DATA 115: Final Report and Presentation Tips

This document provides some additional helpful guidelines about how you might want to structure your final report and presentation. The full set of requirements for the project are available on Blackboard in the Final Projects folder and these hints are intended to supplement those, not to supplant them.

1 Reports

- **Content:** The main content categories you are required to address are described in the assignment document on Blackboard but there are many ways that you can organize this information to communicate effectively. Below is one approach that might provide a useful starting point.
  - Introduction
    - Start by introducing the 'Big Question' and why it was interesting to you
    - Next, introduce the dataset that you selected to answer the question and discuss the processing that you had to do to make it usable
    - Finally, outline the analyses that you performed in order to answer the question.
  - Body
    - Organize the main part of your report around the questions you are answering, with a separate section for each technique you used
    - In each section, describe the method, why it was relevant to the question, and why it supports your conclusions
    - For each section, you will probably want to include at least one visualization, table, or summary statistic to provide support
    - Make sure that the code to generate these analyses is included in the appendix
  - Conclusion
    - Summarize the dataset and what you learned about it
    - Summarize the answer to the 'Big Question' and what potential actions your analysis supports
    - Describe any future work you would like to perform and what data would be necessary to do that analysis
- **Format:** Proper formatting can make your report much easier to read and understand.
  - The report should be submitted as a .pdf
  - The figures and tables that you use should be presented in the text, with appropriate labels and captions. This will allow you to clearly reference them in the text itself.
  - You should use Section and Subsection headings to organize the content you are presenting
  - The jupyter notebooks that you used to do the processing and analysis should be submitted as well. You can either upload them individually or put everything together in a single .zip file. You don't need to provide code examples in the text but you may reference the notebooks if necessary. The code in the notebooks should be organized and readbale - take a little time to add comments or separate the different portions of your analysis.
  - I've included some example reports on Blackboard. They are (much) more detailed in terms of content than what is expected for this project but they are useful guides for formatting and appearance. You could also think back to some of the reading discussion examples that we looked at in class (like this one from ProPublica) that are structured similarly, even if they are presented in .html instead of as a .pdf.

2 Presentations

- Good organization is critical for getting your message across. Just as in a research paper, you should have an introduction, a body, and a conclusion.
- Introduction:
  - Start with a title slide, introducing the title of your project and the names of the group members.
  - Next, give an outline of what you will be covering in your presentation (good place for bullet points)
  - Wrap up this section by introducing your 'big question' and providing any background or context that we will need to understand your work
- Body:
  - Start by introducing the properties of your dataset and its relevance to your question
  - Mention anything relevant (or interesting!) about the dataset that you discovered during EDA
  - For each question you address, provide your conclusions, as well as the supporting evidence that you found
  - In most cases, you will want to have each visualization you present on its own slide
- Conclusion:
  - Tell us what you told us!
  - Summarize the questions and their answers
  - Talk about future work you would like to perform and what data would be necessary to do that analysis
- Here are some tips about the design of individual slides:
  - Don't make slides that will tempt you to read them to us!
  - White space is your friend
  - Make sure that everything on the slides (including figure captions/labels/etc.) is visible when viewed on screen.
  - Beware distracting animations and transitions!
  - Make sure that your figures are complete with labels so that it can be interpreted by the audience
- And finally, some tips about preparation and presentation skills:
  - Attempt the **full talk** several times out loud
  - Remember to make eye contact and speak slowly and loudly
  - Determine what notes you need to keep on track
  - Keep track of time and set benchmarks for when you want to be done with individual slides or sections
  - Since you are presenting as a group, make sure you have clearly assigned who is responsible for each portion
  - Record yourself and rewatch
  - Get some friends to form an audience