

Sub 3 - High-Fidelity Prototype and Report

FIT5152 Usability Design Project

Toy & Game Swapping App

Team Name: Venonat

Team Members:

Ruotong Tang 34514473

Shenghua Chen 35248149

Xiaoman Zhou 34258221

Yushu Wang 34592849

Unit: FIT5152 Applied 08 - S2 2025

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Link to Figma prototype

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Link to Figma prototype:

<https://www.figma.com/design/1oGt3Zm8GdxVj8aVvOMEaR/FIT5152-Sub3-Applied8-TeamVenonat?node-id=0-1&t=mT6eVLpcjybAjYDS-1>

1. Introduction

Project Overview:

This project presents a Toy & Game Swapping App that enables users to donate, swap, and discover toys or games within a safe, community-driven platform. Guided by the primary user story (see Appendix A), featuring Maria, a mother aiming to declutter her home by donating unused toys to help other families, the design prioritises simplicity and trust. Key features include quick posting, category filtering, and in-app messaging. Users can also view profiles, leave reviews, and comment on posts, fostering transparent and engaging exchanges within the community.

Implemented User Requirements:

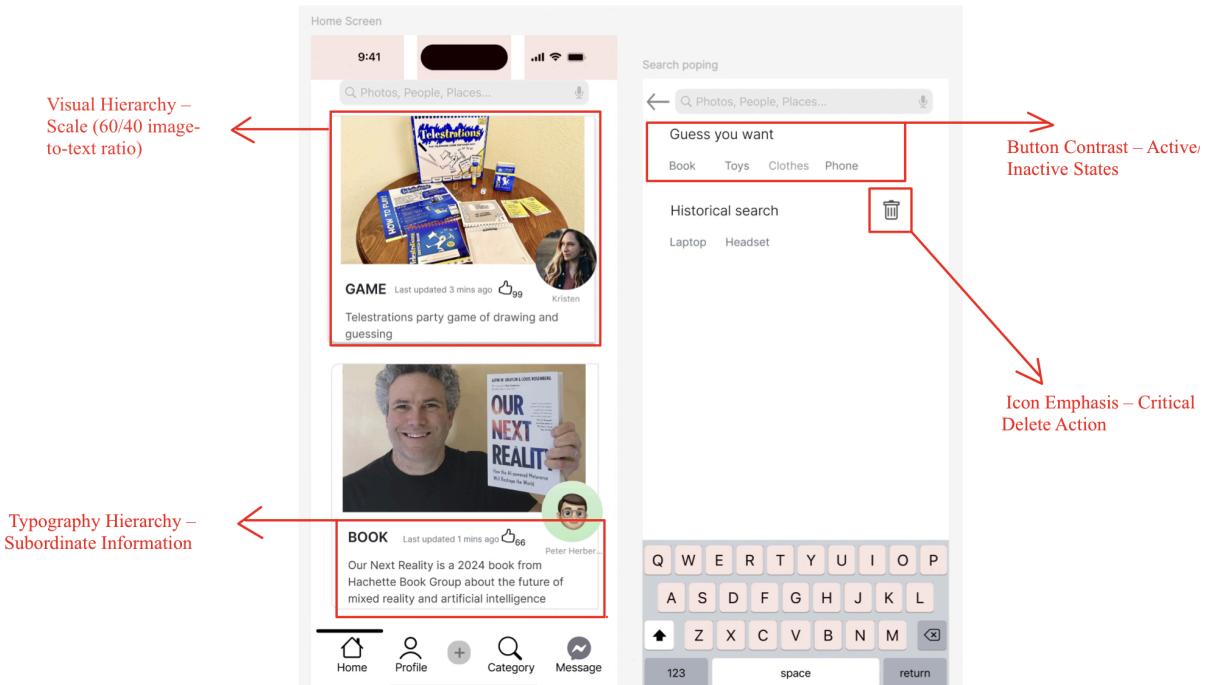
1. Users should be able to find games and toys that match their needs and interests.
2. Users should be able to provide feedback on their swaps with other users.
3. Users should be able to offer games and toys for donation.
4. Users can communicate directly through in-app messaging to coordinate exchanges or clarify details.
5. Users can search and filter toys/games based on category or preferences.
6. Users can engage with posts by commenting or reacting to foster community and trust.

2. Prototype Screens

2.1 Home Screen: Browse and Discover Search Result and find Items and People

User Requirement:

1. Users should be able to find games and toys that match their needs and interests.
5. Users can search and filter toys/games based on category or preferences.



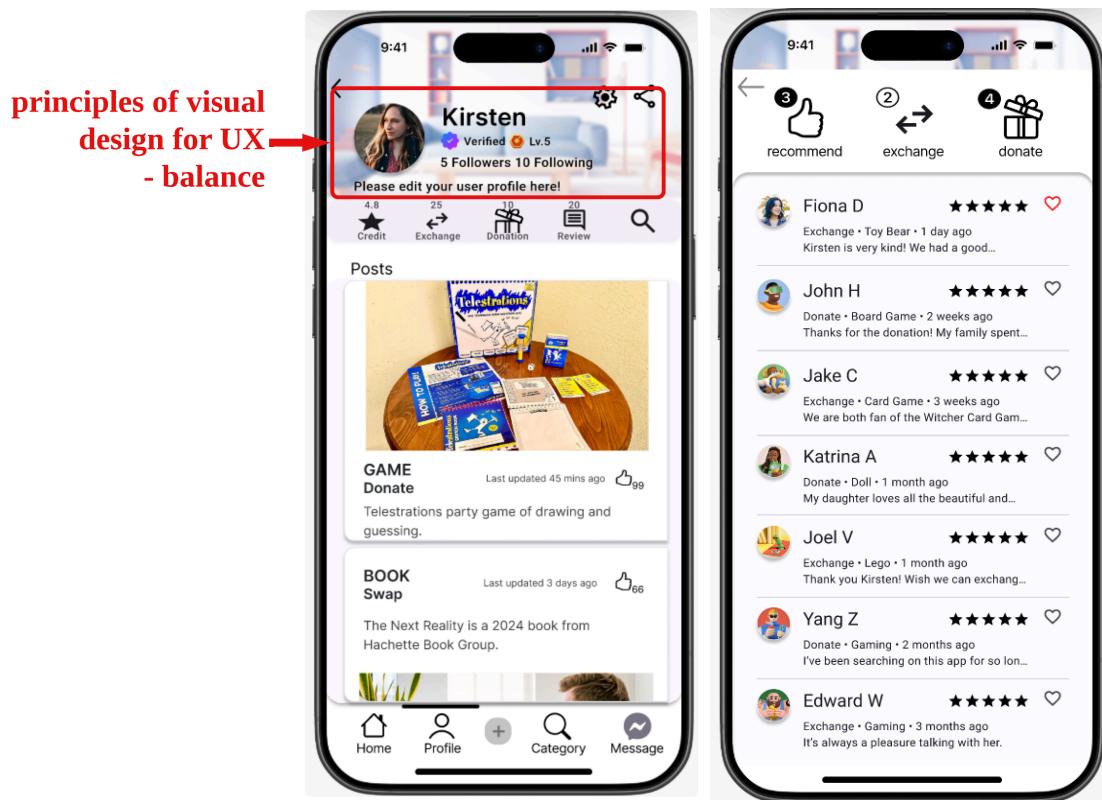
Design Guideline: Scale and Contrast: Visual Hierarchy

This screen implements visual hierarchy through scale and contrast. In the browse feed, dominant product images (60% of card height) enable rapid visual assessment before reading details, guiding natural scanning from visual to textual information. In search, contrast differentiation creates figure-ground organisation: dark headings and active buttons draw attention, while lighter subcategories recede. Together, these strategies reduce cognitive load and help users prioritise content efficiently.

2.2 Profile Screen: User Reputation Screen and Community Feedback Overlay

User Requirement:

2. Users should be able to provide feedback on their swaps with other users.



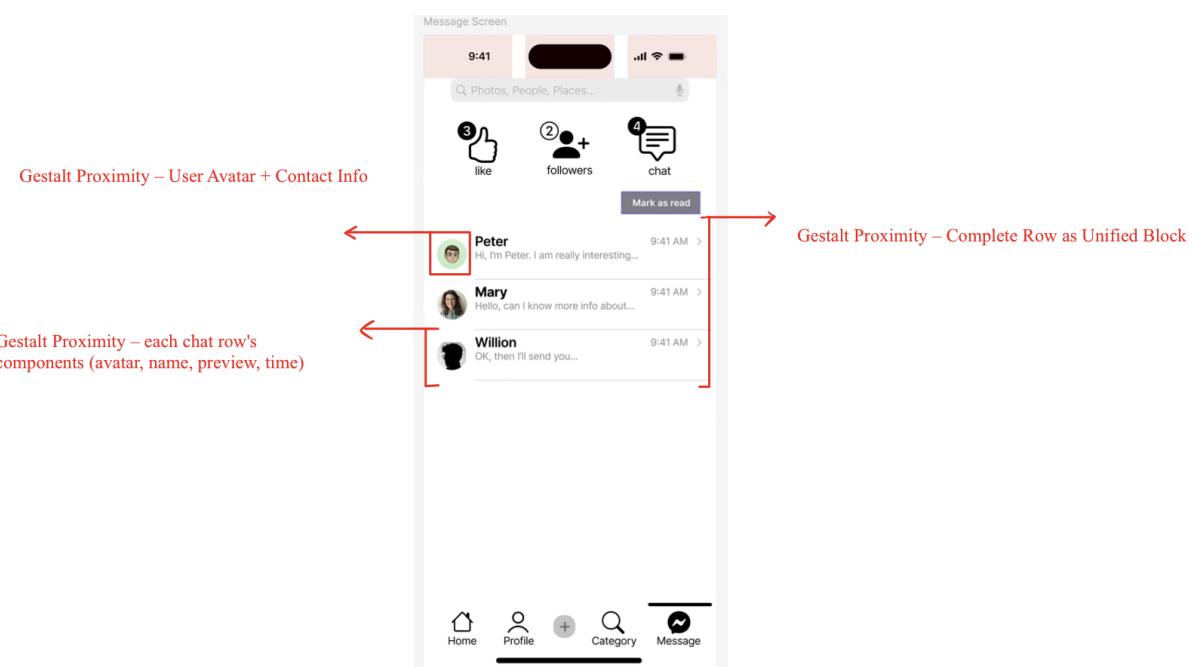
Design Guideline: principles of visual design for UX - balance

This screen demonstrates **asymmetrical balance** through **layered visual weight distribution**. The **profile image** on the left serves as the **primary anchor**, drawing initial attention. The **username**, **verification badge**, and **functional icons** on the right counterbalance that weight, forming a **stable triangular composition**. **Vertical alignment** along the central axis maintains structure, while **equal spacing and consistent icon sizes** prevent visual drift. The result is a **dynamic yet stable layout** — guiding the eye naturally from identity to interaction elements without rigid symmetry, creating **harmony between focus and functionality**.

2.3 Message Screen: Manage social interactions

User Requirement:

4. Users can communicate directly through in-app messaging to coordinate exchanges or clarify details.



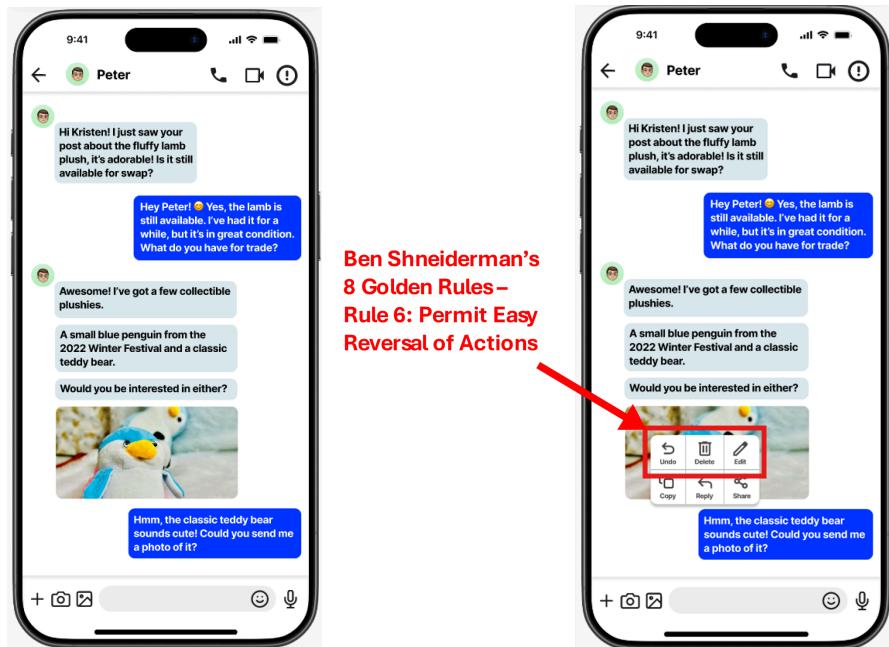
Design Guideline: Gestalt Principle: Proximity

This screen applies the Gestalt principle of proximity by grouping related interface elements to form clear, perceivable clusters. The user avatar, name, message preview, and timestamp are placed close together to be seen as one conversation unit, while sufficient spacing between rows separates each thread. This spatial organisation helps users instantly distinguish message groups, improving scanning efficiency, reducing cognitive load, and supporting accessible, predictable focus navigation.

2.4 Chat Screen: Direct communication between users

User Requirement:

4. Users can communicate directly through in-app messaging to coordinate exchanges or clarify details.



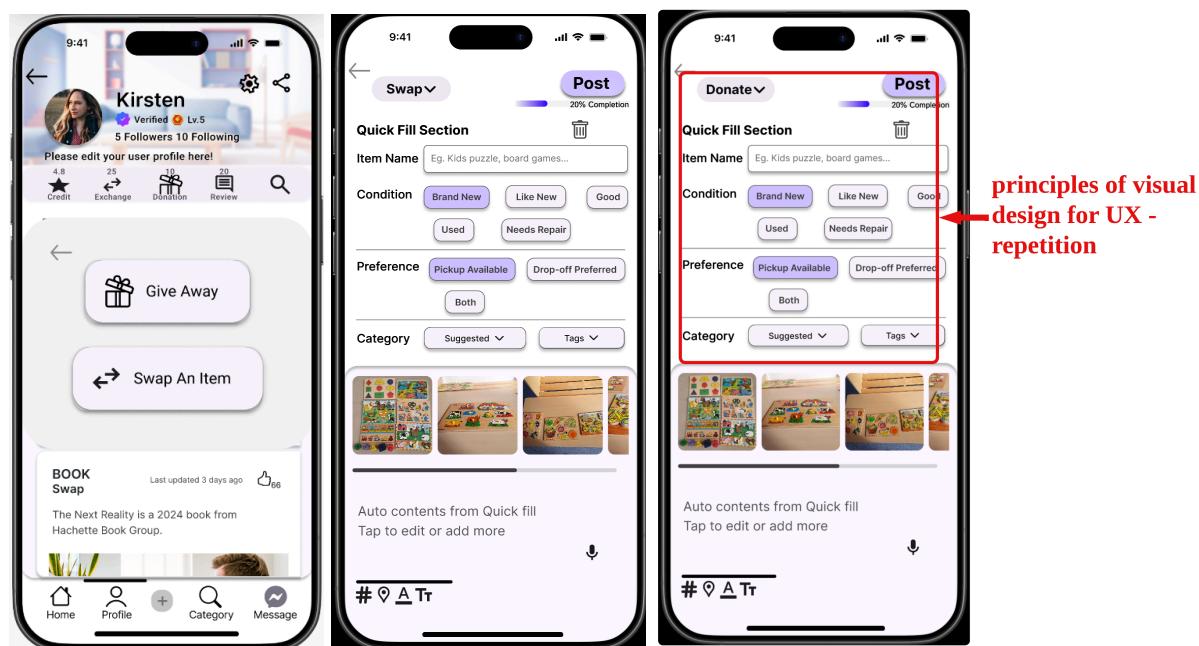
Design Guideline: Ben Shneiderman's 8 Golden Rules – Rule 6: Permit Easy Reversal of Actions

The chat screen includes a pop-up menu that appears when users right-click on the most recently sent message, offering options to "Undo," "Edit," or "Delete." This feature implements Schneideman's Rule 6 by allowing easy undoing, which has both functional and psychological benefits. Users can recover from typos or accidental sends without interruption, which makes users feel safe in knowing the changes can be reversed. By supporting reversibility, the interface minimizes the impact of critical user errors and supports users in exploring communication options. Also, designing for reversibility aligns with the system's trust-centered interaction goals, enhancing users' sense of control and reliability in peer-to-peer messaging.

2.5 Add Post Screen: Quick Item Posting (refer to Appendix B)

User Requirement:

3. Users should be able to offer games and toys for donation.



Design Guideline: principles of visual design for UX - repetition

The screen demonstrates **repetition** through a **predictable color hierarchy** across interactive elements.

All buttons share the same **lavender base** with **dark gray text** for normal states, while selected options **deepen to the same purple hue**.

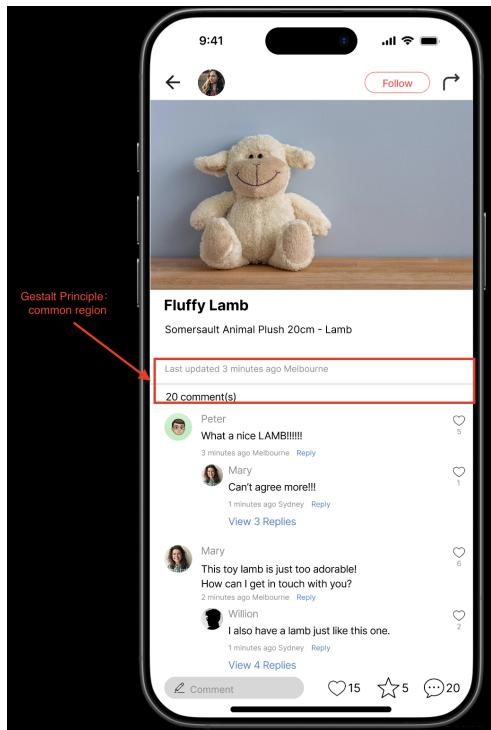
This consistent "**state vocabulary**" allows users to recognize interactivity instantly and anticipate system responses.

By reusing one **coherent color family** for all buttons, the design builds **rhythm, unity, and brand consistency** — reducing cognitive load while reinforcing user confidence through familiar visual cues.

2.6 Post Detail Screen: Interact with other users

User Requirement:

6. Users can engage with posts by commenting or reacting to foster community and trust.



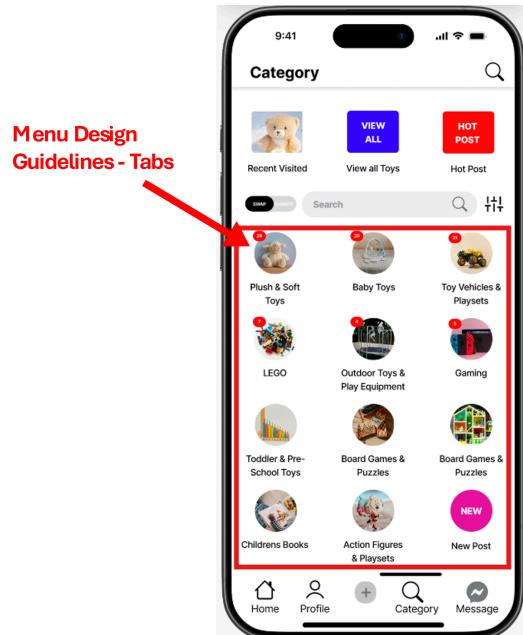
Design Guideline: gestalt principles - common region

The page design aligns well with the **Common Region** principle. A clear horizontal divider separates the post content from the comment section, visually grouping related elements into distinct areas. This helps users immediately recognize which information belongs to the product details and which to user interactions. Each comment is also enclosed within its own region, reinforcing grouping and improving readability. Overall, the layout effectively applies the Common Region principle to enhance visual hierarchy and comprehension.

2.7 Category Screen: Enable browsing by toy type

User Requirement:

1. Users should be able to find games and toys that match their needs and interests.
5. Users can search and filter toys/games based on category or preferences.



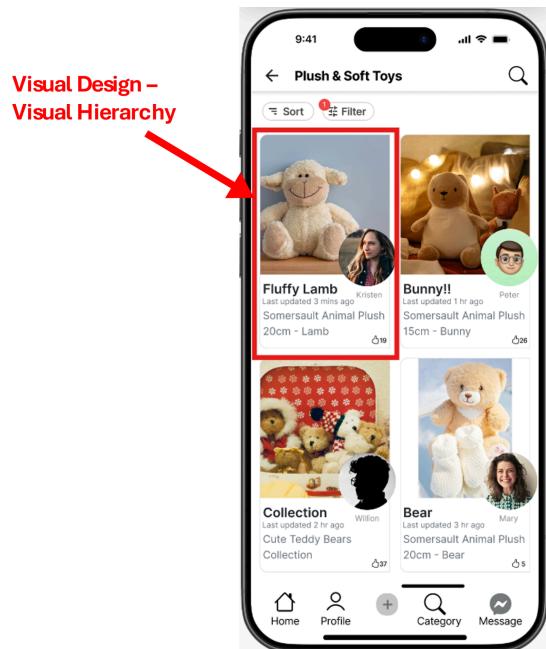
Design Guideline: Menu Design Guidelines - Tabs

The category screen utilizes tab menu design guidelines, presenting the major toy categories, such as Plush Toys, Board Games, Vehicles, and Educational Toys as equally important navigation options. Each tab is clearly labeled with text and icons, ensuring users can consistently identify and immediately understand the differences in content. Consistent fonts, spacing, and icon design minimize visual clutter and reinforce identity-based navigation, while maintaining equal hierarchy across all categories.

2.8 Detail Category Screen: Allow filtering and sorting within a selected toy type

User Requirement:

1. Users should be able to find games and toys that match their needs and interests.
5. Users can search and filter toys/games based on category or preferences.



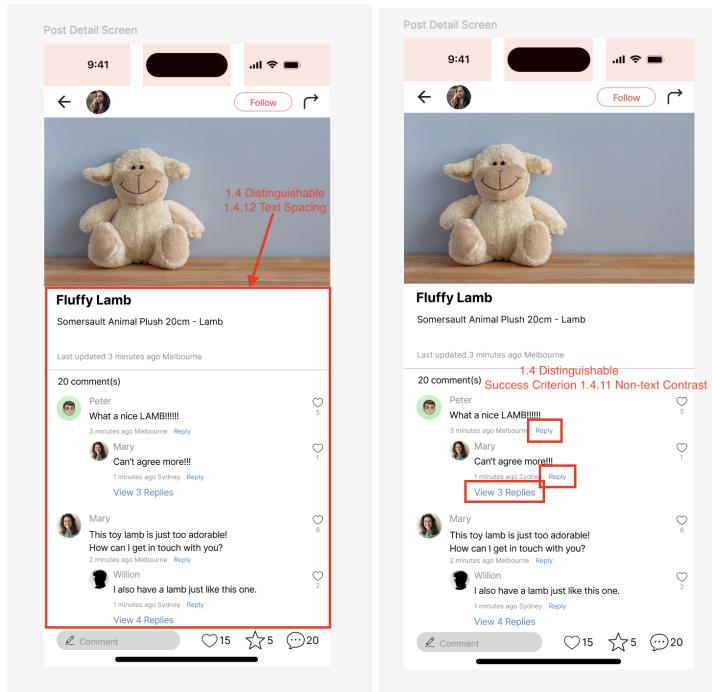
Design Guideline: Visual Design – Visual Hierarchy

The detail category screen uses visual hierarchy principles to guide users' attention from the most informative elements (such as toy images and titles) to secondary details such as product details and release time. Each gallery tile emphasizes importance through changes in scale, colour and alignment: the large toy image immediately grabs the user's attention, followed by the medium-sized title and smaller, lighter-coloured descriptive text. This structured hierarchy supports efficient directional scanning, ensuring that users process key content before browsing peripheral details.

3. Accessibility Implementation

3.1 Perceivable

Guideline Applied: **WCAG 1.4 Distinguishable (Success Criterion 1.4.12 Text Spacing & 1.4.11 Non-text Contrast)**

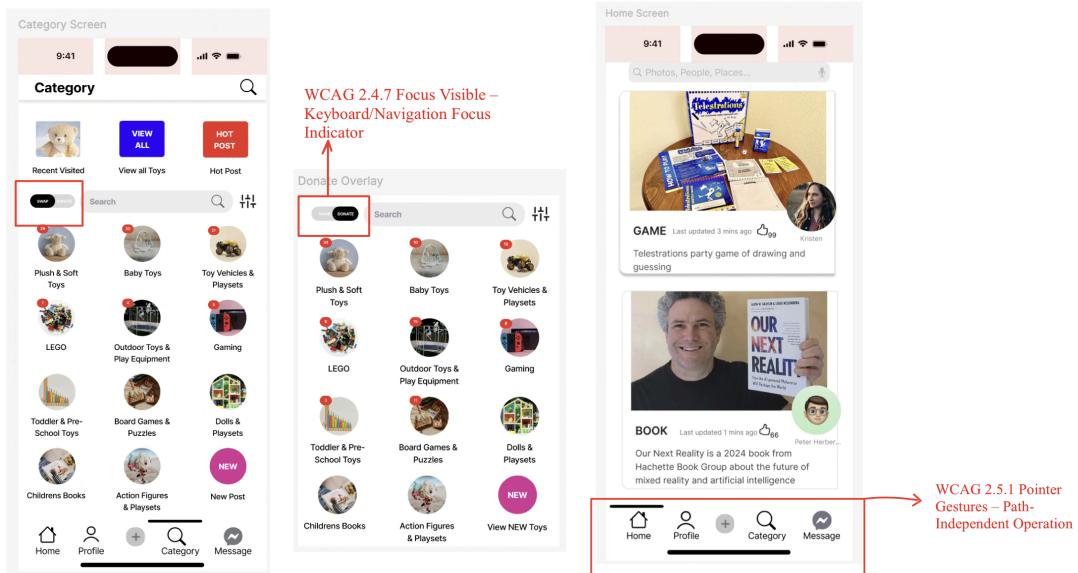


Implementation Explanation:

The Post Detail Screen applies **Guideline 1.4 Distinguishable** by ensuring both readable text and clear visual contrast. According to **Success Criterion 1.4.12 (Text Spacing)**, the design provides sufficient line height, paragraph spacing, and white space, improving text legibility without content loss. Meanwhile, the “Reply” and “View Replies” buttons meet **Success Criterion 1.4.11 (Non-text Contrast)**, as their blue color contrasts strongly against the white background (exceeding a 3:1 ratio). This allows users, including those with low vision, to easily recognize and interact with clickable elements, enhancing overall accessibility and visual clarity.

3.2 Operable

Guideline Applied: **WCAG 2.4 Navigable (Success Criterion 2.4.7 Focus Visible & 2.5.1 Pointer Gestures – Path)**

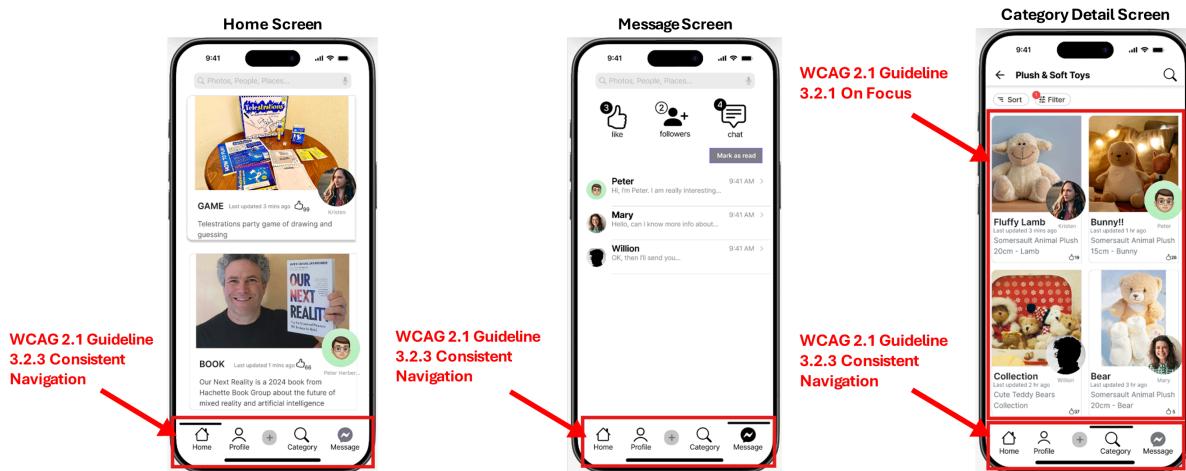


Implementation Explanation:

On the **Category** and **Donate overlay** screens, interactive chips (e.g., SWAP/DONATE), the search field and controls expose a **persistent, high-contrast focus indicator** during keyboard/switch navigation; focus follows the visual order and the indicator is not color-only (outline + fill), so users always know where focus is. On **Home**, the bottom tab bar (**Home / Profile / Category / Message**) is **single-tap operable**—no drag, path, or long-press gestures—with text labels and adequate targets. Together these patterns keep navigation **operable** for touch, mouse, stylus, and assistive pointer users.

3.3 Understandable

Guideline Applied: WCAG 3.2 Predictable (Success Criterion 3.2.1 On Focus & 3.2.3 Consistent Navigation)

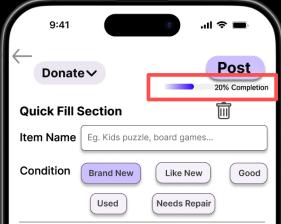
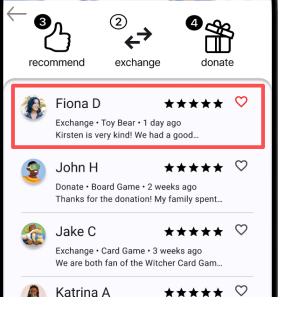
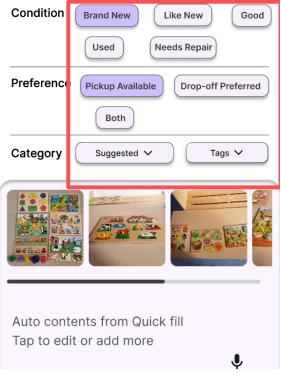


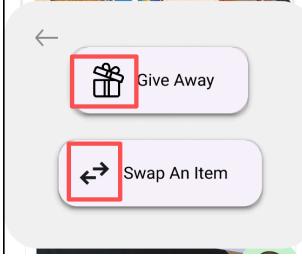
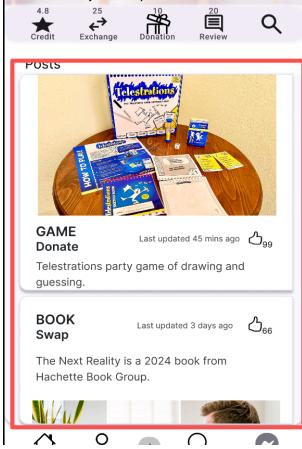
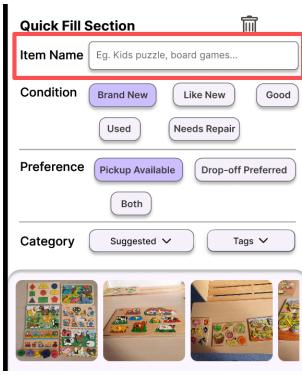
Implementation Explanation:

The Home, Message, and Category Detail screens implement WCAG Guideline 3.2 - Predictable through relevant success criteria. For Success Criterion 3.2.3 (Consistent Navigation), each screen maintains a stable bottom navigation bar with a highlighted black line above the active icon, allowing users to maintain orientation across the app. For 3.2.1 (On Focus), in Category Detail screen, selecting a new category tab updates only gallery content, keeping layout and controls consistent. This predictable structure supports cognitive accessibility and benefits users with visual, attention, or memory-processing challenges by reducing disorientation and ensuring confident navigation across the interface.

4. Individual Heuristic Evaluation

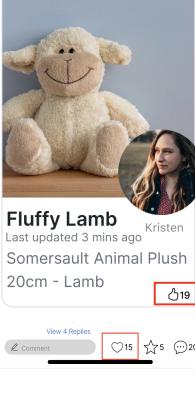
Student Name: Ruotong Tang 34514473

Heuristic Rule	Instance of Violation	Evidence	Severity Rating and Justification	Recommendation
1. Visibility of System Status	Top bar shows “20% Completion” text; no label explains which fields affect it; no per-field indicator beside inputs.		2 – Moderate: Users see a % but not what drives it. Causes brief confusion during posting. Reappears whenever starting a new post.	Add microtext “20% of required fields completed” and briefly highlight fields when progress changes.
3. User Control and Freedom	The <i>Review Overlay</i> lists user feedback, but lacks visible “Reply” options under each review.		3 – Major: Users often need to respond or clarify comments. The lack of reply control limits conversational flow and user autonomy. The issue persists for every review.	Add a small “Reply” button under each review to enable two-way interaction and support user freedom.
8. Aesthetic and Minimalist Design	The <i>Donate Screen</i> displays multiple field labels together at the top, creating slight visual crowding.		1 – Minor: All elements are necessary but appear simultaneously, adding mild information overload and reducing visual simplicity.	Keep the current structure and button size for accessibility, but apply subtle vertical spacing or visual grouping to balance readability with compactness.

Heuristic Rule	Instance of Compliance	Evidence	Design Justification
2. Match Between System and Real World	“Donate” shows a gift-box icon with label; “Swap” shows circular-arrows icon with label.		Icons and labels align with users' real-world concepts of giving and exchanging, reducing interpretation effort. This follows Nielsen's “Match Between System and the Real World” and aligns with Shneiderman's Rule #7 (“Keep users in control”), as the clear, familiar metaphors let users confidently choose the correct action without hesitation or misinterpretation.
4. Consistency and Standards	The Profile Screen maintains consistent icon style, font hierarchy, and card layout found across the app and post cards follow identical rounded shapes and typography rules.		Visual and structural consistency reinforces familiarity and predictable interaction patterns. This upholds Nielsen's “Consistency and Standards” and Shneiderman's Rule #1 (“Strive for consistency”), reducing learning time and preventing user confusion across contexts.
5. Error prevention	The <i>Add Post Screen</i> uses clear placeholder examples in the item name field (e.g., “Eg. Kids puzzle, board games...”) to guide correct data entry and avoid invalid submissions.		Explicit examples clarify expectations, preventing format mistakes before they occur. This aligns with Nielsen's “Error Prevention” and Shneiderman's Rule #5 (“Prevent errors”), proactively minimizing potential input issues.

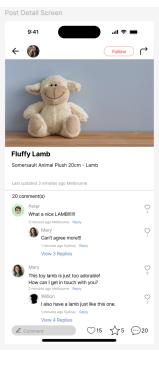
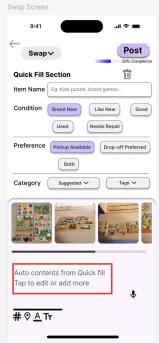
6. Recognition Rather Than Recall	Each category card displays both an icon and a clear text label (e.g., “Books”, “Toys”, “Board Games”).		<p>Visual and textual pairing aids instant recognition without requiring memory recall. This reflects Nielsen's “Recognition Rather Than Recall” and supports Shneiderman's Rule #8 (“Reduce short-term memory load”), ensuring users can act without remembering prior steps.</p>
7. Flexibility and Efficiency of Use	Home Screen provides quick-access buttons (“Donate”, “Swap”, “Category”) that bypass deeper menus.		<p>Shortcuts enable expert users to act faster while remaining intuitive for novices. This follows Nielsen's “Flexibility and Efficiency of Use” and resonates with Shneiderman's Rule #2 (“Seek universal usability”), ensuring efficient access for users with varying expertise.</p>
9. Help Users Recognize, Diagnose, and Recover from Errors	When message input is empty, the send button stays inactive with smaller interface.		<p>The inactive state prevents accidental blank submissions before they happen. This follows Nielsen's “Error Prevention” and supports Shneiderman's Rule #5 (“Prevent errors”), ensuring users complete meaningful input before performing an action.</p>
10. Help and Documentation	The Post Detail screen shows concise, self-explanatory labels and icons (e.g., “Reply”, “View Replies”, “Time and Location”) under each post.		<p>Clear, self-contained wording functions as built-in documentation, allowing users to act without external references. This corresponds to Nielsen's “Help and Documentation” and aligns with Shneiderman's Rule #8 (“Reduce short-term memory load”), ensuring that users can understand actions directly without recalling prior instructions.</p>

Student Name: Shenghua Chen 35248149

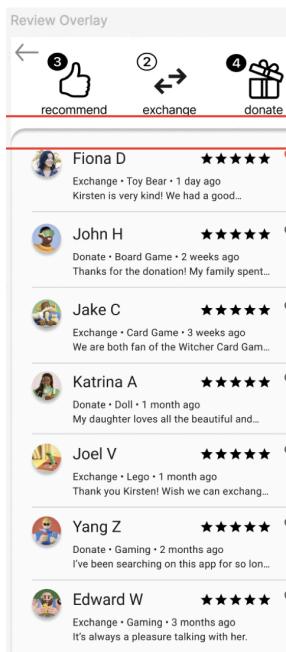
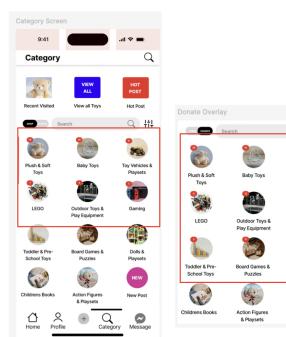
Heuristic Rule	Instance of Violation	Evidence	Severity Rating and Justification	Recommendation
#3 User control and freedom	During the posting process, users cannot cancel or undo the action once the post is being uploaded. This limits their ability to recover from mistakes or stop unintended actions.		3 – Major problem: Users may frequently upload wrong content and have no way to interrupt or revert the process. This directly impacts control and causes frustration.	Add a “Cancel” or “Stop Upload” button during the posting process to allow users to regain control and prevent unintended submissions.
#4 Consistency and standards	The interface uses two different icons to represent the same “like” action — a thumbs-up icon on the main post card and a heart icon in the post detail view. This inconsistency may confuse users about whether the two icons serve the same purpose.		2 – Minor problem: It may not prevent task completion but can cause hesitation or misunderstanding, especially for new users.	Use a consistent icon style (either heart or thumbs-up) across all screens to maintain visual consistency and align with user expectations.
#9 Help users recognize, diagnose, and recover from errors	The system lacks visible error messages or guidance when users perform invalid actions (e.g., missing inputs or upload failures).	(no error feedback present in current prototype)	3 – Major problem: Users may not understand why an action fails, leading to confusion and repeated errors.	Implement clear, human-readable error messages and simple recovery options (e.g., retry or edit).

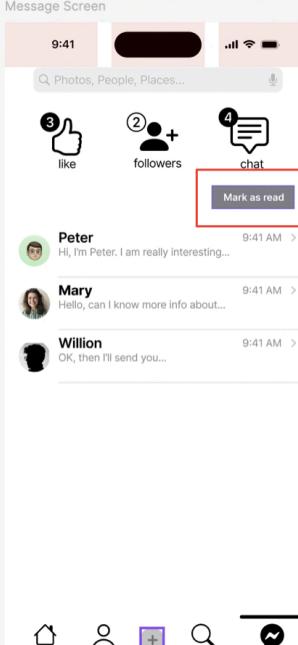
Heuristic Rule	Instance of Compliance	Evidence	Design Justification
#1 Visibility of system status	The “Post” button displays a progress indicator showing “20% Completion,” providing immediate feedback on task progress. Users can clearly see that their action is being processed.		This design aligns with the Visibility of System Status heuristic by keeping users informed about ongoing processes through clear progress indicators and real-time feedback. It also reflects Ben Shneiderman's 8 Golden Rules #3 – Offer Informative Feedback , as the system provides timely and meaningful responses to user actions. This reduces uncertainty and enhances user confidence, ensuring that users always understand what the system is doing and how close they are to completion.
#2 Match between system and the real world	Familiar icons such as “@”, “smiley face”, “image”, and “plus” are used to represent mentioning, emoji, image upload, and adding more options. These symbols follow real-world digital communication conventions, making the interface intuitive and easily understood by users.		The design uses real-world metaphors and familiar language that align with users’ everyday experiences, fulfilling Nielsen’s “Match between system and the real world” principle by reducing cognitive load and promoting intuitive interaction. It also supports Ben Shneiderman's Golden Rule #2 – Seek Universal Usability , ensuring that users with different backgrounds and abilities can easily understand and interact with the interface through clear, accessible, and universally recognizable elements.

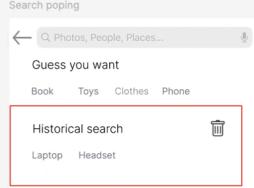
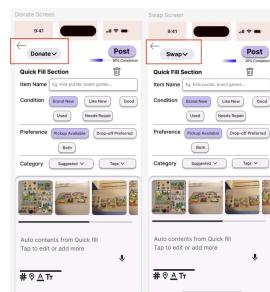
Heuristic Rule	Instance of Compliance	Evidence	Design Justification
#5 Error prevention	The system provides predefined selection tags (e.g., “Brand New,” “Used,” “Needs Repair”) to guide user input and limit invalid entries.		This design prevents input errors by restricting user actions to predefined choices, ensuring that users can only select valid options. It aligns with Nielsen’s <i>Error Prevention</i> heuristic and Ben Shneiderman’s Golden Rule #5 – Prevent Errors , as limiting inputs minimizes the chance of invalid entries and reduces the need for corrective actions. By guiding users through clearly defined and validated options, the system promotes smoother interactions and prevents mistakes before they occur.
#6 Recognition rather than recall	Each image category in the “Category Screen” is accompanied by descriptive text labels (e.g., “Plush & Soft Toys”, “LEGO”). This helps users identify the meaning of each icon without memorizing them.		This design supports <i>recognition over recall</i> by combining visuals with text labels, allowing users to identify categories intuitively rather than remembering them. This also aligns with Ben Shneiderman’s Golden Rule #8 – Reduce Short-Term Memory Load , as it minimizes users’ cognitive effort by making key options visible and easily accessible, improving navigation efficiency and overall usability.
#7 Flexibility and efficiency of use	The search screen provides “Guess you want” recommendations and “Historical search” records, enabling experienced users to access frequently searched items quickly.		This design supports efficiency for experienced users by offering smart suggestions and history-based shortcuts, reducing repetitive actions while remaining intuitive for new users. It also reflects Ben Shneiderman’s Golden Rule #2 – Seek Universal Usability , as the interface accommodates

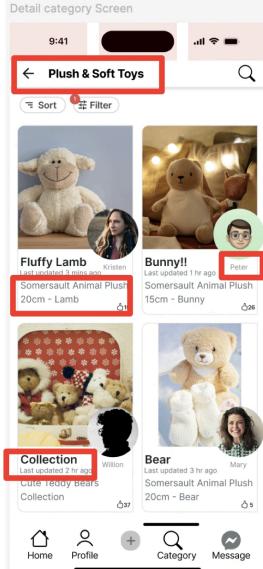
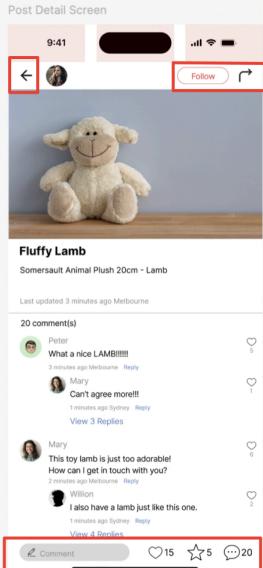
Heuristic Rule	Instance of Compliance	Evidence	Design Justification
			users with different experience levels, ensuring both novices and experts can complete tasks efficiently and comfortably within the same system.
#8 Aesthetic and minimalist design	The Post Detail Screen includes only essential elements such as image, title, comments, and interaction buttons, avoiding unnecessary or rarely used features.		This design follows the <i>Aesthetic and Minimalist Design</i> principle by maintaining a clean layout that focuses on key user actions, reducing cognitive load and improving readability. It also applies the Visual Design Principle of Scale , effectively directing users' attention toward the most important elements on the screen. By emphasizing essential components through size hierarchy, the interface helps users quickly identify relevant information without unnecessary visual clutter or decision-making effort.
#10 Help and documentation	The interface provides inline help text “Auto contents from Quick fill – Tap to edit or add more,” guiding users on how to modify or add content.		This design aligns with the <i>Help and Documentation</i> principle by providing contextual guidance directly within the interface, allowing users to understand and complete tasks without referring to external resources. This approach also reflects Ben Shneiderman's Golden Rule #8 – Reduce Short-Term Memory Load , as users can access relevant information at the point of need, minimizing cognitive effort and enhancing task efficiency.

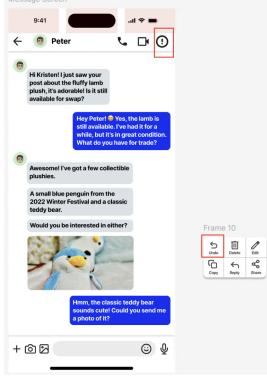
Heuristic Rule	Instance of Violation	Evidence	Severity Rating and Justification	Recommendation
1	No “liked” state after tapping	 <p>Card shows  and count (99) but no filled/colour-change state</p>	<p>2 — Minor</p> <p>Frequency: High — occurs often in normal use.</p> <p>Impact: Low-Medium — rarely blocks task completion; the main issue is uncertainty due to lack of immediate feedback.</p> <p>Persistence: High — recurs whenever the control is used since no mitigation exists.</p>	<p>On tap, fill/colour the icon, animate count increment, provide 'Undo'. (Support: Shneiderman Rule 3 – Offer informative feedback)</p>
5	<p>The settings and share icons in the top-right are overlaid on a blurred photo with low contrast and appear smaller than the recommended touch size. Their proximity increases the likelihood of slips (tapping the wrong control) and misses.</p>	 <p>two adjacent icons on a busy background; small visual footprint; no protective spacing</p>	<p>3 — Major.</p> <p>Frequency: High — users frequently access profile settings, especially during initial setup.</p> <p>Impact: Medium-to-high — mis-taps open the share sheet or fail to activate the intended action, causing backtracking and frustration;</p>	<p>Move both icons into an opaque top app bar to ensure contrast; increase hit areas to >44×44 pt and add spacing between controls; provide clear press feedback (fill/state change and brief haptic). (Support: WCAG 2.5.5 Target Size/Apple HIG 44×44 pt—one extra theory)</p>

			worsens in bright light/for low vision. Persistence: High – the small/low-contrast targets remain problematic regardless of user experience.	max.)
7	The review overlay lacks filtering and sorting capabilities. Users with many reviews cannot efficiently find specific feedback (e.g., all Board Game exchanges) or sort by recency/rating; everyone must manually scan the list.		3 – Major. Frequency: High (reviews accumulate over time for active users). Impact: Medium–High (both novice and expert users are forced into inefficient manual scanning; cannot prioritise by time/rating/type). No filter chips and No sort/search controls	Add filter chips or a dropdown to filter by item category/transaction type (e.g., Toys, Board Games, Books). Provide Sort (by date, rating) via a top-right sort icon. For power users, add search to find keywords within reviews Persistence: High (no in-UI workaround)
8	Nearly all category tiles display red badges simultaneously, creating visual overload and diluting the badge's attention-drawing purpose. Users cannot quickly see which categories truly require	 many concurrent red badges	3 – Major. Frequency: High — every visit to Category shows broad badge coverage if design is systemic. Impact: Medium–High — increases cognitive load and decision paralysis;	Adopt threshold-based or top-N badging (e.g., show badges only for categories with posts in last 24h, or limit to top three categories). Use priority coding (red = high priority; gray = minor)

	attention.		users must filter visual noise rather than rely on prioritisation cues. Persistence: High — design-level issue; affects novices and experts alike.	
9	The “Mark as read” control changes message status without a confirmation dialog or visible Undo . An accidental tap can clear unread indicators with no clear recovery path.	 <p>“Mark as read” button; no confirmation/undo is surfaced in the flow</p>	2 – Minor. Frequency: Medium—accidental taps occur, given the button’s prominent, traversed location. Impact: Medium—users lose unread cues and may miss responses though content remains. Persistence: Medium—risk persists for all users because the control lacks protective confirmation/undo	Add confirmation before bulk changes (“Mark all conversations as read?” with Cancel/Confirm), or show an Undo toast (5–10s) that restores previous states. Clarify the scope in the label (e.g., “Mark 3 visible conversations as read” vs. “Mark all”)

Heuristic Rule	Instance of Compliance	Evidence	Design Justification
6	Recent queries surfaced as tappable chips in “Historical search”	  <p>Laptop and Headset visibly listed under the “Historical search” section</p>	<p>Exposes prior queries for recognition instead of recall, reducing working-memory load (Shneiderman Rule 8)</p>
3	<p>The review overlay provides a clear escape route via a prominent back arrow (top-left). Tab navigation (“recommend / exchange / donate”) lets users switch review types instantly without hierarchical steps.</p>	 <p>Back arrow and tab region highlighted in attached image.</p>	<p>Nielsen’s “clearly marked emergency exit” and follows platform conventions (back in top-left). Non-sequential tab access respects user autonomy, supporting Shneiderman’s internal locus of control, so users feel in command rather than constrained by the flow.</p>

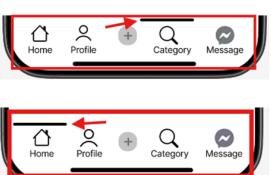
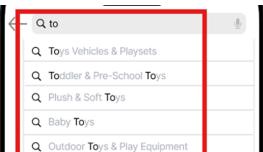
2	<p>Category labels and item descriptions use everyday shopper vocabulary (e.g., “Plush & Soft Toys”, “Somersault Animal Plush 20cm – Lamb”) and relative timestamps (“3 mins ago”). Publisher names are presented as familiar first names (e.g., Kirsten, Peter)</p>	 <p>"Plush & Soft Toys' heading; product descriptions like 'Somersault Animal Plush 20cm - Lamb'; relative timestamps ('3 mins ago', '1 hr ago'); first names (Kirsten, Peter) not user IDs"</p>	<p>Follows Nielsen's rule that systems should speak the user's language. Using familiar words (rather than system-oriented jargon like “Age 0–3 Product Category” or SKU codes) aligns with shoppers' mental models and removes cognitive translation</p>
4	<p>The post detail view adopts familiar social-media patterns: a bottom action bar with like/favorite/comment icons, threaded comments with “Reply” and “View X Replies,” and a Follow button placed at the top-right with a back arrow at the top-left.</p>	 <p>the back arrow, Follow button, threaded replies, and bottom action bar</p>	<p>Follows Nielsen's consistency rule by aligning with external standards from mainstream social apps. Reusing learned patterns minimizes relearning, reduces cognitive load</p>

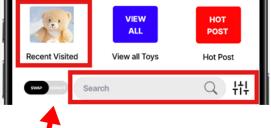
10	<p>The chat view provides just-in-time, context-sensitive help. The message bubble action menu shows clear, self-describing labels (Undo, Delete, Edit, Copy, Reply, Share), and includes Undo to recover from mistakes. The header exposes an info (i) entry that offers a natural place to access conversation info/help/safety guidance</p>	 <p>info icon (help entry) and the labeled action menu with Undo</p>	<p>Fulfils Nielsen's Help & Documentation rule by offering minimal, task-focused assistance right where users need it. Labels reduce guesswork; Undo supports quick recovery; a recognizable info entry centralizes additional guidance—improving learnability and user confidence</p>
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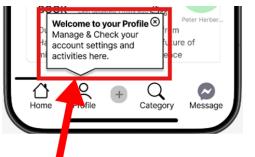
Heuristic Rule	Instance of Violation	Evidence	Severity Rating and Justification	Recommendation
Rule 2 - Match Between System and the Real World	In the Add Post Screen, the label "Drop-off Preferred" may confuse new users unfamiliar with the app's terminology.	 <ul style="list-style-type: none"> • Violation: Nielsen's heuristic Rule 2 - Match Between System and the Real World • Recommendation: Norman's principle of natural mapping 	<p>2 - Frequency: occurs occasionally during donation posts.</p> <p>Impact: causes mild hesitation or misinterpretation of the donation method.</p> <p>Persistence: easily corrected, one-time confusion resolved once the user learns the term.</p>	Replace with "Preferred Donation Method: Drop-off" using familiar phrasing. This aligns with Nielsen's heuristic Rule 2 and Norman's principle of natural mapping , ensuring interface language mirrors real-world mental models, improving intuitiveness and trust.
Rule 6 - Recognition Rather Than Recall	Currently, the app does not provide a visible Wishlist or Saved Items section in Profile, Category, or Home Screen. Users who previously marked toys or games as favorites must rely on memory to recall which items they saved.	 <ul style="list-style-type: none"> • Violation: Nielsen's heuristic Rule 6 - Recognition Rather Than Recall • Recommendation: Ben Shneiderman's 8 Golden Rule 8 - Reduce Short-Term Memory load 	<p>3 - Frequency: Likely to occur frequently, as users often want to revisit or track toys they are interested in.</p> <p>Impact: High impact on user goals, as forgetting saved items can cause frustration, repeated searches, and inefficiency in completing tasks.</p> <p>Persistence: Persistent until the user navigates or remembers their previously saved items; must be repeatedly recalled for multiple interactions, increasing cognitive load.</p>	Add a Wishlist/Saved Items section accessible from the Home, Category Screen or Profile, displaying saved toys with visual cues like thumbnails and icons. This would help support recognition over recall Nielsen Heuristic Rule 6 and aligns with Shneiderman's Golden Rule 8 to reduce short-term memory load, by allowing users to see previously saved items instead of relying on memory. This change improves task efficiency, minimizes errors, and enhances

				overall usability.
Rule 9 - Help Users Recognize, Diagnose, and Recover from Errors	In the Add Post Screen, users can post without inputting a title, receiving no alert about the missing content.	<ul style="list-style-type: none"> • Violation: Nielsen's heuristic Rule 9 - Help Users Recognize, Diagnose, and Recover from Errors • Recommendation: Ben Shneiderman's 8 Golden Rule 3 - Offer Informative Feedback 	<p>3 - Frequency: likely frequent among new users unfamiliar with posting requirements.</p> <p>Impact: prevents users from understanding why their posts appear incomplete, reducing success rates.</p> <p>Persistence: occurs repeatedly until corrected by system feedback.</p>	<p>Implement a validation pop-up stating “Please input at least one word for title before posting,” accompanied by a highlighted title input area. This satisfies Nielsen's Heuristic Rule 9 and Shneiderman's Rule 3 - Offer Informative Feedback, ensuring users understand the problem and how to resolve it. Providing specific, user-friendly feedback minimizes frustration and improves confidence during task completion.</p>

Heuristic Rule	Instance of Compliance	Evidence	Design Justification
Rule 1 - Visibility of System Status	The Add Post Screen shows a “20% completion” progress indicator while users fill in donation details.	<ul style="list-style-type: none"> • Nielsen's heuristic Rule 1 - Visibility of System Status • Ben Shneiderman's 8 Golden Rule 4 - Design Dialogues to Yield Closure 	<p>This complies with Nielsen's heuristic Rule 1 and follows Ben Shneiderman's Golden Rule Rule 4 - Design Dialogues to Yield Closure. By continuously displaying a completion percentage, users understand their current progress within the donation flow and how close they are to finishing. This awareness lowers anxiety and reinforces confidence, especially for users with limited digital experience.</p>

Rule 3 - User Control and Freedom	<p>The Chat screen includes a pop-up menu that appears when users right-click on the most recently sent message, offering options to "Undo," "Edit," or "Delete."</p>	 <ul style="list-style-type: none"> • Nielsen's Heuristic Rule 3 - User Control and Freedom • Ben Shneiderman's 8 Golden Rule 6 - Permit Easy Reversal of Actions 	<p>This complies with Nielsen's Heuristic Rule 3 and applies Ben Shneiderman's Rule 6 - Permit Easy Reversal of Actions. Allowing users to reverse or modify recent actions reduces anxiety and supports confident exploration. Reversible messaging prevents permanent errors, especially for users with motor or attention limitations. The immediate access to "Undo," "Edit," and "Delete" options increases perceived safety and control, reinforcing trust and satisfaction within conversational interactions.</p>
Rule 4 - Consistency and Standards	<p>Each page maintains a stable bottom navigation bar with a highlighted black line above the active icon.</p>	 <ul style="list-style-type: none"> • Nielsen's heuristic Rule 4 - Consistency and Standards • Norman - Discoverability 	<p>The navigation bar is in compliance because every page has that, which makes users familiar and can always find the bar at the bottom. These components satisfy the Norman - Discoverability, because it is always at the bottom of every page and highlighted with black line notifying where the user is currently at.</p>
Rule 5 - Error prevention	<p>On the Home Screen, when users click on the search box and begin typing, the system displays a list of suggested search terms or example inputs.</p>	 <ul style="list-style-type: none"> • Nielsen's heuristic Rule 5 - Error Prevention • Ben Shneiderman's 8 Golden Rule 8 - Reduce Short-Term Memory load 	<p>This design aligns with Nielsen's Heuristic Rule 5 by proactively reducing the likelihood of mistakes. When users click on the search box and type, suggested search terms and example inputs guide them toward valid results, preventing errors such as typos or invalid searches. This approach is further supported by Shneiderman's Golden Rule 8 to reduce short-term memory load: by showing</p>

			<p>users selectable suggestions, the system minimizes the need to remember exact product names or keywords. Together, these principles enhance efficiency, accuracy, and user confidence, creating a smoother, error-free search experience.</p>
Rule 7 - Flexibility and Efficiency of Use	The Category Screen lets users search and filter toys using the search box and filter buttons. It further supports experienced users by providing advanced shortcuts through their recently visited posts.	 <ul style="list-style-type: none"> • Nielsen's heuristic Rule 7 - Flexibility and Efficiency of Use • Hick's Law 	<p>This complies with Nielsen's Heuristic Rule 7 by catering to both novice and experienced users. Novice users benefit from an intuitive interface with clear search and filter options, while experienced users can perform frequent tasks more efficiently using shortcuts. Hick's Law further supports this design. It states that the time it takes for a user to make a decision increases with the number of choices available. By providing clear categories, search, and filter options, the app reduces cognitive load for novice users. At the same time, experienced users can bypass this decision-making through shortcuts to recently visited posts, speeding up interactions.</p>
Rule 8 - Aesthetic and Minimalist Design	In Message Screen, the chat list displays only the user's profile image, their name, and the first few words of the most recent message, truncating the remaining text with an ellipsis (e.g., "OK, then I'll send you...").	 <ul style="list-style-type: none"> • Nielsen's heuristic Rule 8 - Aesthetic and Minimalist Design • Principle of Visual Hierarchy 	<p>This design aligns with Nielsen's Heuristic Rule 8 by only letting relevant information like user name and part of recent message be shown, preventing unnecessary details from distracting users. It is further supported by the Principle of Visual Hierarchy, which guides the eye to attend to elements in order of importance. The bold, larger user name draws</p>

			<p>attention first, while the smaller, lighter recent message provides contextual detail without overwhelming the interface. This structured visual emphasis improves readability, ensures key information stands out, and enhances overall usability and efficiency of the chat screen.</p>
Rule 10 - Help and Documentation	In Home Screen, when dragging on the Profile icon in the bottom navigation bar, the introduction box appeared promptly, clearly explaining the functions available on the profile page.	 <ul style="list-style-type: none"> • Nielsen's heuristic 10 - Help and Documentation • Contextual navigation - Interactive content 	<p>This implementation aligns with Nielsen's Heuristic Rule 10. The tooltip provides proactive help by guiding users directly within the interface, reducing the learning curve for new users. This is also supported by Contextual navigation - Interactive content by letting the tooltip appear directly on the Profile icon, visually representing its purpose and linking it to relevant content. It helps users quickly understand what the Profile page offers without needing to explore or recall information, improving learnability and usability while keeping the interface clean and unobtrusive.</p>

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Appendix

Appendix A:

User Story: As Maria, I want to donate unused toys easily so that I can declutter my home while helping other families.

Appendix B: Low fidelity sketches of Add Post

