

## Design an Interactive Poster!

Bring your visual art and design skills to life using technology!

Using paper, cardboard, markers, or paint, create a poster that tells a story through images and sound. You can tell a story, explain a concept, tell us about yourself, or just create a visual soundscape.

Posters will be judged on their visual storytelling, accompanying sounds, and technical finish\*. The winner will get a **Touch Board Starter Kit**, so they can bring their poster to life by turning their visuals into touch sensors!

\*Technical finish - How well they followed the technical instructions to make sure their 12 capacitive sensors work.

## Deliverables

1. 1 photograph of your sensor design (step 7 in [Instructions](#))
2. 1 photograph of the final poster you've created
3. Folder with correctly labelled MP3 tracks to match each of the visuals (see [MP3 Sounds](#) on page 4)
4. A short video (max 1min) explaining your poster and story

## Instructions

For this competition, we want you to create a poster that tells a story. While you can use any materials you want, you'll have to make sure the poster design follows a few technical specifications so that it will work when re-created, and activated, using the Touch Board and Electric Paint.

Follow these steps in order to create a successful poster:

- 1. Substrate** - Choose a rigid material that will not bend easily. We recommend white, A3-size, card. That will give you a rigid surface to create your graphics and attach your electronics. You can use other materials as long as they are rigid, such as wood, cardboard, etc...
- 2. Touch Board placeholder** - It is good practice to place your Touch Board at the bottom of the poster, or in one of the bottom corners. This is important because when you power it and connect your speaker the cables will not cover your graphics. We recommend using our [Touch Board template](#) to draw out a Touch Board placeholder, the Touch Board has a dimension of 6.25cm x 8.46cm.
- 3. Touch Board pitch** - The Touch Board has 12 electrodes at the top. They are spaced apart by 7.2mm. In your template they are represented by 12 circles on the top of your rectangle. Make sure to mark these as these are the connection points for your sensors. We

recommend using our [Touch Board pitch template](#) to create the starting point for your sensor graphics.

- 4. Create your design** - Now to the creative part! With a pencil create your illustrations and draw the graphics that will become your touch sensors. Remember 12 max! These will eventually be painted over with Electric Paint. Carefully read the [Technology](#) section to make sure these graphics will work once turned into sensors. Using pencil is good to start with so you can erase mistakes and make changes. Also, remember, that each of these graphics will be matched to a sound. So while creating your design, think about the order and position of each sensor as it relates to the sounds of the story that your poster will tell.
- 5. Check your design and number sensors** - Once you've finished designing your touch sensors, double-check the [Technology](#) section to make sure each of the sensors is an independent graphic so that they will work once activated. If you're happy they're correct then make a note of which sensor matches up to which electrode (see [Image 1](#)) as you will need to label your sound files so each one matches the correct sensor.
- 6. Paint Sensors black** - Electric Paint uses carbon particles to conduct electricity and create sensors. That is why the material is black. We can't change it, but we can be creative about how we work with it alongside other materials or colours (more about this in step 8). Once you're sure your sensor designs are correct, you can paint your pencil traces with a permanent material. You can use a marker, poster paint, or anything else as long as it's black!
- 7. Take a Photo** - Now, take a photo! We will need to see your sensor design in order to judge whether your poster successfully passes the 'technology' test. So make sure to document the basic electronic design before you go any further.
- 8. Embellish** - Once you've painted your sensors, you can add all sorts of graphics to your poster to bring your story to life. The magical thing about capacitive sensors is that they work through other materials, so you can add layers of colour on top of your sensors if you don't want a black and white graphic. You can use magazine cutouts, coloured paper, stickers, vinyl, wrapping paper, or anything else to add colour and texture to your story.
- 9. Sounds** - Once you've finished with the visuals, you can move on to the sound. You probably know by now what sounds you want your graphics to tell, so you can search for appropriate sounds online, or record your own! Remember, these can be tunes, ambient sounds, animal sounds, or even a recording of your own voice. Get creative! Just make sure to save these as MP3 files, and to label them correctly so they map to the right sensor graphic (see [Image 1](#)).
- 10. Photo & Video** - You're done! Now take a photo of your finished poster, and film a short video (1min max) explaining your concept and story. Send us your 2 images, video and sound files and we'll get back in touch once we've determined whether you're the winner!

Below are some examples of posters created using the Touch Board Starter Kit.

Example 1 and 2 show black and white graphics, and examples 3 and 4 show how colour and shapes are incorporated into the black graphics.



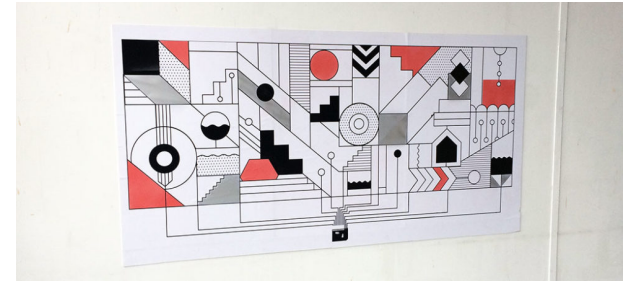
Example 1



Example 2



Example 3



Example 4

Here are some links to other projects that our community has made that could inspire you:

<https://www.bareconductive.com/news/a-picture-is-worth-a-thousand-words/>  
<https://www.bareconductive.com/news/conductive-paint-interactive-graphics/>  
<https://www.bareconductive.com/news/learn-greek-mythology-interactive-painting/>  
<https://www.bareconductive.com/news/fuelling-the-future-with-touch-board/>  
<https://www.bareconductive.com/news/the-touch-board-in-the-analogue-digital-world/>  
<https://www.bareconductive.com/news/interactive-poster-famous-anime-heroes/>  
<https://www.bareconductive.com/news/digital-connections-between-present-past/>  
<https://www.bareconductive.com/news/tempo-fresco-sound-project/>

# The Technology

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## Electrodes

Each Touch Board has 12 capacitive electrodes, that can act as touch or proximity sensors. You can recognise them as 12 gold plated electrodes on the top of the Touch Board. When you touch one of these electrodes you can trigger an MP3 file and play a sound!

These electrodes can be extended with conductive materials, such as Electric Paint. This means that if you paint something, like a circle, with Electric Paint and connect it to one of the Electrodes, you can touch the circle to play a sound. Use the *Touch Board pitch template* to make sure your sensors are the right distance apart from each other.



Image 1

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## MP3 Sounds

You can create up to a maximum of 12 touch sensors to trigger the sounds you've selected for your poster, but make sure you label your MP3 tracks correctly so that they match up to the right electrode.

In order for your Touch Board to read the audio tracks, these need to be named:

TRACK000.mp3

TRACK001.mp3

TRACK002.mp3

...up to TRACK011.mp3

TRACK000.mp3 will be for E0

TRACK001.mp3 will be for E1

TRACK002.mp3 will be for E2

and so on....

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## Sensor Design

You can use Electric Paint to create visual graphics that also work as sensors. There are many ways to get creative with the Touch Board and Electric Paint, but there are some important rules to follow for the sensors to work.

It's important to keep short distances between paint and the electrodes, and to make sure the lines extending from the Touch Board to the sensor graphics aren't too thin. We recommend a thickness of 5mm at a minimum.

It's also important that the paint is running up from the electrodes, rather than underneath the Touch Board, as this will cause the board to malfunction. Here is an example:

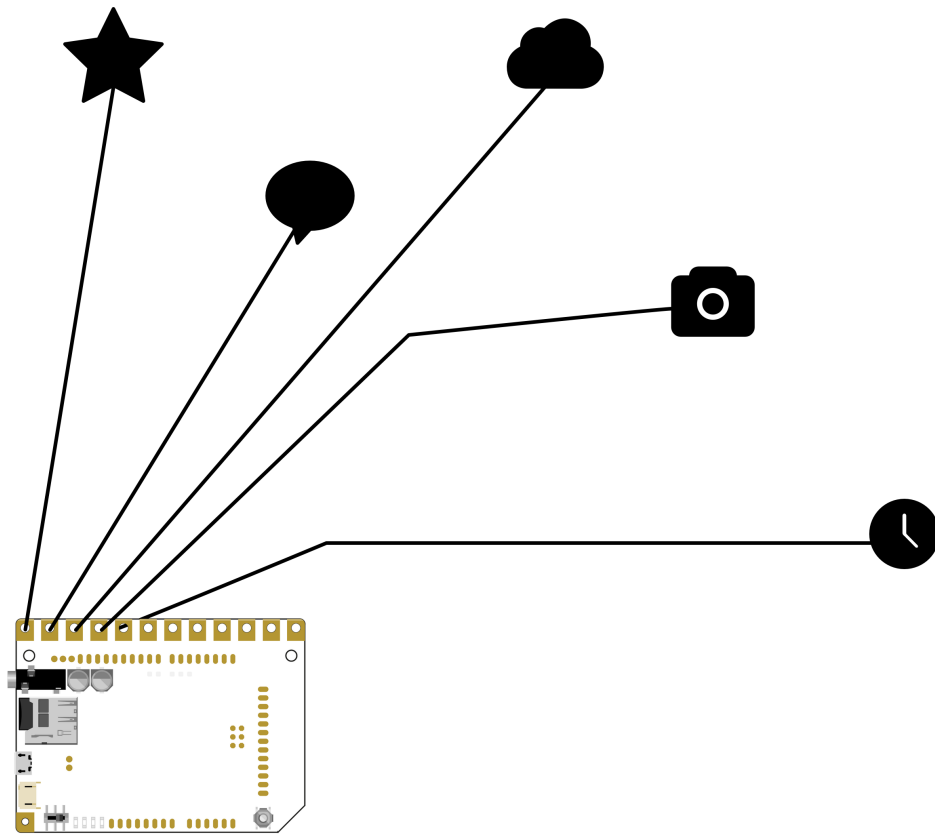


Image 2

It's important that Electric Paint that is connected one electrode, doesn't connect to the paint of another electrode. If two sensors touch or cross over each other, the Touch Board will not know which electrode to trigger. Here's an example on how NOT to do it:

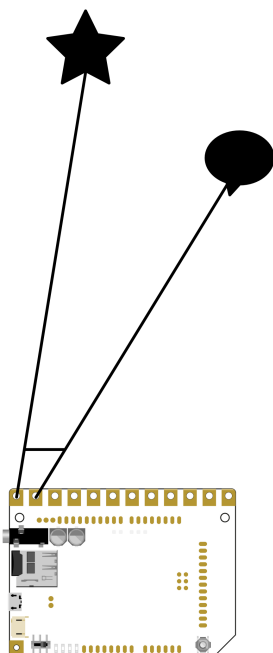


Image 3

If you want to keep your graphics neat you can use right angles (as seen below), but this is purely aesthetic, so you can go for a more organic style if you prefer as long as the sensors don't overlap!

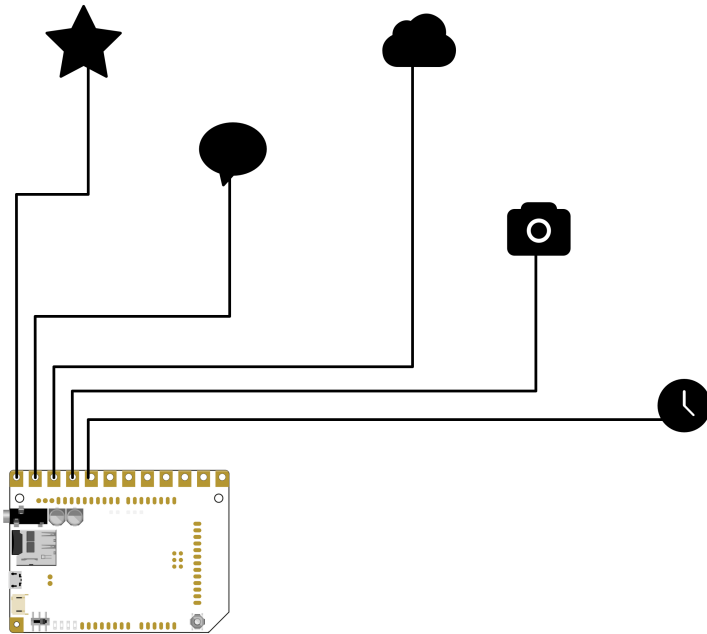


Image 4

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We look forward to your projects and if you have any questions, please contact us at [info@bareconductive.com](mailto:info@bareconductive.com). Enjoy!