

Title: Identified Requirements

Guideline (ID: Name)	Requirement (R#)	Req. Type
Elderly Communities		
E1: Reduce short-term memory load	R01: Ensure the system simplifies navigation, uses clear and consistent icons, and provides step-by-step instructions to reduce memory burden.	Non-functional (Usability)
E2: Maintain focus on current action	R02: Ensure the interface removes distractions and secondary functions, highlighting the most important or typical action on each screen.	Non-functional (Usability)
E3: Reduce options and available elements	R03: Ensure the interface limits unnecessary choices during interactions to avoid overwhelming users.	Non-functional (Usability)
E4: Introduce features incrementally	R04: Ensure the system introduces new features gradually to prevent overwhelming users with too many unfamiliar elements at once.	Non-functional (Usability)
E5: Readable text content	R05: Ensure the system provides definitions or tooltips for abbreviations and jargon to improve text comprehension.	Non-functional (Accessibility)
E6: Accuracy and precision	R06: Ensure interactive elements (e.g., buttons) have a minimum size of 16.5 mm diagonally and font sizes ≥ 14 pt with high-contrast colours.	Non-functional (Accessibility)
E7: Adaptable content presentation	R07: Ensure the system supports alternative content presentations (e.g., audio or simplified layouts) without loss of information.	Non-functional (Accessibility)
E8: Contextualised help	R08: Ensure the system provides context-aware help automatically, reducing the need for users to search manually.	Functional
E9: Provide a safe exit on any screen	R09: Ensure every process screen includes back, cancel, or exit buttons to let users exit at any point without losing control.	Functional
E10: Don't assume knowledge of symbols	R10: Ensure icons are intuitive and semantically meaningful; avoid abstract or ambiguous symbols.	Non-functional (Usability)
E11: Prefer tapping over gestures	R11: Ensure tapping alternatives exist for gesture-based interactions (e.g., sliders) to reduce dexterity demands.	Functional
Low-Digital-Literacy Communities		
D1: Include short, simple Help instructions	R12: Ensure help menus provide concise, jargon-free, and easy-to-act-on instructions.	Non-functional (Usability)
D2: Enable customisation	R13: Ensure the system allows users to customise layout, content, and settings to fit their needs.	Functional
D3: Consistency	R14: Ensure consistent colour schemes, typography, and navigation patterns across the entire application.	Non-functional (Usability)
D4: Predictable behaviour	R15: Ensure app behaviour matches user expectations, with consistent navigation and no conflicting signals; provide reliable help if errors occur.	Functional
D5: Use multiple modes of interaction	R16: Ensure content is available in multiple modalities (e.g., text, audio, video) for better comprehension.	Functional
D6: Use distinct audio output	R17: Ensure audio outputs are customisable and distinct so users can control volume and recognise meanings.	Functional
D7: Avoid unfamiliar visuals	R18: Ensure visuals use universal or culturally appropriate symbols to improve recognition.	Non-functional (Accessibility)
D8: Avoid abstract and detailed imagery	R19: Ensure visuals are semi-abstract and focused on key actions; avoid unnecessary detail.	Non-functional (Usability)

Continued on next page

Guideline (ID: Name)	Requirement (R#)	Req. Type
D9: Maintain conceptual models	R20: Ensure design uses affordances and signifiers to preserve a consistent mental model across the interface.	Non-functional (Usability)
D10: Provide affordances	R21: Ensure interactive elements such as buttons and links are clearly distinguishable from static content.	Non-functional (Accessibility)
D11: Apply constraints to reduce overload	R22: Ensure the interface limits distractions by restricting interactions to only essential actions and respects cultural constraints.	Non-functional (Usability)
D12: Provide clear signifiers	R23: Ensure app design communicates expected outcomes using visual/textual cues without relying solely on instructions.	Non-functional (Usability)
D13: Natural mapping	R24: Ensure controls reflect real-world relationships (e.g., volume sliders aligned with perceived loudness).	Non-functional (Usability)
D14: Adopt culturally responsive design	R25: Ensure visuals, colours, and symbols align with local cultural preferences.	Non-functional (Accessibility)
D15: Error-free operation	R26: Ensure the app is stable and fails gracefully with clear recovery options instead of crashing.	Non-functional (Reliability)

Rural Communities

R1: Split content into pages	R27: Ensure long content loads in smaller paginated chunks to improve usability under poor Internet conditions.	Functional
R2: Promote app/website visibility	R28: Ensure content is properly indexed (e.g., by search engines) and organised into discrete, discoverable pages.	Functional
R3: Learnability	R29: Ensure navigation is logical and minimal, requiring little prior knowledge or training.	Non-functional (Usability)
R4: Memorability	R30: Ensure app structures are intuitive and memorable so users can easily recall information and actions.	Non-functional (Usability)
R5: Rely on telecommunication	R31: Ensure the app supports SMS or offline-friendly messaging for areas with poor Internet connectivity.	Functional

Colour-Blind Communities

C1: Test against tools	R32: Ensure the design is validated using WCAG and colour-blindness simulators.	Non-functional (Accessibility/-Compliance)
C2: Use more than colour to distinguish	R33: Ensure redundant visual cues (e.g., icons, text, patterns) supplement colour-coded information.	Non-functional (Accessibility)
C3: Use thicker lines or larger elements	R34: Ensure lines, fonts, and elements are sufficiently thick/large for visibility.	Non-functional (Accessibility)
C4: Avoid reliance on “colour-blind-friendly” palettes	R35: Ensure designs rely on contrast and redundant cues rather than searching for a universally friendly palette.	Non-functional (Accessibility)
C5: Underline links	R36: Ensure all hyperlinks are underlined or clearly marked beyond colour alone.	Non-functional (Accessibility)
C6: Supplement colour coding with text	R37: Ensure colour-coded statuses or alerts include text labels as backups.	Non-functional (Accessibility)
C7: Use patterns	R38: Ensure patterns (e.g., stripes/dots) provide redundancy for colour-coded areas such as charts or maps.	Non-functional (Accessibility)
C8: Alter designs to avoid conflicts	R39: Ensure UI is proactively designed to avoid problematic colour pairings that reduce contrast.	Non-functional (Accessibility)
C9: Keep it simple	R40: Ensure the interface limits excessive colours and shades to avoid ambiguity.	Non-functional (Usability)

Continued on next page

Guideline (ID: Name)	Requirement (R#)	Req. Type
C10: Respect colour-blind preferences	R41: Ensure designs respect typical user preferences (e.g., favouring blue for clarity) and avoid negative shifts in meaning.	Non-functional (Accessibility)
lderly + Colour-Blind Communities		
EC1: Colour contrast between popups and background	R42: Ensure popup backgrounds and foreground text meet high contrast ratios for readability.	Non-functional (Accessibility)
EC2: Design without colour to maintain luminance contrast	R43: Ensure designs work in greyscale by testing contrast without chromatic elements.	Non-functional (Accessibility)
EC3: Maintain WCAG contrast ratios	R44: Ensure the design complies with WCAG AA/AAA standards (e.g., 4.5:1 for text) and validates dynamically with tools like Google Lighthouse.	Non-functional (Accessibility/-Compliance)
Elderly + Rural Communities		
ER1: Give time to act and read	R45: Ensure time-sensitive actions allow extended durations so slower readers are not disadvantaged.	Functional
ER2: Improve discoverability	R46: Ensure clear focal points, strong visual hierarchy, and transparent navigation states.	Non-functional (Usability)
ER3: Keep minimalist, simple interface	R47: Ensure key features remain prominent using concise layouts, larger fonts, and visual highlights.	Non-functional (Usability)
ER4: Use linear navigation	R48: Ensure navigation avoids tree-structured hierarchies, using simple forward-and-back flows.	Non-functional (Usability)
ER5: Make onboarding easy	R49: Ensure onboarding processes are simple, brief, and welcoming to first-time users.	Functional
ER6: Make app purpose clear	R50: Ensure new users can easily understand the app's purpose without prior context.	Non-functional (Usability)
ER7: Break down information	R51: Ensure long or dense content is split across pages/screens using short sentences and bullet points.	Functional
ER8: Provide text alternatives	R52: Ensure all non-text content includes descriptive text alternatives (e.g., alt-text).	Non-functional (Accessibility)
Rural + Low-Digital-Literacy Communities		
RD1: Minimise download times	R53: Ensure images/videos are compressed or replaced with lightweight text alternatives to reduce load times.	Non-functional (Performance/Efficiency)
RD2: Consider alternative information infrastructure	R54: Ensure packaged apps remain shareable across devices (e.g., for users without direct app-store access).	Functional
RD3: Reduce phone resource usage	R55: Ensure the app minimises CPU/memory/battery consumption to support low-end devices.	Non-functional (Performance/Efficiency)
RD4: Reduce data use	R56: Ensure network data is minimised to suit users with low data caps or slow connections.	Non-functional (Performance/Efficiency)
RD5: Enable offline access	R57: Ensure the app remains functional offline or in intermittent connectivity zones.	Functional
Elderly + Rural + Low-Digital-Literacy Communities		
ERD1: Simplify navigation structure	R58: Ensure the system flattens menu structures and prioritises linear navigation to reduce steps for critical tasks.	Non-functional (Usability)

Continued on next page

Guideline (ID: Name)	Requirement (R#)	Req. Type
ERD2: Reduce alternative paths	R59: Ensure the system limits redundant or branching navigation paths by maintaining consistent paths across screens and reducing unnecessary depth.	Non-functional (Usability)
ERD3: Avoid Hamburger Menu	R60: Avoid using hamburger menus as the primary navigation method; if unavoidable, include text labels alongside the icon.	Non-functional (Usability)
ERD4: Informative & clear feedback	R61: Ensure the system provides immediate, prominent feedback (e.g., progress bars, notifications, sounds) and accessible guidance tools like FAQs or chatbots.	Functional
ERD5: Understandable error messages	R62: Ensure all error messages clearly explain what went wrong and guide the user on how to recover.	Non-functional (Usability)