

## PROJECT MILESTONE 3: REFINEMENT AND REPORTING

### Instructions

1. Have one member of your team submit your report and lightning talk slides on Canvas by the Canvas deadline.
2. Write-ups must be no longer than 1800 words.
3. Have one member of your team post your slides on Piazza before the start of the lightning talk session, so that listeners can follow along.
4. Email me your slides by 7am on December 12.

### Learning Outcomes

1. Design and implement well-designed and clearly documented interactive data visualizations in R and / or D3.
2. Through appropriate use of written descriptions and synchronized visual encodings, integrate multiple data visualizations into a coherent report or interface.
3. Translate conceptual advances in the data visualization literature into practical implementations that can be used to analyze a specific dataset.

### Description

In this milestone, your team will have the opportunity to (i) refine the visualizations from your second milestone, (ii) tie them together into a unified synthesis report / visual interface, and (iii) share your work with the world. Your task in (i) and (ii) is to use the prototypes from Milestone 2 to answer the overarching questions found in Milestone 1. Now that you have brainstormed a variety of design approaches, be selective and critical. Reflect carefully about which approaches are well-suited to your original purpose and consider your peer and instructor feedback. You should include at least some interactivity, though it is not necessary that all your views be interactive. For (iii), you will prepare a report and a lightning talk. We expect your report to be structured as follows,

1. *Introduction*. What is the nature of the visualization problem, and what contributions do you make? You may draw from your Project 1 milestone text.
2. *Literature review*. What were your main sources of inspiration as you prepared your designs? Describe specific approaches from the data visualization literature.
3. *Design(s)*. How do you translate the more abstract concepts from your literature review to resolve the specific problems identified in the introduction? This section should make up most of your report, but the content will differ by project modality,
  - 3.1 *Interface*: Describe the overall design, its components, and sources of interactivity. Illustrate how the interface can be used to generate interesting findings.
  - 3.2 *Synthesis*: Describe several domain-specific visualization tasks and the visual designs you propose to solve them.
4. *Conclusion*. What are the main takeaways you would like your reader to leave with?

Your team's lightning talks will be delivered in class. These should be no longer than 9 minutes, but make sure all team members have a chance to speak. Treat these talks like an invitation for those in the audience to learn more — aim for creativity and accessibility rather than formality and completeness. You are encouraged to include a public link to your work (visualization, report, or code) within your slides. We will be inviting students and faculty from across the department to join these lightning talks.

Teams will present in the following order: 6 1 3 5 2 4 7

## Rubric

*Visual designs (7 points):* The implemented designs are appropriate to the project goals, are structured into a unified whole, and are aesthetically pleasing.

*Design discussion (6 points):* The discussion describes your work in detail and establishes links between ideas in the literature and the problem of interest

*Lightning talk (6 points):* The presentation delivery and materials are well-organized, creative, and reflect thoughtful preparation.

*Literature review (6 points):* The report draws from a variety of complementary resources and connects concepts across them. Commentary demonstrates a deep familiarity with prior work.

*Clarity and style (5 points):* The writing is compact, well-structured, and free from technical errors. Figures are annotated and citations are formatted consistently.

*Code logic and style (5 points):* Code for both data preparation and visualization is readable and modular.