

Conceptual Design

1. User Needs & Mental Models:

- **Financial Analysts & Investors:** Seeking detailed, accurate financial data for informed decision-making.
- **Students & Academics:** Requiring data for research and educational purposes.
- **Casual Users:** Interested in understanding company health for personal investment.

2. Main Objects & Actions:

- **Company Profiles:** Containing balance sheets, income statements, and other financial data.
- **Graphical Representations:** For visual analysis of financial trends.
- **Scoring Engine:** To assess company health based on financial indicators.
- **User Customization:** Favorite companies, saved graphs, and personalized settings.

3. Conceptual Model:

- **Data Retrieval:** Query mechanism to fetch relevant financial data.
- **Data Visualization:** Tools for generating insightful graphs and charts.
- **Analysis & Scoring:** Algorithms to evaluate and score company performance.
- **User Interaction:** Intuitive interfaces for managing favorites, settings, and personal data.

Physical Design

1. Database Schema:

- **Balance Sheets Table:** Company ID, financial metrics, timestamps.
- **Income Statements Table:** Revenue, expenses, net income, etc.
- **User Preferences Table:** User ID, favorite companies, saved graphs.

2. User Interface Design:

- **Dashboard:** Overview of financial market trends, popular companies.
- **Search & Query Interface:** For finding specific company data.
- **Data Visualization Panels:** Interactive charts and graphs.

- **Scoring & Analysis Section:** Displaying company health scores and insights.
- **User Profile & Customization:** Managing favorites and settings.

3. Evaluation & Analysis:

- **Usability Testing:** Observing how real users interact with the interface.
- **Feedback Mechanisms:** Collecting user inputs on functionality and UX.
- **Performance Analysis:** Testing response times and data accuracy.

Scenarios for Evaluation

1. Professional Analyst:

- **Task:** Conduct a deep-dive analysis into a company's 5-year financial performance.
- **Evaluation:** Ease of data retrieval, depth of information, accuracy of scoring.

2. Academic User:

- **Task:** Compare the financial health of companies in a specific sector for a thesis.
- **Evaluation:** Data aggregation capabilities, visualization tools, export functions.

3. Personal Investor:

- **Task:** Track favorite companies and receive updates or alerts.
- **Evaluation:** Customization options, alert system, user interface intuitiveness.

Sketches & UI Designs

At this stage, developing wireframes or mockups of the user interface is crucial. This could include:

- **Homepage Layout:** Showcasing key features like search, popular companies, and recent market news.
- **Company Profile Page:** Detailed financial data, graphs, and analysis.
- **Custom Dashboard:** For personal investors, showing favorite companies, personal portfolio performance.

Next Steps

- **User Feedback:** Present these scenarios and sketches to potential users for feedback.

- **Iterative Design:** Refine based on feedback, focusing on usability and utility.
- **Prototype Development:** Start with a minimal viable product focusing on key features like data retrieval, basic scoring, and user customization.