

webOS Design System Documentation

Version 1.0.0 | Last Updated: November 21, 2025

A comprehensive design system for loomOS based on the classic Palm/HP webOS aesthetic, featuring a minimalist neutral palette, glassmorphic effects, and clean typography.

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Overview

The webOS Design System provides a unified, single source of truth for all design decisions in loomOS. It consolidates previously scattered design tokens and establishes clear naming conventions and hierarchies.

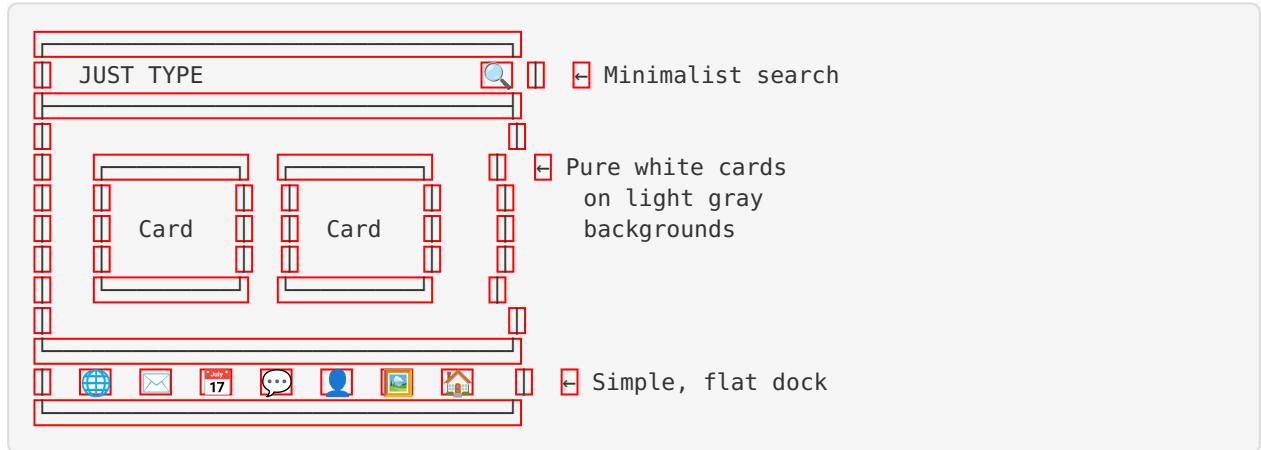
Key Features

- **✓ Single Source of Truth:** All design tokens in one consolidated file
- **✓ Neutral Palette:** Pure grays with no blue tints (following Palm webOS)
- **✓ CSS Variables:** Runtime theming and dark mode support
- **✓ Tailwind Integration:** Seamless utility class generation
- **✓ Component Tokens:** Pre-configured styling for common UI elements
- **✓ Accessible:** WCAG 2.1 AA compliant color contrasts
- **✓ Responsive:** Mobile-first with glassmorphic effects

Design Philosophy

Palm webOS Aesthetic

The design system is inspired by the original Palm/HP webOS interface:



Core Principles

1. **Minimalism:** Clean, uncluttered interface with maximum content focus
2. **Neutrality:** Pure neutral grays - no color bias or blue tints
3. **Clarity:** Light typography (Helvetica Neue) with excellent readability
4. **Subtlety:** Gentle shadows and glassmorphic effects
5. **Consistency:** Predictable patterns and behaviors

Color Philosophy

- **Backgrounds:** Light neutral grays (#e8e8e8, #f5f5f5)
- **Surfaces:** Pure white (#ffffff) cards with subtle shadows
- **Text:** Pure black (#000000) for maximum contrast
- **Accents:** Minimal color usage - blue for links only (#4a90e2)
- **Glass:** Translucent overlays with backdrop blur

Architecture

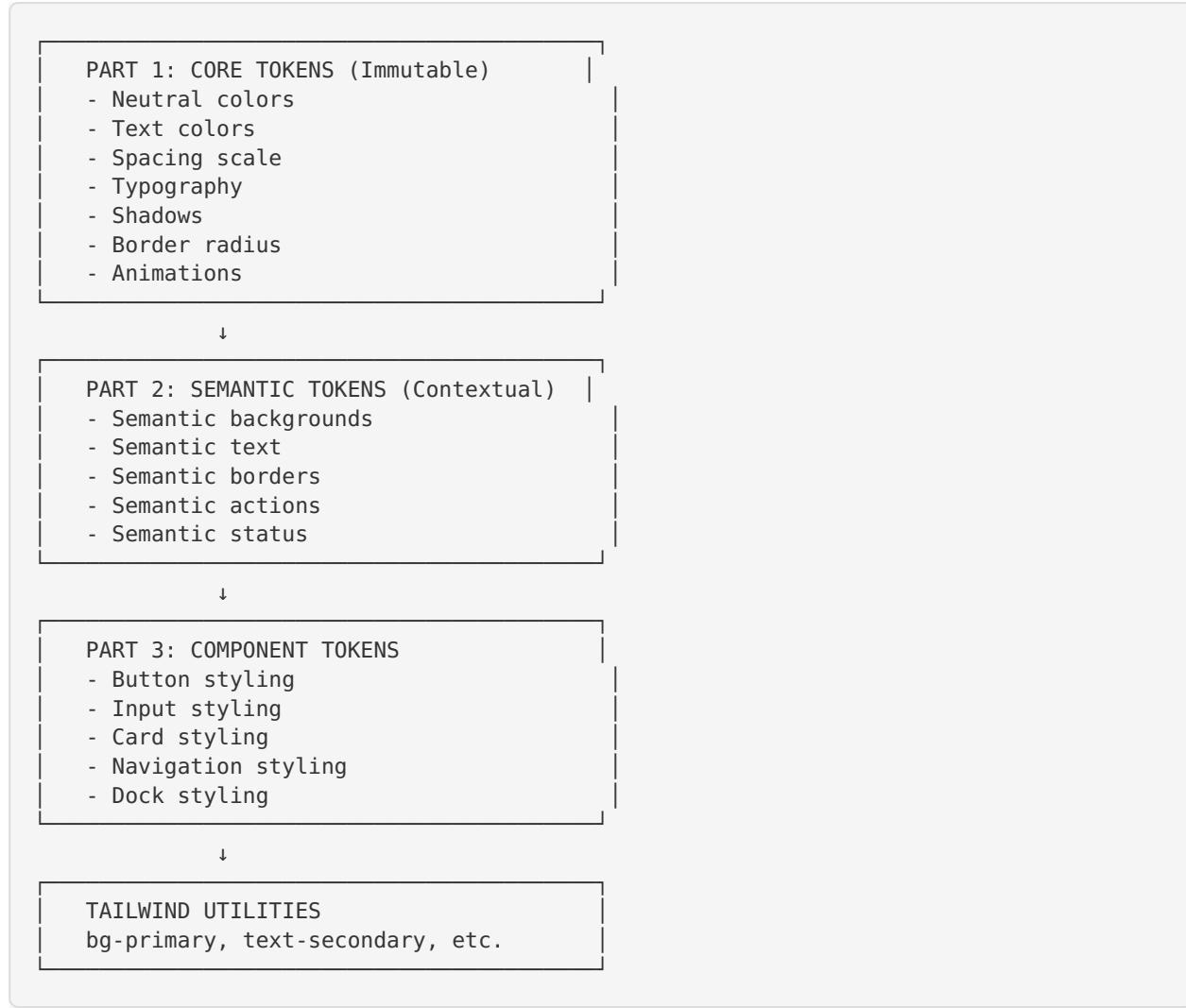
File Structure

```

loomOS/
  └── styles/
    └── webos-design-system.css      # ★ Single source of truth
  └── tailwind.config.ts           # Tailwind configuration
  └── app/
    └── globals.css                # Global styles + design system import
  └── docs/
    └── DESIGN_SYSTEM.md          # This documentation

```

Token Hierarchy



Design Tokens

What are Design Tokens?

Design tokens are named entities that store visual design attributes. They're the atomic design decisions of your design system.

Example:

```

/* Instead of: */
background-color: #e8e8e8;

/* Use: */
background-color: var(--bg-primary);
  
```

Benefits

1. **Consistency:** Same value everywhere
2. **Maintainability:** Change once, update everywhere
3. **Theming:** Easy light/dark mode switching

4. **Documentation:** Self-documenting code

5. **Collaboration:** Shared language between design and development

Color System

Neutral Palette

Pure neutral grays with **NO blue tints** (following Palm webOS aesthetic).

Token	Value	Usage	Example
--neutral-50	#fafafa	Ultra light surfaces	Hover states
--neutral-100	#f5f5f5	Light surfaces	Secondary backgrounds
--neutral-200	#eeeeee	Secondary backgrounds	Panel backgrounds
--neutral-300	#e8e8e8	Primary background	Main app background
--neutral-400	#e0e0e0	Borders, dividers	Default borders
--neutral-500	#d4d4d4	Medium borders	Emphasized borders
--neutral-600	#b0b0b0	Strong borders	Strong dividers
--neutral-700	#999999	Tertiary text	Hints, labels
--neutral-800	#666666	Secondary text	Captions
--neutral-900	#333333	Primary text	Body text
--neutral-950	#1a1a1a	Dark chrome	Headers, toolbars

Background Colors

```
--bg-primary: #e8e8e8; /* Main app background */
--bg-secondary: #eeeeee; /* Secondary areas */
--bg-tertiary: #f5f5f5; /* Tertiary areas */
--bg-surface: #ffffff; /* Cards, panels (pure white) */
--bg-elevated: #ffffff; /* Elevated surfaces */
--bg-hover: #fafafa; /* Hover states */
--bg-active: #f5f5f5; /* Active states */
```

Text Colors

```
--text-primary: #000000; /* Primary text (pure black) */
--text-secondary: #666666; /* Secondary text, labels */
--text-tertiary: #999999; /* Hints, placeholders */
--text-disabled: #cccccc; /* Disabled state */
--text-inverse: #ffffff; /* Text on dark backgrounds */
```

Accent Colors

Minimal usage - only for critical interactions.

```
/* Primary Accent (webOS Blue) */
--accent-blue: #4a90e2; /* Links, selections */
--accent-blue-light: #6ba3e8; /* Light variant */
--accent-blue-dark: #3a7bc8; /* Dark variant */
--accent-blue-subtle: rgba(74, 144, 226, 0.08); /* Subtle background */
```

Status Colors

```
/* Success */
--status-success: #5cb85c;
--status-success-subtle: rgba(92, 184, 92, 0.08);

/* Error */
--status-error: #d9534f;
--status-error-subtle: rgba(217, 83, 79, 0.08);

/* Warning */
--status-warning: #f0ad4e;
--status-warning-subtle: rgba(240, 173, 78, 0.08);

/* Info */
--status-info: #4a90e2;
--status-info-subtle: rgba(74, 144, 226, 0.08);
```

Glass Effects

For overlays, modals, and floating elements.

```
/* Glass Backgrounds */
--glass-white-95: rgba(255, 255, 255, 0.95); /* Near-opaque */
--glass-white-80: rgba(255, 255, 255, 0.80); /* Standard glass */
--glass-white-60: rgba(255, 255, 255, 0.60); /* Lighter glass */

--glass-black-80: rgba(0, 0, 0, 0.80); /* Dark overlays */
--glass-black-40: rgba(0, 0, 0, 0.40); /* Modal backdrops */

/* Backdrop Blur */
--blur-sm: 8px; /* Subtle blur */
--blur-md: 12px; /* Standard blur */
--blur-lg: 20px; /* Strong blur */
--blur-xl: 32px; /* Extra strong blur */
```

Dark Mode

All colors automatically invert in dark mode:

```
@media (prefers-color-scheme: dark) {
  :root {
    --bg-primary: #1a1a1a; /* Dark background */
    --bg-surface: #2a2a2a; /* Dark surface */
    --text-primary: #ffffff; /* Light text */
    /* ... etc */
  }
}
```

Typography

Font Families

```
--font-sans: 'Helvetica Neue', 'Helvetica', Arial, sans-serif;
--font-serif: Georgia, Cambria, 'Times New Roman', serif;
--font-mono: 'SF Mono', Monaco, Consolas, monospace;
--font-display: var(--font-sans); /* Use Helvetica Neue for display */
```

Font Sizes

Token	Size	Usage
--text-2xs	10px	Tiny labels
--text-xs	11px	Small labels, fine print
--text-sm	13px	Secondary text
--text-base	14px	Base body text
--text-md	16px	Emphasized body
--text-lg	18px	Small headings
--text-xl	20px	Headings
--text-2xl	24px	Large headings
--text-3xl	30px	Display text
--text-4xl	36px	Hero text
--text-5xl	48px	Large display
--text-6xl	60px	Extra large display

Font Weights

Prefer light weights for elegance:

Token	Weight	Usage
--font-thin	100	Rarely used
--font-extralight	200	Large headings
--font-light	300	Most text (default)
--font-normal	400	Emphasis only
--font-medium	500	Strong emphasis
--font-semibold	600	Rare - critical UI only
--font-bold	700	Avoid

Line Heights

```
--leading-none: 1;      /* Tight headings */
--leading-tight: 1.25;  /* Headings */
--leading-snug: 1.375; /* Comfortable headings */
--leading-normal: 1.5; /* Body text */
--leading-relaxed: 1.625; /* Spacious body */
--leading-loose: 2;     /* Very spacious */
```

Letter Spacing

```
--tracking-tighter: -0.05em; /* Tight display text */
--tracking-tight: -0.025em; /* Slightly tight */
--tracking-normal: 0em;    /* Default */
--tracking-wide: 0.025em; /* Labels */
--tracking-wider: 0.05em; /* Uppercase labels */
--tracking-widest: 0.1em; /* "JUST TYPE" style */
```

Spacing

Spacing Scale (4px grid)

Token	Size	Usage
--space-0	0px	None
--space-1	4px	Tiny gaps
--space-2	8px	Small gaps
--space-3	12px	Medium gaps
--space-4	16px	Base spacing
--space-6	24px	Large gaps
--space-8	32px	Extra large gaps
--space-12	48px	Section spacing
--space-16	64px	Large section spacing
--space-24	96px	Hero spacing

Semantic Aliases

```
--space-xs: 4px; /* Extra small */
--space-sm: 8px; /* Small */
--space-md: 12px; /* Medium */
--space-base: 16px; /* Base (default) */
--space-lg: 24px; /* Large */
--space-xl: 32px; /* Extra large */
--space-2xl: 48px; /* 2x extra large */
--space-3xl: 64px; /* 3x extra large */
--space-4xl: 96px; /* 4x extra large */
```

Components

Buttons

```
/* Button Tokens */
--button-height: 48px;
--button-padding-x: 16px;
--button-radius: 8px;
--button-font-size: 14px;
--button-font-weight: 400;
```

Example:

```
// Primary Button
<button className="h-12 px-4 bg-accent-blue text-white rounded-md
            hover:bg-accent-blue-dark transition-fast">
    Click Me
</button>

// Secondary Button
<button className="h-12 px-4 bg-surface text-primary rounded-md
            border border-light hover:bg-hover transition-fast">
    Cancel
</button>
```

Cards

```
/* Card Tokens */
--card-bg: #ffffff;
--card-border: #eeeeee;
--card-radius: 12px;
--card-shadow: 0 2px 8px rgba(0, 0, 0, 0.08);
--card-padding: 16px;
```

Example:

```
<div className="bg-surface rounded-lg shadow-card p-4
            border border-lightest">
    <h3 className="text-lg font-light mb-2">Card Title</h3>
    <p className="text-sm text-secondary">Card content goes here.</p>
</div>
```

Inputs

```
/* Input Tokens */
--input-height: 48px;
--input-padding-x: 12px;
--input-radius: 8px;
--input-bg: #ffffff;
--input-border: #e0e0e0;
--input-border-focus: #4a90e2;
```

Example:

```
<input
    type="text"
    placeholder="Enter text..."
    className="h-12 px-3 bg-surface rounded-md border border-light
                focus:border-focus focus:shadow-focus
                text-base text-primary placeholder:text-tertiary
                transition-fast"
/>
```

Navigation/Dock

```
/* Dock Tokens */
--dock-bg: rgba(0, 0, 0, 0.80);
--dock-radius: 32px;
--dock-padding: 12px;
--dock-shadow: 0 -10px 40px rgba(0, 0, 0, 0.15);
--dock-icon-size: 56px;
--dock-backdrop-blur: 20px;
```

Example:

```
<nav className="fixed bottom-6 left-1/2 -translate-x-1/2
      bg-glass-black-80 backdrop-blur-lg
      rounded-4xl shadow-dock px-3 py-3
      flex items-center gap-3">
  {/* Dock icons */}
</nav>
```

Modals

```
/* Modal Tokens */
--modal-bg: #ffffff;
--modal-radius: 24px;
--modal-shadow: 0 20px 40px rgba(0, 0, 0, 0.30);
--modal-padding: 24px;
--modal-backdrop: rgba(0, 0, 0, 0.5);
--modal-backdrop-blur: 8px;
```

Example:

```
{/* Backdrop */}
<div className="fixed inset-0 bg-black/50 backdrop-blur-sm z-[600]" />

{/* Modal */}
<div className="fixed inset-0 z-[700] flex items-center justify-center p-4">
  <div className="bg-surface rounded-3xl shadow-modal p-6
    max-w-lg w-full">
    <h2 className="text-2xl font-light mb-4">Modal Title</h2>
    <p className="text-base text-secondary">Modal content...</p>
  </div>
</div>
```

Tailwind Integration

How It Works

1. **CSS Variables defined** in `/styles/webos-design-system.css`
2. **Tailwind config** maps variables to utilities in `tailwind.config.ts`
3. **Utilities generated** - use in components

```
// ✅ Good: Use Tailwind utilities
<div className="bg-primary text-primary p-4 rounded-lg shadow-card">

// ❌ Bad: Inline CSS variables
<div style={{ backgroundColor: 'var(--bg-primary)' }}>
```

Common Utilities

Backgrounds

```
className="bg-primary"      // #e8e8e8 - Main background
className="bg-surface"     // ffffff - Cards
className="bg-hover"        // #fafafa - Hover state
```

Text

```
className="text-primary"    // #000000 - Primary text
className="text-secondary"  // #666666 - Secondary text
className="text-tertiary"   // #999999 - Hint text
```

Borders

```
className="border border-light" // Default border
className="border-focus"       // Focus border
```

Spacing

```
className="p-4"           // Padding: 16px
className="gap-lg"         // Gap: 24px
className="mt-xl"          // Margin-top: 32px
```

Shadows

```
className="shadow-card"    // Card shadow
className="shadow-lg"       // Large shadow
className="shadow-focus"    // Focus shadow
```

Typography

```
className="text-base font-light" // 14px, weight 300
className="text-xl font-normal"  // 20px, weight 400
```

Usage Guidelines

Do's ✅

1. Use **design tokens** instead of hardcoded values

```tsx

```
// ✅ Good
className="bg-primary text-primary"

// ❌ Bad
style={{ backgroundColor: '#e8e8e8', color: '#000000' }}
```

```

1. Use semantic names for clarity

```
```tsx
// ✅ Good
className="bg-surface shadow-card"

// ❌ Bad
className="bg-white shadow-md"
```

```

1. Follow the spacing scale (4px grid)

```
```tsx
// ✅ Good
className="p-4 gap-lg" // 16px, 24px

// ❌ Bad
className="p-[17px] gap-[23px]"
```

```

1. Prefer light fonts for elegance

```
```tsx
// ✅ Good
className="font-light"

// ❌ Bad
className="font-bold"
```

```

1. Use minimal color - neutrals first

```
```tsx
// ✅ Good

```

```

//  Bad - too much color



```

## Don'ts

1.

### **Don't use arbitrary values** without reason

```
tsx
//  Bad
className="p-[13px] text-
[15.5px]"
```

2.

### **Don't mix color systems**

```
```tsx
//  Bad - mixing Tailwind's blue with design tokens
className="bg-blue-500 text-primary"
```

//  Good

className="bg-accent-blue text-white"

```

1. **Don't create custom colors** without adding to design system

```
```tsx
//  Bad
style={{ color: '#ff6b9d' }}
```

//  Good - add to design system first

-custom-pink: #ff6b9d;

```

1. **Don't ignore dark mode**

```tsx

//  Bad