Erin Scott Adams
HCI 584
Summer 2024

# Version 1 Review – Personality Types Data Visualization

Project Overview:

This project is based on data from the HEXACO psychological assessment tool (https://hexaco.org/). The HEXACO acronym comes from these six major dimensions of personality measured: Honesty-Humility, Emotionality, eXtraversion, Agreeableness (versus Anger), Conscientiousness, and Openness to Experience.

The survey itself consists of 100 questions, each mapped to one of these six personality dimensions. Respondents rate each question on a 5-point Likert scale, from 1 (strongly disagree) to 5 (strongly agree).

My project randomly generates personality profiles in Python based on this dataset, and then compares them to the statistical averages for each category using a Plotly visualization.

So far, I have:

- Built the core functionality of generating random profiles from the dataset
- Implemented saving profiles in CSV format
- Converted CSV into Pandas dataframe
- Built bar graph visualization using the Pandas dataframe and Plotly

Project Demo:

Please refer to the screen recording attached in my Canvas submission for this assignment.

Issues:

- Resolved
    - A few code bugs (index error in my calculate_score function for example)
        - Solved by moving code out of Jupyter notebook and into .py file in order to step through in the Debugger
    - Plotly configurations
        - A bit of trial and error to get an output to work
        - Been referring to the examples in the Plotly documentation
- Pending
    - Compiling multiple sets of score data into 1 dataset
        - I need to enhance my current random_scores generation functionality to be able to create several score outputs in tandem

        - And then save them into one unified CSV file so that all the data can be in one Pandas dataframe
            - This is the prep needed to visualize multiple scores into one Plotly display
            - Was able to create an example of what I'm going for using ChatGPT
        - I think I can get there if I spend more time on this. I'm working to compile multiple scores into a dictionary.
        - Also found few examples of this online, will be referring to these as tutorials:
            - https://dev.to/fronkan/stacked-and-grouped-bar-charts-using-plotly-python-a4p
            - https://stackoverflow.com/questions/29046057/plotly-grouped-bar-chart-with-multiple-axes

Milestones for Version 2:

1. Plotly
    a. Currently have my plotly_config.py file working to display 1 data set in a bar graph
    b. Next step is to enhance this to get a visualization working that displays compiled data
        i. My current plan is a multi-bar graph (refer to /docs/chat-gpt-grouped-bar-example.png in my repo for an example of what I'm going for)
        ii. Open to other ideas if there's another display type that this data would be well suited for/you think would be interesting
2. Web App Scaffolding
    a. I was originally planning to use Flask
        i. But in the Plotly docs, they recommend using Dash. It seems well integrated with Plotly: https://dash.plotly.com/tutorial
        ii. As of now, I'm planning to use Dash instead. It seems pretty straightforward.
3. UI Interactions
    a. Finesse the webpage, jazz it up
    b. UI styling
        i. Potentially the ability for a user to toggle info on and off
        ii. Potentially a dropdown to select which trait data they want to see highlighted

Self Reflection:

Overall, I am satisfied with my progress so far. I've had a number of personal challenges lately that have hampered my productivity a bit (primarily having Covid and an intense workload at my day-job). So thank you again for your patience and flexibility with me on some of the assignment deadlines!

My biggest struggle has been the exploratory and open-ended nature of this project. It's been an interesting creative exercise and has definitely forced me outside my comfort zone. For my projects professionally as a Software Developer, often by the time a task gets to my plate, the decisions about what to build and why have already been made. There's a clearly defined objective, and it's my job to implement it in the code.

This project has instead challenged me to engage earlier in the creative process, and sit with some of the uncomfortable unknowns of what direction to head in. The "blank page" problem is real and can be debilitating! What's worked for me to overcome this is breaking things down into the smallest possible chunks, and focusing on accomplishing one small thing. And then once I get the ball rolling, I can get in the zone and be productive. But just getting started sometimes is the hardest part.

I do feel like I can finish this project within the next few weeks (before the code freeze on July 22). Especially now that I feel recovered from my Covid brain fog and have a bit of momentum.

Thank you for all your personalized feedback via screenrecordings, I've found those very helpful!