

ASSIGNMENT 3: EXTRA CREDIT REPORT

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Google Sheets Link

For more details, you can access the feedback data in the Google Sheets document here: [Feedback Form Responses](#).

Objective

This study evaluated the usability and effectiveness of interactive visualizations designed to help users explore stock trends and understand portfolio risk-return profiles.

Methodology

Twelve participants with varied financial knowledge interacted with the visualizations and provided feedback through a structured survey covering four areas: General Usability, Effectiveness of Visualizations, Insights Gained, and Suggestions & Additional Feedback.

Findings

Section 1: General Usability

- **Ease of Navigation:**
 - *Feedback:* Most participants (10 out of 12) found navigation "Very easy" or "Easy."
 - *Observation:* Participants appreciated intuitive design features like dropdowns, zoom controls, and timeframes. A few suggested refining zoom for better precision.
- **Layout Intuitiveness:**
 - *Feedback:* 7 participants "Strongly agreed" and 5 "Agreed" that the layout was intuitive.
 - *Observation:* The organized layout made it easy to find and use interactive features, leading to a smooth experience overall.
- **Visual Appeal:**
 - *Feedback:* Rated as "Excellent" by 8 participants, "Good" by 4, showing high satisfaction with the design.
 - *Observation:* The modern appearance was well-received, with one suggestion to offer customizable color options.
- **Clarity of Labels and Instructions:**
 - *Feedback:* 8 participants "Strongly agreed" that instructions and labels were clear, while 4 "Agreed."
 - *Observation:* The clarity of instructions and labeling was sufficient, though some participants recommended tooltips for technical terms.

Section 2: Effectiveness of Visualizations

- **Understanding Daily Price Movements:**
 - *Feedback:* Most users (10 out of 12) found it "Very easy" or "Easy" to understand trends in daily price movements across timeframes.
 - *Observation:* The area chart with moving averages effectively illustrated short- and long-term trends, with shaded areas highlighting key crossover points.
- **Comparison Across Timeframes:**

- *Feedback:* All participants either "Strongly agreed" or "Agreed" that timeframes helped them compare price movements effectively.
- *Observation:* The flexibility to switch between timeframes (3 months, 6 months, 1 year) was praised, making it easy to analyze different time scales.
- **Insights into Market Valuation Trends:**
 - *Feedback:* 7 "Strongly agreed" and 3 "Agreed" that the visualizations provided insights into valuation trends, while 2 were neutral.
 - *Observation:* The animated bar chart conveyed valuation changes over time, helping users understand shifts in market positions, though a few suggested adding brief explanatory tooltips.
- **Answering the Market Valuation Question:**
 - *Feedback:* 6 participants felt the visualization "Completely" answered the question, 4 "Mostly," and 2 "Partially."
 - *Observation:* Users valued the animated bar chart's ability to track valuation changes, though some felt that adding explanations for rapid changes would enhance clarity.

Section 3: Insights Gained

- **Most Insightful Aspects:**
 - *Feedback:* Participants highlighted the moving averages area chart as particularly insightful for spotting trading signals. Timeframe adjustments were also valued for observing stock variations.
 - *Observation:* Shaded crossover regions in the area chart provided intuitive signals, which helped users identify potential buy/sell opportunities.
- **Missing Information or Challenges:**
 - *Feedback:* Three participants noted difficulty understanding certain financial terms, like "efficient frontier."
 - *Observation:* Adding tooltips to explain technical terms would enhance accessibility, particularly for users less familiar with finance concepts.

Section 4: Suggestions and Additional Feedback

- **Improvement Suggestions:**
 - *Feedback:* Suggestions included adding tooltips for technical terms, optimizing zoom functionality, and improving load times.
 - *Observation:* These enhancements could improve usability, particularly for users new to financial concepts.
- **Overall Satisfaction:**
 - *Feedback:* Most participants were "Very satisfied" with the visualizations, with a few "Satisfied."
 - *Observation:* Users generally found the visualizations engaging and informative, with minor areas for improvement suggested.

Conclusion

The user study showed that the visualizations successfully helped users explore stock trends and understand portfolio risk-return profiles. The moving averages area chart was praised for its intuitiveness in signaling trading opportunities, and the animated bar chart effectively conveyed valuation trends over time. Suggestions for adding tooltips, refining zoom, and improving load times were noted as potential enhancements. Overall, users were highly satisfied, finding the visualizations both accessible and insightful.