**1. Key Performance Indicators (KPIs)**

**Visual Type:** **KPI Cards**

* **Stock Price Metrics:** Current price, day’s high, day’s low, previous close.
* **Percentage Change:** Daily, weekly, monthly, YTD.
  + Calculation:

mathematica

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% Change = ((Current Price - Previous Price) / Previous Price) \* 100

* **Market Cap:** Real-time or latest market capitalization.

**2. Stock Price Trend (Line Chart)**

**Visual Type:** **Line Chart**

* X-Axis: Date (time-series data).
* Y-Axis: Stock price (Open, High, Low, Close).
* Filters: Selectable timeframe (e.g., 1 day, 1 week, 1 month, 1 year, max).
* Add moving average lines (e.g., 50-day and 200-day moving averages) for trend analysis:
  + Calculation:

sql

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50-Day MA = Average(Close Price, Last 50 Days)

**3. Volume Analysis (Clustered Column Chart or Area Chart)**

**Visual Type:** **Clustered Column Chart**

* X-Axis: Date.
* Y-Axis: Volume of shares traded.
* Overlay: Line showing the stock price on the same chart for correlation.

**4. Comparative Performance (Multi-Line Chart or Bar Chart)**

**Visual Type:** **Multi-Line Chart or Clustered Bar Chart**

* Compare stock performance with market indices (e.g., S&P 500, NASDAQ).
* Calculate relative percentage change:
  + Calculation:

scss

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% Relative Change = (Stock Performance - Index Performance)

**5. Candlestick Chart**

**Visual Type:** **Candlestick Chart**

* X-Axis: Date.
* Y-Axis: Stock price (Open, High, Low, Close).
* Highlights: Daily highs/lows and opening/closing prices.

**6. Risk Metrics (Gauge Chart)**

**Visual Type:** **Gauge Chart**

* Metrics: Beta, volatility, Sharpe ratio.
* Ranges: Low, medium, high thresholds.

**7. Sentiment Analysis (Word Cloud or Bar Chart)**

**Visual Type:** **Word Cloud or Stacked Bar Chart**

* Analyze sentiment of news articles, tweets, or analyst reports.
* Display positive vs. negative sentiment percentage.

**8. Dividends and Earnings (Stacked Column Chart)**

**Visual Type:** **Stacked Column Chart**

* X-Axis: Year/Quarter.
* Y-Axis: Dividend payout and earnings per share (EPS).
* Overlay dividend yield percentage.

**9. Heatmap of Daily Returns**

**Visual Type:** **Heatmap**

* Rows: Months.
* Columns: Days of the month.
* Colors: Gradient from red (negative returns) to green (positive returns).

**10. Top Contributors (Pie/Donut Chart)**

**Visual Type:** **Pie or Donut Chart**

* Display contribution of different sectors, regions, or stocks to overall portfolio returns (if part of a portfolio).

**11. Correlation Analysis (Scatter Plot)**

**Visual Type:** **Scatter Plot**

* X-Axis: Index performance (e.g., S&P 500).
* Y-Axis: Stock performance.
* Show correlation coefficient (R).

**12. Earnings Calendar (Table or Matrix)**

**Visual Type:** **Table/Matrix**

* Columns: Date, event type (e.g., earnings report, dividend release), expected vs. actual EPS.
* Highlight key events for the stock.

**13. Portfolio Simulation (What-If Analysis)**

**Visual Type:** **What-If Parameter and Line Chart**

* Allow users to simulate portfolio growth based on investment amounts, timeframes, and compounding interest.

**14. Geographic Performance (Map)**

**Visual Type:** **Filled Map or Bubble Map**

* Show revenue distribution or performance by region (if applicable).

**15. News Ticker (Text Scrolling Visual)**

**Visual Type:** **Text Scrolling Visual**

* Display live or recent stock-related news headlines.

**Dashboard Layout Suggestions**

1. **Top Section (Summary):**
   * KPI cards (current price, percentage change, volume).
2. **Left Section (Trends):**
   * Stock price trend (line chart), candlestick chart.
3. **Right Section (Comparative):**
   * Multi-line chart (performance vs. indices), scatter plot (correlation).
4. **Bottom Section (Details):**
   * Heatmap (daily returns), matrix (earnings calendar), bar chart (volume).