Indigenous Milwaukee

Leaflet Map with Google Sheets

Acknowledgements

This guide was created using material from the open-source book *Hands-On Data Visualization: Interactive Storytelling from Spreadsheets to Code* by Jack Dougherty and Ilya Ilyankou. The book is available here: https://handsondataviz.org/

Accounts

The DSL recommends that project accounts are created for any sites, software, etc., and that no personal accounts are used in the maintaining, administration, or creation of any site content or structures. We also recommend, when possible, using the same username for consistency.

Necessary:

- Reclaim: https://reclaimhosting.com/
 - Hosting images
 - Creation of homepage / portal to project information
 - o Can redirect GitHub page with map to a location at this site.
- Google: https://www.google.com
 - Access to Google Sheets
 - Possible option for project email account
- Github: https://www.github.com
 - Host files for map
 - Access to GitHub Pages

Recommended:

- Marquette email address
 - Possible option for project email account
 - Can be arranged via IT Services

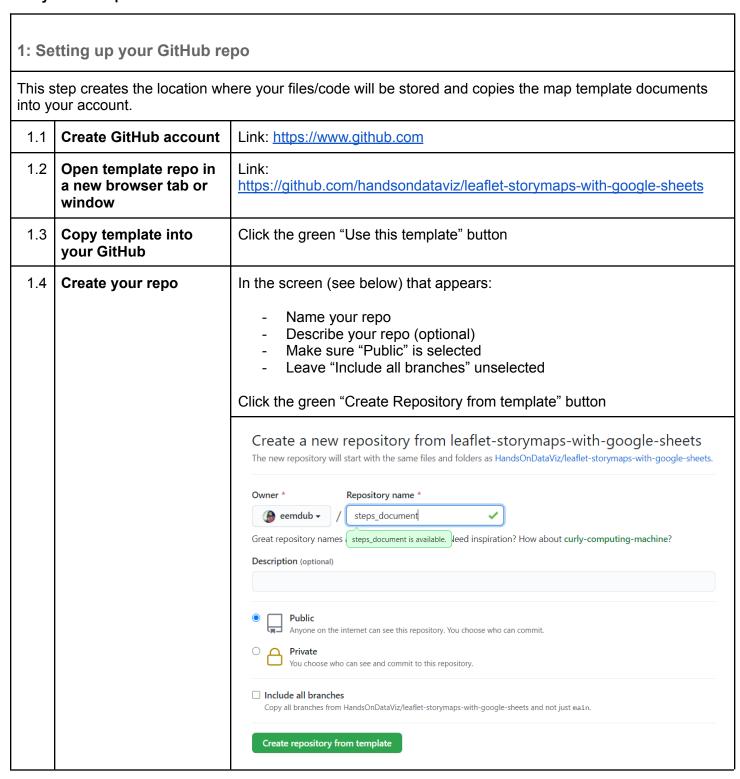
created: April 2021

updated: 06 May 2021 (added info about changing the Google Sheets sharing settings)

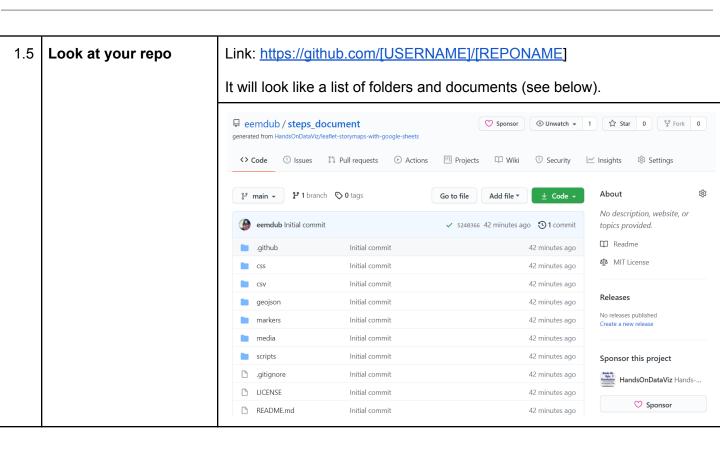
Workflow

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2. Setting up your GitHub Page

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This step creates the website page where your map will be located.

2.1	Go to your repo's settings and open the Pages tab	Use the Settings tab (gear icon) to open the Settings menu Scroll down to the bottom of the left-hand menu and open the Pages tab
2.2	Create your GitHub Page	In the Pages settings (see below): - Use the dropdown menu under "Source" to select "main" - Click the "Save" button

Pages site

At this point, it will contain the demo data and locations.

If you get a 404 or "Page not found" error, wait a few minutes and try again

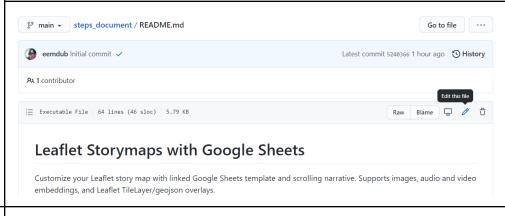
3. Link your GitHub URL to the project documents in your repo

This step will replace the demo map in the project code to your live project map

3.1 Return to your repo and open README.md for editing

Go back to your repo and locate the README.md file in the list of documents

Click on the Edit button (pencil icon) on the right-hand side of the document menu (see below)

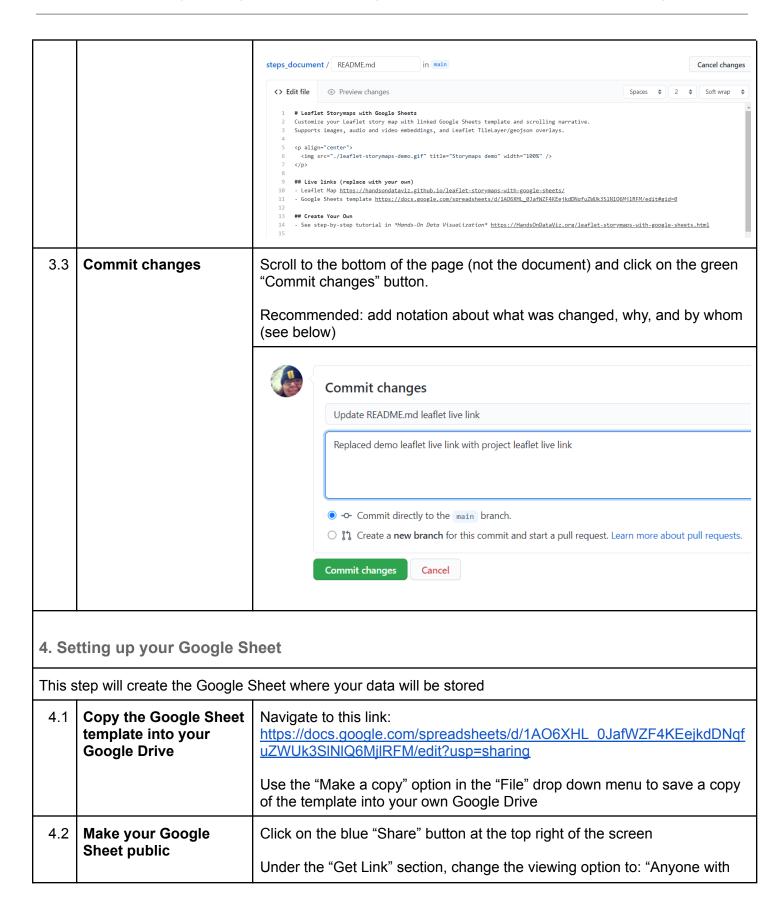


3.2 Replace "Leaflet Map" live link with your GitHub Page link

Locate the "Live links" area of the code document. This should be around line nine (see below).

Replace the "Leaflet Map" demo link with your link from step 2.3

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		your research, or any other information you want to share with users; this information will not be visible on the map <i>Geocoding Details</i> : this is where you can use the Geocoding by SmartMonkey app to easily get latitude and longitude		
4.6	Update Options sheet with Storymap details	The red rows contain the info that will display on the Storymap.		
	, ,	Replace the default template information with relevant project information, or leave blank if it does not apply to your map:		
		 Storymap Title Storymap Subtitle (optional) Storymap or project logo (optional but recommended) Google Analytics Tracking ID (optional but recommended) 		
4.7	Update the Options sheet with Project and	The green rows contain more info that will display on the Storymap.		
	Author details	Replace the default template information with relevant project information, or leave blank if it does not apply to your map:		
		 Author or PI name Author or project email or website Author or project GitHub repo link (to allow others to fork your data/code) Code Credit (recommend leaving link to handsondataviz.org) 		
5. Lir	5. Link your Google Sheet URL to the project documents in your repo			
This s	tep will link your data in yo	ur Google Sheet to your map		
5.1 Copy your Google Open or navigate to your Google Sheet. Sheet web address		Open or navigate to your Google Sheet.		
		Copy the web address from the address bar of your browser.		
5.2	Open the GitHub repo you created in 1.4	You can use the link in 1.5		
5.3	Paste the web address into the	Open the <i>google-doc-url.js</i> file and use the Edit button (pencil icon) to enter edit-mode.		

semicolon at the end

Correct appearance:

In line 2, replace the existing link with the web address you copied in 5.1. Make sure that you haven't accidentally deleted one of the apostrophes at the beginning and end of the link you just pasted into the code, or the

google-doc-url.js file

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		<pre> <> Edit file</pre>
		2 var googleDocURL = 'https://docs.google.com/spreadsheets/d/1A06XHL_0JafWZF4KEejkdDNqfuZWUk351N1Q6Mj1RFM/edit#gid=0'; ** The color of the link may not appear blue **
5.4	Commit changes	Scroll to the bottom of the page (not the document) and click on the green "Commit changes" button.
		Recommended: add notation about what was changed, why, and by whom. See 3.3 for example.
5.5	Paste the web address into the README.md file	Open the <u>README.md</u> file and use the Edit button (pencil icon) to enter edit-mode.
	ine	In line 11, under the Live Links section, replace the existing Google Sheets link with the web address you copied in 5.1. Make sure that you haven't accidentally deleted one of the apostrophes at the beginning and end of the link you just pasted into the code
5.6	Commit changes	Scroll to the bottom of the page (not the document) and click on the green "Commit changes" button.
		Recommended: add notation about what was changed, why, and by whom. See 3.3 for example.
5.7	View your map	Use the link created in 2.3 to view your map and verify that it is loading correctly.
		At this point, it will contain the default content from the template (Washington D.C.).
6. Tro	oubleshooting	
What	to do if your map does not	load correctly or at all.
6.1	Check Publish status of your Google Sheet	Did you correctly publish your Google Sheet?
	or your google slieet	Open the "Publish to the web" tool from the File menu.
		If your Google Sheet is published correctly, you should see the following message in blue (see below):
		"This document is published to the web."
		If you do not see this, return to <u>Step 4.3</u> of this document.

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Publish to the web

Publish to the web This document is published to the web. Make your content visible to anyone by publishing it to the web. You can link to or embed your document. Learn more 6.2 **Check the Sharing** Did you make your Google Sheet public correctly in <a>Step 4.2? status of your Google Click the Green "Share" button in the top right corner of your Google Sheet. Sheet It should display the following message (see below): "Anyone on the internet with this link can view" If it says anything different, repeat step 4.2. Get link Anvone on the internet with this link can view Copy link 6.3 **Check the Google** Did you copy the correct URL to your Google Sheet? **Sheet URL** You want to copy the address as it appears in the address bar of your internet browser. You want to *ignore* the published URL that appears in the popup after you publish your Google Sheet. 6.4 Check the Did you edit the *google-doc-url.js* file correctly? google-doc-url.js file Make sure you pasted the correct Google Sheet URL (see 6.2). Make sure that the code includes: the opening: var googleDocURL = an apostrophe at the head and tail of your URL ('LINK') a semicolon after the tail-end apostrophe The code should look like this: var googleDocURL = 'https://yourgooglesheeturl'; 6.5 **Refer to "Fix Common** The Hands-on Data Visualization book contains other common problems Problems" and advice for troubleshooting them. Link: https://handsondataviz.org/fix.html

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7. Transfer your data into your Google Sheet

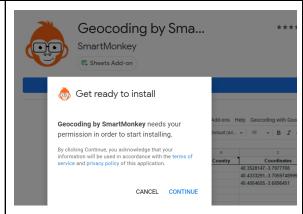
You're ready to begin adding content to your Google Sheet!

You're	You're ready to begin adding content to your Google Sneet!				
7.1	Data Entry	Use the Google Sheet Data table below as a reference for how to enter your information			
7.2	Row Order	The order of the rows in the Google sheet determines the order of the locations in the narrative panel of your map. You don't have to enter the data in order, but you'll want to make sure that you rearrange items into your preferred order before sharing/publishing			
7.3	Refresh map	The changes you make to your Google Sheet should be visible immediately with a refresh of your map. (This is because in Step 4.3 we left the "Automatically republish when changes are made" option on.) If changes don't appear immediately after a refresh, wait a minute or two and refresh again. If the changes still don't appear, check the Google Sheet to make sure you entered the data in the correct column and that it was formatted correctly.			

8. Optional Map Features: Geocoding by SmartMonkey

This free Google Sheets add-on will automate the conversion of addresses into geographic coordinates, meaning you won't have to look each up by hand.

	_	-
8.1	Sign into Google Drive	https://drive.google.com
8.2	Navigate to Geocoding page and install	Link: Geocoding by SmartMonkey
		Use the blue "Install" button to install this add-on into your Google Sheet. Click "Continue" when asked for permission to install.



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8.3	Select and authorize your Google account	A pop-up will appear with a list of all the currently (or recently) signed-in Google accounts. Select the correct account for the project. A second pop-up will appear asking you to give Geocoding by SmartMonkey access to "See, edit, create, and delete your spreadsheets in Google Drive." In order for the app to work, you need to click the blue "Allow" button. Click "Done" on the pop-up that appears with installation confirmation. You will receive an email stating that you've granted a third-party app access to		
8.4	Navigate to the Geocoding sheet in your Google Sheet	In the "Address" column, enter the addresses for your locations. Include as much detail as possible. Make sure there are no blank rows. In the "County" column, enter the country code (using DNS "Top Level Domain" notation). Ex: for locations in the United States, enter "us" Pro-tip: If you entered location addresses into the Location [I] column of the Google Sheet, you can just copy and paste them into this sheet. This way they will be in the correct order for step 8.7.		
8.5	Run the Geocoding app add-on	On your Geocoding sheet, click the Add-On option from the menu bar to open the app menu. Click on the "Geocoding by SmartMonkey" item and then the "Geocode details" option. The app will work pretty quickly (depending on how many addresses you have) and auto-fill the Latitude and Longitude columns for each location.		

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		.00 123 → Document add-ons		<u>A</u> ♦. ⊞	<u> 53 - </u>	= →	
			Geocoding by Si	martMonkey •	Create	Template	
			Special Charact	ers >	Geoco	de	, 900
		1	Get add-ons		Geoco	de details	nam E
			Manage add-ons	S	Help		st Ho
8.6	Copy coordinates into Chapters sheet		ails sheet, and p	the Latitude and L paste it into the La neet			
8.7	Verify locations	Refresh the map, scroll through it, and take a look to see if there are any outliers, any markers or chapters that don't seem to be located where you expected.					
		If any appear to the correct latitu		he wrong spot, try de coordinates.	the Google	method to	get
9. Op	9. Optional Map Features: GeoJSON Overlays						
10. O	ptional Map Features: I	Historical Map	Overlays				

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Appendices

Google Sheet Data

The Google Sheet template contains 15 columns with labelled headers. It's important that you not add any columns or change any of the header text. Doing so may prevent your map from displaying correctly or at all.

The columns available to you are as follows:

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[Column] Header name	Data type	What is it	Recommendations
[A] Chapter	string	The text in this column will act as the heading or title of each section of the story box of your map.	We recommend keeping this relatively concise. In-depth descriptive information can be added in the Description [E] column.
[B] Media Link	url	If you want a media item to appear in the story box, you can link to it here: External links: - Links to external image (Flickr, Dropbox, etc.) hosts should be secure (begin with https) and end with either .jpg or .png. - Linking to video services such as Youtube is possible - Links to external audio files should be secure and end with either .mp3 (recommended), .ogg, or .wav Internal links: - Files can also be hosted locally via GitHub - Upload media items to the "media" subfolder in your repo - Enter the pathname to your item in the Google Sheet as media/your-file-name - Make sure you include the file type extension	
[C] Media Credit	string	Here you can indicate any source or	

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		American coordinates, it will always be a positive number.	longitude:
[J] Latitude	numeric	Latitude for any location can be found in a variety of ways. It will always be the first of the two numbers in a set of geographic coordinates. For North	We recommend using a combination of the following two methods to determine latitude and
[I] Location	string	Data entered into this column does not appear anywhere on the map, so technically it can be left blank.	We recommend entering the address or location that corresponds to the data you'll enter in the Latitude [J] and Longitude [K] columns as a self-check or reminder
[H] Marker Color	categorical	There is a built-in list of color options for markers using plain-text names: blue, red, orange-dark, orange, etc.	
		Plain: Unnumbered location marker Numbered: Numbered by order in spreadsheet Hidden: No marker for this location	
[G] Marker	categorical	You can between three different marker types for each location on you map:	
[F] Zoom	numeric	You can set a zoom level for each location from 0 (world view) to 18 (individual buildings) with Leaflet's basic settings.	
[E] Description	string	This is where you can enter detailed information about the location. You can use some basic HTML code to add links, create paragraph breaks, format text, and more.	
[D] Media Credit Link	url	Here you can link to the source of any media item. This will make the info in the Media Credit column appear as a link.	
		credit information related to a media item. This will be displayed under the media item (as a link if a Media Credit Link is included in column D)	

		found in a variety of ways. It will always be the second of the two numbers in a set of geographic coordinates. For North American coordinates, it will always be a negative number.	location on Google Maps will display a pop-up that contains the coordinates. Geocoding by SmartMonkey add-on: this requires specific addresses in order to use, but will reduce the time spent on data entry. See instructions.
[L] Overlay	url	This column will be blank unless you are adding a georeferenced historical map over the base map. See instructions.	
[M] Overlay Transparency	numerical	This number controls the transparency of your overlay object. The transparency scale ranges from 0 (completely transparent) to 1 (completely opaque). Default transparency (if no number is indicated) is 0.7.	Try the default transparency, and then increase or decrease the number in the Google Sheet until the object or map is displayed to your preference.
[N] GeoJSON Overlay	path	If you've included a GeoJSON layer to your map, this column is where you will paste the path to the directory on your github. It will look like this: geojson/YOURFILENAME	The tutorial suggests that your filename should be all lowercase.
[O] GeoJSON Feature Properties	string	This is where you can control the look of your overlaid GeoJSON layer. You can designate: weight: of line or polygon border, default is 1 color: of line or polygon border, default is gray opacity: of line or polygon border; default is 0.5 fillColor: of polygon; default is white fillOpacity: of polygon; default is 0.7	You can use color names for the color options (just like [H]. We recommend selecting the colors you want, and using the default opacities and then increasing or decreasing them until the object is displayed to your preference.

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Terms

commit	This will essentially create a "save point"
fork	This action means to clone another user's repo into your GitHub, where you can then make changes, adapt, etc.
GeoJSON	
Georeferenced	
path	
repo	Shorthand for GitHub repository; this is the space where your files and code will be stored
transparency / opacity	

Basic HTML

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The following list contains some very basic HTML codes that can be used to format the text in the Description [E] column.

Text Formatting	Text Formatting			
Bold	TEXT			
Font color	TEXT			
Highlight (in yellow)	<mark>TEXT</mark>			
Italics	<i>TEXT</i>			
Paragraph break				
	**this goes at the end of a paragraph, no text goes between the two parts			
Links				
Plain TEXT				
Links (new window) TEXT				
Lists				
Unordered (bullet) List	 ITEM ITEM <l> <l> <l> <l> <l> <l> <l> <l> <l><</l></l></l></l></l></l></l></l></l>			
Ordered (numbered) list	<0 >			