Techniques and Tools to Increase Tactile Offerings in Museums

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Talk Overview

Introduction and overview of the current state of accessibility in museums for Blind and low vision visitors (Cheryl)

Taxonomy of Touch Objects and Recommendations (Amy)

Opportunity for Creative Tactile Offerings (Stefanie)

Touch Tree: a tool to help museum curators select appropriate touch experiences

The Current State of Accessibility in Museums for Blind and Low-vision Visitors

Fogle-Hatch, Cheryl and Winiecki, Don. Assessing Attitudes of Blind Adults About Museums. MW20: MW 2020. Published February 15, 2020.

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Porcelain Touch Stations

An example of a museum setting up a touch station using original artifacts.

McCullough Hall Historical Museum, Morristown, NJ
Bring Your Own Device Tour

What museum professionals think about accessibility (1/2)

Services considered essential by blind people that were never provided:

- **Braille Materials: 56%**
- **Touch/Tactile Tours: 38%**
- **Audio Description: 36%**

From: The Massachusetts Arts & Culture Access Survey

What museum professionals think about accessibility (2/2)

Survey responses identified the primary barriers as limitations in:

- **Funding: 66%**
- **Staffing: 63%**
- **Time: 41%**
- **Lack of Training and Knowledge: 28%**

    From: The Massachusetts Arts & Culture Access Survey

Taxonomy of Touch Objects and Recommendations

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Survey of Touch Objects

Interviews with 15 museums / historic sites to understand their touch offerings

Created Taxonomy of 7 categories of Touch Objects

Interviews with 6 Blind / Low Vision accessibility experts to understand their thoughts about each category

Race, Lauren, Saarah D'Souza, Rosanna Flouty, Tom Igoe, and Amy Hurst. 2023. "Understanding Accessible Interpretation through Touch Object Practices in Museums." *The International Journal of the Inclusive Museum* 16 (1): 75-98.

Taxonomy of Touch Objects and Preferences

Original Artifact
(13 museums 6 experts)

Artist-commissioned Replica
(2 museums, 6 experts)

3D-printed Replica
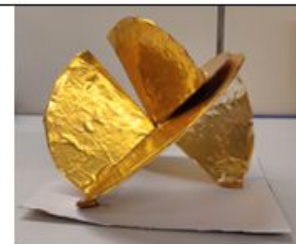(3 museums, 6 experts)

Purchased Model
(10 museums, 4 experts)

Printed Tactile Graphic
(7 museums, 3 experts)

Found Material Samples
(7 museums, 2 experts)

Hand-crafted Interpretation
(14 museums, 2 experts)

Creative Tactile Offerings

Balancing Aesthetic and Informative Touch

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Historical Embroidered Naval Patches from the Intrepid Museum

Combat Information Center Patch

Mediterranean Cruise Patch
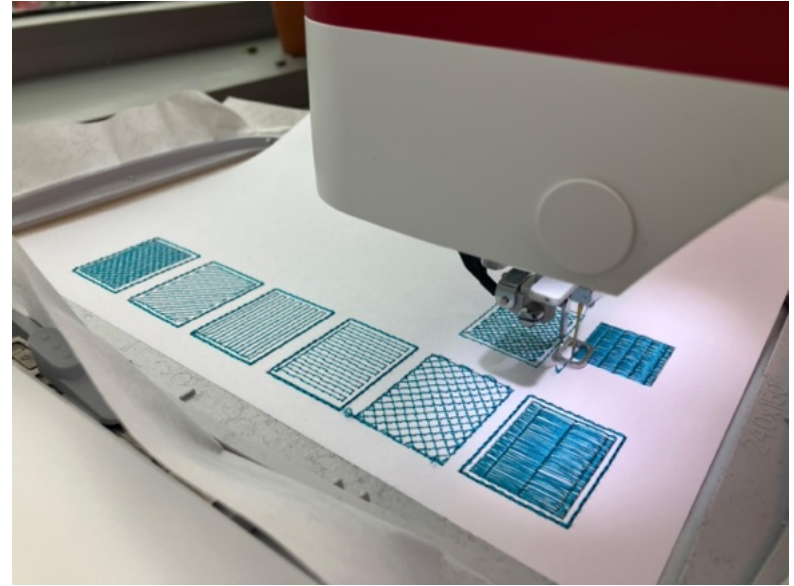
Evaluating first prototypes at the Intrepid Museum


Ability Project Researchers at the Intrepid Museum

Combat Information Center Patch
Monster figure printed on microcapsule
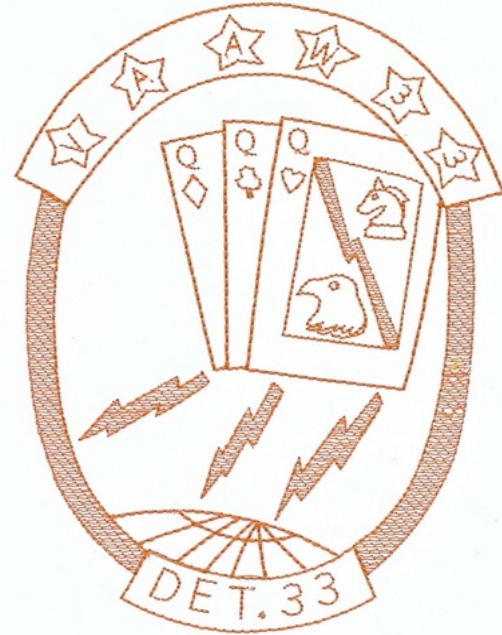with stitched border

https://ability.nyu.edu/aam2024/

Paper and Thread Tests & Pattern Swatches

https://ability.nyu.edu/aam2024/

Stitched Interpretations of Naval Patches

Combat Information Center Patch

Mediterranean Cruise Patch

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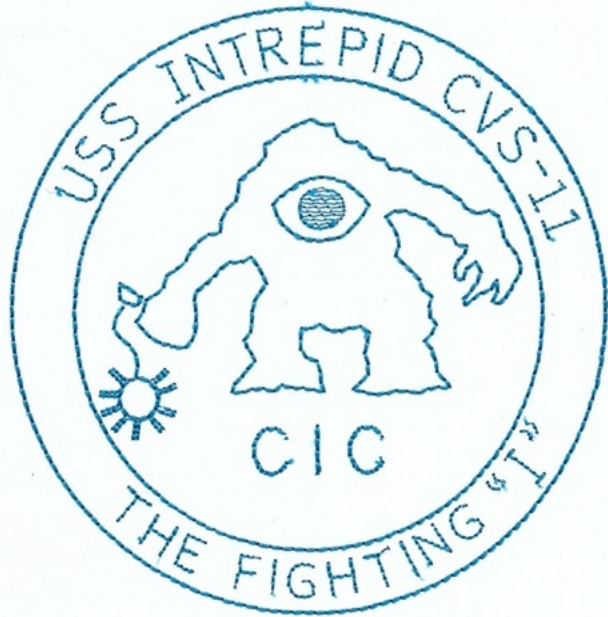
Synthesizing Findings & Recommendations - Student Work

Postal Clerk Third Class Rating Badge

Original patch

Microcapsule Interpretation

Digitally Embroidered Interpretation

Fighting Squadron 18 (VF-18) Insignia Patch

Original patch

Microcapsule Interpretation

Digitally Embroidered Interpretation

Exploring Interpretations of Other Artifacts & Materials

Helen Keller Services Techblitz Logo

Fantastical Streets: The Theatrical Posters of Boris Bućan

September 26, 2024–February 23, 2025

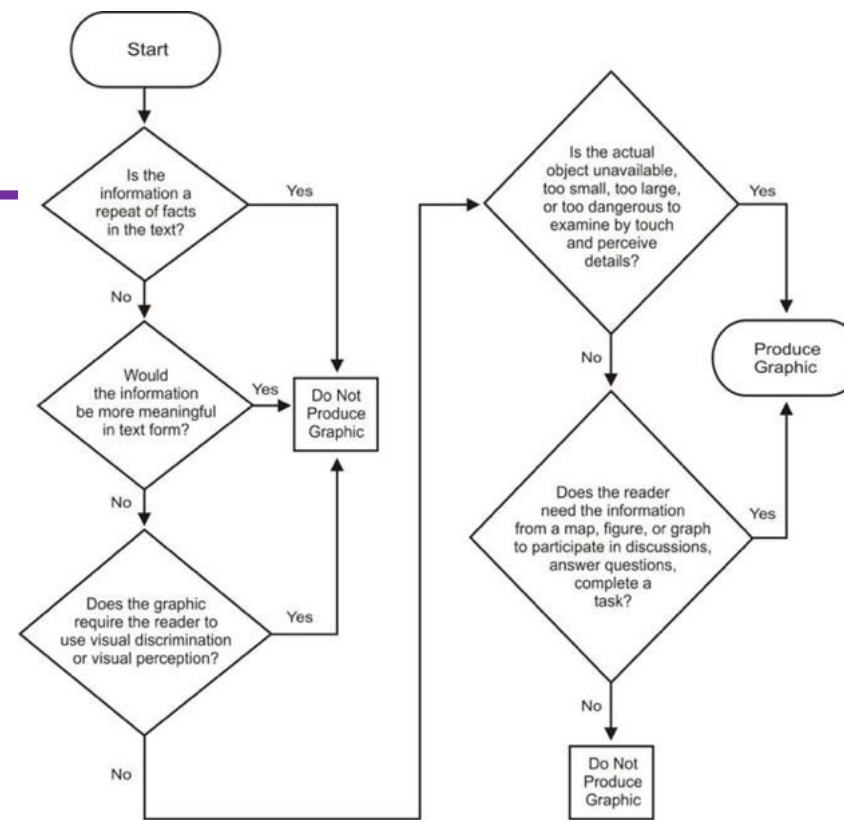Poster House Museum, NYC

Touch Tree

a tool to help curators select appropriate touch experiences

Tactile Graphics Decision Tree

Chart that from Braille Authority.org (section 1.8) that illustrates the process of deciding if a tactile graphic should be produced.

A series of Yes / No questions

https://www.brailleauthority.org/tg/web-manual/tgmanual.html

Start

Is the information a repeat of facts in the text? — Yes / No

Would the information be more meaningful in text form? — Yes / No

Does the graphic require the reader to use visual discrimination or visual perception? — Yes / No

Do Not Produce Graphic

Is the actual object unavailable, too small, too large, or too dangerous to examine by touch and perceive details? — Yes / No

Does the reader need the information from a map, figure, or graph to participate in discussions, answer questions, complete a task? — Yes / No

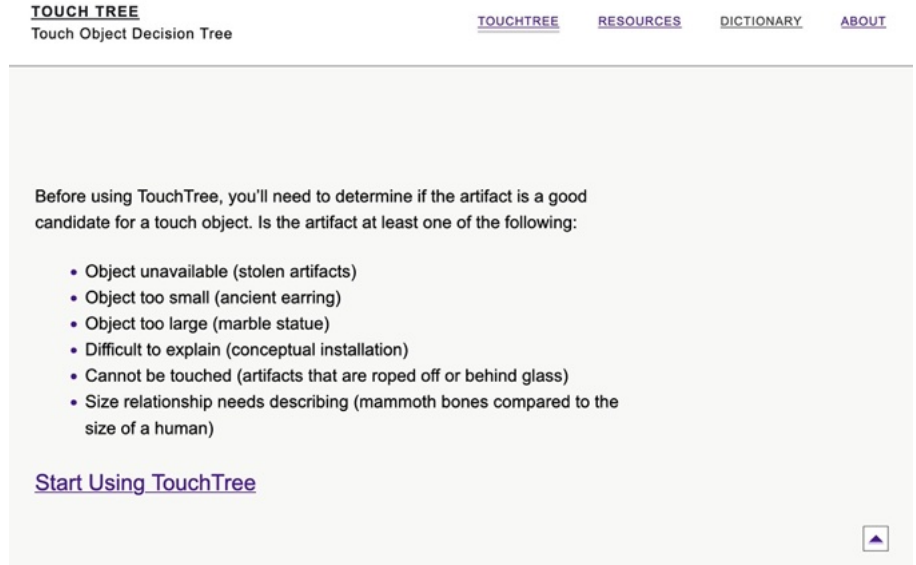Produce Graphic

Do Not Produce Graphic

Adapted with permission of the American Foundation for the Blind from Ike Presley & Lucia Hasty. *Techniques for Creating and Instructing with Tactile Graphics.* Copyright © 2005. New York: American Foundation for the Blind. All rights reserved.

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Touch Tree Goal

TouchTree is an online **decision tree** that museum practitioners can use to evaluate in creating a tactile touch object experience for a given museum artifact.

Current Touch Tree Prototype

https://ability.nyu.edu/aam2024/

Overview of TouchTree Website

1. Select an object and answer questions to get recommendations about most appropriate touch object
   a. Will give a recommendation in six questions (usually fewer)
2. Resources List
3. Dictionary of relevant accessibility terms
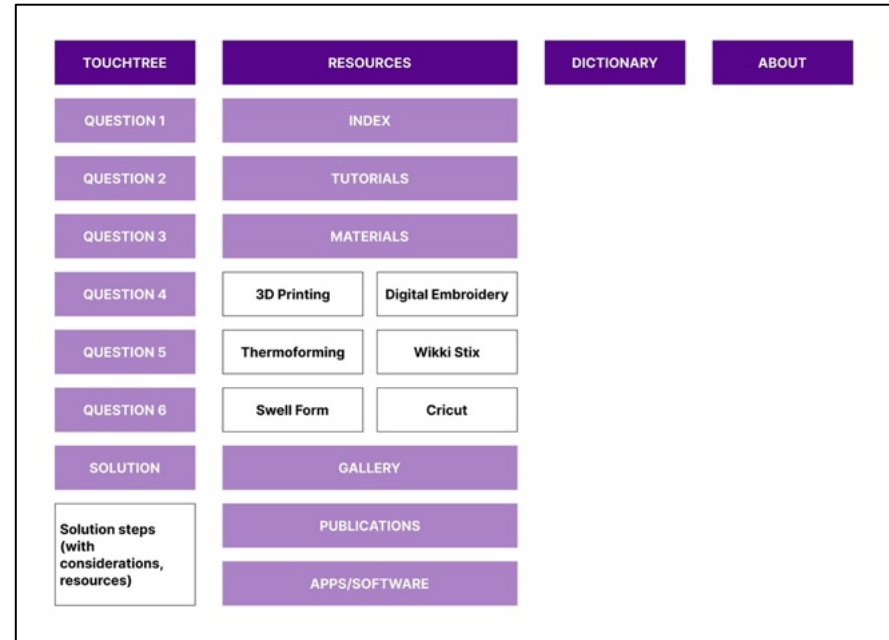
Touch Tree Site Layout

Touch Tree Design Goals

Step-by-step questions to decide on best interpretation based on insights from our prior research

- Prioritize letting visitors touch original artifact
- Create high-quality replica that visitors can touch

Define relevant terms

Provide resources

Touch Tree Draws on Preferences from Experts

Original Artifact
(13 museums 6 experts)

Artist-commissioned Replica
(2 museums, 6 experts)
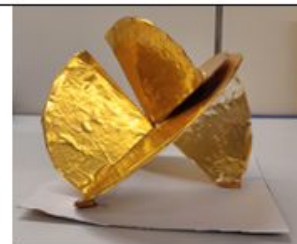
3D-printed Replica
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(7 museums, 2 experts)

Hand-crafted Interpretation
(14 museums, 2 experts)

Let's Try it!

Let's assume we are in charge of interpreting Dorothy's ruby slippers (currently listed on SI online collection)

But, First: Is this object a good candidate for touch tree?

Before using TouchTree, you'll need to determine if the artifact is a good candidate for a touch object. Is the artifact at least one of the following:

- Object unavailable (stolen artifacts)
- Object too small (ancient earring)
- Object too large (marble statue)
- Difficult to explain (conceptual installation)
- Cannot be touched (artifacts that are roped off or behind glass)
- Size relationship needs describing (mammoth bones compared to the size of a human

TOUCH TREE
Touch Object Decision Tree

TOUCHTREE   RESOURCES   DICTIONARY

Before using TouchTree, you'll need to determine if the artifact is a good candidate for a touch object. Is the artifact at least one of the following:

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- Size relationship needs describing (mammoth bones compared to the size of a human)

Start Using TouchTree

https://ability.nyu.edu/aam2024/

Question 1

Is the [museum object three-dimensional](#)?

[Yes](#)

[No or Unsure](#)

[Go back](#)

Question 2

Can the visitor touch the [museum object](#) directly?

[Yes](#)

[No or Unsure](#)

[Go back](#)

You've Previously Answered

1. "Yes" to "Is the museum object three-dimensional?"

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Question 3

Can you commission someone to create a replica of the museum object?

Yes

No or Unsure

Go back

You've Previously Answered

1. "Yes" to "Is the museum object three-dimensional?"
2. "No" to "Can the visitor touch the museum object directly?"

Touch Tree Solutions

Commission someone to create a replica of the museum object that is scaled to fit in the visitor's hands.

https://paragonfxgroup.com/products/ruby-slippers

Provide visual descriptions of the replica and the original museum object.

"The slippers are made of white pumps that were covered with red fabric, painted red soles, sequins colored a dark red to match, and bows made of stiff cotton and adorned with three kinds of beads and rhinestones. This pair has orange felt adhered to the bottom to muffle Garland's footsteps as she danced on the yellow brick road." (https://americanhistory.si.edu/press/fact-sheets/dorothys-ruby-slippers)

https://ability.nyu.edu/aam2024/

Let's Try it!

Let's assume we are in charge of interpreting this Italian Side Chair (currently listed on Smithsonian Open Access)

Question 1

Is the [museum object three-dimensional](#)?

[Yes](#)

[No or Unsure](#)

[Go back](#)

Question 2

Can the visitor touch the museum object directly?

Yes

No or Unsure

Go back

You've Previously Answered

1. **"Yes" to "Is the museum object three-dimensional?"**

Question 3

Can you commission someone to create a replica of the museum object?

Yes

No or Unsure

Go back

You've Previously Answered

1. "Yes" to "Is the museum object three-dimensional?"
2. **"No" to "Can the visitor touch the museum object directly?"**

Question 4

Does an accurate [reproduction](#) of the [museum object](#) already exist?

[Yes](#)

[No or Unsure](#)

[Go back](#)

Previously Answered

1. "Yes" to "Is the museum object three-dimensional?"
2. "No" to "Can the visitor touch the museum object directly?"
3. **"No" to "Can you commission someone to create a replica of the museum object?"**

Question 5

Is it important for the visitor to understand the [museum object](#)'s texture?

[Yes](#)

[No or Unsure](#)

[Go back](#)

You've previously answered

1. "Yes" to "Is the museum object three-dimensional?"
2. "No" to "Can the visitor touch the museum object directly?"
3. "No" to "Can you commission someone to create a replica of the museum object?"
4. **"No" to "Does an accurate reproduction of the museum object already exist?"**

Question 6

Does the museum object have to convey important processes, like physical mechanisms or artistic techniques?

Yes

No or Unsure

Go back

You've Previously Answered

1. "Yes" to "Is the museum object three-dimensional?"
2. "No" to "Can the visitor touch the museum object directly?"
3. "No" to "Can you commission someone to create a replica of the museum object?"
4. "No" to "Does an accurate reproduction of the museum object already exist?"
5. **"No" to "Is it important for the visitor to understand the museum object's texture?"**

Touch Tree Solutions

[3D print](#) a reproduction of the [museum object](#) that is scaled to fit in the visitor's hands.

3D printed object
(myminifactory.com)

Provide [visual descriptions](#) of the original museum object and 3D print.

"Elaborately carved and painted side chair. Back composed of crossed cornucopia, from which spring almost at right angles griffins and heads, holding between them an umbrella shaped canopy, with foliated stem of trumpet flowers, in false Chinese taste; surface is painted in buff, red, green, and blue. The rounded tapering legs curve inwards in the middle but splay out towards the feet; above the finely tapered feet, are carved acanthus leaves. Top of legs have square capitols carved with acanthus leaves and berries." (from Smithsonian Open Access)

Future Work

Touch Tree has been in development for almost 2 years and we still have a long list of additions.

We would love to have you try it out and hear your thoughts!

Please consider sharing your thoughts in our feedback form, and let us know if you are interested in **participating in a future research study.**

Cat in Eakins's Yard

Try Touch Tree On Your Own!

Food Co-Op Bag

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Questions? Thank you!

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