**UI Design Standards for ASP.NET Core Projects**  
*Version 1.0 – August 2025*  
Prepared by: AlAnoud Saad AlQahtani

**1. Introduction**

Modern web applications require consistent, scalable, and maintainable user interfaces. This document defines the standards for UI design across all ASP.NET Core projects, ensuring that design decisions are intentional, traceable, and aligned with best practices.

By leveraging Bootstrap 5 as the foundational framework and enforcing strict separation between core libraries and custom modifications, this standard empowers teams to build interfaces that are both elegant and resilient to change.

**2. Objective**

* Ensure consistency across all UI components.
* Promote modular, reusable styles and scripts.
* Enable future design changes without disrupting existing functionality.
* Enforce Bootstrap 5 usage without direct modification.
* Define a clear folder hierarchy for CSS and JS assets.

**3. Purpose**

This document serves as a reference for developers, designers, and maintainers to:

* Build responsive, accessible, and visually coherent interfaces.
* Avoid ad-hoc styling and inline scripts.
* Facilitate onboarding and collaboration across teams.
* Ensure that design changes are versioned, documented, and reversible.
* Maintain a clean separation between third-party libraries and custom code.

**4. Scope**

**Applies to:**

* All ASP.NET Core web applications.
* All front-end assets including stylesheets, scripts, templates, and UI components.
* All team members involved in UI development, design, and maintenance.

**Excludes:**

* Native mobile applications.
* Backend logic and server-side integrations.
* Non-Bootstrap-based projects.

**5. Design Architecture**

5.1 Bootstrap Foundation

* Bootstrap 5 is the only permitted base framework.
* Core files (bootstrap.min.css, bootstrap.bundle.min.js) must remain unmodified.
* All design extensions must be implemented via custom.css and custom.js.

5.2 Customization Strategy

* Use Bootstrap utility classes before writing custom styles.
* Extend Bootstrap components using semantic class names and BEM conventions.
* All overrides must be documented with version tags and comments.

5.3 Design Principles

|  |  |
| --- | --- |
| **Principle** | **Description** |
| Clarity | UI elements must be intuitive and easy to understand. |
| Consistency | Reuse styles and components across pages. |
| Accessibility | Follow WCAG 2.1 AA standards for inclusive design. |
| Responsiveness | Ensure layouts adapt to all screen sizes. |
| Separation | Keep third-party libraries and custom code strictly isolated. |

**6. Folder Structure**

/wwwroot/

│

├── /css/

│ ├── bootstrap.min.css ← Core library (do not modify)

│ ├── custom.css ← All design overrides

│ └── /components/

│ ├── buttons.css

│ ├── forms.css

│ └── layout.css

│

├── /js/

│ ├── bootstrap.bundle.min.js ← Core library (do not modify)

│ ├── custom.js ← All custom scripts

│ └── /modules/

│ ├── modal.js

│ ├── validation.js

│ └── interactivity.js

│

├── /lib/

│ ├── bootstrap/ ← Downloaded Bootstrap files

│ └── jquery/ ← Optional legacy support

Guidelines

* Never mix downloaded libraries with custom files.
* Use /components/ and /modules/ to isolate styles/scripts by feature.
* Maintain a changelog for custom.css and custom.js.

**7. Versioning Strategy**

7.1 Version Tags

Each change must be tagged with a semantic version and comment:

/\* v1.2.0 - Added dark theme override for navbar \*/

.navbar {

background-color: var(--color-dark);

}

// v1.3.0 - Added modal open/close logic

export function initModal() {

// ...

}

7.2 Changelog Format

Maintain a CHANGELOG.md or internal document with entries like:

## [v1.3.0] - 2025-08-03

### Added

- Modal open/close logic in modal.js

- Dark theme override in navbar

### Fixed

- Button hover inconsistency in buttons.css

7.3 Deprecation Policy

* Deprecated styles/scripts must be clearly marked.
* Avoid deletion—use comments to isolate legacy code.
* Schedule audits every quarter to clean up unused assets.

**8. Governance & Review**

* All UI changes must be reviewed by the design lead or designated reviewer.
* Pull requests must include:
  + Screenshots of affected components.
  + Changelog entries.
  + Justification for changes.
* Monthly audits will ensure:
* Compliance with folder structure.
* Proper documentation of changes.
* Removal of unused or redundant code.

**9. Future Enhancements**

To support long-term scalability:

* Adopt a design token system for themes and branding.
* Integrate with design tools like Figma for visual consistency.
* Automate style linting and script validation via CI/CD pipelines.
* Explore component libraries or Storybook for reusable UI elements.

**10. Branding Alignment with DGA**

All design elements must strictly adhere to the branding strategy defined by the **Digital Government Authority (DGA)** of Saudi Arabia. This ensures visual consistency, national identity, and alignment with Vision 2030 goals for digital transformation.

10.1 Strategic Branding Principles

According to [DGA’s Strategic Directions](https://dga.gov.sa/en/Strategic_Directions), the digital government ecosystem must reflect:

* **National Identity**: Use of official colors, typography, and layout conventions that represent Saudi Arabia’s digital governance.
* **Consistency Across Channels**: All government portals and services must maintain a unified look and feel.
* **Accessibility & Inclusivity**: Designs must be usable by all citizens, including those with disabilities.
* **Trust & Transparency**: Visual design should foster public trust through clarity and professionalism.

10.2 Visual Identity Guidelines

Designers must follow the official DGA branding toolkit (if available), which typically includes:

* **Color Palette**: Use approved primary and secondary colors. Avoid arbitrary color choices.
* **Typography**: Use official fonts (e.g., FF DIN, GE SS Two) or approved alternatives.
* **Logo Usage**: DGA logos must be used according to placement and sizing rules.
* **Spacing & Layout**: Maintain consistent margins, padding, and grid systems.

If the toolkit is not publicly available, teams must request access from DGA or follow existing government portal standards as reference.

10.3 Implementation in UI Standards

* All custom styles in custom.css must derive from DGA branding rules.
* Component-level styles (e.g., buttons.css, forms.css) must reflect DGA’s visual identity.
* Any deviation must be documented and justified in the changelog.

Example:

/\* v1.4.0 - Applied DGA primary color to header \*/ .header { background-color: #004B87; /\* DGA-approved blue \*/ color: #FFFFFF; }

10.4 Review & Approval

* All UI changes must be reviewed for branding compliance.
* Branding audits will be conducted quarterly.
* Any updates to DGA branding must be reflected in the next version of custom.css.

Would you like me to help draft a sample branding compliance checklist or create a visual style guide template based on DGA principles? I can also assist in mapping Bootstrap components to DGA branding elements for faster implementation.

Example:

/\* v1.4.0 - Applied DGA primary color to header \*/

.header {

background-color: #004B87; /\* DGA-approved blue \*/

color: #FFFFFF;

}

10.4 Review & Approval

* All UI changes must be reviewed for branding compliance.
* Branding audits will be conducted quarterly.
* Any updates to DGA branding must be reflected in the next version of custom.css.

Would you like me to help draft a sample branding compliance checklist or create a visual style guide template based on DGA principles? I can also assist in mapping Bootstrap components to DGA branding elements for faster implementation.

**Branding Compliance Checklist (DGA-Aligned)**

Use this checklist during design reviews, pull requests, and audits to verify alignment with DGA’s branding strategy.

|  |  |  |  |
| --- | --- | --- | --- |
| **Category** | **Compliance Item** | **Status (✓/✗)** | **Notes / Reference** |
| **Color Palette** | Primary and secondary colors match DGA guidelines |  | Use official hex codes |
|  | No unauthorized or arbitrary colors used |  |  |
| **Typography** | Fonts match DGA-approved typefaces (e.g., FF DIN, GE SS Two) |  | Substitute with system-safe fonts if needed |
|  | Font sizes and weights are consistent across components |  |  |
| **Logo Usage** | DGA logo placed correctly and sized per guidelines |  | Avoid distortion or cropping |
|  | Logo has sufficient padding and contrast |  |  |
| **Layout & Spacing** | Grid system follows Bootstrap 5 conventions |  |  |
|  | Margins and paddings are consistent and readable |  |  |
| **Component Styling** | Buttons, forms, navbars reflect DGA visual identity |  | Reference buttons.css, forms.css |
|  | Hover, focus, and active states are clearly defined |  |  |
| **Accessibility** | Color contrast meets WCAG 2.1 AA standards |  | Use tools like axe or Lighthouse |
|  | All interactive elements are keyboard-navigable |  |  |
| **Responsiveness** | Layout adapts to mobile, tablet, and desktop screens |  | Test with Chrome DevTools |
|  | No horizontal scroll or layout breakage |  |  |
| **Documentation** | All branding-related changes are versioned and commented in custom.css/.js |  | Include changelog entry |
|  | Deviations from DGA standards are documented and justified |  |  |

**Visual Style Guide Template (DGA-Aligned)**

Use this template to create a reference document or internal wiki page for designers and developers.

**1. Color Palette**

|  |  |  |
| --- | --- | --- |
| **Name** | **Hex Code** | **Usage Example** |
| Primary Blue | #004B87 | Headers, buttons |
| Secondary Gray | #F2F2F2 | Backgrounds, cards |
| Accent Green | #009A3E | Success messages, badges |
| Alert Red | #D32F2F | Error states, warnings |

**2. Typography**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Font Family** | **Size** | **Weight** | **Usage** |
| Headings | FF DIN / GE SS Two | 24–32px | Bold | Page titles, section headers |
| Body Text | GE SS Two / Arial | 14–16px | Regular | Paragraphs, labels |
| Buttons | GE SS Two | 14px | Medium | Action buttons |

**3. Components**

Buttons

/\* DGA Primary Button \*/

.btn-dga-primary {

background-color: #004B87;

color: #fff;

border-radius: 4px;

padding: 0.5rem 1rem;

}

.btn-dga-primary:hover {

background-color: #003B6F;

}

Forms

/\* DGA Form Input \*/

.form-control {

border: 1px solid #004B87;

border-radius: 4px;

}

.form-control:focus {

box-shadow: 0 0 0 0.2rem rgba(0,75,135,0.25);

}

Navbar

/\* DGA Navbar \*/

.navbar {

background-color: #004B87;

color: #fff;

}

.navbar a {

color: #fff;

}

**4. Logo Usage**

* Minimum width: 120px
* Padding: 16px from edges
* Background: Transparent or white
* Placement: Top-left of header or footer

**5. Accessibility Notes**

* Minimum contrast ratio: 4.5:1 for text
* Use aria-label for icons and buttons
* Ensure all form fields have labels
* Avoid color-only indicators (e.g., use icons + color)