Making a Math Website, as an Emory Math PhD Student

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Abstract

This is an overview of the general process of making a personal website as a math graduate student at Emory. These instructions (and accompanying PowerPoint) go over three popular workflow options: direct HTML, Google Sites, and GitHub. Please note that these are just some popular options I have seen, and the ways that I have figured out how to build and maintain a website. There are lots of other (perhaps better) ways to go about this, and I hope that these instructions just help you on your way to finding your own best practices.

1 Getting Inspiration

Perhaps the most effective website-making strategy I have seen is to find a website you like, and essentially copy it. As far as I can tell, this is an extremely well-respected strategy in the mathematics community. Looking at examples, I think, is a great way to figure out what is important to you. What do you like? What don't you like?

Examples of HTML Hosted by Emory

David Borthwick:	https://www.math.emory.edu/~davidb/
Julianne Chung:	https://www.math.emory.edu/~jmchung/
Alessandro Veneziani:	https://www.math.emory.edu/~ale/
Yuanzhe Xi:	https://www.math.emory.edu/~yxi26/
Nat Milnes:	https://www.math.emory.edu/~nmilnes/
Emma Hart:	https://www.math.emory.edu/~ehart5/

Examples of Google Sites

Neha Gupta:	https://sites.google.com/site/nehagupta15/
Matthias Chung:	https://sites.google.com/view/matthias-chung/
Lucas Onisk:	https://sites.google.com/view/lucas-onisk/
Matthew Allen:	https://sites.google.com/view/matthew-allen/
Griffin Johnston:	https://sites.google.com/view/griffins-webpage/

Examples of GitHub

Elle Buser:	https://ellebuser.github.io/
Mitchell Scott:	https://mtscott.github.io/
Michael Zheng:	https://mx-xz.github.io/

2 Choosing Which Option to Use

There are a many factors to consider, and this is not an exhaustive list, but some of the main ones I have come up against.

Ease of Use. By my evaluation, Google Sites is the easiest and most intuitive platform to make a website if you don't have much experience. Its user interface is a lot like PowerPoint/Slides. In a few minutes, you can have a website with pictures, pages, links, galleries, documents, and more, and you

are never working directly with any code. Hosting with GitHub, you can use HTML or Markdown, and hosting the site involves setting up a repository, but not many other technical steps. Using HTML directly and hosting with Emory will require you to connect to Emory's server and navigate in terminal, which requires some practice to get comfortable with.

Customizability. On the other hand, using HTML directly, or using GitHub, offers more customizability if you spend the time on it. Most Google Sites I have seen have a really similar feeling and style, whereas HTML (directly or on GitHub) offers much more flexibility to customize.

A Nice URL. Looking at the examples above, you can see example URLs from each source. If you host with Emory, your URL will be

`https://www.math.emory.edu/~NETID`

where `NETID` is replaced with your net ID. On GitHub, you can choose a URL string, and your website will be

`https://URLSTRING.github.io/`

and on Google Sites, similarly, you can choose a string, and a free URL will be of the form

`https://sites.google.com/view/URLSTRING`

Optionally, you can pay for a nicer URL on Google Sites, which is something like $12 a year.

Permanence of the URL. If you host your website directly through Emory, you will have to migrate your website; you will not be able to keep the URL when you graduate. On Google Sites and GitHub, this is not true.

Needing an Account. If you want to use Google Sites or GitHub, you will need accounts with them. To host on Emory, you will need a home file system, which you must email Edgar Leon about.

Search Engine Optimization?? Honestly, who knows. Folklore/mythology is that Google Sites may show up less frequently at the top of a search (because anyone can make one really easily), but really, truly, this is too chaotic and dynamic a thing to really know about.

Pride and/or Showing Off. I include this not meaning to be judgmental. I think that there is some pride/comradery in being familiar with HTML or GitHub that I have not seen as much with Google Sites. For example, I get some credit from my dad for being lightly familiar with writing HTML.

3 Google Sites Guide

Good people to ask if you have questions: Emma Hart (that's me!), Griffin Johnston, (honestly, my impression is that you won't have many questions)...

1. Navigate to Google Site, and create a new project
2. Play around with different options (PowerPoint-like UI)
3. Publish by clicking the "Publish" button in the top right corner and choosing domain options (free version or paid customizable one)
4. Contact Terry Ingram once your site is published. She can link your URL on the Emory Math People page.
5. To update your website, edit with the same UI you have been using and publish again. Google Sites will verify with you all the changes you made. No other step is necessary!

4 GitHub Guide

Good people to ask if you have questions: Elle Buser, Mitchell Scott, Michael Zheng ...

1. Create a new GitHub repository, and name is USERNAME.github.io (you could make it have another name, this is just the most straightforward...)
2. Create HTML or Markdown or Other files. Markdown is a more lightweight option than HTML. It can be more intuitive and less intensive to learn, with simpler look. Working from a template (in either HTML, Markdown, ...) can make the process even easier.
3. Check the URL `https://USERNAME.github.io/` to make sure everything looks as you want
4. Contact Terry Ingram once your site is published. She can link your URL on the Emory Math People page.
5. To update your website, edit the same way you have been. No other step is necessary!

5 HTML Guide

Good people to ask if you have questions: Emma Hart (that's me!), Francesco Brarda, Nat Milnes, ...

1. Create HTML files(s) and edit locally
   - Working from a template makes this much easier! If you choose a structure you like already, then you can just edit text/images, and it is a much more straightforward process than building from scratch.
   - You can test things out locally on your computer by opening the HTML files in Chrome/other.
   - You can create an .html file in Windows by creating a new file in file explorer and choosing a name like `index.hmtl`. If it is showing up as a file called `index.html.txt` this is not correct; make sure that your option to see file extensions is selected by going to the **View** → **Show** in file explorer and checking the box for **File name extensions**. You can edit this by opening the file in NotePad, and you can view the website output by opening it in Chrome.
   - To create an .html file on Mac (untested by me, sorry), you can open **TextEdit** → **Settings** → **Open and Save** and check **Display HTML files as code**. Then, you can type your HTML, go to **File** → **Save**, name it "index.html" and choose UTF-8 encoding. You can double click the file it open it in your browser.
   - If you are not opposed to using them, large language models are very very good at answering questions about HMTL formatting.
   - Be careful not to change too much at once to make debugging easier.
   - If you are already a VS Code user, this is a really nice option to be able to mediate between you and the server, and it offers a really nice HTML editing UI. Setting it up can be a little involved, but you can come talk to me (or IT staff) about it. It is a really nice option that can help you not have to do a lot of navigation in terminal.
   - After you have gotten everything as you want it locally, make sure every relevant file for your website is in a folder called `public_html`. Make sure that your homepage is called `index.html`.
2. Email Edgar Leon and ask for a home directory to store your website if you do not have one already
3. Connect to the server and check that the correct folder for your website exists.
   - Connect to server by `ssh`-ing to `lab0z.mathcs.emory.edu` by opening a terminal window by typing

     ```
     ssh NETID@lab0z.mathcs.emory.edu
     ```

     where you replace `NETID` with your network ID.

- Navigate to the folder `/home/NETID/sunhome/share/public_html`.
  - Use `pwd` to print working directory (see what folder you are currently in)
  - Use `cd PATH/TO/FOLDER` to change your path to the folder you specified
  - Use `cd ..` to move you one folder up
  - Use `ls` to list all files within a directory
  - Use `mkdir FOLDERNAME` to make a new directory (if necessary)
  - Use `rm FILE` to permanently delete a file (if necessary)
  - USE `rm -r FOLDER` to permanently delete a folder and all files within it(if necessary)

4. On your local device, copy the folder `public_html` containing all of your relevant website materials to the server.

   - Open a terminal locally (do not `ssh` anywhere) and navigate to the folder `public_html` containing all of your relevant website materials.
   - Use the secure copy protocol to copy this folder to `/home/NETID/sunhome/share/` using

     ```
     scp -r public_html NETID@lab0z.mathcs.emory.edu:/home/NETID/sunhome/share/
     ```

     The `-r` tag means to recursively copy files in the folder `public_html`, to the path `/home/NETID/sunhome/share/` on the server `lab0z.mathcs.emory.edu` with your username `NETID`.

5. Check `https://www.math.emory.edu/~NETID` to make sure things are working.

   - If your website isn't displaying properly after uploading files to the server, the issue may be incorrect file permissions. When files or folders are copied from your local machine, they sometimes lose the necessary read or execute permissions that make them accessible online. To fix this, navigate to your share directory on the server and run `chmod 755 public_html`. This command gives you full control over the folder while allowing others (like the web server) to read and execute its contents. After doing this, your site should be viewable in a browser. You may have to repeat for different files and or subdirectories.
   - Be sure to keep a local copy of the website (as a best practice, so you don't lose somehow).

6. Contact Terry Ingram once your site is uploaded on the server. She can link your URL on the Emory Math People page.

7. To update your website, you can edit locally, delete, and recopy the folder over, or you can use `vim`, which is an in terminal editor. Here's a nice video: https://www.youtube.com/watch?v=Zub1xDlSzR0

If something comes up, talk to me in N404, or our (honestly superheroic) IT staff of Michael, Varun, Sergio and Edgar.