Title: Guidelines Shared between Vulnerable Communities

ID	Guideline: Description

🚶 🚫 Elderly & Color-Blind Communities

ID	Guideline: Description
EC1	**Colour contrast between popups and background:** Ensure that colours used between foregrounds and backgrounds have high contrast to cater for potential vision challenges [1]
EC2	**Design without colour to maintain luminance contrast:** If colours are used to code or contrast two elements, revise the design without colour (i.e., without chromaticity) to compare them in grayscale (luminance or brightness) [2]
EC3	**Maintain WCAG contrast ratios:** Ideally, follow the AAA standard of 4.5:1 for text, as well as other ratios for different scenarios, to cater to low contrast vision and colour-blind users. Make use of compliance checkers (e.g., Google Lighthouse) to validate that designs meet required contrast ratios [3]

🚶 🌲 Elderly & Rural Communities

ID	Guideline: Description
ER1	**Give time to act and read:** Avoid deadlines or timed events so people with different reading speeds are not rushed or cut off [4]
ER2	**Discoverability – clear purpose and state:** Clear focal points, good visual hierarchy, and transparent navigation so users always know what something does and its current state [5]
ER3	**Keep minimalist, simple interface:** Key features are easily accessible on the main page; use larger fonts and familiar icons [6]
ER4	**Use linear navigation (forwards and backwards):** Prefer forward-and-backward navigation rather than hierarchical tree structures [7]
ER5	**Make onboarding easy:** Onboarding processes should be straightforward and avoid frustrating new users [7]
ER6	**Make app purpose clear:** Ensure the app communicates its purpose clearly to users who may arrive without prior context [7]
ER7	**Break down information within and across screens:** Avoid large paragraphs; use shorter sentences and break content into screens or pages for readability [7]
ER8	**Provide text alternatives:** Provide alternatives (e.g., alt-text, large text, or simplified language) for non-text content [8]

🌲 ⌨ Rural & Low-Digital-Literacy Communities

ID	Guideline: Description
RD1	**Minimise download times:** Use smaller image/video sizes, compression, and substitute images with text where possible to improve performance on low bandwidth [9]
RD2	**Consider alternative information infrastructure:** Support cases where multiple users share one device and ensure offline distribution of the app if app stores are not accessible [10]
RD3	**Reduce phone resource usage:** Minimise CPU, memory, and battery consumption to support low-end devices [11]
RD4	**Reduce data use:** Optimise apps to avoid large data consumption for low-capped plans and areas with unreliable connections [12]
RD5	**Enable offline access:** Ensure key features remain accessible offline when network coverage is poor or intermittent [12]

🚶 🌲 ⌨ Elderly, Rural & Low-Digital-Literacy Communities

ID	Guideline: Description
ERD1	**Simplify navigation structure:** Flatten menu hierarchies and prefer linear navigation to reduce cognitive load [6]
ERD2	**Reduce alternative paths:** Ensure navigation paths are simple and consistent; minimise branching or multiple routes that may confuse users [4]
ERD3	**Avoid Hamburger Menu:** Avoid hidden navigation; if unavoidable, pair the icon with descriptive text to guide users [13]

ID	Guideline: Description (continued)
ERD4	**Provide informative & clear feedback:** Offer clear visual/audio feedback on ongoing processes, status, and errors without overwhelming users. Use progress bars, notifications, and guidance [5, 4, 14]
ERD5	**Understandable error messages:** Provide clear, actionable error messages so users know what went wrong and how to recover [1]

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