I'll create a comprehensive list of UI elements that should be included in the design system generator, with all customizable properties for each:

1. Color System
- Primary Colors (Light, Base, Dark variants)
- Hue, Saturation, Lightness
- Opacity levels
- Gradient options
- Accent/Secondary Colors
- Semantic Colors
- Success (green shades)
- Warning (yellow/orange shades)
- Danger/Error (red shades)
- Info (blue shades)
- Neutral/Grayscale (Background, Surface, Text)
- Surface background
- Card/Container surface
- Text primary, secondary, tertiary
- Border colors
- Disabled state colors

2. Typography
- Font Family (Sans-serif, Serif, Monospace, Custom)
- Font Sizes (XS, SM, Base, LG, XL, 2XL, 3XL, 4XL)
- Font Weights (Thin, Light, Regular, Medium, Semibold, Bold, Black)
- Line Heights (Tight, Normal, Relaxed, Loose)
- Letter Spacing (Tighter, Normal, Wide, Wider)
- Text Transform (None, Uppercase, Lowercase, Capitalize)
- Text Alignment (Left, Center, Right, Justify)
- Text Decoration (None, Underline, Line-through)

3. Buttons
- Variants: Primary, Secondary, Outline, Ghost, Link, Danger
- Sizes: XS, SM, MD, LG, XL
- Properties:
- Background color (default, hover, active, disabled)
- Text color
- Border (width, color, style)
- Border radius
- Padding (horizontal, vertical)
- Font size, weight
- Shadow (none, sm, md, lg)
- Icon position (left, right, icon-only)
- Loading state indicator
- Disabled state opacity
- Transition duration

4. Input Fields
- Types: Text, Email, Password, Number, Tel, URL, Search, Date, Time
- Properties:
- Background color
- Border (color, width, radius)

- · Padding
- · Height
- · Font size
- · Placeholder color
- · Focus border color
- · Focus ring (color, width, offset)
- · Error state color
- · Success state color
- · Disabled state (background, opacity)
- · Icon/prefix/suffix position
- · Label position (top, left, inline, floating)
- · Helper text styling

5. Textarea
- · All input properties plus:
- · Min/max height
- · Resize (none, vertical, horizontal, both)
- · Rows (visible lines)

6. Select/Dropdown
- · Properties:
- · All input field properties
- · Arrow icon (custom, position, color)
- · Option hover background
- · Option selected background
- · Multi-select styling
- · Search within dropdown
- · Dropdown max height
- · Dropdown shadow

7. Checkbox & Radio
- · Properties:
- · Size (sm, md, lg)
- · Border color (unchecked, checked)
- · Background color (unchecked, checked)
- · Check/dot color
- · Border radius (checkbox square, radio circle)
- · Focus ring
- · Disabled state
- · Label spacing
- · Custom icon for checked state

8. Toggle/Switch
- · Properties:
- · Width, height
- · Track color (off, on)
- · Thumb color
- · Border radius
- · Shadow
- · Animation duration
- · Label position (left, right)
- · Size variants

9. Slider/Range
- · Properties:
- · Track height
- · Track color (filled, unfilled)
- · Thumb size
- · Thumb color
- · Thumb border
- · Thumb shadow
- · Focus ring
- · Step indicators
- · Min/max labels
- · Tooltip on thumb

10. Cards
- · Properties:
- · Background color
- · Border (width, color, style)
- · Border radius
- · Padding
- · Shadow (none, sm, md, lg, xl)
- · Hover effects (lift, shadow increase)
- · Header/Footer styling
- · Image position (top, left, right, background)
- · Spacing between elements

11. Tables
- · Properties:
- · Border (outer, inner, none)
- · Border color
- · Cell padding
- · Header background
- · Header text (color, weight, size, transform)
- · Row striping (alternate background)
- · Row hover background
- · Responsive behavior (scroll, stack)
- · Sortable column indicators
- · Selected row styling
- · Compact/comfortable/spacious density

12. Navigation Bar
- · Properties:
- · Height
- · Background color
- · Border (bottom)
- · Shadow
- · Position (static, sticky, fixed)
- · Logo size/spacing
- · Link color (default, hover, active)
- · Link spacing
- · Hamburger menu icon
- · Dropdown styling

· Mobile breakpoint behavior

13. Sidebar
- · Properties:
- · Width (collapsed, expanded)
- · Background color
- · Border (right/left)
- · Shadow
- · Item padding
- · Item hover background
- · Item active background
- · Icon size, spacing
- · Collapse animation
- · Position (left, right)

14. Modals/Dialogs
- · Properties:
- · Max width (sm, md, lg, xl, full)
- · Background color
- · Border radius
- · Shadow
- · Backdrop color/opacity
- · Padding
- · Header styling
- · Close button (position, style)
- · Animation (fade, slide, zoom)
- · Scrollable content

15. Alerts/Notifications
- · Variants: Info, Success, Warning, Error
- · Properties:
- · Background color per variant
- · Border (left/top accent)
- · Border radius
- · Padding
- · Icon (show/hide, custom per variant)
- · Close button
- · Shadow
- · Animation (slide in, fade)

16. Toast/Snackbar
- · Properties:
- · Position (top-right, top-left, bottom-right, bottom-left, top-center, bottom-center)
- · Width
- · Background color
- · Text color
- · Border radius
- · Shadow
- · Auto-dismiss duration
- · Animation (slide, fade)
- · Progress bar

- · Icon position
- · Action button styling

17. Badges/Pills
- · Variants: Default, Primary, Success, Warning, Danger, Info
- · Properties:
- · Size (sm, md, lg)
- · Background color per variant
- · Text color
- · Border radius (pill vs square)
- · Padding
- · Font size, weight
- · Border (optional)
- · Dot indicator (leading/trailing)

18. Progress Bars
- · Properties:
- · Height
- · Background color (track)
- · Fill color
- · Border radius
- · Striped pattern (yes/no)
- · Animated stripes
- · Label position (inside, outside, none)
- · Variants (colors for different states)

19. Spinners/Loaders
- · Types: Circular, Dots, Bars, Custom
- · Properties:
- · Size (sm, md, lg, xl)
- · Color (primary, accent, custom)
- · Speed (slow, normal, fast)
- · Thickness (for circular)
- · Style (solid, dashed, gradient)

20. Tooltips
- · Properties:
- · Background color
- · Text color
- · Padding
- · Border radius
- · Arrow (show/hide, size)
- · Position (top, bottom, left, right, auto)
- · Delay (show, hide)
- · Max width
- · Shadow
- · Font size

21. Dropdown Menu
- · Properties:
- · Background color
- · Border
- · Border radius

- · Shadow (depth)
- · Item padding
- · Item hover background
- · Divider color
- · Min/max width
- · Animation (fade, scale, slide)
- · Icon spacing
- · Submenu indicator

22. Accordion
- · Properties:
- · Border (between items)
- · Header background (default, hover, active)
- · Header padding
- · Content padding
- · Icon (expand/collapse, position)
- · Border radius
- · Animation duration
- · Allow multiple open
- · Shadow (optional)

23. Tabs
- · Properties:
- · Style (underline, boxed, pills)
- · Active tab indicator (color, thickness)
- · Tab padding
- · Tab spacing
- · Active background
- · Hover background
- · Border radius (for boxed/pills)
- · Font weight (active vs inactive)
- · Icon position

24. Breadcrumbs
- · Properties:
- · Separator (/, >, custom icon/emoji)
- · Separator color
- · Link color
- · Active/current color
- · Font size
- · Spacing between items
- · Background (optional)
- · Border radius (if background)
- · Padding (if background)

25. Pagination
- · Properties:
- · Button size
- · Button spacing
- · Active page (background, border, color)
- · Hover state
- · Border radius

- · Arrow style (text, icon, emoji)
- · First/Last buttons (show/hide)
- · Ellipsis style
- · Disabled state

26. Avatar
- · Properties:
- · Size (xs, sm, md, lg, xl, 2xl)
- · Shape (circle, square, rounded)
- · Border (width, color)
- · Status indicator (position, size, colors)
- · Fallback (initials background, text color)
- · Image fit (cover, contain)
- · Shadow
- · Group overlap amount

27. Divider/Separator
- · Properties:
- · Thickness
- · Color
- · Style (solid, dashed, dotted)
- · Margin (top, bottom)
- · Orientation (horizontal, vertical)
- · Label (text in divider, position)
- · Gradient option

28. List/List Items
- · Properties:
- · Item padding
- · Hover background
- · Active background
- · Divider (between items, color)
- · Icon/image size, spacing
- · Border radius (for items)
- · Dense/comfortable/spacious spacing
- · Indent (for nested lists)

29. Chips/Tags
- · Properties:
- · Size (sm, md, lg)
- · Background color
- · Text color
- · Border (optional)
- · Border radius
- · Padding
- · Remove button (show/hide, style)
- · Icon position (left)
- · Variants (filled, outlined, light)

30. Code Block
- · Properties:
- · Background color
- · Text color

- · Font family (monospace options)
- · Font size
- · Padding
- · Border radius
- · Border
- · Line numbers (show/hide, color)
- · Syntax highlighting colors
- · Copy button styling
- · Scrollbar styling

31. Blockquote
- · Properties:
- · Border (left accent, width, color)
- · Background color
- · Padding
- · Font style (italic, normal)
- · Font size
- · Text color
- · Citation styling
- · Icon/quote marks (show/hide)

32. Links
- · Properties:
- · Color (default, visited, hover, active)
- · Underline (always, hover, never)
- · Underline style (solid, dashed, dotted)
- · Underline offset
- · Font weight
- · Transition duration
- · External link indicator

33. Image
- · Properties:
- · Border radius
- · Border (width, color)
- · Shadow
- · Object fit (cover, contain, fill)
- · Aspect ratio
- · Lazy loading indicator
- · Hover effects (zoom, overlay, brightness)
- · Caption styling

34. Grid/Layout
- · Properties:
- · Column count (responsive)
- · Gap (row, column)
- · Container max width
- · Container padding
- · Breakpoints (mobile, tablet, desktop, wide)

35. Spacing Scale
- · Properties:
- · Base unit (4px, 8px, etc.)

- · Scale multipliers (0.5x, 1x, 1.5x, 2x, 3x, 4x, 6x, 8x, 12x, 16x)
- · Margin utilities
- · Padding utilities

36. Shadows/Elevation
- · Properties:
- · None
- · XS (subtle)
- · SM (small)
- · MD (medium)
- · LG (large)
- · XL (extra large)
- · 2XL (maximum)
- · Inner shadow
- · Color tint
- · Blur radius, spread, offset

37. Border Radius Scale
- · Properties:
- · None (0px)
- · SM (2-4px)
- · MD (6-8px)
- · LG (12-16px)
- · XL (20-24px)
- · 2XL (32px+)
- · Full (9999px - pill shape)
- · Per-corner customization

38. Icons
- · Properties:
- · Size scale (xs, sm, md, lg, xl)
- · Color
- · Stroke width
- · Style (outlined, filled, duotone)
- · Library (heroicons, feather, material, custom emojis)

39. File Upload
- · Properties:
- · Drag area background
- · Drag area border (style, color, dashed)
- · Drag area border radius
- · Drag area padding
- · Icon/emoji size
- · Hover state
- · Active drag state
- · File list styling
- · Progress bar styling
- · Error state

40. Stepper/Progress Steps
- · Properties:
- · Step size
- · Active color

- ·   Completed color
- ·   Inactive color
- ·   Connector line (style, width, color)
- ·   Step number/icon background
- ·   Border radius
- ·   Label font size
- ·   Orientation (horizontal, vertical)

This comprehensive list gives you a full design system.