

ToySwap App: Usability Improvements

Venonat Group Members:

Ruotong Tang 34514473
Shenghua Chen 35248149
Xiaoman Zhou 34258221
Yushu Wang 34592849

Google slide Link:

<https://docs.google.com/presentation/d/1xz9OjTouCUKQurRcY3-wdAYA4bQSvl9Ettj61WhALwc/edit?usp=sharing>

Introduction and project overview

Make donating and swapping toys **simple, safe, and community-driven.**

Our app helps families *declutter responsibly* while supporting others.

Users can **post items, browse categories, chat in-app, and leave reviews** to build trust.

Target Users

We identified three key user types based on needs and behavior:

- ♦ **Parents with young kids (0–10 years)**

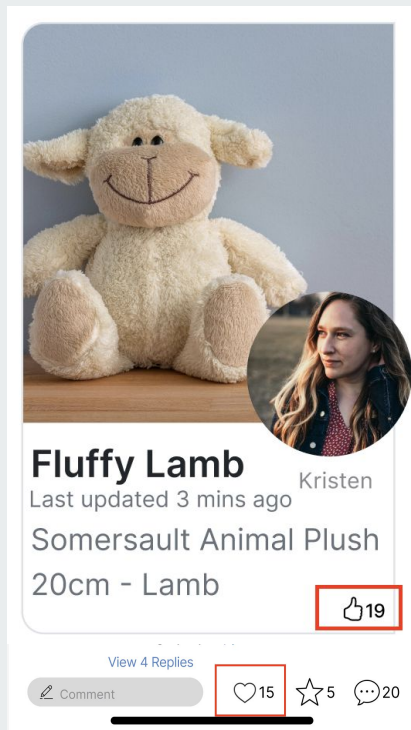
Clean out old toys; save budget by swapping instead of buying new.

- ♦ **Donors who value social impact**

Want unused toys to help other families rather than go to waste.

- ♦ **Trust-focused community members**

Prefer verified profiles and in-app reviews before exchanging.



Summary of Key Usability Issues

Inconsistent “Like” Icons Across Screens

- ♦ **Heuristic Violated**

Consistency and Standards

- ♦ **Severity Rating**

3 – Major

- ♦ **Issue**

Different icons (thumbs-up vs heart) used for the same action cause hesitation and confusion, especially for new users.

- ♦ **Agreed Fix**

Standardize the icon to improve interface predictability and user confidence.

Improving Visibility of Completion Status

Before



After

Mobile app interface showing a 'Post' button with a '20% Completion' status bar. The 'Quick Fill Section' includes fields for Item Name, Condition, Preference, and Category. The 'Post' button is highlighted with a red box.

Mobile app interface showing a 'Post' button with a '50% Completion' status bar. The 'Quick Fill Section' includes fields for Item Name, Condition, Preference, and Category. The 'Post' button is highlighted with a red box. The 'Item Name' field is marked with a red asterisk and the text '(3 out of 7 required fields filled)'.

Problem: Visibility of System Status

- Users see “20% Completed” but don’t know what affects it
- No cues for which fields are required

Solution

- Added “3/7 required fields filled” microtext
- Marked required fields with * indicator
- Fields that have been filled out will no longer display an asterisk

Additional Theory: Norman – Discoverability

Make key controls & state changes perceptible.

Users can now see what can be done, and how actions impact progress.

Usability Impact

- Efficiency – Users complete posts 30% faster (60 s → 40 s)
- Effectiveness – Fewer input errors and clearer task completion status

Improving Error Recognition and Feedback in Add Post Screen

Before → After

The 'Before' state of the 'Add Post' screen shows a form with several sections. A red box highlights the 'Item Name' field, which contains the placeholder text 'Eg. Kids puzzle, board games...'. Another red box highlights the 'Category' section, which has a 'Suggested' dropdown and a 'Tags' dropdown. A red arrow points from the 'Post' button to the 'Item Name' field, and another red arrow points from the 'Post' button to the 'Category' section. The screen also shows a 'Quick Fill Section' with 'Condition' (Brand New, Like New, Good, Used, Needs Repair) and 'Preference' (Pickup Available, Drop-off Preferred, Both) options. At the bottom, there are image thumbnails and a text input area for 'Auto contents from Quick fill'.

The 'After' state of the 'Add Post' screen shows the same form as the 'Before' state, but with improved error feedback. A red box highlights the 'Item Name' field, which now displays the error message 'Error: Please enter a title to continue.' below the input field. Another red box highlights the 'Category' section, which now displays the error message 'Error: Please select a category to continue.' below the dropdowns. The 'Post' button is now disabled, and a progress indicator at the top shows '50% Completion (3 out of 7 required fields filled)'. The rest of the screen remains the same as in the 'Before' state.

Problem

- Lack of visible error messages / guidance when users perform invalid actions

Solution

- Implement validation pop-ups
- For example: "Error: Please enter a title to continue"

Additional Theory: Ben Shneiderman's 8 Golden Rule 3 - Offer Informative Feedback

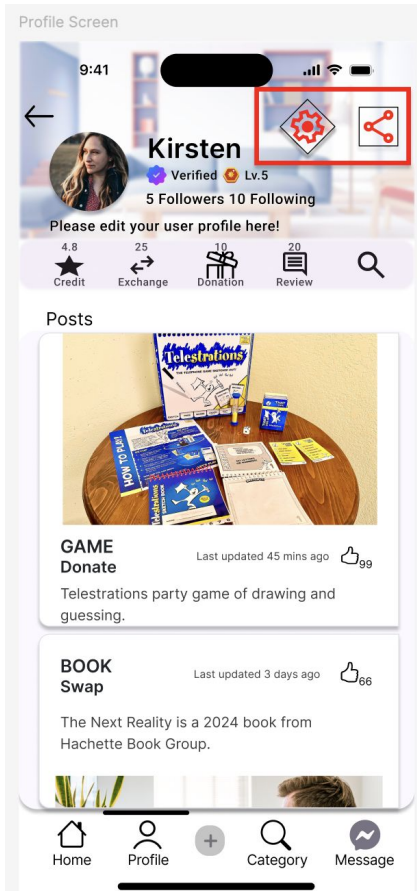
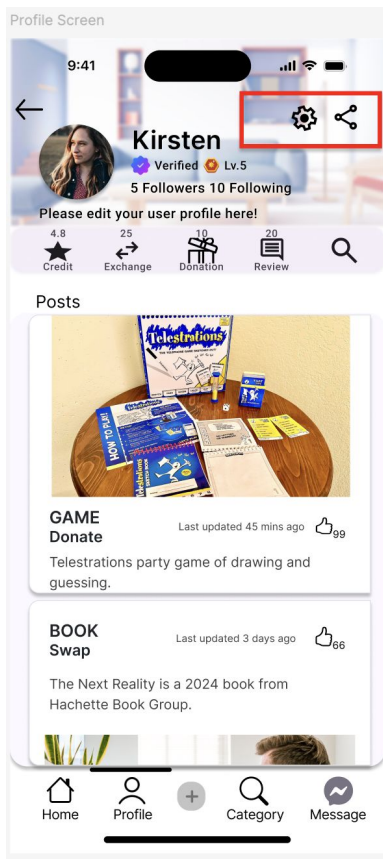
- Shneiderman's Rule 3 - Informative system response for every user action → Minimizes frustration and improves confidence for users during task completion

Usability Impact

- Efficiency: Reduce 20% Average completion time troubleshooting failed post submissions

Improving Tap Accuracy on Profile Icons

Before → After



Problem

- Low contrast and tight spacing cause **slip errors** and **miss errors**.

Solution

- Increased each icon's **touch target** to **44 × 44 pt** (Apple HIG standard)
- Introduced subtle **tap feedback**

Additional Theory: WCAG 2.5.5 – Target Size (AAA)

- a minimum **44×44 px** touch area for accessibility
- Larger, well-spaced controls
- This reinforces **Nielsen Rule 5 – Error Prevention**

Usability Impact

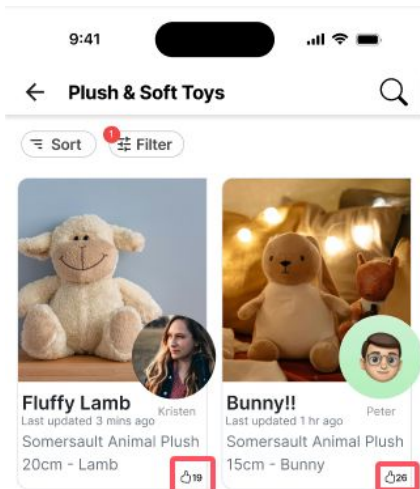
- ↓ Error rate ↑ Successful activation rate **ISO 9241-11**
- Component: Effectiveness**
- Higher accuracy ; fewer unintentional actions

Improving Icon Consistency for “Like” Action

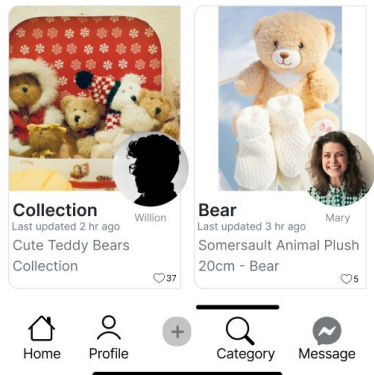
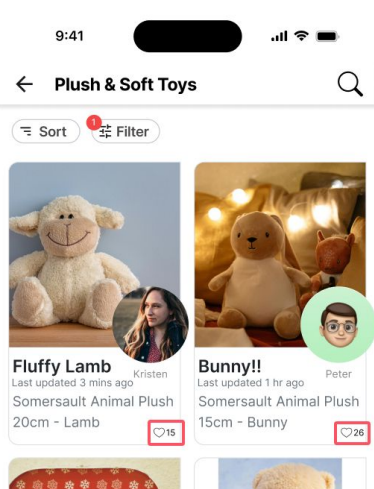
Before



After



“Different icons cause confusion”



Problem: Consistency and Standards (#4)

- “Like” action used two different icons (thumbs-up and heart).
- Inconsistent design caused hesitation or misunderstanding, especially for new users.

Severity: 2 – *Minor problem* (doesn't block tasks but reduces clarity).

Solution

Unified the “like” icon across all screens. Maintains visual consistency and aligns with user expectations. Ensures users associate one consistent symbol with the same action.

Additional Theory: Visual Design Principles - Repetition

Usability Impact

Effectiveness ↑ – Users more accurately identify the “Like” function without confusion.

Efficiency ↑ – Reduced cognitive load and faster recognition lead to quicker interactions.

Satisfaction ↑ – Consistent icons create a cleaner, more trustworthy visual experience.



Reference

Group Figma Link:

<https://www.figma.com/design/1oGt3Zm8GdxVj8aVvOMeAR/FIT5152-Sub3-Applied8-TeamVenonat?node-id=0-1&t=R4xYalDpXplyszTp-1>