# W209-Portfolio Optimization

**Usability Test**
**Mehdi Saedi**

# Task List

1. Use Portfolio 2.0 to run an asset correlation analysis
   a. Name some examples of asset pairs that are:
      i. Highly correlated
      ii. Negatively correlated
      iii. Not correlated
2. Create a custom portfolio and use the tool to optimize the allocations
   a. Compare the original allocations with the optimized allocations
   b. Compare the performance indicators of the original allocations to those of the optimized allocations
3. After creating the custom portfolio, use the tool to run a performance analysis
   a. Compare the Growth and Drawdown with the selected benchmark
   b. Compare the Volatility and Sharpe Ratio with the selected benchmark
   c. Interpret the results and choose the portfolio with better performance

# Test Participant 1

04/11/2017, Faezeh Akbar

# Test Note 1

Faezeh is an architect, but she manages her own portfolio. She has some basic knowledge of finance and represents our average investor who requires some help with interpreting the results.

Faezeh had some difficulty figuring out where to start. She pointed out that she is used to starting from the left side of a page and go to the right. However, the link to the first task was actually placed in the middle of the main page and there was no clear order.

She was unsure how to specify some of the parameters as the UI did not provide enough information on the format, nor did it restrict the user to enter the incorrect values. She also found the navigation from one page to the next unintuitive and preferred to have a "next"/"previous" button on every page.

According to her, the processing time is a bit too long and it made her click on the "calculation" button multiple times since there was no indication that the website is actually processing the information.

On the "Asset Correlation" page, she found having both numbers and shapes confusing and unnecessary. Also, she did not understand what the size of the circles implied and relied only on the color to interpret the results.

# Debriefing Questions 1

1. Is the website easy to navigate?  Is it easy to find and use the tools?

Answer: somewhat, it takes a bit of getting used to at first

2. Is it easy to input data (dates, portfolio weights, etc.)?

Answer: no, the website did not provide any guidline/restriction on how to input data

3. Are the interactions responsive or slow?

Answer: the performance page was a bit slow but the rest of the pages were responsive

4. Is the presentation of the data and charts intuitive?  Do you have difficulty interpreting the results?

Answer: "Asset Correlation" chart was a bit difficult to interpret at first

5. What do you think can be improved?

Answer: I'd like to be able to have more than three assets in my portfolio and would like an "import" functionality instead of entering the weights one by one.

# Test Participant 2

04/12/2017, Sam Monfared

# Test Note 2

Sam has a finance degree and currently works at an asset management firm in Vancouver, Canada. He represents our average investment advisor who can help others to create their own portfolios and interpret the results.

Sam started with the asset correlation page and was able to complete the tasks using the correlation numbers. He found the color coding a bit unintuitive and preferred to have colors from green to red and maybe yellow in the middle. He also found reading the correlation values a bit difficult because the asset names were placed on the diagonal.

Similar to Faezeh, Sam had difficulty entering the allocation values on the optimization page and had to ask if he needs to enter them as percentage or decimals. He made some technical requests such as allowing the user to input complex constrains for the optimization. He also made a few aesthetic suggestions such as making sure size the dropdown menus is consistent across the board.

Sam was very happy with the number and types of the graphs presented on the performance page and had no issues interpreting the results.

# Debriefing Questions 2

1. Is the website easy to navigate?  Is it easy to find and use the tools?

Answer: yes, no issues finding the tools

2. Is it easy to input data (dates, portfolio weights, etc.)?

Answer: somewhat, the website did not provide any guidline/restriction on how to input data

3. Are the interactions responsive or slow?

Answer: the performance page was a bit slow but the rest of the pages were responsive

4. Is the presentation of the data and charts intuitive?  Do you have difficulty interpreting the results?

Answer: no, it was easy for me to interpret the results

5. What do you think can be improved?

Answer: I'd like to be able to impose contraints on the individual allocations

# Prioritization List

1. Must
   a. Ensure the user knows how to input the parameters by making the format clear or create restrictions
   b. If a page is not as responsive, make sure to add "hourglass" type visualization to help the user distinguish between processing time and unresponsiveness
2. Should
   a. Improve the responsiveness of the performance page
   b. Improve the asset correlation graph and make it more intuitive
   c. Improve the aesthetics of the website in general
3. Could
   a. Incorporate the suggestions regarding the appearance of the graphs on the performance page
   b. Add fields to enter more than three assets on the optimization page
4. Won't
   a. Add import functionality on the optimization page
   b. Add functionality to impose complex constraints on the asset weights on the optimization page