ChartEdge - System Requirements

Core

- Manages chart lifecycle (init, resize, destroy)

- Handles incoming data (append, update)

- Manages user interactions (pan, zoom, drawing mode)

Renderer

- Converts logical data into pixel rendering

- Optimized Canvas 2D operations

- Layered drawing: background, grid, data, shapes, overlays

Shapes Manager

- Manages user-drawn or API-drawn shapes

- Supports static and interactive elements

- Handles rendering and event capturing

Theme Manager

- Applies themes (light/dark/custom)

- Handles runtime style updates

Utilities

- Coordinate transformations (time <-> pixel)

- Scaling calculations

- Animation and easing helpers

Data Flow

External Data -> Core -> Renderer -> Canvas