



MINISTRY OF DIGITAL ECONOMY

Sri Lanka Digital Design System (SLDDDS)

Integrated Guidelines for
Digital Branding & Web Content Accessibility
Guidelines(WCAG)

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1.Introduction

The Sri Lanka Digital Design System (SLDDS) is a unified framework for designing and developing inclusive, accessible, and user-friendly digital services across all government institutions of Sri Lanka. It provides a common visual language and a set of reusable components to ensure that every public-facing digital product reflects the values of trust, transparency, and simplicity.

In today's digital era, citizens expect government services to be as intuitive and responsive as those provided by the private sector. To meet this expectation, SLDDS enables designers, developers, and policymakers to work together under a shared standard that ensures:

- Consistency across ministries and platforms
- Accessibility for citizens of all abilities and languages
- Efficiency in development and maintenance
- Trust through clear, user-first interfaces

SLDDS is not just a design toolkit — it is a commitment to people-first governance. Built with inspiration from global leaders like the United Kingdom Government Digital Service and the Singapore Design System, and rooted in the cultural and linguistic diversity of Sri Lanka, this system empowers teams to create services that are:

- Mobile-friendly, responsive, and lightweight
- Multilingual — supporting Sinhala, Tamil, and English
- Compliant with Web Content Accessibility Guidelines (WCAG) 2.1 Level AA
- Scalable across various government digital platforms

2. Policy Background

The world's population today exceeds 8 billion people. The United Nations (UN) estimates that 1.3 billion people — representing 16% of the global population — live with some form of disability, with 80% concentrated in developing nations (United Nations, 2020).

In Sri Lanka, the Department of Census and Statistics reports 1,617,924 persons with disabilities, representing 8.7% of the total population (Department of Census and Statistics, 2012). Furthermore, the World Bank Report on Disability indicates that 12.9% of the Sri Lankan population experiences disability-related disadvantages, including limited access to education, skills development, and employment (World Health Organization and World Bank, 2011).

The Sri Lankan Government has demonstrated a commitment to improving the quality of life for Persons with Disabilities (PWDs) through various initiatives including digital accessibility reform. The Ministry of Digital Economy has created the Web Content Accessibility Guidelines (WCAG) Policy 2025 for Sri Lanka with the support of a panel of experienced professionals with disabilities and wide-ranging subject matter expertise.

This policy promotes a Digital Inclusion framework that allows Persons with Disabilities to participate meaningfully in national development as equal citizens of Sri Lanka. With the ratification of the United Nations Convention on the Rights of Persons with Disabilities (UNCPRD) in 2016, the government is accountable to formulate local legislation aligned with UNCPRD.

i. About Web Content Accessibility Guidelines (WCAG)

The Web Content Accessibility Guidelines (WCAG), first developed by the World Wide Web Consortium (W3C) in 1999, are technical standards that help make the digital world accessible to people with disabilities. These guidelines were created through collaboration between disability advocacy groups, government agencies, and accessibility research organisations, and are recognized as the universal standard for digital accessibility.

The W3C regularly updates WCAG guidelines as digital accessibility evolves. The versions are:

- WCAG 1.0 — Released May 1999; comprising 14 guidelines and the A, AA, and AAA conformance level hierarchy.
- WCAG 2.0 — Published 2008; introduced the POUR principles (Perceivable, Operable, Understandable, and Robust) and redefined conformance levels.
- WCAG 2.1 — Published 2018; added 17 new success criteria including mobile device accessibility.
- WCAG 2.2 — Added nine new success criteria relating to visual, mobility, hearing, and cognitive disabilities.

ii. Key Benefits of Complying with WCAG Standards

- Adhere to human rights obligations when providing goods and services.
- Increase the usability of digital products for all users.
- Generate more revenue by reaching a broader audience including Persons with Disabilities.
- For Persons with Disabilities: increasing ability to participate independently and improving health and wellbeing.

3. Design Principles

These principles guide how interfaces are designed, built, and maintained using the Sri Lanka Digital Design System (SLDDS). They ensure that every digital service is inclusive, efficient, and easy to use for all citizens.

i. User-Centric Structure

Design must begin with the needs, behaviors, and goals of users. Understand their journey, simplify decision points, and always prioritize their context of use — urban or rural, young or elderly, tech-savvy or first-time user.

ii. Task Simplification

Design with the user's tasks in mind. Services should enable users to complete goals with fewer steps, less confusion, and greater confidence.

iv. Mobile-First and Responsive Design

Design for the smallest screen first. Ensure all layouts adapt fluidly across devices — from smartphones to desktops — as most citizens access services via mobile devices.

v. Multilingual and Localized Content

Every interface must be available in Sinhala, Tamil, and English, and must be culturally appropriate. All languages should have equal visual and functional quality.

vi. Accessibility by Default

Ensure WCAG 2.1 Level AA standards are followed across all digital services. Use high color contrast, keyboard navigability, screen reader labels, and avoid motion that causes discomfort.

vii. Plain Language

Content must be written in simple, direct language. Avoid legal or technical jargon. Communicate clearly in all supported languages to ensure messages are understood by everyone.

vii. Minimalist Design

Avoid unnecessary graphics or visual clutter. Use whitespace wisely to allow content and functionality to shine while reducing cognitive load for users.

viii. Consistency Across Platforms

Use consistent patterns, spacing, and labels. While layout flexibility is permitted, the experience must feel familiar across ministries and services.

ix. Inclusive by Design

Design for all Sri Lankans, regardless of age, literacy level, disability, or internet connectivity. Build with empathy and ensure no one is excluded from accessing digital public services.

x. Iterate with Feedback

Use user testing, analytics, and surveys to improve over time. Design is a living system that evolves with real-world usage.

4. Visual Identity

A strong and consistent visual identity is at the heart of any trusted public digital service. In SLDDS, the visual language — including colors, typography, spacing, and layout — is designed to be clear, neutral, and inclusive, ensuring usability for a wide range of users across diverse contexts.

i. Color System

The SLDDS color system is built on shades of gray, blue, and soft accent tones to deliver a clean, accessible, and professional digital experience. Color is used purposefully to create clarity, hierarchy, and feedback in interfaces.

1. Primary Color Palette

Used for foundational User Interface (UI) elements such as page backgrounds, headings and text, and primary buttons and navigation. Relies on a scale from 50 to 900 for consistent depth and contrast, optimized for readability and accessibility.

2. Secondary Color Palette

Used for accent elements, secondary actions, and interactive states (hover/focus). This palette complements the primary tones while ensuring visual differentiation between primary and non-primary actions.

3. Status Color System

Standardized semantic colors provide instant visual feedback on system status:

- Success — Positive outcomes and confirmation messages
- Warning — Caution or non-critical issues
- Error — Critical system or user errors
- Info — Neutral or supplemental information

ii. Ministry-Level Color Customization

To support branding flexibility while preserving system-wide consistency, SLDDS allows each ministry or department to adopt a distinct accent color scheme within a defined framework. Core interaction patterns, form elements, and system alerts must retain SLDDS standard colors. Examples include:

- Education and Skills — #1976D2 (Blue): Representing knowledge, trust, and clarity
- Justice and Law Reforms — #4E342E (Dark Brown): Conveying stability, seriousness, and integrity

- Agriculture, Fisheries, Livestock — #388E3C (Green): Symbolizing nature and sustainability
- Health and Social Welfare — #E53935 (Red): Evoking care, urgency, and vitality
- Infrastructure and Transport — #F9A825 (Amber/Yellow): Energetic and visible, common in transport design

All accent colors must be evaluated for accessibility compliance. All colors are tested for WCAG 2.1 AA contrast standards to support users with visual impairments

iii. Typography

SLDDS uses the Noto Sans font family to support the trilingual context of Sri Lanka:

- Noto Sans — for English content
- Noto Sans Sinhala — for Sinhala content
- Noto Sans Tamil — for Tamil content

Heading size tokens range from Heading/16 (XXS) up to Heading/64 (XXL). Body text tokens range from Body 14 (S) up to Body 20 (XL). These scales apply equally across all three supported languages.

iv. Spacing and Scale

SLDDS employs a modular spacing scale (4px, 8px, 16px, 24px, 32px, 48px, 64px) to maintain visual rhythm and balance across layouts. These spacing tokens apply consistently to margins and paddings, component spacing, and grid and layout systems.

v. Logo Usage

The official Sri Lanka Government emblem must appear on all government digital platforms.

Guidelines include:

- Logos must not be distorted, recolored, or modified in any way.
- Clear space must be maintained around the logo to ensure visibility.
- Minimum size for digital use: 40px height.
- If a government institution has its own official logo, it may be used alongside the Sri Lanka Government emblem.
- Logo placement — Desktop: Top-left in headers, bottom-left in footers. Mobile: Centered in headers.

5. Accessibility and Inclusivity Standards

All Sri Lanka Government digital services must comply with Web Content Accessibility Guidelines (WCAG) 2.2 Level AA standards. This section details all required accessibility criteria organized by category.

WCAG 2.2 builds upon WCAG 2.1 and is organized around the four POUR principles: Perceivable, Operable, Understandable, and Robust.

1. Graphics and Images

1.1 Informative or Actionable Images Must Have Meaningful, Descriptive Alternative (alt) Text

If an image provides important information or acts as a button or link, the alt text must describe the content or the action. Alternative text should have a maximum of 150 characters and be accurate, meaningful, and concise.

```
<img src='eiffel.jpg' alt='Eiffel Tower in Paris illuminated at night'>  
<a href='home.html'><img src='home-icon.png' alt='Go to homepage'></a>
```

Example: Accessible Button

```
<button aria-label="Download document">  
    Download  
</button>
```

Example: Accessible Form

```
<label for="email">Email Address</label>  
<input id="email" type="email">
```

WCAG 2.2 Reference: *Success Criterion 1.1.1 Non-text Content (Level A)*

1.2 Decorative Images Must Use a Null alt Attribute

Decorative images do not add meaningful information and should be skipped by screen readers by setting alt to an empty string.

```
<img src='border-pattern.png' alt=''>
```

WCAG 2.2 Reference: *Success Criterion 1.1.1 Non-text Content (Level A)*

1.3 Complex Graphics Must Provide an Alternative Description

For charts, diagrams, and infographics, a short alt text is not sufficient. Include a nearby detailed description or provide a link to an expanded explanation.

WCAG 2.2 Reference: *Success Criterion 1.1.1 Non-text Content (Level A)*

1.4 Informative or Actionable Scalable Vector Graphics (SVGs) and Icons Must Have Accessible Names

SVG icons used for actions or important information must include an accessible name using `aria-label` or `aria-labelledby` since SVGs do not support the `alt` attribute directly.

```
<svg role='img' aria-label='Search'><use xlink:href='#icon-search'></use></svg>
```

WCAG 2.2 Reference: *Success Criterion 1.1.1 Non-text Content (Level A)*

1.5 Decorative SVGs and Icons Must Use `aria-hidden`

Decorative SVGs or icons that convey no important information must be hidden from assistive technologies using `aria-hidden='true'`.

WCAG 2.2 Reference: *Success Criterion 1.1.1 Non-text Content (Level A)*

2. Audio and Video Content

2.1 Pre-recorded Audio and Video Must Include Accurate Transcripts

A transcript is a text version of the spoken content in audio or video recordings. Transcripts should capture all spoken dialogue and relevant sounds (e.g., laughter, applause, background noises) to provide complete context for deaf or hard-of-hearing users.

WCAG 2.2 Reference: *Success Criteria 1.2.1 Audio-only Prerecorded (Level A); 1.2.3 Audio Description or Media Alternative Prerecorded (Level A)*

2.2 Pre-recorded Videos Must Provide Audio Descriptions for Visual Content

An audio description is a spoken narration added to videos that explains important visual elements, actions, gestures, or scene changes not conveyed through dialogue. This helps blind and visually impaired users understand on-screen content.

WCAG 2.2 Reference: *Success Criteria 1.2.5 Audio Description Prerecorded (Level AA)*

2.3 Pre-recorded and Live Audio/Video Must Include Synchronized Captions

Captions display spoken dialogue and essential sounds as text synchronized with the audio. Both pre-recorded and live streaming videos must include captions to ensure equal access for deaf, hard-of-hearing, and non-native language users.

WCAG 2.2 Reference: *Success Criteria 1.2.2 Captions Prerecorded (Level A); 1.2.4 Captions Live (Level AA)*

2.4 Pre-recorded Multimedia Should Offer Sign Language Interpretation Where Appropriate

Sign language interpretation provides a visual translation of spoken content for users who rely on sign language as their primary communication method. For government public announcement videos, a Sri Lankan Sign Language (SLSL) interpreter should be included.

WCAG 2.2 Reference: *Success Criteria 1.2.6 Sign Language Prerecorded (Level AAA)*

2.5 Government Communication Requirements

2.6 All government announcements, emergency alerts, and public awareness videos should include Sri Lankan Sign Language (SLSL) interpretation

3. Semantic Structure and Adaptable Content

3.1 Semantic Hypertext Markup Language (HTML) Must Be Used to Convey Structure

Use semantic HTML elements like <header>, <nav>, <h1>, , , and <table> to define the structure of the page. These tags provide meaning and help assistive technologies understand the content hierarchy.

WCAG 2.2 Reference: *Success Criteria 1.3.1 Info and Relationships (Level A)*

3.2 Each Web Page Must Follow a Proper Heading Hierarchy

Headings must follow a logical hierarchical order (<h1> → <h2> → <h3>) to organize content properly. Screen readers rely on heading structure to help users navigate efficiently. Normal text must maintain a minimum contrast ratio of 4.5:1. Large text and non-text UI elements may use a minimum contrast ratio of 3:1 as permitted by WCAG 2.2.

WCAG 2.2 Reference: *Success Criteria 1.3.1 Info and Relationships (Level A)*

3.3 Each Page Must Contain a Single H1 Heading

Each page should have one primary <h1> heading that clearly describes the page's purpose. Multiple <h1> tags confuse assistive technologies and users.

WCAG 2.2 Reference: *Success Criteria 2.4.6 Headings and Labels (Level AA)*

3.4 All Form Inputs Must Have Programmatic Labels

Every form control must include accessible labels so screen readers can announce their purpose. Use the <label> element with the 'for' attribute or ARIA (Accessible Rich Internet Applications) attributes like aria-label or aria-labelledby.

WCAG 2.2 Reference: *Success Criteria 1.3.1 Info and Relationships (Level A); 3.3.2 Labels or Instructions (Level A)*

3.5 Grouped Form Controls Must Use <fieldset> and <legend> or ARIA Grouping Roles

For grouped controls like radio buttons or checkboxes, use <fieldset> and <legend> to describe the group. Alternatively, ARIA attributes like role='group' and aria-labelledby can be used.

WCAG 2.2 Reference: *Success Criteria 1.3.1 Info and Relationships (Level A)*

3.6 Data Tables Must Use Correct Header Markup

For data tables, define proper headers using <th> and the scope attribute so screen readers can associate header cells with data cells correctly.

WCAG 2.2 Reference: *Success Criteria 1.3.1 Info and Relationships (Level A)*

3.7 The Reading and Navigation Order Must Match the Visual Order

The logical reading order in the HTML structure must match the visual layout. Screen readers follow the source code order, so mismatched arrangements can confuse users.

WCAG 2.2 Reference: *Success Criteria 1.3.2 Meaningful Sequence (Level A)*

3.8 Instructions Must Not Rely Solely on Color, Shape, Size, or Sound

Avoid giving instructions based only on visual or auditory cues. Always provide text alternatives so users with color blindness, low vision, or hearing impairments can understand instructions.

WCAG 2.2 Reference: *Success Criteria 1.3.3 Sensory Characteristics (Level A)*

3.9 Content Must Not Restrict Operation to a Single Display Orientation

Web content must be designed to work properly in both portrait and landscape orientations unless a specific orientation is essential for functionality (e.g., games or video editing tools).

WCAG 2.2 Reference: *Success Criteria 1.3.4 Orientation (Level AA)* If a Link Opens in a New Tab or Window, Indicate It to Users

When a link opens in a new tab or window, inform users beforehand to prevent disorientation among screen reader and keyboard users.

```
<a href='policy.pdf' target='_blank'>Privacy Policy (opens in a new tab)</a>
```

WCAG 2.2 Reference: *Success Criteria 3.2.4 Consistent Navigation (Level AA)*

4. Visual Accessibility and Contrast

4.1 Information Must Not Be Conveyed Using Color Alone

Color should never be the only method of conveying meaning. Users with color vision deficiencies may not distinguish colors. Always provide an additional visual or textual indicator.

WCAG 2.2 Reference: *Success Criteria 1.4.1 Use of Color (Level A)*

4.2 Text Contrast Must Meet Minimum Standards

Text must have sufficient contrast against its background to ensure readability. Required minimum contrast ratios:

- Normal text: At least 4.5:1
- Large text (equal to or greater than 18pt or 14pt bold): At least 3:1

Example: Black text (#000000) on white (#FFFFFF) achieves a contrast ratio of 21:1. Light gray (#AAAAAA) on white (#FFFFFF) only achieves 2:1, which is non-compliant.

WCAG 2.2 Reference: *Success Criteria 1.4.3 Contrast Minimum (Level AA)*

4.3 Non-text Elements Must Have a Contrast Ratio of at Least 3:1

Interactive User Interface (UI) components such as buttons, form controls, icons, and charts must have a minimum 3:1 contrast ratio compared to adjacent colors.

WCAG 2.2 Reference: *Success Criteria 1.4.11 Non-text Contrast (Level AA)*

4.4 If Audio Plays Automatically for More Than 3 Seconds, Provide User Controls

Automatically playing audio longer than 3 seconds can interfere with screen readers. Provide controls to pause, stop, or adjust volume.

WCAG 2.2 Reference: *Success Criteria 1.4.2 Audio Control (Level A)*

4.5 Text Must Be Resizable Up to 200% Without Loss of Content or Functionality

Users with low vision often zoom in on pages. Text should remain readable and functional when zoomed to 200% without requiring horizontal scrolling or breaking layouts.

WCAG 2.2 Reference: *Success Criteria 1.4.4 Resize Text (Level AA)*

4.6 No Horizontal Scrolling Required After Resizing

When zooming or resizing text, users should not need horizontal scrolling to read content, except for inherently wide structures like data tables.

WCAG 2.2 Reference: *Success Criteria 1.4.10 Reflow (Level AA)*

4.7 Content Must Support a 320px-Wide Viewport Without Horizontal Scrolling

Web content must adapt properly to small screens such as mobile devices, supporting a minimum 320 pixel (px) viewport width without forcing horizontal scrolling.

WCAG 2.2 Reference: *Success Criteria 1.4.10 Reflow (Level AA)*

4.8 Content Must Remain Usable When Custom Text Spacing Is Applied

Users must be able to adjust text spacing without breaking layout or hiding content. Minimum spacing requirements:

- Line height: 1.5 times font size
- Paragraph spacing: 2 times line height
- Letter spacing: 0.12 times font size
- Word spacing: 0.16 times font size

WCAG 2.2 Reference: *Success Criteria 1.4.12 Text Spacing (Level AA)*

4.9 Hover- or Focus-Triggered Content Must Be Dismissible, Hoverable, and Persistent

For tooltips, dropdowns, and popovers, users must be able to: (1) dismiss the content without moving the mouse or losing keyboard focus, (2) hover over the content without it disappearing, and (3) keep it visible until the pointer or focus is removed.

WCAG 2.2 Reference: *Success Criteria 1.4.13 Content on Hover or Focus (Level AA)*

5. Keyboard Accessibility

5.1 All Interactive Components Must Be Accessible via Keyboard

Every interactive element — buttons, links, dropdown menus, and form fields — must be operable using only the keyboard, without requiring a mouse. Users who cannot use a mouse rely on the Tab, Enter, Space, and Arrow keys.

WCAG 2.2 Reference: *Success Criteria 2.1.1 Keyboard (Level A)*

5.2 All Interactive Elements Should Include a Logical Tab Order

A logical tab order ensures the focus moves in a predictable, sequential way — typically from top to bottom and left to right, following the page's visual structure.

WCAG 2.2 Reference: *Success Criteria 2.4.3 Focus Order (Level A)*

5.3 A Visible Focus Indicator Must Be Present

When navigating via keyboard, users must always be able to see where the focus is. Removing or hiding the focus outline using CSS (e.g., 'outline: none;') causes critical accessibility issues.

Focus indicators must have minimum 3:1 contrast ratio against adjacent colors and be at least 2 CSS pixels thick.

WCAG 2.2 Reference: *Success Criteria 2.4.7 Focus Visible (Level AA)*

5.4 Keyboard Users Must Not Get Trapped in Any Content

Users must be able to navigate into and out of all components using only the keyboard. Keyboard traps occur when focus enters a modal, popup, or iframe but cannot exit without a mouse. Modals should always allow closing via the Escape key.

WCAG 2.2 Reference: *Success Criteria 2.1.2 No Keyboard Trap (Level A)*

5.5 Character Key-Only Shortcuts Must Be Remappable or Focus-Sensitive

If the website uses single-key shortcuts, users must be able to: turn off the shortcut, remap it to a combination key (e.g., Ctrl + S), or restrict its activation so it only works when the related element is focused. This prevents accidental activation by users with motor disabilities or those using speech-to-text technologies.

WCAG 2.2 Reference: *Success Criteria 2.1.4 Character Key Shortcuts (Level A)*

6. Time-Based Content

6.1 Time-Limited Content Must Allow Control

If a website imposes a time limit, users must be given the ability to turn it off, adjust it, or extend the available time. An online exam portal providing a 'Request Extra Time' button is correct. An online registration form that expires automatically without warning is non-compliant.

WCAG 2.2 Reference: *Success Criteria 2.2.1 Timing Adjustable (Level A)*

6.2 Pause, Stop, or Hide Automatically Moving Content

Moving, scrolling, or blinking content can distract users, especially those with attention disorders or low vision. If such content runs for more than 5 seconds, users must be given the option to pause, stop, or hide it.

WCAG 2.2 Reference: *Success Criteria 2.2.2 Pause, Stop, Hide (Level A)*

6.3 Warn Users Before Session Timeouts

Websites — especially banking, tax, and government portals — must warn users before automatic logout occurs and allow them to extend their session or save their progress.

WCAG 2.2 Reference: *Success Criteria 2.2.6 Timeout Handling (Level AAA)*

7. Seizures and Physical Reactions

7.1 Avoid Flashing Content

Web content must not flash more than three times per second. High-frequency flashing or strobing effects can cause seizures or severe discomfort for users with photosensitive epilepsy.

WCAG 2.2 Reference: *Success Criteria 2.3.1 Three Flashes or Below Threshold (Level A)*

7.2 Allow Disabling Motion Animations

Animations that trigger automatically or upon user interaction should include an option to turn them off, unless they are essential for understanding content. Websites offering a 'Reduce Motion' setting are compliant. SLDDS respects the system-level 'prefers-reduced-motion' preference.

WCAG 2.2 Reference: *Success Criteria 2.3.3 Animation from Interactions (Level AAA)*

8. Navigation

8.1 Provide a Skip to Content Link

Pages with repeated elements should include a 'Skip to Main Content' link at the top of the page. This helps keyboard and screen reader users bypass repetitive navigation sections.

WCAG 2.2 Reference: *Success Criteria 2.4.1 Bypass Blocks (Level A)*

8.2 Use HTML or ARIA Landmarks for Navigation

HTML landmarks such as <main>, <nav>, <header>, and <footer> provide semantic meaning to sections of a page. Screen readers use these landmarks for efficient page navigation.

WCAG 2.2 Reference: *Success Criteria 2.4.1 Bypass Blocks (Level A)*

8.3 Pages Must Have Descriptive Titles

Each web page must include a clear, concise, and descriptive <title> element that accurately reflects the purpose and content of the page. Well-written titles are also essential for users navigating through browser tabs and search engine results.

WCAG 2.2 Reference: *Success Criteria 2.4.2 Page Titled (Level A)*

8.4 Maintain Logical Focus Order

When users navigate using the keyboard, focus should move through interactive elements in a logical, predictable order that matches the page's visual layout.

WCAG 2.2 Reference: *Success Criteria 2.4.3 Focus Order (Level A)*

8.5 Provide Proper Labels for Interactive Elements

All interactive elements — buttons, links, form fields, checkboxes, radio buttons, and menus — must have clear, descriptive labels that explain their purpose and function to assistive technologies.

WCAG 2.2 Reference: *Success Criteria 2.5.3 Label in Name (Level A)*

8.6 Ensure Unique Labels on the Same Page

When a webpage contains multiple buttons, links, or other interactive elements, each must have a unique and descriptive label that clearly explains its purpose. Using the same label for different actions causes confusion for screen reader users.

WCAG 2.2 Reference: *Success Criteria 2.4.6 Headings and Labels (Level AA)*

8.7 Use Autocomplete for Form Fields

Forms should implement the autocomplete attribute for input fields wherever possible. This allows browsers to suggest previously entered information, which is particularly helpful for users with motor difficulties or cognitive impairments.

WCAG 2.2 Reference: *Success Criteria 1.3.5 Identify Input Purpose (Level AA)*

9. Pointer and Gesture Accessibility

9.1 Single-Point Alternatives for Complex Gestures

Functionality using multipoint or path-based gestures (e.g., pinch, swipe, drag) must have a simpler single-point alternative such as tap, click, or keyboard control for users with motor impairments.

WCAG 2.2 Reference: *Success Criteria 2.5.1 Pointer Gestures (Level A)*

9.2 Cancelling or Confirming Pointer-Based Functions

Pointer inputs such as clicks or taps should not immediately trigger irreversible actions. Users should be able to cancel, undo, or confirm actions before they become permanent.

WCAG 2.2 Reference: *Success Criteria 2.5.2 Pointer Cancellation (Level A)*

9.3 Alternatives for Device Motion-Based Features

Some websites use device motion controls like shaking or tilting to perform actions. Users who cannot move the device or have disabled motion detection must have alternative controls available.

WCAG 2.2 Reference: *Success Criteria 2.5.4 Motion Actuation (Level A)*

9.4 Providing Alternatives for Dragging Actions

Dragging actions require precision that may be difficult for users with mobility issues. Always provide simpler alternatives such as Move Up and Move Down buttons alongside drag-and-drop functionality.

WCAG 2.2 Reference: *Success Criteria 2.5.7 Dragging Movements (Level AA)*

9.5 Minimum Pointer Target Size

Interactive elements like buttons, icons, and links must be large enough for easy selection. Web Content Accessibility Guidelines (WCAG) recommends a minimum $\geq 44 \times 44$ px for primary actions; absolute minimum 24×24 px for dense UIs.

WCAG 2.2 Reference: *Success Criteria 2.5.8 Target Size Minimum (Level AA)*

10. Language of Web Content

10.1 Define the Default Page Language

Set the default language using the lang attribute on the <html> element so assistive technologies interpret the content correctly and screen readers use the appropriate pronunciation.

```
<html lang="en">
```

WCAG 2.2 Reference: *Success Criteria 3.1.1 Language of Page (Level A)*

10.2 Mark Different Language Sections

If parts of the page contain foreign words or phrases, mark them with the lang attribute to ensure correct pronunciation by screen readers.

WCAG 2.2 Reference: *Success Criteria 3.1.2 Language of Parts (Level AA)*

10.3 Use Clear and Simple Language

Content must be written in simple, easy-to-understand language to support users with cognitive disabilities and non-native speakers.

WCAG 2.2 Reference: *Success Criteria 3.1.5 Reading Level (Level AAA)*

11. Preventing Unexpected Context Changes

11.1 No Automatic Context Changes on Focus

Web pages should not automatically reload, navigate to a new page, or change context when a user simply focuses on an element. Any significant page change must require explicit user confirmation.

WCAG 2.2 Reference: *Success Criteria 3.2.1 On Focus (Level A)*

11.2 Avoid Automatic Submission on Interactive Elements

Interactive elements such as forms, dropdowns, checkboxes, or input fields should not automatically submit data when a user makes a selection. Users must always explicitly confirm their actions by clicking a Submit or Save button.

WCAG 2.2 Reference: *Success Criteria 3.2.2 On Input (Level A)*

11.3 Inform Users Before Context Changes

When actions trigger significant changes — such as opening a new window or redirecting to an external service — warn users beforehand.

WCAG 2.2 Reference: *Success Criteria 3.2.4 Consistent Identification (Level AA)*

12. Consistent Navigation

12.1 Repeated Navigational Components Must Appear in the Same Order

If navigation menus, breadcrumbs, or search bars appear in one order on the homepage, the same order must be maintained throughout the entire website.

WCAG 2.2 Reference: *Success Criteria 3.2.3 Consistent Navigation (Level AA)*

12.2 Key Navigational Elements Must Be Positioned Consistently Across Pages

Not only the order, but also the placement of navigation elements must remain consistent. Headers, footers, and sidebars should appear in the same position across all pages.

WCAG 2.2 Reference: *Success Criteria 3.2.3 Consistent Navigation (Level AA)*

13. Form Instructions and Error Handling

13.1 Error Messages Must Be Communicated Using Text Descriptions

Error messages must provide clear and specific information to help users correct mistakes. Generic messages like 'Invalid input' are not acceptable. Use specific guidance such as 'Please enter a valid email address in the format example@email.com'.

WCAG 2.2 Reference: *Success Criteria 3.3.1 Error Identification (Level A)*

13.2 Error Messages Must Be Programmatically Associated with Relevant Fields

Error messages should be linked to their respective form fields using semantic attributes like `aria-describedby`. This allows screen readers to announce errors immediately when a field is focused.

```
<input id='email' aria-describedby='email-error' /> <span id='email-error'>Please enter a valid email address.</span>
```

WCAG 2.2 Reference: *Success Criteria 3.3.1 Error Identification (Level A)*

13.3 Instructions for Form Fields Must Be Programmatically Associated

Form instructions should be provided where necessary and linked programmatically for screen readers using `aria-describedby` or similar attributes.

WCAG 2.2 Reference: *Success Criteria 3.3.2 Labels or Instructions (Level A)*

13.4 Users Must Have an Opportunity to Review Data Before Submitting

For sensitive forms such as online payments or registrations, users should have the option to review their information before final submission (e.g., a 'Review Order' page before completing a purchase).

WCAG 2.2 Reference: *Success Criteria 3.3.4 Error Prevention (Level AA)*

13.5 Required Fields Must Be Clearly Indicated

All mandatory form fields must be clearly marked using visual indicators like asterisks (*) and accessible labels that can be read by screen readers.

WCAG 2.2 Reference: *Success Criteria 3.3.2 Labels or Instructions (Level A)*

13.6 Error Messages Should Include Guidance to Fix the Issue

When a user makes an error, the message should not only indicate a problem occurred but also provide clear instructions on how to correct it. For example: 'Password must contain at least one uppercase letter, one number, and one special character.'

WCAG 2.2 Reference: *Success Criteria 3.3.3 Error Suggestion (Level AA)*

14. Compatibility with Assistive Technologies

14.1 All Active Elements Must Include Accessible Names, Roles, and Values

Interactive elements such as buttons, links, and inputs must define accessible names, roles, and states to ensure full compatibility with screen readers and other Assistive Technologies (AT).

```
<button aria-label='Add to Cart'></button>
```

WCAG 2.2 Reference: *Success Criteria 4.1.2 Name, Role, Value (Level A)*

14.2 Status Messages Must Be Conveyed Programmatically Without Shifting Focus

Status messages — such as form confirmations or system updates — must be announced automatically by assistive technologies using attributes like `role='status'` or `aria-live`, without requiring a focus change.

```
<div role='status'>Your payment has been successfully processed.</div>
```

WCAG 2.2 Reference: *Success Criteria 4.1.3 Status Messages (Level AA)*

6. Component Library

The SLDDS Component Library provides a set of reusable, accessible interface components for building consistent government digital services.

i. Containers

Accordion

- Expand/collapse functionality to show or hide content sections
- Optional icons supported
- Multiple layout options: basic, with icons

Cards

- Used to organize and present grouped content
- Variants: No Border, With Border, With Image

Dialogs

- Types: Confirm, Info, Danger
- Available in Medium size
- Must include a keyboard-accessible close mechanism (e.g., Escape key)

ii. Form Elements

The following form elements are available within the SLDDS Component Library:

- Checkbox — Multi-option selection
- DateInput — Includes date picker with D.M.YYYY format
- FileInput — Supports drag and drop; .jpg/.png only; 2MB–5MB per file
- NumberInput — With or without steppers
- PasswordInput — Optional reveal toggle
- PhoneInput — With country code selector
- RadioButton — Single-option selection
- SearchInput — For keyword-based content search
- SelectionGroup — Groups radio/checkbox inputs
- TextArea — Multiline input
- TextInput — Single-line input
- TimeInput — 24-hour format
- ToggleButton — Switches between two states

iii. Imagery and Icons

Icon Guidelines

- Use Scalable Vector Graphics (SVG) icons from the standard icon set
- Only government branding-approved icons may be used
- Default icon size: 24px
- All icons must include descriptive aria-label or title attributes

Image Guidelines

- File size limit: Upto 2MB (compressed)
- Supported formats: .webp, .avif, .svg
- Include alternative (alt) text for all images
- Avoid text within images unless translated in multiple languages
- Ensure images are optimized for web performance while maintaining quality

7. Navigation and Information Architecture

Effective navigation is the foundation of a usable digital experience. SLDDS provides a standardized, user-intent-driven structure that ensures a consistent, seamless experience across all government websites and platforms.

i. Main Navigation Structure

The Main Menu follows a three-level hierarchy:

- Level 1 (L1) — Fixed across all government sites: Home, About Us, Services, Laws and Policies
- Level 2 (L2) — Fixed categories under each L1 item: e.g., Citizen Services → Online Applications, Status
- Level 3 (L3) — Custom content for institution-level pages; ministries may add specific service pages

Main navigation categories include: About Us, Services, Laws and Policies, Media Center, Contact Us, and optionally Application Programming Interface (API) / Developer Resources.

ii. Top Menu (Utility Functions)

The Top Menu provides utility functions available across all pages. All items below are mandatory and standardized:

- Language Toggle: Sinhala, Tamil, English
- Font Resizer: A+, A, A–
- Accessibility and Personalization Tools
- Emergency Contacts
- Live Chat Support

iii. Footer Menu

- Legal Information: Privacy Policy, Terms of Use, Site Map
- Social Media Links: Facebook, Twitter, YouTube, LinkedIn
- Government Portals: Gov.lk, Data.gov.lk
- Special Menu: Institution-level additions (custom projects, open data platforms, archives)

iv. Breadcrumb Navigation

Breadcrumbs help users understand their current location in the site hierarchy and move back to broader content categories easily.

- Desktop: Full breadcrumb trail (Level 1 → Level 2 → Active Page)
- Mobile: Collapsible or abbreviated breadcrumbs to conserve space

v. Pagination

- Desktop: Full numbered pagination with Previous/Next controls
- Mobile: Condensed version with emphasis on the active page
- Highlight the current page clearly
- Limit displayed page numbers to a maximum of 5–7

vi. Side Navigation

- Accordion-style main categories with expandable sub-links
- Current page highlighted for context
- Keep menu depth to a maximum of 3 levels
- Ensure full keyboard navigability and screen reader support

vii. Stepper

Steppers guide users through multi-step forms (e.g., applications, registrations):

- Stepper L (992px and above): Horizontal full-width display for desktop
- Stepper XS (320px and above): Compact vertical stack for mobile
- Clearly indicate the current step
- Mark required fields with visual indicators (e.g., * asterisk)

8. Grid and Layout System

A responsive 12-column grid system ensures content adapts seamlessly to any screen size.

i. Breakpoints

- xs: below 480px (Mobile)
- sm: 481–768px (Tablet)
- md: 769–1024px (Small laptop)
- lg: 1025–1440px (Desktop)
- xl: above 1440px (Widescreen)

ii. Spacing Scale

Spacing scale (in pixels): 4 → 8 → 16 → 24 → 32 → 48 → 64

- Gutter width: 16px
- Section padding: 32px
- Maximum content width: 1200px

9. User Profiling and Personalization

To deliver a smarter, faster, and more relevant digital experience, SLDDS incorporates user profiling and personalization. This feature is lightweight, privacy-conscious, and inclusive.

On a user's first visit to any SLDDS-compliant government platform, a simple, non-intrusive onboarding prompt captures key personalization preferences:

- Preferred Language: Sinhala, Tamil, or English
- Age Range: To adjust readability and layout
- Visual Accessibility Preferences: Font size, high contrast mode, etc.

A unique Profile ID is generated and stored locally using browser local Storage for non-sensitive UI preferences. This profile enables the system to load future visits in the user's preferred language, automatically adjust font sizes or contrast, and show relevant content highlights based on age group.

i. Age Range Categories

- Youth (Under 18): Friendly icons, larger buttons, simplified layout
- Adults (18–39): Standard layout, default font and interaction sizes
- Middle-aged (40–59): Slightly larger font, more spacing between elements
- Seniors (60 and above): Large fonts, high contrast mode default, simplified interface

ii. Privacy and Data Protection

- Store non-sensitive UI preferences using local Storage.
- No personal identifiers (e.g., name, National Identity Card number, address) are stored without explicit consent
- Users can opt out or reset preferences at any time
- All services follow Sri Lanka's Data Protection Act and align with international standards like the General Data Protection Regulation (GDPR)

10. Performance, Compatibility, and Security

i. Performance Standards

- Use modern formats like WebP/AVIF and lazy loading for better page speed
- Pages must load in 2–3 seconds or less, even on slower connections
- Cross-browser compatibility: Test in Chrome, Firefox, Safari, and Edge
- Device compatibility: Support desktop, tablets, and a wide range of mobile devices

ii. Security Standards

- Hypertext Transfer Protocol Secure (HTTPS) by default: Enforce Secure Sockets Layer (SSL) encryption across the entire website
- New Security Requirements
 - Enforce TLS 1.2 or TLS 1.3
 - Implement HTTP Strict Transport Security (HSTS)
 - Implement security headers:
 - Content Security Policy (CSP)
 - X-Content-Type-Options
 - X-Frame-Options
 - Referrer-Policy
 - Protect against XSS
- Data protection notices: Clearly state privacy policies, data usage terms, and cookie consent
- Error prevention: Implement validation, warnings, and confirmations on all forms
- All platforms using SLDDS must provide a Vulnerability Disclosure Policy (VDP) allowing responsible reporting of security flaws.

iii. Content Usability

- Plain language: Use clear, citizen-friendly language, avoiding bureaucratic jargon
- Clear hierarchy: Use headings, subheadings, and bullets to make content scannable
- Readable typography: Use minimum font sizes of 16px and appropriate line height
- Update transparency: Display last-updated dates and version history on relevant documents
-

Explicitly mandate TLS 1.2 or 1.3 enforcement. Require the implementation of HTTP Strict Transport Security (HSTS) and secure headers (like Content Security Policy - CSP) to mitigate cross-site scripting (XSS) attacks.

11. Artificial Intelligence-Powered Automation

As Sri Lanka advances its digital governance agenda, Artificial Intelligence (AI) plays a transformative role in enhancing the efficiency, responsiveness, and inclusivity of public services. SLDDS embraces AI as a practical enabler of smarter citizen experiences.

i. Chatbots and Virtual Assistants

AI-powered chatbots provide instant, human-like interactions with citizens — answering queries, guiding workflows, and offering contextual assistance. Key features:

- 24/7 availability across websites and applications
- Multilingual support: Sinhala, Tamil, and English
- Escalation to human agents via live chat
- Integration with service portals for transaction support (e.g., status checks, form guidance)
- Always offer a 'Speak to a human' fallback option

ii. Personalized Content Delivery

Artificial Intelligence (AI) enables dynamic content presentation tailored to user behavior, preferences, and location. Capabilities include:

- Predictive navigation based on frequent user actions
- Localized service suggestions (e.g., nearest service center)
- Content sorting and prioritization based on past activity
- Accessibility adaptation based on previously selected preferences

iii. Responsible AI Governance

- Use AI to assist, not replace, user autonomy
- Ensure transparency — inform users when interacting with an AI system
- Offer non-AI alternatives for essential services
- Test AI outputs for fairness, accuracy, and accessibility
- Protect user data through responsible data handling practices aligned with the General Data Protection Regulation (GDPR)
- Citizen data processed by AI systems must remain within government - approved or locally hosted secure cloud environments and must not be used to train external public LLMs without authorization.

12. Digital Standards for Government Domains

To maintain a unified and easily recognizable digital presence, the following domain structure must be adhered to:

- Each ministry should use a primary domain in the format: ministry.gov.lk (e.g., mode.gov.lk for the Ministry of Digital Economy)
- Institutions under a ministry should use a subdomain: e.g., trc.mode.gov.lk
- Institutions with a separate .lk domain for branding must implement a 301 redirect to their official subdomain

i. Theming and Customization Rules

Ministries can customize branding without breaking system-wide consistency.

Permitted Customization

- Adjust primary and secondary color tokens
- Override border radius and font size via Cascading Style Sheets (CSS) variables
- Swap icon set (if size and accessibility are maintained)

Not Permitted

- Changing default spacing scale
- Using unapproved fonts
- Altering input User Experience (UX) patterns

13. Governance and Contribution

The SLDDS is managed by the Sri Lanka Digital Economy User Experience (UX) Core Team.

i. How to Contribute

- Submit component requests or issues via Figma library and GitHub
- Follow the Design Review Process for proposed changes
- Updates will be released on a quarterly basis

ii. Contact and Compliance Auditing

- Email: sldds@mode.gov.lk
- Figma: figma.com/mode
 - Automated accessibility and security scans monthly
 - Manual WCAG audit annually
 - Compliance certification handled by:
 - SL Digital Economy UX Core Team or
 - Approved third-party accessibility auditors