to the tablet. You can set this design as a feature snap, so everyone sees it throughout the day. Inspired by your pattern, people will walk up and create anything. After 5 minutes of inactivity, your design returns to the board.

2. Set "dark hours" for your Everbright, where the Everbright automatically erases itself at night.
3. Set how often the board clears/resets itself. You don't want the Everbright to erase right when someone is about to take a selfie, but you also don't want it to constantly be filled with random colors because people don't know about the erase button. Customize this interval for your space. Your ideal interval of time for a reset may vary, from 1 to 30 minutes.
4. Save a design you created on the Everbright.
5. Load any saved design to the Everbright.
6. Automatically shuffle between your favorite animations throughout the day. Select your favorite canvases, while excluding other canvases, so only your desired canvases can be selected using the Everbright's physical function buttons.
7. Customize the animations. Fine-tune interactive canvases so they move more slowly or more quickly, have more or less blur, or use a different color palette.
8. Set your default canvas. This is the canvas your Everbright boots into when you power it on.
9. Dim your Everbright for a special event.
10. Inspire creativity with seed patterns. You can set the on-twist behavior for any animation—whether it freezes (becoming a seed pattern for creativity) or disappears (functioning like a screensaver).

Limitations—What You Cannot Do With The Everbright App

You cannot use the app to power the Everbright on and off. The power can only be toggled mechanically, using a separate light switch-style power switch that your electrician should have installed prior to installation of the Everbright. You can, however, use the app to set dark hours for the Everbright so it is not running animations 24/7 if someone leaves it on by accident.

The Everbright is not an open-source program. It cannot be connected to a laptop and integrated with other types of software. It is not a coding exercise. Our purpose is tactile, open-ended creativity. We want to get people off of their screens and devices, enjoying a moment of spontaneous creative expression and play.

The Everbright app cannot be installed onto another device, tablet, or laptop.

You cannot feed a live video image or photo file onto the board—the Everbright is not a display, a monitor, or a TV screen. You cannot upload your own files and somehow convert them into images to be displayed on the Everbright. If you would like to discuss a custom interaction or branded animation, please contact us. We can help you evaluate the idea and implement it if it is feasible. Please email Kelly Parkinson at kp@herodesign.com.

Technical Requirements

Before using the Everbright app, please ensure that you can meet the following technical requirements:

1. The Everbright is connected to power and powered on.

Your Everbright needs to be connected to power in order for you to use the app. Two function buttons on the top left-hand side of the board should be illuminated.

2. The Everbright is animating and erasing.

After powering the board on and waiting about 30 seconds, you should be able to change interactive canvases by pressing down for 1 second on the green (left) button and releasing, and you should be able to erase the board by pressing down on the blue (right) function button. If your Everbright is not animating or erasing, please email us at kp@herodesign.com.

3. Your location settings are turned on (with the tablet).

Your tablet shipped with the exact settings and configurations needed to connect to the Everbright. Do not change these settings. Changing the location settings will prevent the tablet from connecting to the Everbright.

4. No internet connection available.

Keep the tablet's Wifi turned on, but do not connect to the internet. If you did connect to the internet, delete that connection when you're finished. Having an available internet connection will destabilize the tablet's connection with the Everbright.

Getting Started with the Tablet

Visit for a step-by-step interactive guide:

<https://TheEverbright.com/Setup>

Is your Everbright plugged in? Do you have access to the power switch? Is the Everbright not in use? (Please wait until no one is using the Everbright.)

Great, let's get you set up.

Power on the tablet. Press and hold the button on the side for about 3 full seconds.

Prompted to connect to a Wifi network?

Swipe up and IGNORE.

Do NOT connect to an internet network.

Connecting to the internet will cause connection issues with your Everbright.

Tap the Everbright icon to open the app.

Connecting to the Everbright

Once the app connects to the Everbright, it begins a series of two-way communications. They're talking. This is normal.

Once the versions match, you are ready to create.

Did the app suddenly close?

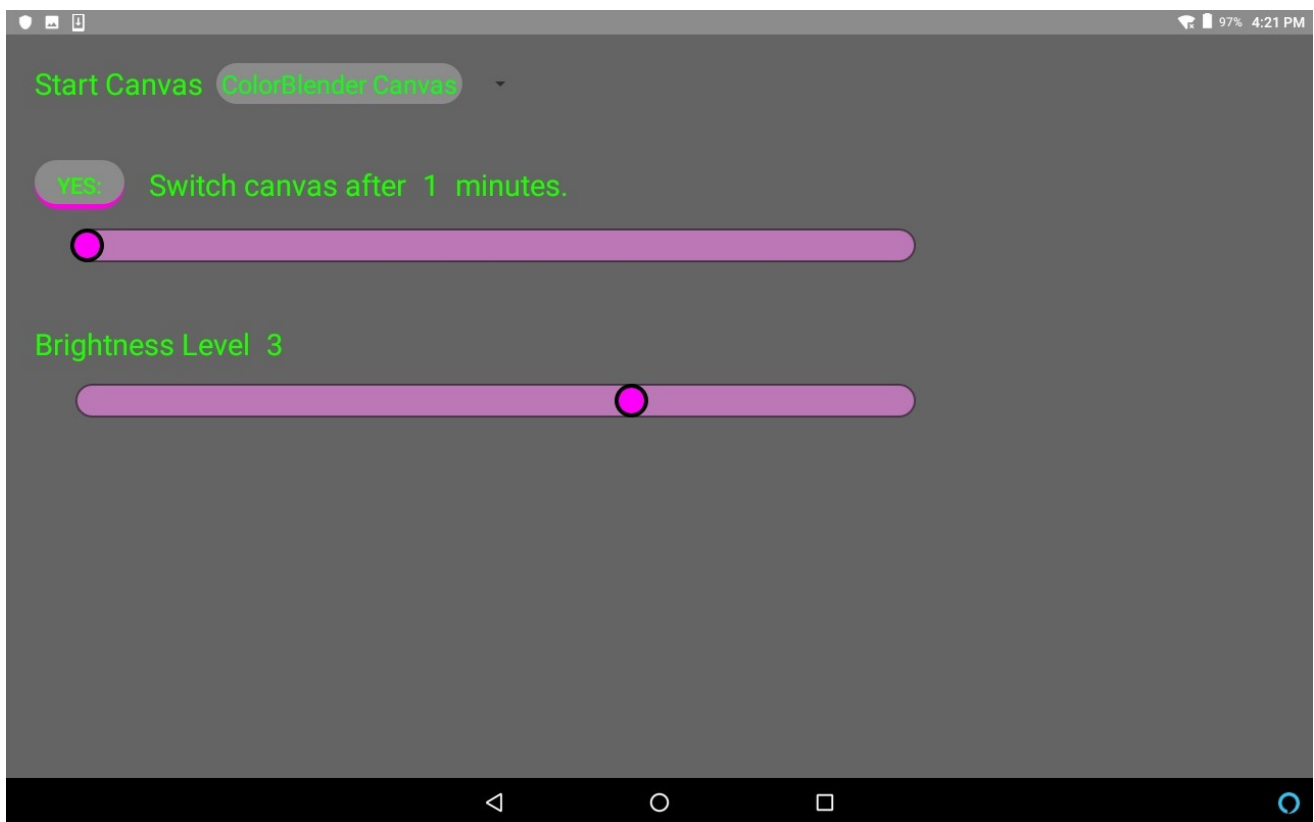
If the app suddenly closed, restart your Everbright.

(Power off the Everbright. Wait 5 seconds. Power it on, then wait 30 seconds for the animation to begin.

Since it's the first time, on rare occasions the connection can take a while. Be persistent. You may need to repeat this process until the first connection is established.

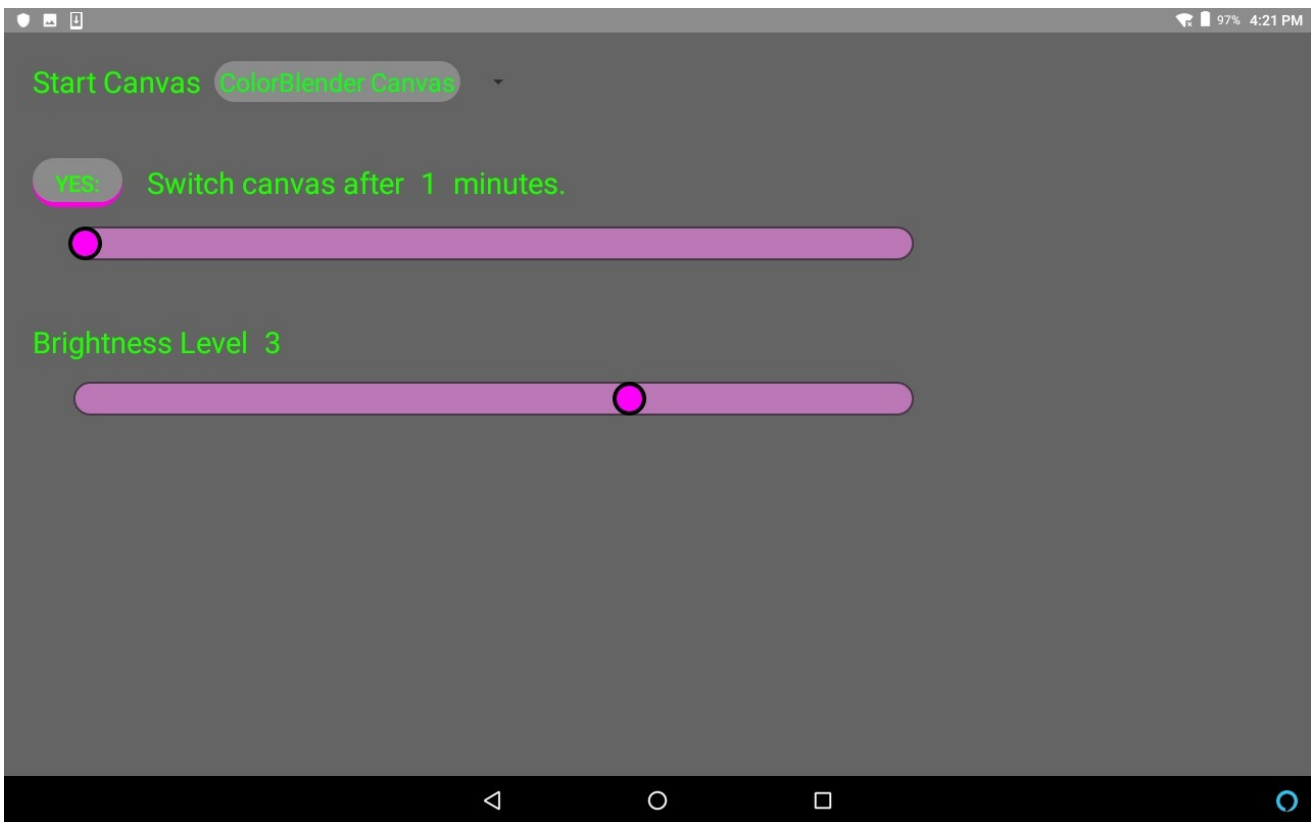
OK, let's configure your global Everbright settings.

Tap the Wrench icon on the upper-right corner.
This screen should appear.



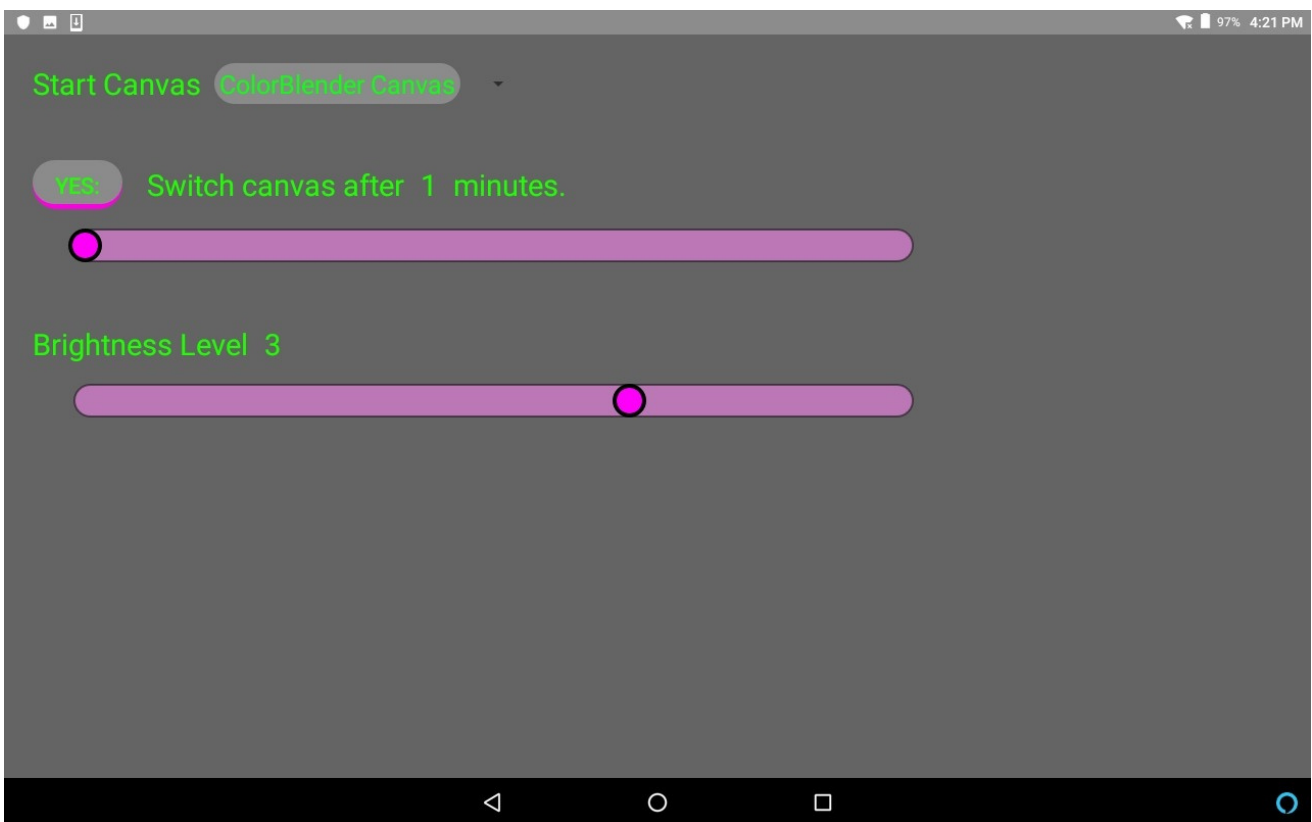
Start Canvas.

Select the canvas your Everbright boots into when you power it on.



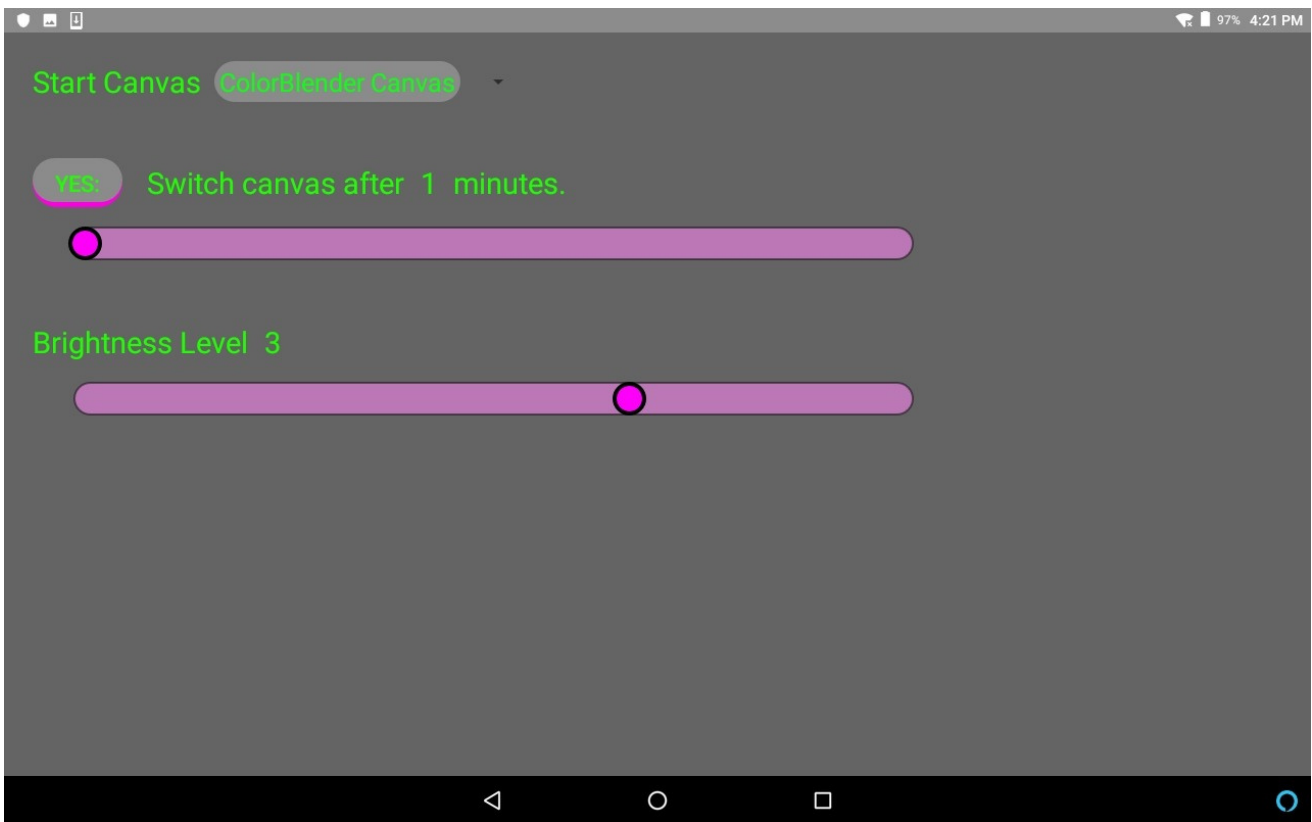
Switch Canvases After ___ Minutes.

Play a new canvas after an interval of inactivity that you specify. For busy spaces, shorter intervals work best.



Change Brightness Level.

You can dim the board or make it brighter if desired.



Using Canvas Cards.

You should see several squares like these. Each Canvas Card can be an animation, a movie, or a saved design.
(Swipe up to scroll down.)



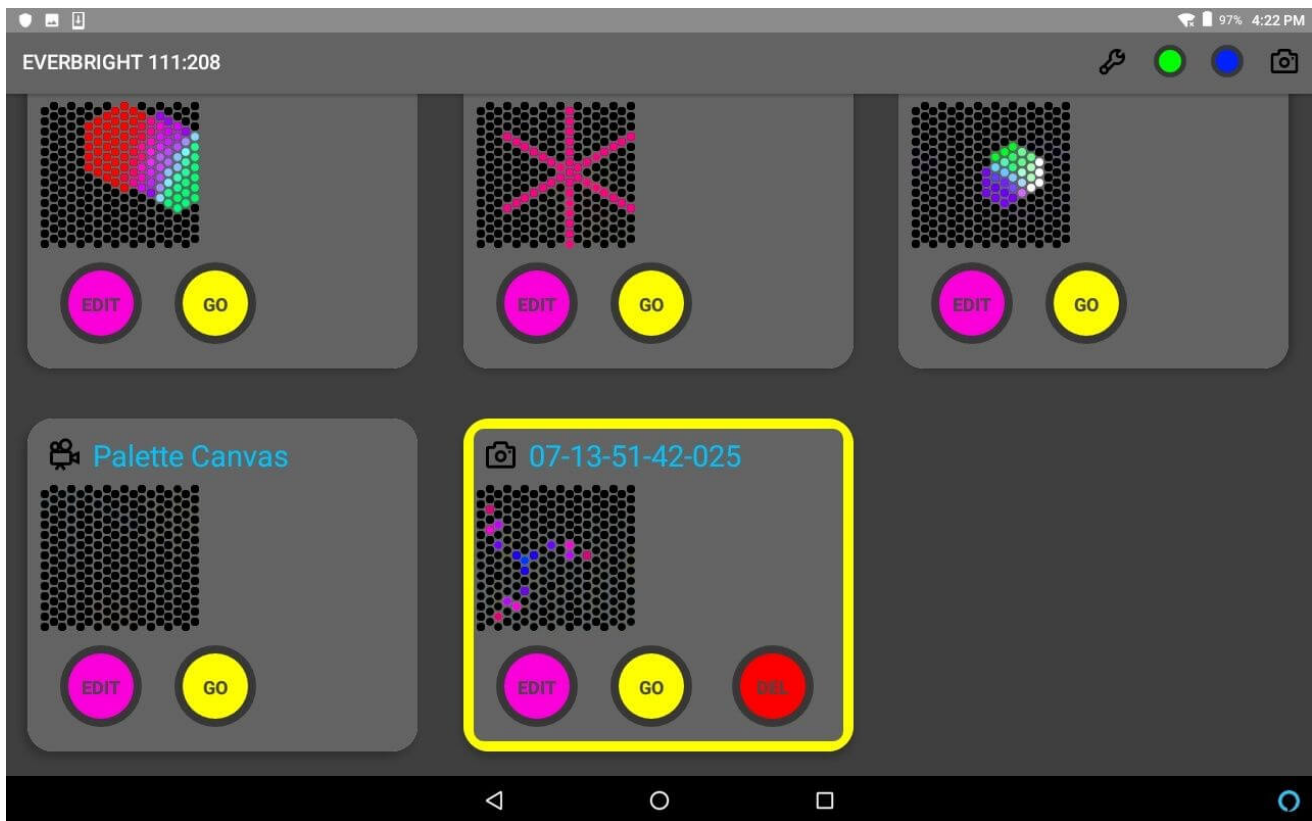
A Wrench icon on the top-right side of the screen opens your settings.

Let's try saving a design.

Twist some dials on your Everbright. Make something.

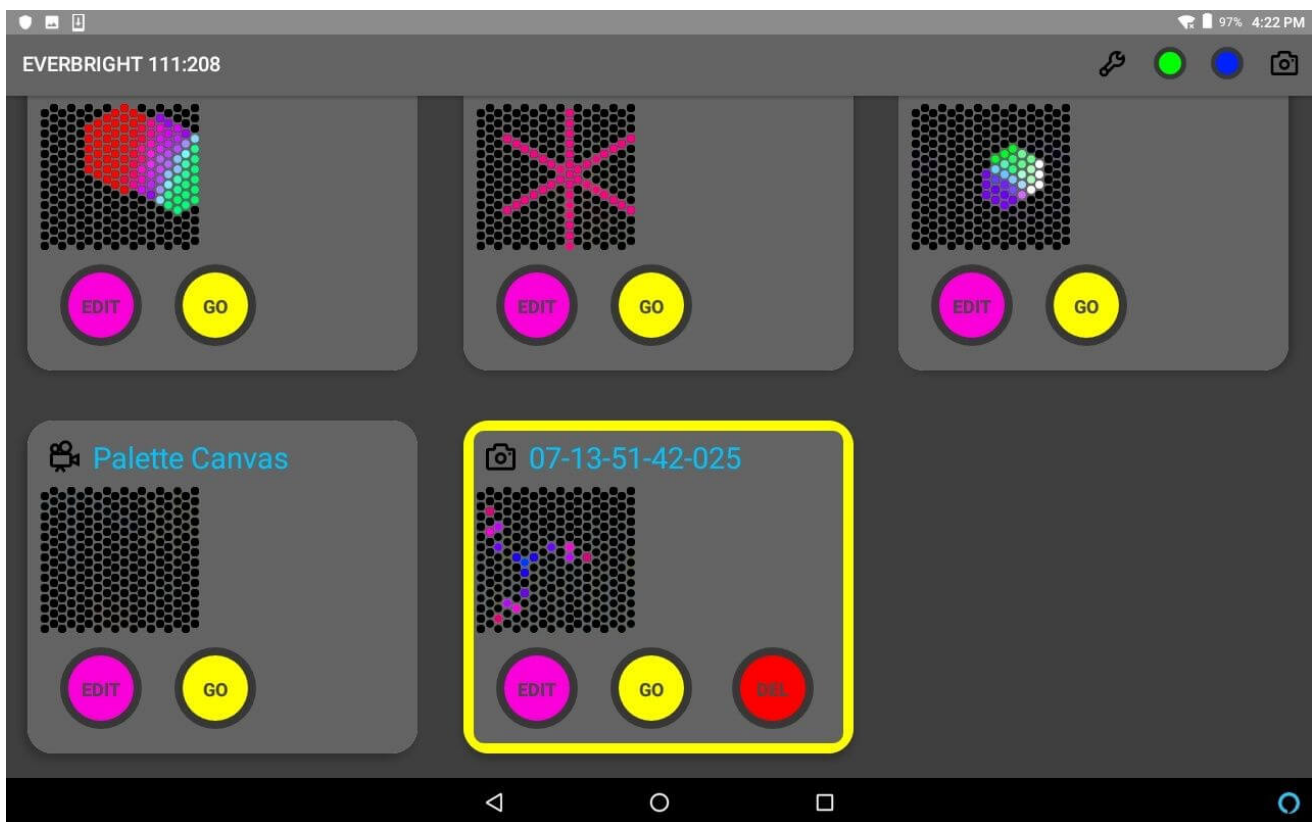
When you're finished, click the camera icon on the upper-right corner of your tablet screen.

Swipe up to see your new saved design at the bottom of your Canvas Cards.



Tap **EDIT** to rename this file.

Tap **DEL** to delete this file from the tablet.



You can set this snap as a feature design to appear throughout the day.

If you want your saved file to appear after an interval of inactivity on the Everbright, here's how.

1. Click the Wrench icon on the upper-right corner of the app.
2. For Start Canvas, select "Snap Canvas" from the drop-down menu (it's the bottom choice).

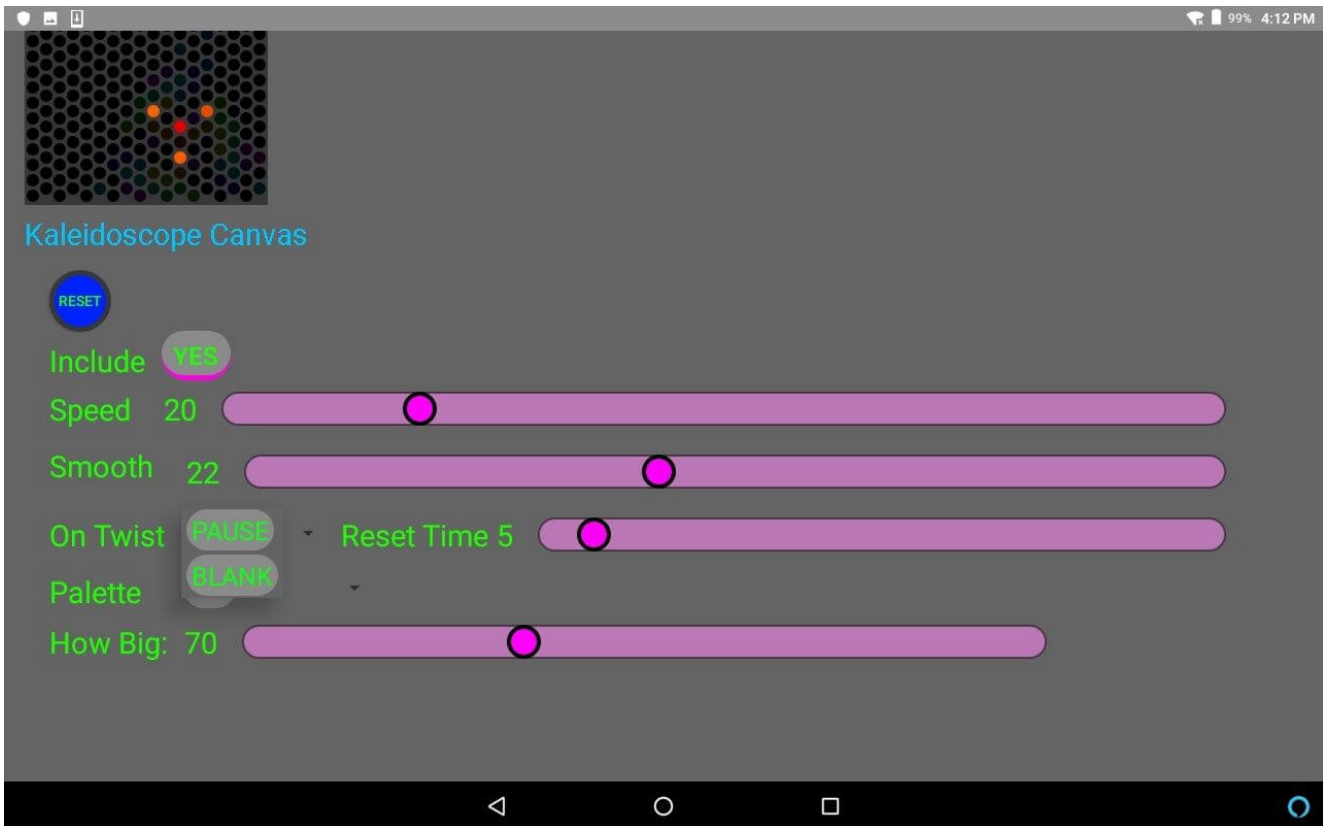
This tells the Everbright to boot into your snap (your saved design that is selected and showing on the Everbright). Doing this saves the design to the Everbright's brain, so it remembers your design the next time it boots up.

The design should automatically reappear on the Everbright after an interval of 1 minute of inactivity (unless someone hits the green button on the Everbright to change canvases).

Let's customize a Canvas.

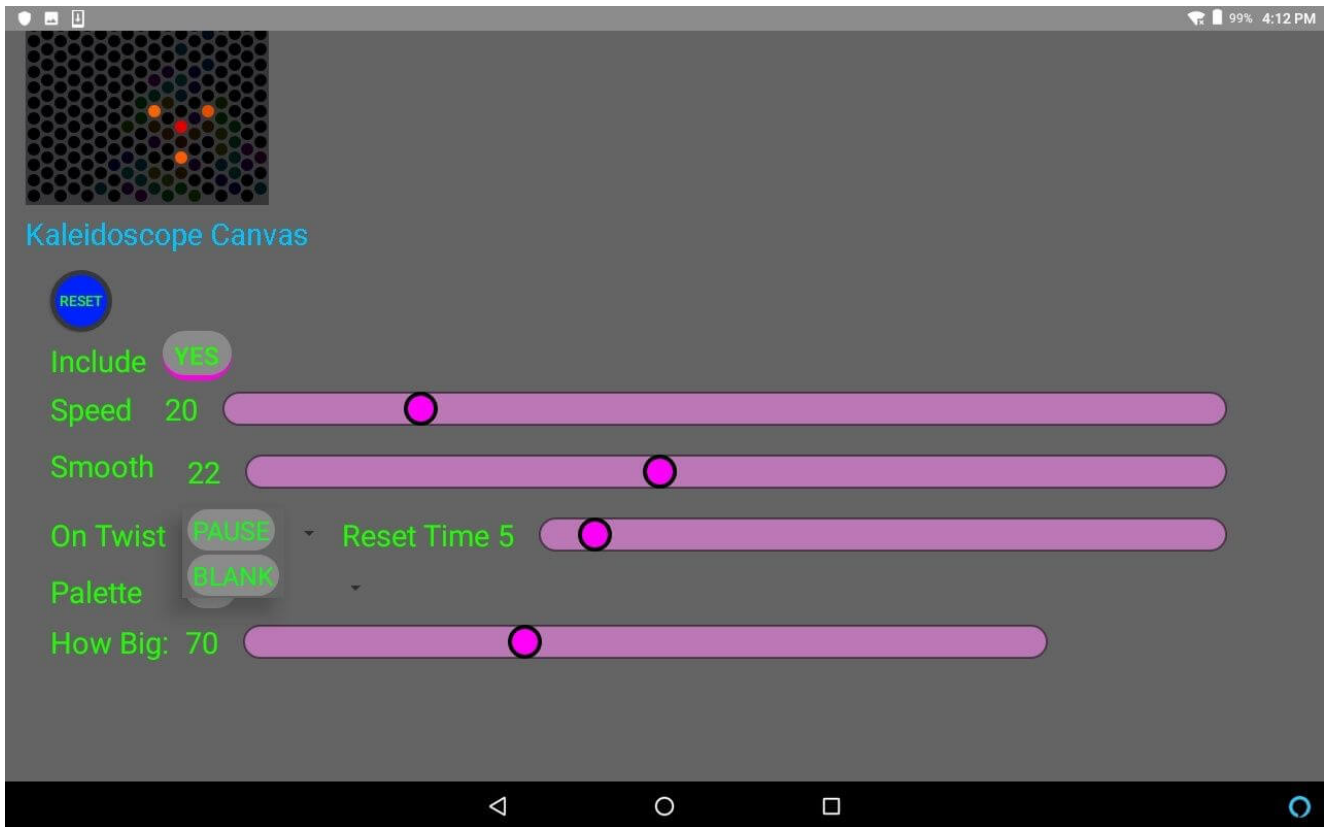
Tap the Icon for the Kaleidoscope canvas.

(You can also tap GO.)



From within any canvas, tap **EDIT**.

Edit lets you change the parameters of this canvas.

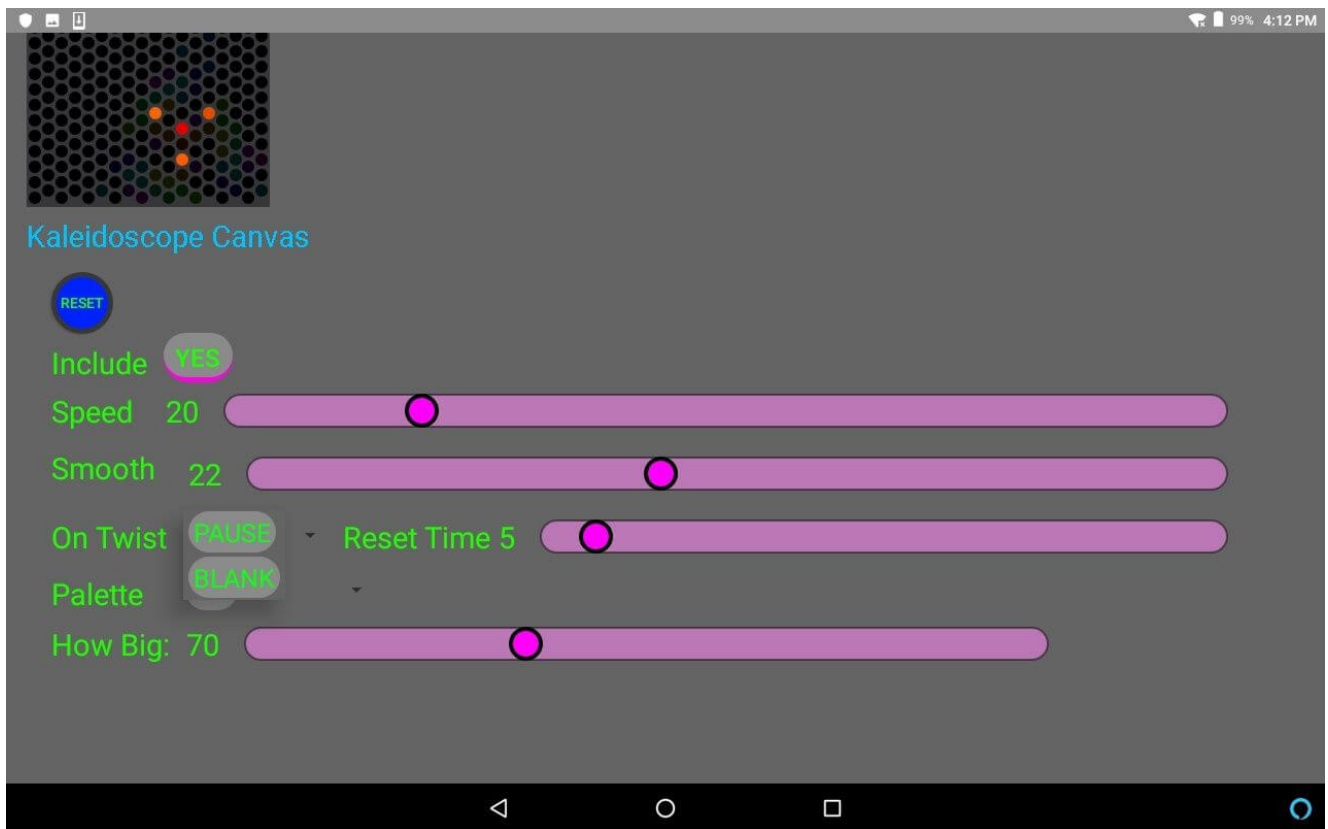


You'll see a live preview of the canvas playing on the tablet interface. While you are editing a canvas in the app, your Everbright board is locked into that canvas. This means the physical function buttons on the top of the Everbright itself will be temporarily disabled. Before using the function buttons again, be sure to exit the "Edit" mode on the Canvas by hitting the Back button to get back to the Everbright app main page, so that you can resume using the physical function buttons on the Everbright board.

INCLUDE—YES or NO.

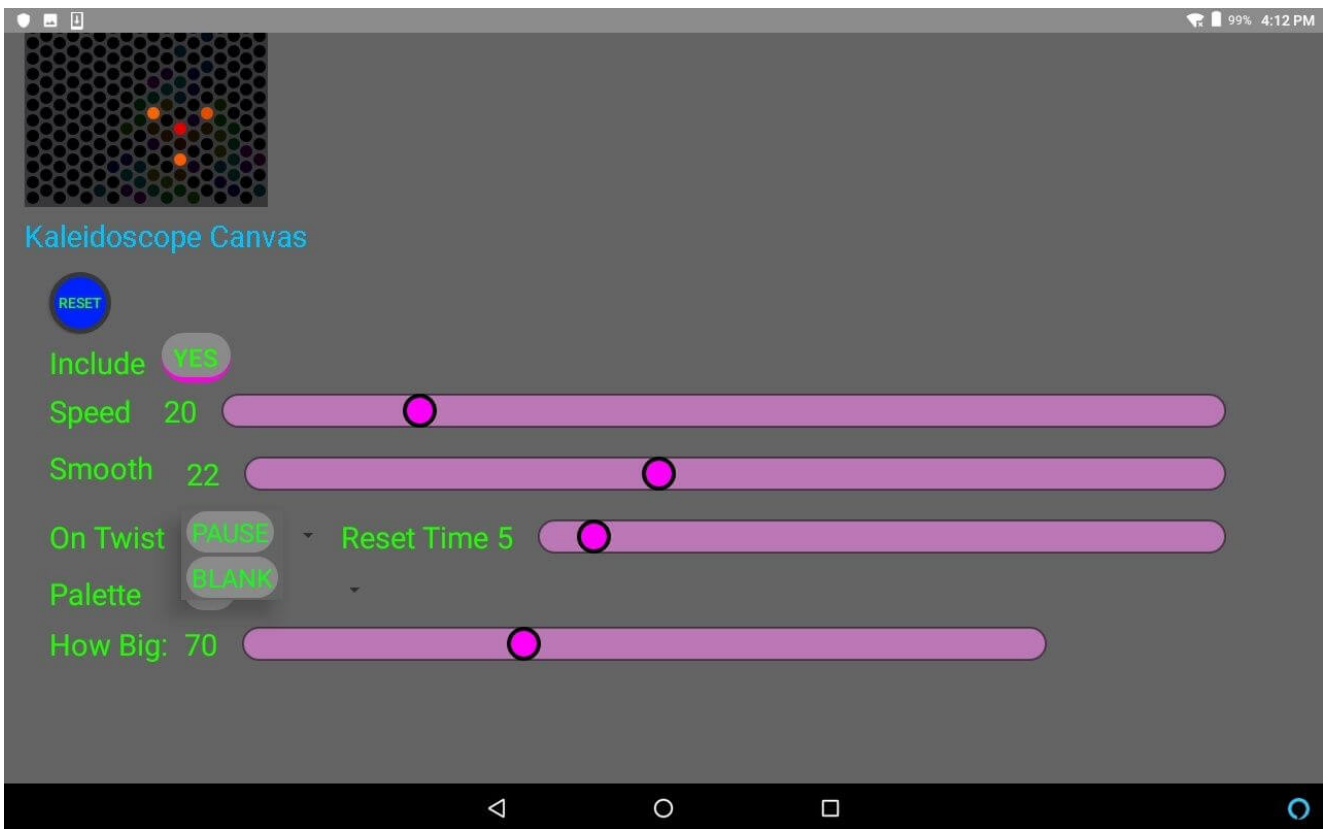
Include it on the list of canvases that your board can feature when it starts up, so this canvas is accessible through the function button?

If you do not include it, then the only way to get this canvas back is through the app.



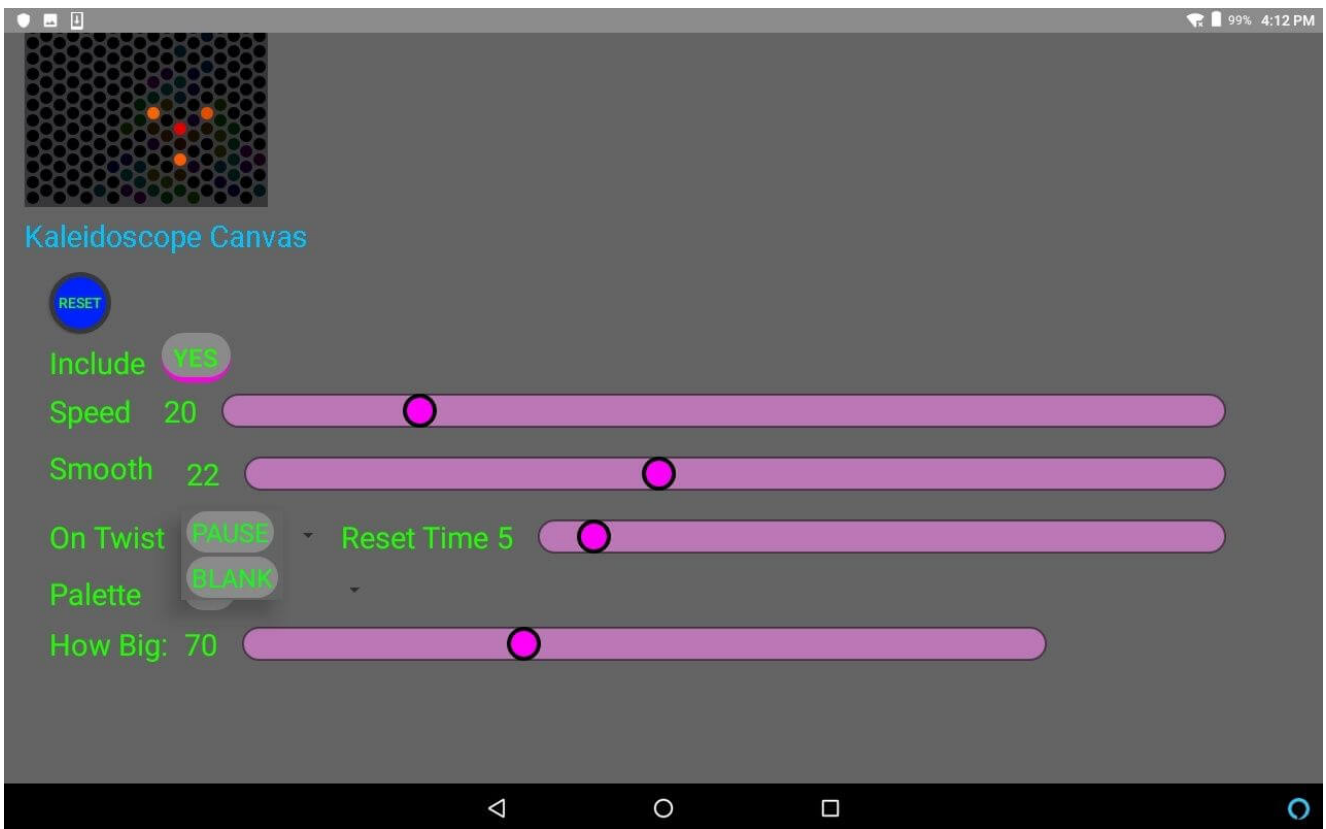
Speed.

Most canvases can move more slowly or more quickly. You can adjust this.



Smooth.

Most movies have a smooth factor, which is the way light jumps from one pixel to the next. Experiment with adjusting this to see the effects of more or less smoothness.

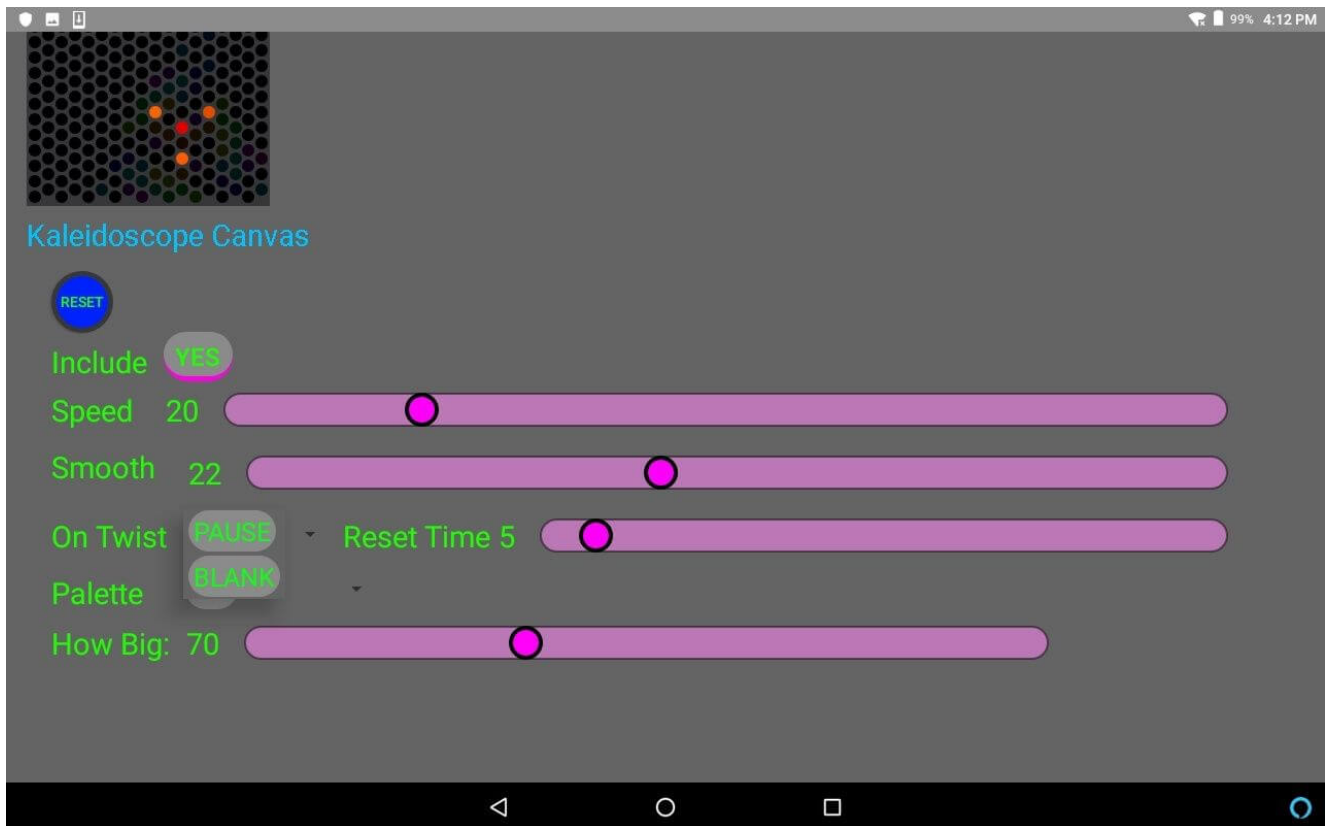


On Twist.

Set what the board does when a user twists a dial, within that canvas.

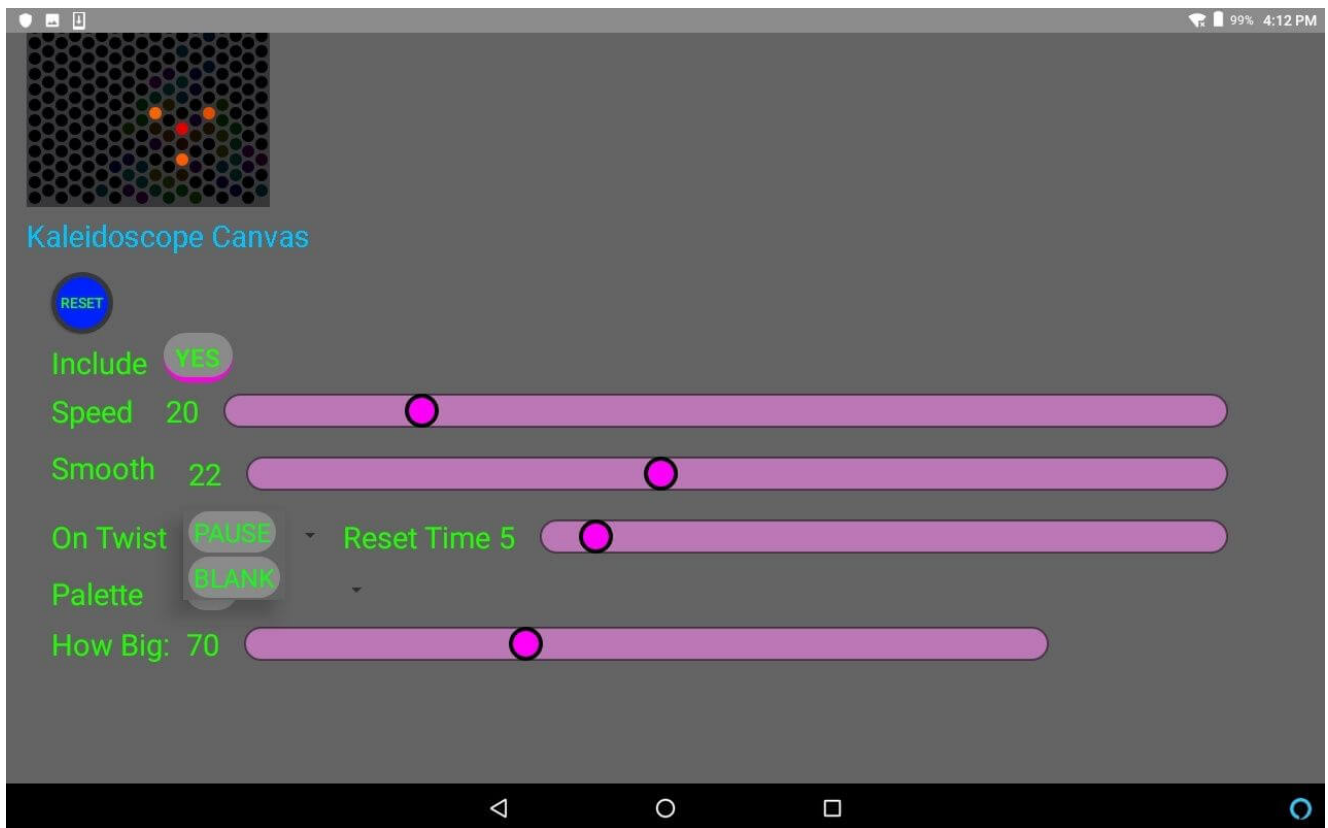
PAUSE means you want the animation to pause, giving them a starting point for creativity. This works well for young children and for adults in a hurry.

BLANK means you want the animation to disappear when the user twists a dial. This gives people a blank canvas so they can design anything they can imagine. Best for older children and for people with ample time to linger.



Reset Time

Choose how long you want the board to wait before resetting itself within that canvas, from 1 minute to 61 minutes. Shorter intervals of 3 minutes work well for busy spaces.

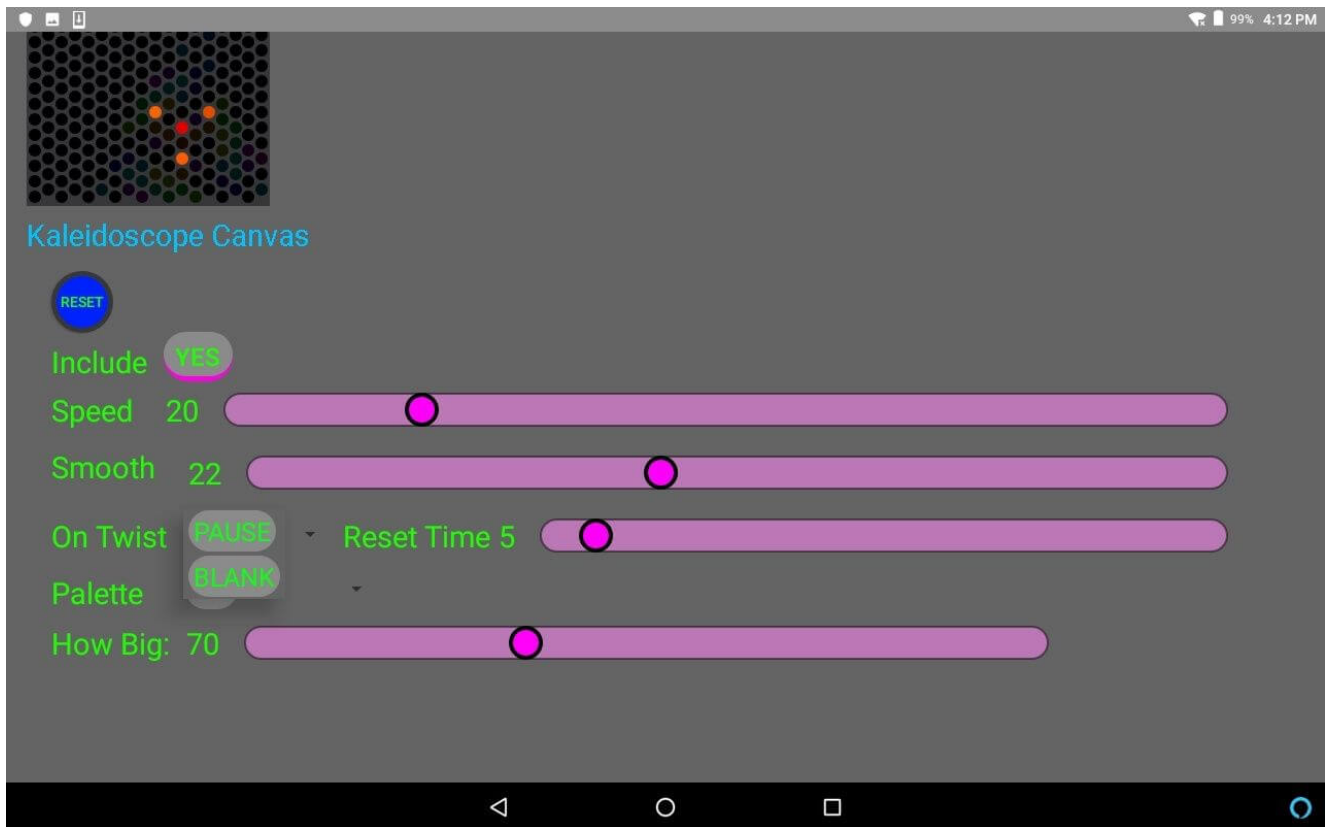


Palette

Select a color palette to apply to this canvas.

Try different palettes to see how each appears on the Everbright.

If you have ordered a custom color palette from Hero Design, your custom palette will appear as an option here.



Finished? Close the app.

Leaving the app open when not in use can cause connection issues. Here's how to close the app:

1. Tap the Square.
2. Swipe up to close the window, or tap the X.

Troubleshooting the Everbright App

Any problem caused by the app can be resolved by closing the app and power cycling the board. If things aren't working the way they should, power the board off by locating the power switch for your Everbright.

Turn your Everbright off, wait 5 seconds, then power it back on and wait 30 seconds for the animations to begin. This should resolve the majority of issues that could arise while setting up and configuring the tablet.

Make sure your tablet does not have the option to connect to any internet networks. The Everbright should be the only network available on the tablet's Wifi settings.

Still having problems? Email us at kp@herodesign.com or text 415-323-5928.

Technical Details

How the Everbright Connects to the Tablet

Your Everbright establishes a wifi access point, similar to a bluetooth connection. Your tablet you received has been pre-loaded with the Everbright app, and uses wifi to communicate with the Everbright. Your Everbright network is separate from any wifi networks in your building. Do not connect your tablet to your building's internet wifi. The tablet you received is the only device that can connect to the Everbright. Only another tablet that has been configured with your license by Hero Design can connect to your Everbright.

WHEN YOU NEED INTERNET ACCESS—AND WHEN YOU DO NOT

When you start up the Everbright app on the tablet, the app will automatically connect to the Everbright. You should not need a password. Do not use your tablet to access the internet. If you have used the tablet to connect to your building's internet (such as to download a new version of the Everbright app), go into your tablet's settings to delete that internet connection immediately afterwards.

CHANGING INTERACTIVE CANVASES

You'll find two physical function buttons into the top of the Everbright board, on the left-hand side. The green button (on the left) changes canvases. The blue button (on the right) resets the canvas (clearing the board and beginning again).

These buttons are for daily use. The app mirrors these green and blue buttons in its interface. Some canvases start blank, such as the Classic Creativity canvas, the interactive canvas, and the pastel color palette. You can change the canvases by pressing the Green button for 1 second and releasing, to select your desired canvas.

HAVE MULTIPLE EVERBRIGHTS IN THE SAME LOCATION?

AN ADDITIONAL TECHNICAL RECOMMENDATION

If you have multiple Everbrights, each board must be configured separately. Your connection to the app can be more reliable if you turn off your other units and connect each board one at a time with the tablet. After the app starts up and connects to the internet, the app will ask which Everbright you want to connect to. Each Everbright is denoted by its SSID. Ideally, you have given each Everbright its own circuit and can power the others off. If you cannot do this, you'll need to connect to the app, load an interactive canvas, and note which board is responding.

Now, write the SSID here for each board

Cleaning Guidelines

The Everbright has textured lenses that naturally resist fingerprints and dirt. Most people turn the dials with the tips of their fingers. Every other week, use a dry microfiber cloth to dust the top of the board where the vents are located. You can also use this time to dust the lens of the Everbright if needed. If intensive cleaning is needed, follow these steps.

Cleaning the Everbright in 5 Minutes:

You will need:

- 2 black microfiber cloths, such as Buff Microfiber Cleaning Cloths available on Amazon.
- Optional: 1 dark microfiber blind duster

1. Spray the microfiber duster with soap or cleaning solution. Gently run the duster all the way down each column of dials, in between the dials. The dials turn, allowing the duster to quickly clean the circumference of all the dials.
2. Fold a black microfiber cloth into a 3" long, x6" high rectangle, about the width of a dial. Dampen with soap and water (no bleach or ammonia). The cloth should be wrung out and damp, not sopping wet.
3. Starting on the top dial of the left row, gently wipe from top to bottom to remove dust and dirt from the lenses. Repeat row by row, gently wiping from the top lens to the bottom lens. Rotate and refold your cloth every few columns.
4. Wait a couple of minutes, then wipe dry with a clean, dry, black microfiber towel.

Questions and answers for cleaning the Everbright:

Q: Is the Everbright moisture-resistant?

A: The front of the Everbright, which is the part that gets touched, is highly moisture resistant. However, never spray the vents on the top and bottom of the frame. Keep them protected from liquid. Never apply a sopping-wet towel to the vents on the top of the board. The material itself is moisture-resistant, but you do not want to create a situation where liquid is entering the vents, as this could damage the power supplies and electrical circuitry.

Q: Can the dials on the front of the board get wet?

A: Yes, as long as the liquid is acrylic-safe and child-safe. The outside of the dials, as well as the Everbright's exterior frame, are made of a high-density engineered wood product that is extremely moisture resistant and is relatively non-porous. This material is often incorporated into kitchens and bathrooms. It has a polyurethane finish for additional moisture protection. The Everbright's dials have multiple barriers to keep moisture from reaching any of the circuitry, which is at least 2 inches behind the part of the dial that you see. While you should never use a pressure-hose to clean your Everbright, you can use soap and water to clean your Everbright, without fear of damaging your Everbright.

Q: What are the Everbright's lenses made of?

A: The Everbright's lenses are made of a thick, textured black matte acrylic that resists streaks and fingerprints. The lens can be cleaned with anything that is both acrylic safe and safe for children.

Are you a hospital? Contact support@hero-design.com for information on recommended cleaning agents.

Servicing Schedule

Prolonged unneeded use will shorten the lifespan of any piece of electronics. While we have engineered these pixels to maximize durability, it is prudent to take all steps possible to ensure the longevity of your pixels.

Here is how you can do that:

1. Power the board off at night.
2. Program the board to erase itself after a period of inactivity.
3. Keep the area above the board free. Regularly check the vents to ensure that they are not covered or obstructed.
4. Do not allow anyone to place drinks on top of the board. We have designed a removable slanted cover, which can be ordered if drinks are a concern or ever become an issue.
5. Always ensure the Everbright is operated in an indoor, climate-controlled environment. The cooler the pixels, the longer they will last.

Daily:

- Power the unit off at the end of the day, every day. It is best to install a timer on the circuit so this is done automatically, without requiring human intervention.

Weekly to Monthly:

- Clean the lens of dust and debris.
- Dust the vents on the top of the board.

Quarterly:

- Check to ensure the animations are running properly. (Watch)
- Check to ensure all the fans are working. (Listen)

Annually or Every Other Year:

- Clean out the fans and the vents, which can accumulate dust. If you are in a high-traffic space (hundreds of thousands of visitors a year), you should do this annually. Take the Everbright off the wall. Remove the cover boards. With the unit unpowered and unplugged, vacuum out the lower and upper vents that are accessible. Do not vacuum PCBs, PCB cups, wires, or electrical enclosures. If you see any large distributions of dust, vacuum them up. If the vent holes are clogged, use compressed air to blow from the inside out so that you get all of the dust out of the system.
- Initiate the Debug Mode to identify any pixels that may need to be replaced. (Power off the board. With one person pressing down on the blue & green buttons simultaneously, power the board back on. Wait approximately 30 seconds or until all the dials illuminate at once. They should then begin to run a pattern through all of the colors, with a dot running from top to bottom across all pixels.)

About the Everbright

The hands are the body's instruments of creativity. Working in concert with the eyes, the hands construct the brain, and with the brain, they reach out to construct the world.

Humans have a universal need to create that emerges practically from birth. Even before an infant takes her first steps, she is already touching and manipulating objects with her hands, noticing colors, and beginning to form patterns. Early literacy begins with these developing neural connections between between the hands, the eyes, and the brain. As adults, new ideas accelerate when we use our hands to strengthen these neural connections. The Everbright is designed to satisfy humans' universal need for creativity, providing a tactile counterpoint to ubiquitous screens and buttons.

The Everbright was introduced in August 2015 as an elegant re-imagining of the giant Lite-Brite—without removable parts. The dials twist easily by people of all ages and abilities, so people can create together and experiment with color, patterns, and geometry. Because the Everbright requires no setup and no pickup, people can engage in open-ended creativity whether they have 15 seconds or 15 minutes.

Trained as a scientist with a PhD in Neuroscience from Stanford University, the Everbright's designer Dr. Alan Rorie has been featured in the science journal *Nature*, the technology and culture publication *Wired*, and an array of blogs and web-pages. His scientific work has been published in *Science*, *PLoS* and *The Journal of Cognitive Neuroscience*. He has been a fellow at The Exploratorium,

the museum of science, art and human perception, and a researcher at the National Institute of Mental Health and New York University. The Everbright incorporates much of what he believes as an artist, a scientist, and a maker.

The Everbright uniquely allows organizations to orchestrate creativity without removable parts. We want to make memorable visits for everyone of all ages and all abilities. Using the hands to manipulate an object, while looking at it with the eyes, is not only fun, but it also builds the brain architecture for early literacy, promotes innovative thinking, develops spatial intelligence and socio-emotional skills, and aids with sensory regulation.

As with any interactive exhibit designed to inspire open-ended creativity, there are no barriers to stopping or starting, and no limits to what one can create. The dials twist easily by people of all ages and abilities.

The Everbright has evolved since its beginnings, and the new edition has capabilities as an evergreen interactive fixture, so repeat visitors may continue to be surprised and delighted.

Many people think of creativity as a localized function of the mind, separate from the body. But researchers believe that from our earliest beginnings, creativity began in the body, and more specifically in the hands. As Juhani Pallasmaa writes in *The Thinking Hand*, “The amazing mobile versatility, learning capacity, and apparently independent functions of the hand may not be a result of the development of the human brain capacity, as we tend to think, but the extraordinary evolution of the human brain may well have been a consequence of the evolution of the hand.” He cites Marjorie O’Rourke, who notes, ‘Aristotle erred in asserting that humans had hands because they were intelligent, Anaxagoras was, perhaps, more correct in stating that humans were intelligent because they had hands.’

Hands accelerate thinking and learning. Manipulating an object with the hands, while looking at it with the eyes, is highly engaging for the brain. As Frank R. Wilson writes, “The hand is so widely represented in the brain, the hand’s neurological and biomechanic elements are so prone to spontaneous interaction and reorganization, and the motivations and efforts that give rise to individual use of the hand are so deeply and widely rooted, that we must admit we are trying to explain a basic imperative of human life.”

Juhani Pallasmaa expands on this concept, writing, “The brain does not live inside the head, even though it is its formal habitat. It reaches out to the body, and with the body it reaches out to the world.”

Why does using the hands accelerate thinking and learning?

Creativity and thought are the result of a fusion between hand, eyes, and mind. Humans think with our hands. We express with our hands. We need to gesture. Benefits of using the hands to accelerate thinking and learning include:

1. Gesturing and thinking with the hands boosts creativity—increasing the number and velocity of new ideas. In a study of 54 children aged 8 to 11 years old published in *Psychological Science*, a journal of the Association for Psychological Science, children who were encouraged to gesture generated a greater number of novel uses for everyday objects than did the children who were not given any special instruction. Children who gestured normally produced 13 gestures, on average, while those who were specifically prompted to gesture produced about 53 gestures, on average. In other words, gesturing boosted creativity.

2. Builds spatial intelligence and visual planning skills. These are the basis for all high-level thought—starting with early literacy.

3. Hands are the foundation of speech and early literacy. Architect Juhani Pallasmaa writes, “Recent anthropological and medical research and theories even give the hand a seminal role in the evolution of human intelligence, language and symbolic thought.” [He continues, “The very categories of language are created by intentional hand actions, so that verbs derive from hand movements, nouns hold things as names, and adverbs and adjectives, like hand tools, modify movements and objects. The focus here is particularly on how experiences of touch and grip [...] give language its directive power.” In other words, the body becomes a metaphor for the processes that the brain is engaged in.

Ideally, the activity should engage as many of our five touch receptors as possible, including the Meissner corpuscles (receptors), which “indicate such sensations as movement along the surface of the skin, feedback when objects are grasped, and an ability to detect low-frequency vibration, or flutter,” and the Merkel cells, which “are responsible for form and texture perception.”

Contact

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Staying Current

Future developments are in the pipeline. We are continuing to develop interactive capabilities, and any new features would be pushed out to the tablet, and would be compatible with your Everbright, without anyone needing to remove the board from the wall. When they are available, they will be published, and you will receive an email update. Stay tuned!