QRCS Accessible Donation Prototype – Testing Plan

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Project Overview

This testing plan supports the development of an accessible donation interface using Flutter. The prototype focuses on redesigning the donation flow on the QRCS mobile app to be compatible with screen readers and WCAG standards, ensuring usability for visually impaired users.

Feature Under Test

Component: Donation buttons and project information page redesign

Why Chosen: This section is essential to the app's purpose — enabling visually impaired users to independently complete donations. Inaccessibility here would block key user actions and undermine inclusivity goals.

Test Objectives

- Validate compatibility of donation input fields and buttons with iOS VoiceOver
- Verify all elements have semantic labels
- Ensure correct reading order and flow logic
- Confirm inputs are properly handled, including errors and edge cases

Testing Methods

1. Manual Testing

- Use iOS VoiceOver to navigate the redesigned donation page
- Document what VoiceOver announces for each key component
- Observe flow, focus order, and readability
- How it will be tested:
    - **Test case 1:** VoiceOver reads all semantic labels for the icons (back button, shopping cart icon, menu button, share button)

- ○ **Test case 2:** VoiceOver reads all text displayed in the page (e.g., General Sadaqa title, description, beneficiaries, expiry info, goal raised, progress percentages, donation instructions)
- ○ **Test case 3:** VoiceOver correctly identifies the "Donation Amount" input field and announces the default value "50 QAR"
- ○ **Test case 4:** VoiceOver properly reads and focuses on the input field when custom value "100" is entered
- ○ **Test case 5**: VoiceOver announces error message or invalid entry prompt when typing alphabetic input like "abc"
- ○ **Test case 6:** VoiceOver announces error or helper text when input is left empty ""
- ○ **Test case 7:** VoiceOver handles "0" entry and announces any constraints or warnings (e.g., "Minimum donation is 1 QAR")
- ○ **Test case 8:** VoiceOver announces "Add to Cart" button clearly, including its purpose and label
- ○ **Test case 9:** VoiceOver reads the progress ring percentage correctly (87.33% reached, 12.67% remaining), including the circular graphic if semantically labeled
- ○ **Test case 10:** VoiceOver reads the expiry date ("Expiring in 784 days") and associates it properly with the label
- ○ **Test case 11:** VoiceOver reads the total number of beneficiaries ("70,000 beneficiaries")
- ○ **Test case 12:** VoiceOver successfully navigates the entire page using swipe gestures, ensuring logical focus order from top to bottom

2. Peer Review

- Cross-review team members' button layouts and logic
- Identify inconsistencies in structure, styling, or accessibility practices

3. Automated Testing

- Integrate accessibility tools into the dev environment
- Use AccessibilityChecker to visualize failed checks (e.g., missing labels, low contrast)
- Apply real-time fixes and re-run to verify compliance
- The tool is able to flag accessibility issues such as missing semantic labels to images, icons, and buttons, as well as 'tap area' warnings.

Test Data

Input	Purpose
50 (default)	Validate default visibility and acceptance

100	Check support for custom valid amounts
abc	Confirm error handling for invalid input
"" (empty)	Test mandatory input validation
0	Edge case: verify rejection of zero donations

Pass/Fail Criteria

Pass if:

- All interactive elements are announced correctly by VoiceOver
- Inputs accept valid numbers and show proper labels
- Invalid or empty inputs are caught and feedback is given
- Add to Cart button works without UI errors or flow confusion

Fail if:

- Incorrect focus order, missing labels, or navigation issues
- Inputs fail validation silently or mislead the user
- UI becomes unresponsive or non-compliant with accessibility guidelines

Test Steps

1. Launch the Flutter prototype
2. Enable iOS VoiceOver on the simulator or device
3. Navigate to the donation screen
4. Use swipe gestures to:
    - Read category title and project description
    - Identify default donation amount
    - Enter custom values
    - Press "Add to Cart"
5. Repeat steps with different test inputs (from table above)
6. Log VoiceOver outputs and compare them to expected behavior
7. Re-test after any layout or semantic fixes are made

Expected Outcomes

- VoiceOver reads all key content (description, amounts, metrics, labels)
- Input field is easy to locate and use
- Logical navigation order (top-down, left-to-right)
- Clear, announced feedback on every interaction

Client Value

- **Inclusivity:** Strengthens QRCS's accessibility commitment
- **Expanded Reach:** Makes app usable for a broader donor base
- **Trust Building:** Aligns QRCS with ethical digital practices

Deliverables for the Client

- Annotated screenshots with VoiceOver focus points
- Audio transcripts or logs of screen reader output
- Accessibility error logs (automated)
- Summary of WCAG guidelines met
- Screen recording of working prototype with VoiceOver

Risk Mitigation

To reduce risk of missing accessibility gaps, we:

- Conducted multiple test types (manual, peer, automated)
- Re-tested after every layout or semantic update
- Used verified plugins and WCAG-aligned checklists for consistency