# Guideline on Final Project

**Instructions:**
For the final project, you are expected to visualize any data of your interest using the visualization techniques learned in both lectures and labs.

- You may focus on any topic that interests you, but you must have an overall objective and one or more specific questions to guide your visualization. An example is:
  - Objective: To understand the tourism in Ohio
  - Question I: Is there a link between tourism economy and urban green space?
  - Question II: How are the spatial patterns of tourism economy changing in Ohio?
- You should select **at least one (1)** <u>web-based</u> application for your visualization. The application can be developed either with or without programming. Web maps, web apps, dashboards, and story maps are examples of candidate applications
- The creation of the visualization should involve **at least two (2)** visualization methods covered by the course materials
- Make sure to use concise explanatory text for legends, titles, and any additional map text

**Deliverables:**
You are expected to turn in:

- A proposal (**due 03/29/2022**) containing (1-2 pages single-spaced)
  - A problem statement indicating your overall research objective, as well as one to three research questions
  - A description of your data source and the key variables of interest
  - A description of the visualization methods you will use

- A [lightning talk](link) (**04/19/2022** and **04/21/2022**) of your work of length between 3-5 minutes

- A final report (**due 04/26/2022**) containing (3-5 pages single-spaced)
  - A link to your web-based visualization (**please place it right below the title**)
  - A problem statement indicating your overall research objective, as well as one to three research questions
  - A description of your data source and the key variables of interest
  - A description of the visualization methods you use
  - A description of what the map(s) tell us (e.g., spatial patterns of a variable, changes in spatial pattern over time, relationship between two or more variables)
  - A reflection on the experience and challenges involved in designing your working map(s)

**Grading Criteria:**

- Proposal:
  - 30% for problem statement: Is the problem statement clearly presented? Are the objective and questions reasonable?
  - 30% for data description: Is the data source described clearly (e.g., link, what the data source is for)? Are the variables to be visualized clearly explained?

- 40% for method description: Is the web-based application to be used clearly identified and appropriate in terms of topic/data? Are the selected visualization techniques clearly explained and appropriate in terms of topic/data?

- Lightning talk:
  - 20% for problem statement: Is the purpose of visualization well communicated?
  - 30% for data and methods: Are data and methods well explained?
  - 40% for map(s) and findings: Is the visualization adequately presented? Are findings from the map(s) well communicated?
  - 10% for time limit

- Final report:
  - 50% for visualization: Is a web-based visualization platform as well as target visualization techniques used? Is the visualization relevant to the identified objective and questions? Are the cartographic elements (e.g., symbols, colors, names, labels) appropriately used?
  - 10% for problem statement: Is the problem statement clearly presented? Are the objective and questions reasonable?
  - 25% for data and methods: Is the data source described clearly (e.g., link, what the data source is for)? Are the variables to be visualized clearly explained? Is the web-based application to be used clearly identified and appropriate in terms of topic/data? Are the selected visualization techniques clearly explained and appropriate in terms of topic/data?
  - 10% for findings: Are findings from the map(s) clearly communicated and explained?
  - 5% for reflection: Are the key challenges and solutions encountered when designing the map(s) well explained?
  - 10% extra points: Is the visualization innovative in terms of subject, graphics, or interactivity? Is any sophisticated visualization method used (e.g., Leaflet+D3, Esri Leaflet)?