

# PRINTEAST DESIGN SYSTEM

Version 1.0 | Universal Visual Language Specification

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## 1.0 EXECUTIVE SUMMARY

This document defines the comprehensive visual language for Printeast across all interfaces. Our design philosophy merges **logistical precision** (Printify), **professional polish** (Shopify), and **creative fluidity** (Wix) into a unified system optimized for creator productivity.

**Design Mantra:** "Professional enough to trust, creative enough to inspire."

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## 2.0 VISUAL IDENTITY & COLOR PALETTE

### 2.1 Core Color Strategy

We employ a **high-contrast, energetic palette** that communicates both creativity and reliability.

Color	Hex	Usage Context	Semantic Meaning
Primary Pink	#E23E83	Primary CTAs, active states, key highlights	Action, creation, energy
Secondary Orange	#FF7A39	Warnings, secondary actions, gradient accents	Energy, attention, warmth
Gradient Range	#E23E83 → #FF7A39	Premium features, loading states	Progression, dynamism

## 2.2 Surface & Foundation Colors

### Light Mode Palette:

- **Background Primary:** #FFFFFF (Page canvas)
- **Background Secondary:** #F9FAFB (Section backgrounds, sidebars)
- **Background Tertiary:** #F3F4F6 (Product tile backgrounds, inactive states)

### Dark Mode Palette (Future Phase):

- **Background Primary:** #111827
- **Background Secondary:** #1F2937
- **Background Tertiary:** #374151

## 2.3 Functional & Semantic Colors

Purpose	Color	Hex	Usage Examples
Success	Emerald	#10B981	Completed orders, positive metrics
Error	Crimson	#EF4444	Failed actions, validation errors
Warning	Amber	#F59E0B	Approaching limits, pending actions
Information	Sky Blue	#0EA5E9	Tooltips, informational badges
Neutral Border	Light Gray	#E5E7EB	Card borders, dividers, input borders

## 2.4 Color Application Rules

### Primary Color Constraints:

- Pink ( #E23E83 ) appears **ONLY** on one primary CTA per screen
- No more than **15%** of any interface should use accent colors
- Gradient usage requires design system approval
- Neutral backgrounds must occupy **80%+** of visual real estate

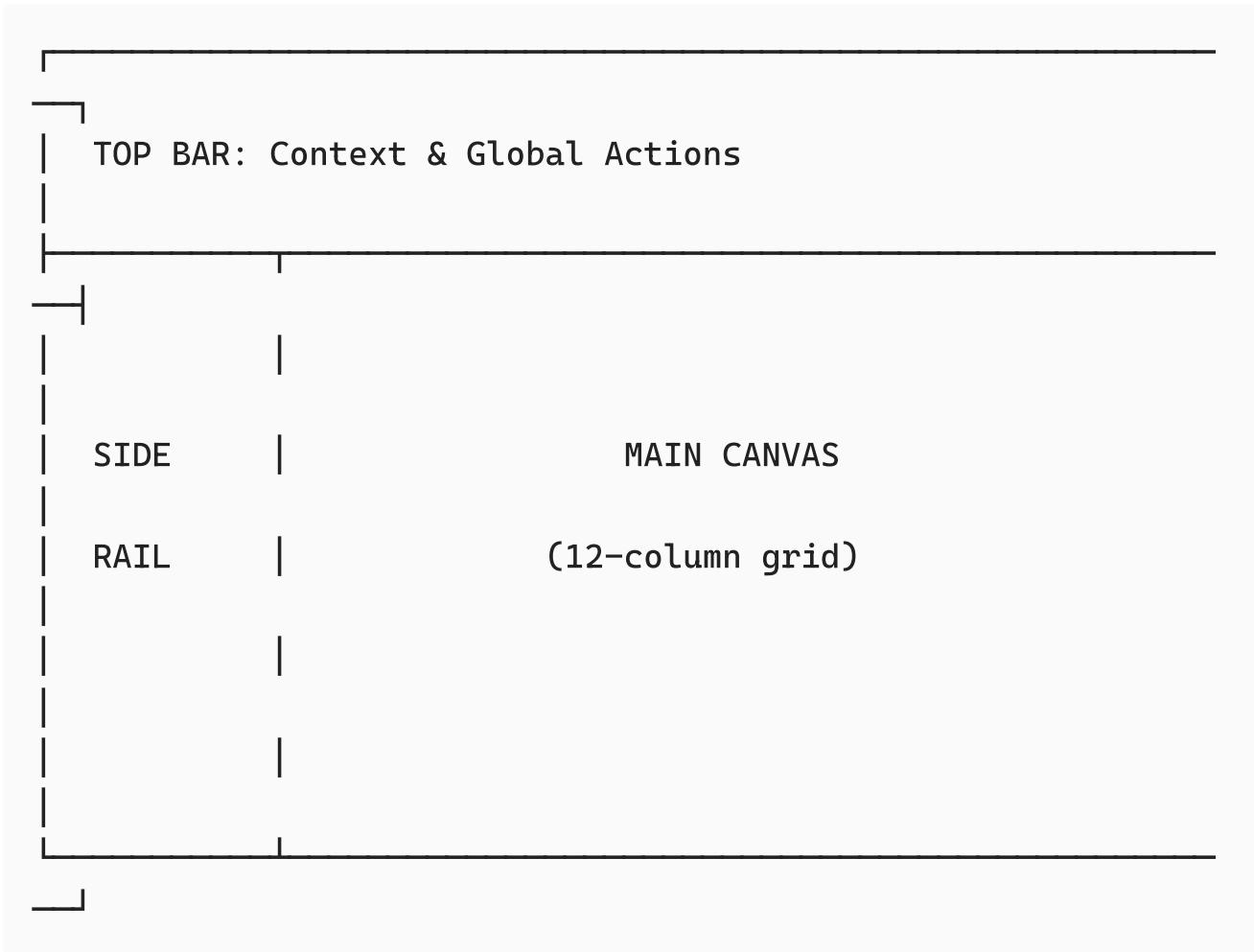
## Color Accessibility Standards:

- All text meets WCAG AA contrast ratios (4.5:1 minimum)
  - Interactive states clearly distinguishable for color-blind users
  - Focus indicators visible without color dependency

# **3.0 LAYOUT ARCHITECTURE**

## **3.1 The "Three-Zone" Page Structure**

Every application page follows this consistent hierarchy:



## **3.2 Zone Specifications**

## A. The Global Rail (Left Sidebar)

- **Width:** 64px (collapsed) / 240px (expanded)
  - **Background:** #F9FAFB with subtle vertical gradient

- **Content:** Role-specific navigation with icon + label
- **Behavior:** Collapsible via hamburger or keyboard shortcut ( Cmd/Ctrl + \ )
- **Animation:** Smooth slide (300ms ease-in-out) with backdrop blur

## B. The Context Bar (Top Header)

- **Height:** 64px (desktop), 56px (mobile)
- **Background:** #FFFFFF with 1px bottom border ( #E5E7EB )
- **Components:**
  - Tenant/Store name (truncated after 20 chars)
  - User profile with role badge
  - "Quick Action" button (context-sensitive: "Create Design", "New Order", etc.)
  - Search bar (global search accessible via Cmd/Ctrl + K )
- **Sticky Behavior:** Remains fixed during scroll with subtle shadow elevation

## C. The Canvas (Main Content Area)

- **Max Width:** 1440px (centered on larger screens)
- **Padding:** 24px (desktop), 16px (tablet), 12px (mobile)
- **Grid System:** 12-column responsive grid with 24px gutters
- **Breakpoints:**
  - Mobile: < 768px (1 column)
  - Tablet: 768px - 1024px (8 columns)
  - Desktop: > 1024px (12 columns)

## 3.3 Page Templates

### Dashboard Template:

- Primary metrics in top row (3-4 cards)
- Recent activity center-left
- Quick actions center-right
- Performance charts bottom

## List/Table Template:

- Filters and search left sidebar
- Data table main canvas
- Bulk actions sticky bottom bar
- Pagination and export controls

## Detail/Edit Template:

- Form left (2/3 width)
  - Preview right (1/3 width)
  - Action buttons fixed bottom-right
  - Breadcrumb navigation top
- 

# 4.0 TYPOGRAPHY & HIERARCHY

## 4.1 Font Stack Strategy

### Headings & Display Text: Poppins

- **Rationale:** Modern, approachable, slightly creative without being distracting
- **Weights Used:** SemiBold (600), Bold (700)
- **Line Height:** 1.2 for headings, 1.4 for paragraph text

### Body & UI Text: Inter

- **Rationale:** Highly legible, excellent readability at small sizes
- **Weights Used:** Regular (400), Medium (500)
- **Line Height:** 1.5 for body text, 1.4 for UI labels

### Monospace: JetBrains Mono

- **Rationale:** Developer-friendly, clear character distinction
- **Usage:** Code snippets, technical details, API examples

## 4.2 Type Scale System

Level	Size (rem)	Size (px)	Line Height	Weight	Use Case
H1	2.25	36	1.2	700	Hero sections, page titles
H2	1.875	30	1.25	600	Major section headers
H3	1.5	24	1.3	600	Subsection headers
H4	1.25	20	1.4	600	Card titles, panel headers
H5	1.125	18	1.4	500	Form labels, table headers
Body L	1.125	18	1.6	400	Large body text
Body M	1	16	1.6	400	Standard body text
Body S	0.875	14	1.5	400	Captions, helper text
UI Label	0.75	12	1.4	500	Form labels, badges

## 4.3 Text Color Hierarchy

Importance	Color	Hex	Usage
Primary	Deep Ink	#111827	Headings, critical text
Secondary	Steel Gray	#4B5563	Body text, descriptions
Tertiary	Slate Gray	#9CA3AF	Placeholders, disabled
Interactive	Primary Pink	#E23E83	Links, active navigation

## 4.4 Typography Rules

- Maximum Line Length:** 75 characters for optimal readability
- Text Alignment:** Left-aligned for most content, centered only for CTAs and hero sections
- Hyphenation:** Disabled to maintain readability

- **Truncation:** Use ellipsis after 2 lines for cards, 1 line for tables
- 

## 5.0 COMPONENT LANGUAGE

### 5.1 Cards & Containers

The "Glass" Card Specification:

- **Border:** 1px solid #E5E7EB
- **Border Radius:** 12px (outer), 8px (inner content)
- **Shadow:** 0px 4px 6px -1px rgba(0, 0, 0, 0.1)
- **Background:** #FFFFFF (solid, no transparency)
- **Padding:** 20px default, 16px condensed
- **Hover State:** Elevation to 0px 10px 15px -3px rgba(0, 0, 0, 0.1)
- **Active State:** Border color changes to Primary Pink ( #E23E83 )

Product Tile (Inspired by Printify):

- **Aspect Ratio:** 1:1 for square products, 4:3 for apparel
- **Background:** #F3F4F6 to make design colors "pop"
- **Border Radius:** 8px (container), 4px (image)
- **Overlay:** Semi-transparent gradient on hover showing quick actions
- **Badge Position:** Top-right corner for status indicators
- **Loading State:** Skeleton with subtle shimmer animation

### 5.2 Form Elements (The "Shopify" Influence)

Text Input Fields:

- **Height:** 40px standard, 48px for prominent forms
- **Border:** 1.5px solid #D1D5DB
- **Border Radius:** 6px
- **Padding:** 0 12px
- **Focus State:**
  - Border: 1.5px solid #E23E83

- Box Shadow: 0 0 0 3px rgba(226, 62, 131, 0.1)
- Transition: border-color 150ms ease, box-shadow 150ms ease
- **Error State:** Border changes to Crimson ( #EF4444 )
- **Disabled State:** Background #F9FAFB , border #E5E7EB , text #9CA3AF

### Select Dropdowns:

- **Arrow Icon:** Lucide ChevronDown (16px)
- **Options List:** Maximum height 240px with scroll
- **Selected State:** Background #F3F4F6 with Primary Pink checkmark
- **Grouping:** Section headers with smaller text

### Checkboxes & Radios:

- **Size:** 16px × 16px
- **Checked State:** Background #E23E83 , white checkmark
- **Hover State:** Border darkens to #9CA3AF
- **Focus Ring:** 2px solid rgba(226, 62, 131, 0.5)

## 5.3 Buttons & Actions

### Primary Button:

- **Background:** #E23E83
- **Text Color:** #FFFFFF
- **Padding:** 10px 20px
- **Border Radius:** 6px
- **Hover:** Background darkens to #C92C6B
- **Active:** Scale transform scale(0.98)
- **Disabled:** Opacity 40%, no hover effects

### Secondary Button:

- **Background:** Transparent
- **Border:** 1.5px solid #E5E7EB

- **Text Color:** #4B5563
- **Hover:** Background #F9FAFB , border #D1D5DB

### Tertiary (Text) Button:

- **Background:** Transparent
- **Text Color:** #E23E83
- **Hover:** Background #FDF2F8
- **No border or background by default**

### Danger Button:

- **Background:** #EF4444
- **Text Color:** #FFFFFF
- **Hover:** Background darkens to #DC2626

### Button Sizes:

- **Small:** 32px height, 12px padding, 14px text
- **Medium:** 40px height, 16px padding, 16px text
- **Large:** 48px height, 20px padding, 18px text

## 5.4 Navigation Components

### Breadcrumbs:

- **Location:** Below Context Bar, above page title
- **Separator:** Lucide ChevronRight (12px, #9CA3AF )
- **Current Page:** #111827 , Medium weight
- **Previous Pages:** #4B5563 , interactive
- **Truncation:** Middle items collapse with ellipsis on narrow screens

### Pagination:

- **Item Size:** 32px × 32px
- **Active Page:** Background #E23E83 , white text
- **Adjacent Pages:** Show 1 page before/after current
- **Ellipsis:** Replace hidden pages with ... non-interactive

## Tabs:

- **Active:** Bottom border 2px solid #E23E83 , text #111827
- **Inactive:** Text #4B5563 , hover #111827
- **Disabled:** Text #9CA3AF , no interaction
- **Count Badge:** Red dot for notifications, number for counts

## 5.5 Data Display Components

### Tables:

- **Header:** Background #F9FAFB , text #4B5563 , Medium weight
- **Rows:** Alternating #FFFFFF and #F9FAFB
- **Hover Row:** Background #F3F4F6
- **Cell Padding:** 16px vertical, 24px horizontal
- **Divider:** 1px solid #E5E7EB between rows
- **Compact Mode:** 12px vertical padding

### Status Badges:

- **Success:** Background #D1FAE5 , text #065F46 , border #10B981
- **Warning:** Background #FEF3C7 , text #92400E , border #F59E0B
- **Error:** Background #FEE2E2 , text #991B1B , border #EF4444
- **Info:** Background #E0F2FE , text #0C4A6E , border #0EA5E9
- **Neutral:** Background #F3F4F6 , text #4B5563 , border #9CA3AF

### Progress Indicators:

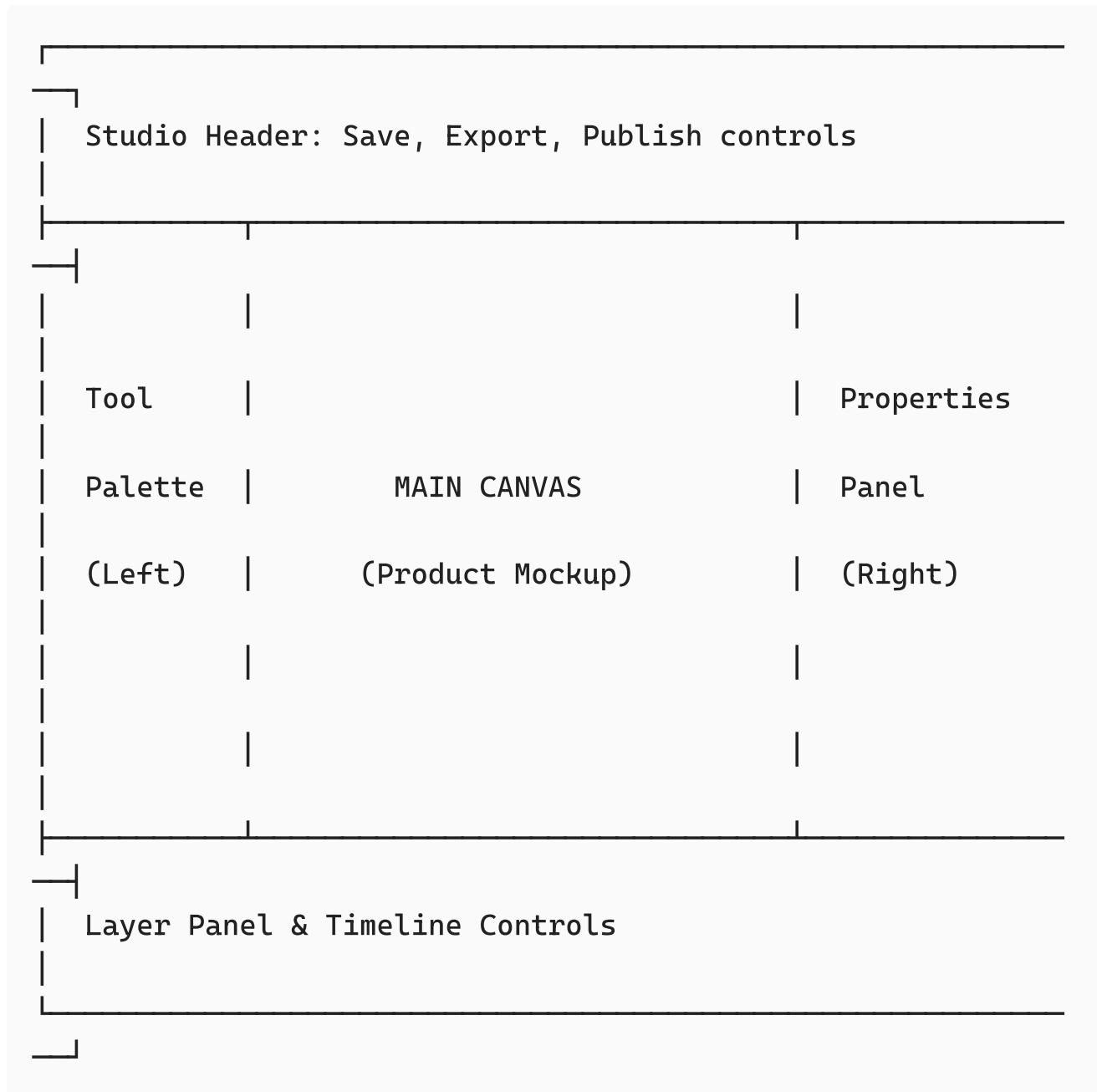
- **Linear:** Height 4px, border radius 2px
- **Circular:** Stroke width 3px, size 24px
- **Determinate:** Fill #E23E83
- **Indeterminate:** Animated gradient #E23E83 → #FF7A39

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## 6.0 THE AI DESIGN STUDIO EXPERIENCE

### 6.1 Studio Layout Architecture

The AI Studio combines Kittl's intuitive workflow with enhanced simplicity:



## 6.2 Canvas & Mockup Engine

### Product Mockup Display:

- **Default Background:** #F9FAFB
- **Drop Shadow:** Soft natural shadow matching product type
- **Rotation Control:** 3D-like rotation with smooth easing
- **Zoom Range:** 25% to 400% with mouse wheel/pinch
- **Loading State:** Skeleton mockup with shimmer effect

### The "AI Assistant" Panel:

- **Position:** Floating bottom-right (dismissible)
- **Appearance:** Glass morphism with backdrop blur
- **Input:** Natural language prompt field with examples
- **Generation Status:** Progress indicator with estimated time
- **Results Grid:** 2×2 grid of generated options

### Tools Panel Specification:

- **Width:** 64px collapsed, 240px expanded
- **Background:** Semi-transparent `rgba(255, 255, 255, 0.95)` with backdrop blur
- **Tool Icons:** Lucide icons with tooltip on hover
- **Active Tool:** Highlighted with Primary Pink background
- **Tool Groups:** Separated by subtle dividers

## 6.3 Layer Management

### Layer Panel:

- **Height:** 200px (adjustable)
- **Visibility Toggle:** Eye icon with instant preview
- **Reorder:** Drag and drop with visual indicator
- **Layer Types:** Distinct icons for text, image, shape, AI-generated
- **Active Layer:** Highlighted with left border `#E23E83`

### Properties Panel (Right):

- **Context-Sensitive:** Changes based on selected element
- **Tab Organization:** Style, Effects, Export settings
- **Live Preview:** Changes reflect immediately on canvas
- **Preset Library:** Curated styles and effects

## 6.4 AI-Specific Interactions

### Magic Prompt Interface:

- **Input Field:** Full-width with placeholder examples

- **Style Presets:** Quick-select buttons for art styles
- **Generation Button:** Prominent with loading animation
- **Results Display:** Grid with hover-to-apply interaction
- **Variation Controls:** Generate similar, refine, remix options

## AI Enhancement Tools:

- **Background Removal:** One-click with preview toggle
  - **Upscale Quality:** Slider with before/after comparison
  - **Color Adjustment:** AI-suggested color palettes
  - **Auto-Layout:** Smart positioning and alignment suggestions
- 

# 7.0 INTERACTION STANDARDS

## 7.1 Micro-interactions

### Button Press Feedback:

- **Active State:** `transform: scale(0.98)`
- **Duration:** 100ms
- **Easing:** `cubic-bezier(0.4, 0, 0.2, 1)`
- **Haptic:** Vibration on supported mobile devices

### Hover Effects:

- **Opacity Change:** 10% darken/lighten on background
- **Scale:** Subtle `scale(1.02)` for cards
- **Shadow Elevation:** Increase shadow intensity
- **Transition:** 150ms ease-in-out

### Focus Management:

- **Focus Ring:** 2px solid `rgba(226, 62, 131, 0.5)`
- **Outline Offset:** 2px from element
- **Keyboard Navigation:** Clear visual indicator for tab order

## 7.2 Page & View Transitions

### Route Transitions:

- **Duration:** 300ms
- **Easing:** cubic-bezier(0.4, 0, 0.2, 1)
- **Direction:** Slide right for forward, left for back
- **Overlap:** 100ms content fade during transition

### Modal & Dialog Animations:

- **Backdrop:** Semi-transparent black with blur
- **Entry:** Scale from 0.95 to 1 with fade
- **Exit:** Scale to 0.95 with fade
- **Duration:** 200ms

### Loading States:

- **Skeleton Screens:** Matches final content structure
- **Shimmer Effect:** Gradient animation over placeholder
- **Progress Indicators:** For operations > 2 seconds
- **Percentage Display:** For predictable operations

## 7.3 Drag & Drop Interactions

### Visual Feedback:

- **Dragging:** 50% opacity with elevation shadow
- **Drop Zone:** Highlight with dashed border #E23E83
- **Valid Target:** Green glow effect
- **Invalid Target:** Red shake animation

### Reorder Lists:

- **Gap Opening:** Space opens where item will land
- **Preview:** Ghost image of dragged item
- **Magnetic Snap:** Subtle alignment help
- **Completion:** Smooth slide into position

# 8.0 NAVIGATION PATTERNS

## 8.1 Global Navigation Structure

**Sidebar Navigation Items:**

ICON	LABEL
🏠	Dashboard
🎨	Studio
📦	Products
🛒	Orders
📊	Analytics
🏪	Storefront
⚙️	Settings

**Role-Based Visibility:**

- **Creator:** Full access except supplier tools
- **Supplier:** Orders, inventory, production tools
- **Admin:** Everything plus user management
- **Viewer:** Read-only access to assigned areas

## 8.2 Search & Discovery

**Global Search ( Cmd/Ctrl + K ):**

- **Position:** Centered modal or top-right button
- **Results:** Grouped by type (products, orders, designs)
- **Recent:** Last 5 searches with timestamp
- **Quick Actions:** Create new items directly from search

**Filter & Sort Interface:**

- **Collapsible Panel:** Right side for complex filters

- **Chip Display:** Active filters as removable chips
- **Sort Options:** Dropdown with visual indicators
- **Preset Views:** Saved filter combinations

## 8.3 Empty States & Onboarding

### Empty State Components:

- **Illustration:** Custom SVG related to context
- **Header:** Clear statement of what's missing
- **Description:** Brief explanation or suggestion
- **Primary Action:** Single prominent CTA
- **Secondary Actions:** Optional learning resources

### First-Time User Experience:

- **Progressive Disclosure:** Features revealed as needed
- **Contextual Tips:** Small tooltips on first encounter
- **Sample Data:** Pre-filled examples where helpful
- **Quick Wins:** Guide to immediate value

## 9.0 RESPONSIVE BEHAVIOR

### 9.1 Breakpoint Strategy

Breakpoint	Name	Width Range	Layout Adaptations
xs	Mobile	< 576px	Single column, hamburger menu
sm	Phablet	576px - 767px	Two columns possible
md	Tablet	768px - 1023px	Sidebar collapsed by default
lg	Desktop	1024px - 1279px	Full sidebar, 12-column grid

Breakpoint	Name	Width Range	Layout Adaptations
xl	Wide	1280px - 1535px	Max content width 1440px
2xl	Extra Wide	≥ 1536px	Centered with generous margins

## 9.2 Mobile-First Adaptations

### Sidebar on Mobile:

- **Hidden by default:** Access via hamburger menu
- **Full-screen overlay:** With backdrop blur
- **Gesture Support:** Swipe from left edge to open
- **Quick Actions:** Floating action button for common tasks

### Form Adaptation:

- **Single Column:** All form fields stack vertically
- **Larger Touch Targets:** Minimum 44px × 44px
- **Keyboard Handling:** Form fields avoid keyboard overlap
- **Action Buttons:** Sticky to bottom of viewport

### Table Adaptation:

- **Horizontal Scroll:** Preferred over stacking on mobile
- **Priority Columns:** Key columns visible, rest hidden
- **Expandable Rows:** Tap to see full details
- **Swipe Actions:** Left/right swipe for quick actions

## 9.3 Touch Interaction Standards

### Touch Target Sizes:

- **Minimum:** 44px × 44px
- **Ideal:** 48px × 48px
- **Spacing:** 8px minimum between touch targets

## **Gesture Support:**

- **Pull to Refresh:** On list views
  - **Swipe to Dismiss:** Notifications, modals
  - **Pinch to Zoom:** Images, product views
  - **Long Press:** Context menus, selection mode
- 

# **10.0 ACCESSIBILITY STANDARDS**

## **10.1 Screen Reader Support**

### **Semantic HTML:**

- Proper heading hierarchy (h1 → h6)
- ARIA labels for interactive elements
- Landmark regions (header, nav, main, footer)
- Live regions for dynamic content updates

### **Focus Management:**

- Logical tab order following visual layout
- Skip links for bypassing navigation
- Focus trapped within modals
- Focus returned after modal closure

## **10.2 Visual Accessibility**

### **Color Contrast:**

- Text: 4.5:1 minimum (WCAG AA)
- Large Text: 3:1 minimum
- Interactive Elements: 3:1 against adjacent colors
- Non-text Elements: 3:1 (icons, charts, graphs)

### **Text Scaling:**

- Support up to 200% zoom without loss of functionality

- Responsive text that scales with browser settings
- No horizontal scrolling at 1280px width with 200% zoom

## Motion Sensitivity:

- Respect `prefers-reduced-motion` media query
- Provide pause/stop controls for animations
- Essential animations under 5 seconds

## 10.3 Keyboard Navigation

### Standard Patterns:

- `Tab` : Forward through interactive elements
- `Shift + Tab` : Backward through interactive elements
- `Enter/Space` : Activate buttons, toggle controls
- `Arrow Keys` : Navigate within components (lists, menus)
- `Escape` : Close modals, dismiss notifications

### Custom Shortcuts:

- `Cmd/Ctrl + K` : Global search
- `Cmd/Ctrl + \` : Toggle sidebar
- `Cmd/Ctrl + N` : Create new item (contextual)
- `Cmd/Ctrl + S` : Save current work
- `/?` : Open keyboard shortcuts help

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## 11.0 ICONOGRAPHY & ILLUSTRATION

### 11.1 Icon System

**Source:** Lucide React (consistent line weight, modern aesthetic)

**Size Scale:** 16px, 20px, 24px, 32px

**Weight:** 2px stroke (consistent across all icons)

**Color Rules:**

- **Default:** #4B5563
- **Interactive:** #111827 on hover
- **Active:** #E23E83
- **Disabled:** #9CA3AF

### Icon Types:

- **Action Icons:** Plus, Edit, Trash, Download
- **Navigation Icons:** Home, ArrowLeft, ChevronDown
- **Status Icons:** CheckCircle, AlertCircle, Info
- **File Type Icons:** Image, Document, Zip
- **Social Icons:** Share, ExternalLink

## 11.2 Illustration Style

### Character:

- **Style:** Semi-flat with subtle gradients
- **Perspective:** Isometric for technical concepts
- **Color Palette:** Restricted to brand colors + neutrals
- **Emotion:** Professional yet approachable

### Usage Context:

- **Empty States:** Explain what's missing
- **Onboarding:** Guide new users
- **Success States:** Celebrate achievements
- **Error Pages:** Soften negative experiences

## 11.3 Avatar & Identity Graphics

### User Avatars:

- **Fallback:** Initials on gradient background
- **Shape:** Circular with subtle shadow
- **Size Scale:** 24px, 32px, 40px, 64px
- **Online Indicator:** Green dot bottom-right

## **Brand/Store Logos:**

- **Container:** Square or rounded square
  - **Default:** First two letters of brand name
  - **Uploaded:** Maintain aspect ratio, max 1:1
  - **Quality:** Auto-optimized for display
- 

# **12.0 DATA VISUALIZATION**

## **12.1 Charts & Graphs**

### **Color Palette for Data:**

- Sequential: Single hue gradient (light to dark)
- Categorical: Distinct, accessible colors
- Highlight: Primary Pink for emphasis
- Neutral: Gray for comparison/context

### **Chart Types:**

- **Line Charts:** Trends over time
- **Bar Charts:** Comparisons between categories
- **Pie/Donut:** Proportional composition
- **Scatter Plots:** Correlation analysis
- **Heat Maps:** Density or intensity visualization

### **Interaction:**

- **Hover:** Tooltip with precise values
- **Click:** Drill down to details
- **Zoom:** For dense time series
- **Legend:** Interactive show/hide series

## **12.2 Metrics & KPIs**

### **Metric Card Design:**

- **Value:** Large, bold typography
- **Label:** Clear, concise description
- **Trend Indicator:** Arrow with color coding
- **Comparison:** Percentage change from period
- **Sparkline:** Mini chart for trend context

## Performance Colors:

- **Positive:** Emerald ( #10B981 )
  - **Negative:** Crimson ( #EF4444 )
  - **Neutral:** Slate ( #6B7280 )
  - **Highlight:** Primary Pink ( #E23E83 )
- 

# 13.0 DESIGN TOKENS & IMPLEMENTATION

## 13.1 Design Token Structure

```
// Core design tokens (example structure)
const tokens = {
  color: {
    primary: {
      pink: '#E23E83',
      orange: '#FF7A39',
      gradient: 'linear-gradient(135deg, #E23E83 0%, #FF7A39 100%)'
    },
    surface: {
      background: '#FFFFFF',
      card: '#F9FAFB',
      border: '#E5E7EB'
    }
  },
  typography: {
    fontFamily: {
      heading: 'Poppins, sans-serif',
      body: 'Inter, sans-serif'
    }
  }
}
```

```

        body: 'Inter, sans-serif'
    },
    scale: {
        h1: '2.25rem',
        h2: '1.875rem',
        // ... etc
    }
},
spacing: {
    base: '4px',
    scale: [0, 4, 8, 12, 16, 20, 24, 32, 40, 48, 64, 80, 96,
128]
},
borderRadius: {
    sm: '4px',
    md: '8px',
    lg: '12px',
    full: '9999px'
},
shadow: {
    sm: '0 1px 2px 0 rgba(0, 0, 0, 0.05)',
    md: '0 4px 6px -1px rgba(0, 0, 0, 0.1)',
    lg: '0 10px 15px -3px rgba(0, 0, 0, 0.1)'
}
}
}

```

## 13.2 Component Implementation Guidelines

**React Component Pattern:**

```

// Example button component structure
const Button = ({
    variant = 'primary',
    size = 'medium',
    children,
    ...props
}) => {
    const baseClasses = 'font-medium transition-all duration-
150 focus:outline-none focus:ring-2 focus:ring-offset-2'

```

```

const variantClasses = {
  primary: 'bg-primary-pink text-white hover:bg-primary-
pink-dark',
  secondary: 'bg-white text-gray-700 border border-gray-
300 hover:bg-gray-50',
  // ... etc
}
const sizeClasses = {
  small: 'px-3 py-1.5 text-sm',
  medium: 'px-4 py-2 text-base',
  large: 'px-6 py-3 text-lg'
}

return (
  <button
    className={`${baseClasses} ${variantClasses[variant]} 
${sizeClasses[size]}`}
    {...props}
  >
    {children}
  </button>
)
}

```

## 13.3 CSS Utility Framework

### Tailwind Configuration:

```

// tailwind.config.js
module.exports = {
  theme: {
    extend: {
      colors: {
        primary: {
          pink: '#E23E83',
          orange: '#FF7A39',
        },
        // ... etc (match design tokens)
      },
    }
  }
}

```

```
  fontFamily: {
    heading: ['Poppins', 'sans-serif'],
    body: ['Inter', 'sans-serif'],
  },
},
},
},
plugins: [],
}
```

## 14.0 QUALITY ASSURANCE CHECKLIST

### 14.1 Universal Design Checklist

#### Layout & Structure:

- Does the page use the Three-Zone architecture?
- Is content within 1440px max width on desktop?
- Is there consistent 24px padding between major sections?
- Does mobile view properly collapse the sidebar?

#### Typography:

- Are headings using Poppins (SemiBold/Bold)?
- Is body text using Inter (Regular/Medium)?
- Is text hierarchy clear (H1 → H6 → body)?
- Does line length exceed 75 characters?

#### Color Application:

- Is Primary Pink used for only one primary CTA per screen?
- Do accent colors occupy less than 15% of the interface?
- Are neutral backgrounds dominating (80%+)?
- Do all interactive states have clear visual feedback?

#### Components:

- Are cards using the "Glass" specification (border, shadow, radius)?

- Do inputs follow the "Shopify" pattern (height, focus state)?
- Are buttons using the correct size and variant patterns?
- Do tables have proper alternating row colors?

### **Interaction:**

- Do all buttons have proper hover/active states?
- Is focus management clear and accessible?
- Are loading states implemented for async operations?
- Are transitions smooth and purposeful (not excessive)?

### **Responsive Behavior:**

- Does the layout adapt properly at all breakpoints?
- Are touch targets at least 44px × 44px on mobile?
- Is text readable without zoom on mobile?
- Does horizontal scrolling occur at 200% zoom?

### **Accessibility:**

- Do all images have alt text?
- Is color contrast sufficient (4.5:1 minimum)?
- Can all functionality be accessed via keyboard?
- Does the page respect `prefers-reduced-motion` ?

## **14.2 Platform-Specific Checks**

### **Dashboard Pages:**

- Are key metrics immediately visible?
- Is recent activity prominently displayed?
- Do charts have proper labels and legends?
- Is data freshness indicated?

### **Form Pages:**

- Is there clear validation feedback?
- Are error messages helpful and specific?

- Do required fields have clear indicators?
- Is there a confirmation before destructive actions?

### List/Table Pages:

- Can items be filtered and sorted?
- Is there bulk action support?
- Does each row have clear actions?
- Is pagination or infinite scroll implemented?

### Detail Pages:

- Is breadcrumb navigation present?
  - Are related items or actions suggested?
  - Is the primary action prominently placed?
  - Is there a way to navigate to parent/sibling items?
- 

## 15.0 REVISION & MAINTENANCE

### 15.1 Version Control

#### Document Versioning:

- **Major Updates** (1.0 → 2.0): Breaking visual changes
- **Minor Updates** (1.0 → 1.1): New components/patterns
- **Patch Updates** (1.0.0 → 1.0.1): Corrections/clarifications

#### Change Management:

- All changes documented in changelog
- Breaking changes communicated 2 weeks in advance
- Deprecated patterns marked with sunset timeline
- Migration guides provided for major updates

### 15.2 Contribution Guidelines

#### Proposing Changes:

1. Create a visual mockup demonstrating the change
2. Document impact on existing patterns
3. Provide accessibility review
4. Submit for design system committee review

### **Approval Process:**

- Requires 2 senior designer approvals
  - Engineering review for implementation complexity
  - Accessibility audit completion
  - Documentation updates included
- 

## **APPENDIX: IMPLEMENTATION RESOURCES**

### **Design Files:**

- Figma Library: `printeast-design-system.fig`
- Icon Library: Lucide React (import from `lucide-react`)
- Illustration Library: Custom SVG directory

### **Development Resources:**

- Component Library: Storybook instance
- Design Tokens: JSON export for cross-platform use
- Accessibility Testing: Axe-core integration guide
- Performance Budget: Core Web Vitals targets

### **Testing Resources:**

- Visual Regression: Percy/Chromatic configuration
- Cross-browser Testing: BrowserStack matrix
- Device Testing: Physical device lab inventory
- User Testing: Protocol templates

