Digital Scholarship Foundations: Digital Mapping

Week 3: Prototyping and Version Control

Bryan Winston, PUL
bryan.winston@princeton.edu
Fall 2025

Today’s Objectives

- Continue data wrangling to prepare for mapping
- Identify crosswalks between platforms and data types
- Survey mapping platforms
- Create prototype map
- Learn about version control and GitHub

Disseminating Your Map: First Questions

Is your map for public consumption?

Is this a static map? Or is it interactive?

Will the map standalone? Or be part of a website?

Will the map be put in print?

Will the map need to be portable?

Disseminating Your Map: Web Maps

The tool you choose will make possible or limit the type of map you can share.

Types:

- Static Maps: Some platforms allow for outputs like PDF, JPEG, PNG, or SVG
- Platform-hosted Maps: Access a map through the platform and its hosting service.
- Embedded Maps: Use a widget to pull in a map from a mapping platform or use code to generate a map on your website.

Approaching Mapping Platforms

Each platform has its own particularities and limitations.

Determine what requirements are needed for you to use that platform by browsing documentation.

- What are its file requirements?
- Do we need to change our data structure?
- Do we need to add anything to our dataset?

An Example: Palladio Requirements

- File types: .csv recommended
  - Palladio supports the following delimiters: commas, semicolons and tabs.
- Headers: required
- Coordinates: single column, separated by comma

Mapping Platforms: Free or Freemium

Palladio: A suite of visualization and analysis tools designed by scholars to ask and answer research questions.

Google My Maps: A good way to get started with mapping. It allows for placing points manually, drawing polygons and lines, and stylizing what you map.

Google Earth: 3D view with more robust features.

Tableau: While primarily a tool for data analytics, Tableau is a common resource for creating maps. Tableau Public allows free mapping but comes with limitations compared to its licensed software

Mapping Platforms: GIS

ArcGIS: Users may first be overwhelmed by the numbers of features and possibilities, but dedicated learning can result in powerful and informative maps.

Carto: GIS cloud service that allows for free access with an educator account.

kepler.gl: Open source geospatial analysis tool for large-scale data sets.

Re:Earth: Free, open, and highly extensible webGIS platform.

Mapping Platforms: Coding

Leaflet.js: JavaScript library that allows users to produce lightweight, interactive maps.

Folium: Python library that generates leaflet maps with Python code.

Let’s try Palladio!

GitHub:

A Version Control Platform

What is  ?

Git is the open-source version control software that tracks changes in your files and folders.

It is doing the work behind GitHub.

Git and GitHub are not interchangeable.

Linux creator Linus Torvald released git in 2005 for Linux kernel development (which has thousands of collaborators).

What is GitHub?

GitHub is a popular platform for hosting Git repositories.

GitHub is a web interface for simplifying the functionality of Git.

GitHub is a collaborative space and can be used similar to how you use Google Drive.

GitHub has over 40 millions users that store their projects, explore new ones, and collaborate.

GitHub Key Terms

Infrastructure

Repository: A collection of folders and files

Branch: parallel version of your repository

Main: default branch

README: file that shares basic information about your repository

Actions

Clone: copy to your computer

Fork: copy another user's repository

Commit: snapshot of your repository/saving your repository

Let’s begin.

Follow the week 3 workflow on our course site.