NYU | Ability Project

Workflow for Designing Hand-held Tactile Maps

For Braille Embosser, Swell Machine Form
And Ink Print

Workflow Overview

Workflow Guide

This guide includes instructions to create letter size paper tactile maps. This workflow requires access and knowledge of vector graphics editors such as Adobe Illustrator, Inkscape, Sketch or Figma.

It is also important to have access to a Swell Form Machine and Swell Touch Paper or Braille Embosser and Embosser Paper.

Creating Tactile maps is an iterative process that requires trial and error, evaluations, feedback and teamwork. Keep the user at the center of this process.

Consult the [Design Guidelines for Hand-held Tactile Maps](#) for more information on the design process.

MAP CREATION

Step 01

Evaluate the space

Before creating a map, make an assessment of the site. Assess touchpoints and challenges in navigation. This could include permits to enter specific areas, stairs, steps, or types of doors. Teamwork helps evaluate the space from different perspectives.

Following, we include a table with touchpoints to consider while assessing the space.

Navigation Evaluation Table

Navigation	
Point A to Point B	
Distance	
Turns	
Requires key, card or permit to access areas (yes/no)	
Total number of Doors	
Door actuator/ automatic doors	
Manual-only doors	
Stairs	
Elevator	
Uneven ground (Steps, ramps)	
Setting (Indoors/ outdoors)	
Turnstile	
Cautions (changes, precautions or warnings in navigation)	
Notes	

DESIGNING MAPS

Step 02

Download Tactile Map Template

Download and open file [Ability Project Tactile Maps](#) folder.
SVG file open in vector graphics editor such as Adobe Illustrator,
Inkscape or Sketch.

Online access on [Figma](#)

Step 03

Customize Template

Create a map on chosen software.
Choose a template that better fits your map.
Scale the map to fit the Artboard and map section.
Maintain the design between the margins of the artboard to
assure a safe printing area.

Step 04

Choose symbols and specify touchpoints

Use the key symbols to identify important information and position them on the map.
If necessary, create new symbols.
If creating multiple maps, maintain consistency when using the symbols.

Step 05

Create Key

Use text and key components to create a Key of your map. Keep a consistent size between the symbols used on the map and the Key.

Step 06

Text and Color - in preparation for printing

Write text on another layer (to know more about Layers). This facilitates the printing process.

If using a **Braille Embosser** as the method of fabrication, for any element of color that you decide to add:

- Duplicate the layer that you want to color
- Change the color to the one desired.
- Keep two layers of the same element: black and white for the Braille Embosser, and the other layer with colors for ink printer.

Step 07

Translate text to Braille or Braille to text

Use Braille translator to help translate to Braille
Braille Translator suggested:
https://www.branah.com/braille-translator
Use the Unicode Table for Braille
Keep Braille lowercase to avoid clutter
Use Grade 2 Braille (typically use in signage)
Keep the Braille text and text in different layers to easily edit.

Step 08

Adding a QR Code for Alternative description of maps

Create a narrative description of the map, describing the layout, key and map.
Add the description to a website page.
Create a unique QR Code for the website page using a Qr Code generator.
On the map, use a tactile graphical symbol that corresponds to the printing method.

QR code image and the QR code symbols should be on separate layers.

PRINTING MAPS

Step 09

Printing steps - Tactile and Visual.

The design and printing process uses paper for the tactile printer method (Braille Embosser or Swell Form) and an ink printer for the visual information only. These printing steps improve the usability of the maps, add visual information and reduce tactile clutter for elements that do not need to be "swell" or puffed up.
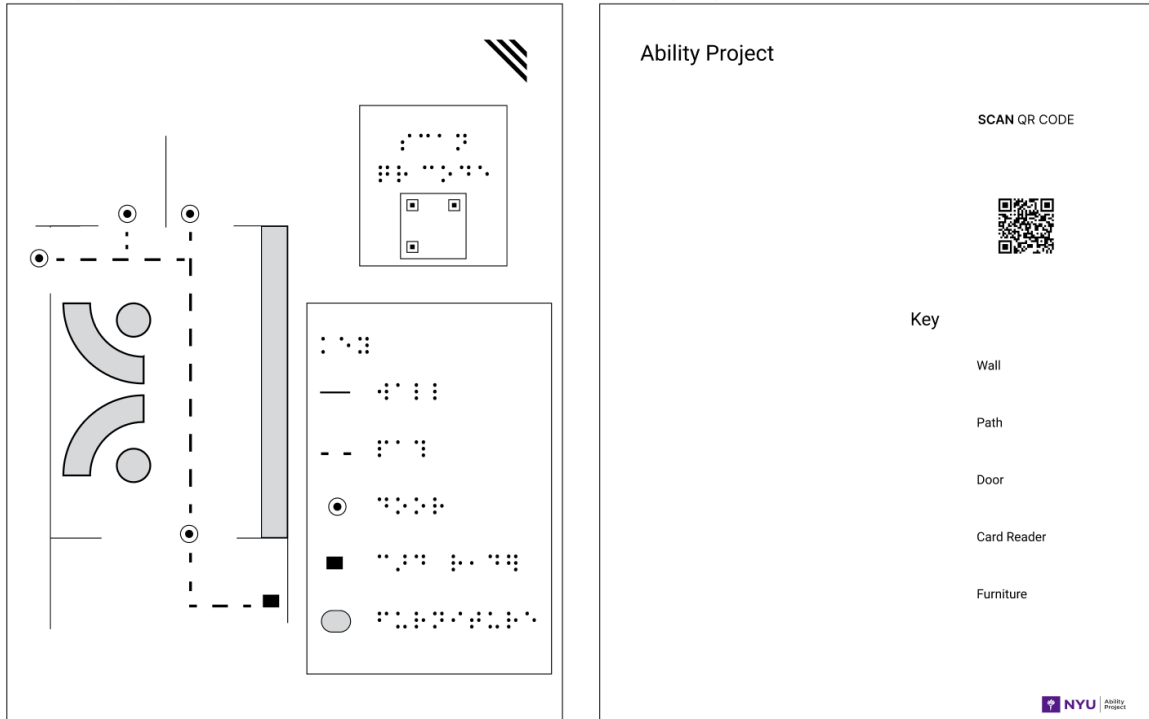
Swell Form
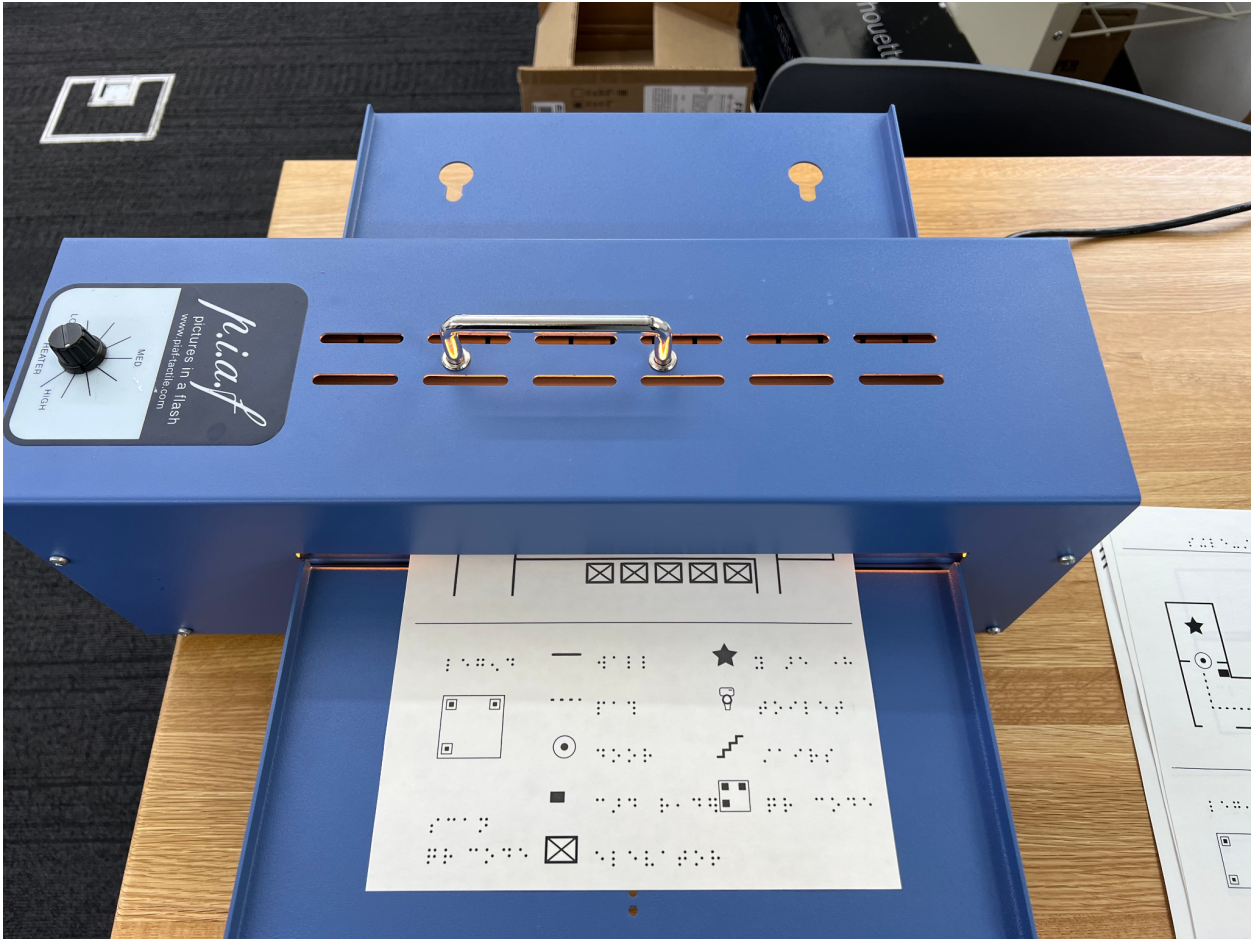
Image of tactile map with tactile layer and other with visual layer only.

Print the tactile layers on a Swell Touch Paper, preferably use a laser printer.

Run the Swell Touch Paper through the Swell Form Machine. You can insert it multiple times to improve the swelling.

Once the paper is "swell", position the paper in the sheet feeder in order to print the text information. **Note: Test on standard paper before using the Swell Touch paper. Every printer uses a different position to print correctly.**

Braille Embosser

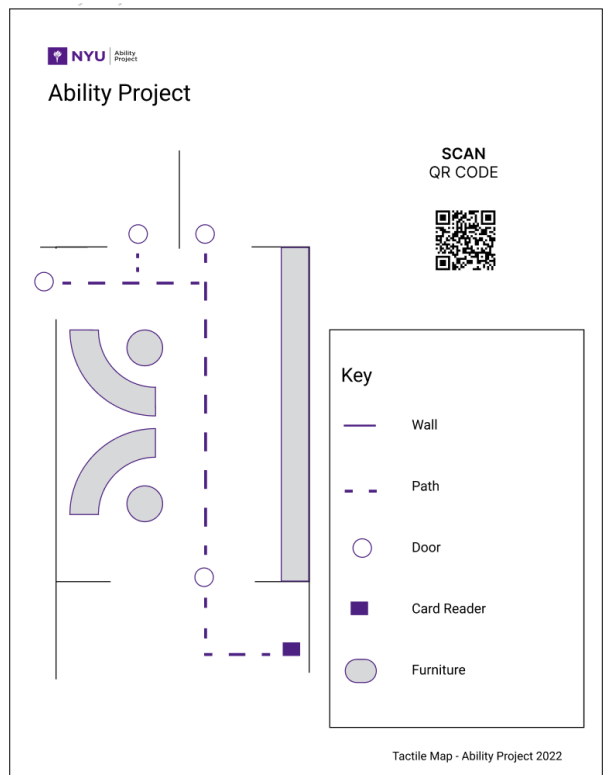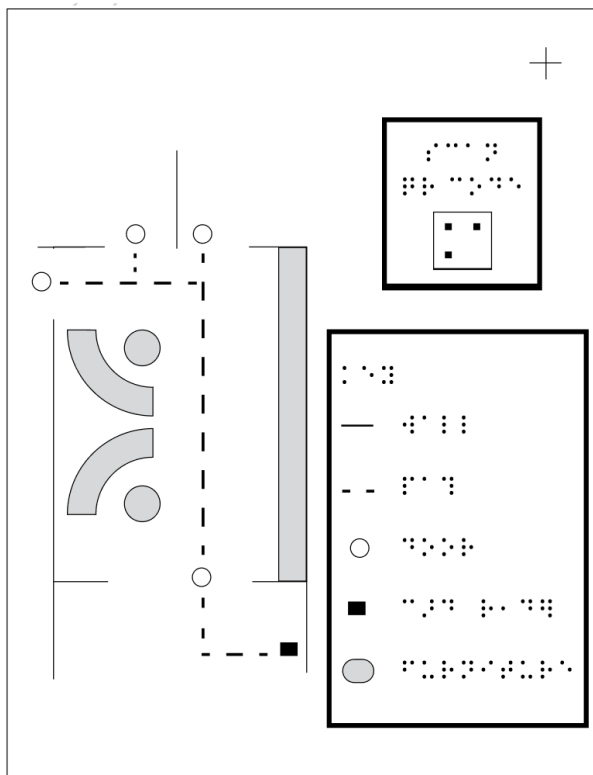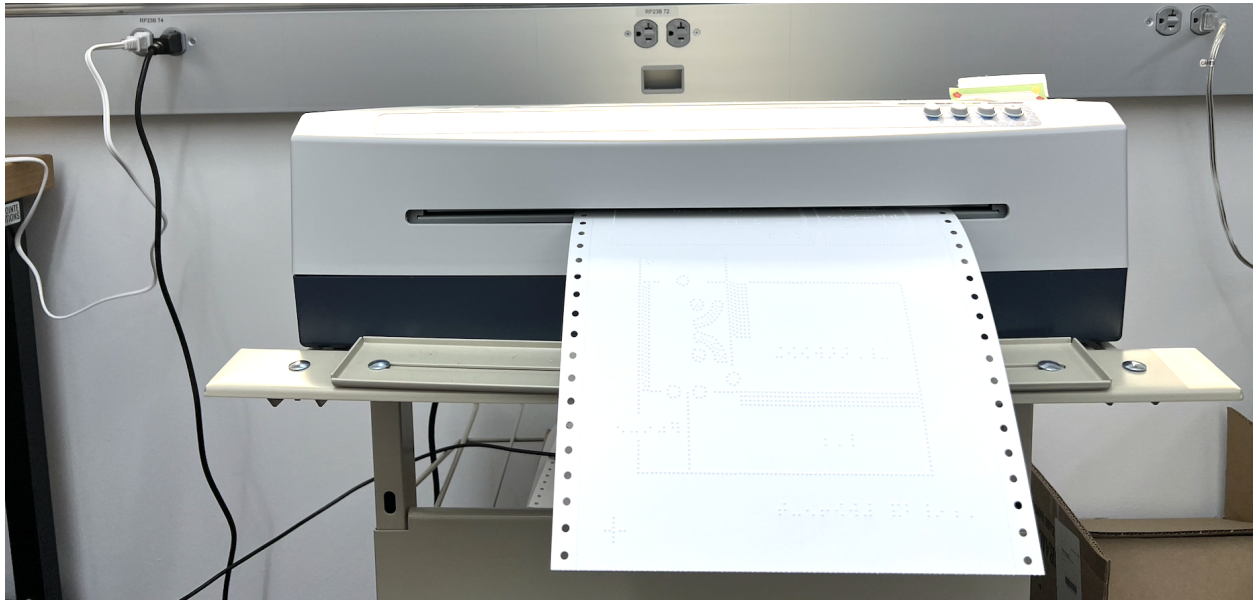

Image of tactile map with tactile layer and other with visual layer only.

Use black for a higher contrast. Use color to create a different "embossed" texture.

Print the tactile layers of the map on the Braille Embosser.

Remove the perforations from the sides of the embosser paper. Once the paper is "embossed", position the paper on the in the sheet feeder in order to print the text and color information. **Note: Test on standard paper before using the embosser paper. Every printer uses a different position to print correctly.**