

1. Overview This document defines the visual and interaction principles for all charts and diagrams within the Finance Tracker App. The goal is to maintain visual harmony with the overall design system and create a premium, minimal, and highly legible data experience.

2. Core Visual Principles - ****Minimalism:**** Remove unnecessary visual clutter such as gridlines, borders, and heavy labels. - ****Focus on Data:**** The data should remain the hero; use whitespace and subtle gradients to direct attention. - ****Consistency:**** All charts must adhere to the same spacing, border radius, and color rules defined in the global design system.

3. Chart Types **#Line Chart** - Rounded joins and caps. - Gradient stroke (`#2563EB` → `#7C3AED`). - Soft glow for highlight states. - Subtle animated draw on load (400ms ease-in-out).

Bar Chart - Rounded top corners (8px radius). - Equal spacing between bars. - Gradient fill with 20% transparency. - Smooth vertical animation on data load.

Donut/Pie Chart - Ring thickness: 10–12px. - Gradient for key segments only. - Central label with total value in bold typography.

Trend / Time Series Chart - Interactive vertical hover line. - Tooltip with blur effect and drop shadow. - Pinch and scroll zoom on mobile.

4. Theming Rules

Light Theme | Element | Color | |-----|-----| | Background | Transparent / White (#FFFFFF)
| | Text | Charcoal (#111827) | | Gridlines | Light Gray (#E5E7EB, 10% opacity) | | Line | Deep Blue
(#2563EB) | | Fill | rgba(37,99,235,0.15) | | Tooltip | Frosted white background (#FFFFFFCC) |

Dark Theme | Element | Color | |-----|-----| | Background | Transparent / Deep Navy
(#0F172A) | | Text | White (#F9FAFB) | | Gridlines | Slate Gray (#334155, 20% opacity) | | Line |
Blue Accent (#3B82F6) | | Fill | rgba(59,130,246,0.25) | | Tooltip | Glass dark background
(rgba(255,255,255,0.08)) |

5. Layout and Containers - Each chart sits inside a **card**** with 16–24px padding. - ****Rounded corners:**** 16px. - ****Shadow:**** Subtle for light theme, diffused glow for dark. - ****Optional:**** Glassmorphic background for summary cards.**

6. Typography | Element | Font | Size | Weight |
|-----|-----|-----|-----| | Axis Labels | Inter | 12px | 400 | | Tooltip
Text | Inter | 12px | 500 | | Chart Title | Space Grotesk / Inter |
14–16px | 600 |

Use ****tabular numerals**** for all numeric data to maintain alignment and consistency.

7. Motion Guidelines - **Entry Animation:**** 300–400ms, cubic-bezier(0.4, 0, 0.2, 1). - ****Hover Animation:**** 100–150ms highlight glow or scale up. - ****Easing:**** Smooth, not bouncy. - ****Exit Animation:**** Fade out 200ms.**

8. Accessibility - Maintain 4.5:1 color contrast ratio minimum. - Avoid relying on color alone to convey information. - Provide hover states, legends, and value labels where necessary. - Animations should respect OS-level motion reduction settings.

9. Implementation Tools | Platform | Recommended Library |
|-----|-----| | Web (React) | Recharts / ECharts | |
Web (Vanilla) | Chart.js 4.x | | Flutter | fl_chart | | iOS | Swift Charts
| | Android | MPAndroidChart |

10. Visual Mockup Reference The mockups demonstrate the light and dark mode dashboards with consistent gradient charts, frosted tooltip cards, and rounded corner containers. This visual system emphasizes clarity, premium aesthetics, and trust.

11. Summary All charts in the Finance Tracker App must reflect the same ****minimal, gradient-rich, glass-enhanced aesthetic**** as the rest of the interface. Consistency, clarity, and modernity are the visual pillars of this design language.