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introduction: why zines?

Of all the ways to communicate about a technical topic, why pick zines? Also, what are zines?

A zine is a self-published magazine. It doesn't have restrictions on size, or format. You can handwrite it. You can make stick figure cartoons for it. You can type it & use memes to illustate it.

Have you ever wanted to learn about a complex technical topic but been too daunted? Have you ever wanted to write about a technical topic but been too worried that you aren't an expert?

The magic of zines is that a zine is less daunting than a textbook, for both the reader and writer.

Especially for a field with a tendency to be as elitist and homogenous as STEM, zines can help make complex topics more accessible and inclusive.

If you're not convinced yet, here are some other reasons!

- You can trade them/hand them out at technical conferences.*

- If you give a talk, you can hand them out to your audience after your talk.*

- If coworkers are always asking you about a certain topic, you can write a zine about it and hand it out to anyone who asks you questions.*

chapter 1:

getting started

What materials do you need to get started making zines? Depending on what kind of zine you want to make, you can use any/all/some of the following:

marker

pens

paper

washi tape

scissors

stickers

yarn/thread

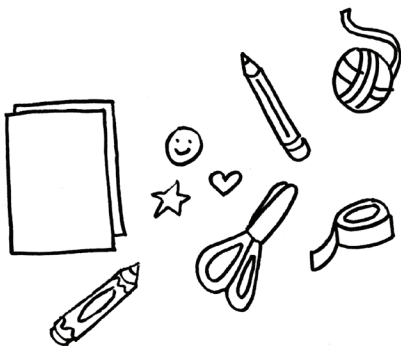
stapler

magazines

white-out

computer

printer

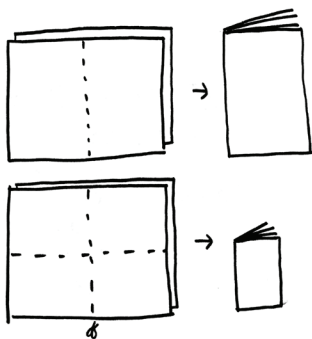


If you go the computer route, it might also be helpful to have desktop publishing software like Word or InDesign.

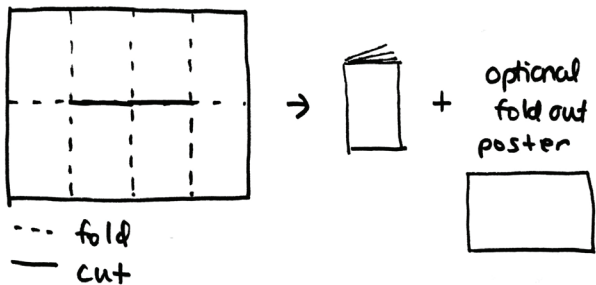
Layout/Format

What kind of format can your zines be in? The possibilities are limitless, but we'll cover 2 kinds:

A booklet like this one, made up of pieces of 8.5" x 11" pieces of paper folded in half or (1/4) and stapled.



Another kind is made up of a single 8.5" x 11" piece of paper folded in half three times and cut to make a mini 8-page booklet that can also fold out into a poster on the reverse side!



Picking a topic

What do you want to write a zine about?

You might already have a topic in mind but if you don't, don't worry--we can brainstorm together right now!

What technical concept blew your mind as soon as you heard about it?

What concept did you wish you understood earlier on in your career?

What technical concepts do you use most on a daily basis?

Do you have a favorite algorithm, fact, or piece of computer knowledge, even (or especially) if it's not very useful on a daily basis?

Have you given a talk at a conference? Maybe it would make a good zine!

What is a topic that you've always wanted to learn more about? You can try to teach yourself from wikipedia, textbooks, and blogs, and document your learning process for others to follow along with.

Is there something you misunderstood for a long time? You can write about it in case others have the same misconception!

Here's some space to brainstorm!

chapter 2:

the writing process

So, you've picked a topic & format! Now what?

It's time to start writing. You might have your own tricks to start writing. Every writer is different, just as all people are different and writing styles are different. But here are some tips that I've found useful to help you get started, or in case you hit a creative wall!

Naming your zine

I often like to start off by brainstorming about the name of the zine! If you're a person who likes puns, here's your chance to go wild! Clever titles are a great way to get your audience's attention.

But if you're not a pun person that's ok too--a straightforward title will let the reader know exactly what they're in for.

Designing the cover

Designing the cover of a zine is one of my favorite parts of the process! There are so many possibilities. You can draw the cover with pen and paper. You can watercolor the cover. You can make a collage with magazine clippings. You can use photoshop to make a digital collage of images from your gifs folder.

Your thesis statement

Don't worry, I'm not going to make you write a thesis statement. Wait, I take that back. Maybe I am. I find it really helpful to write a thesis statement. But, you don't have to show anybody. And when I say thesis statement I just mean: What do you want your readers to get out of your zine? Can you distill it into a sentence?

"I want the reader to see the ways that computer memory and human memory are alike and different."

"I want the reader to see that every layer of the Internet is about good communication practices."

Keep that sentence in mind and let it guide you throughout your writing.

Writing the introduction

The introduction is probably the first thing that the reader will see in your zine. It's a good opportunity to pique their interest. I like to use the introduction as a chance to tell people why the topic I'm writing about is relevant to them. Why do you like this topic? When does it come up for you in your work? Why should they care about it?

I usually start writing with the introduction, because it helps set the tone for the rest of my zine, and it helps me feel a sense of momentum that propels me through writing the rest of the zine!

Writing the main content

There are two ways that help to frame the writing process, and I find myself switching between the two.

Outlining and filling in details:

I like to jot down some major points I want to make and some major areas I want to cover. I add ideas for subsections, and when I write, I flesh out more and more detail into this outline.

DATA STRUCTURES

- A. QUEUES & STACKS
(fill in)
- B. ARRAYS & LINKED
LISTS
(fill in)
- C. TREES

Stream of consciousness and lots of editing:

This approach is kind of the opposite. I sit down and write anything that comes to mind related to the topic. A lot of what I write in this phase is trash and unusable. But just writing anything helps me formulate my thoughts. And, it's encouraging to feel like I have momentum. And with enough editing, maybe it can even become something usable.

~~Hmm so I'm writing down every-~~
~~thing I know about data structures.~~
~~My favorite one is a hash table,~~
~~I love hash tables and hashing~~
~~algorithms. trees are also really~~
a ~~useful for searching. what other~~
~~ones might be~~ good ~~to mention?~~
~~Let me just list all the ones I~~
~~can think of to come up with~~
~~any~~ ideas.

chapter 3:

being actively inclusive

Writing a zine is a good opportunity to be actively inclusive.

Spell out acronyms

You might be so used to the acronyms of your field that you might not realize that they can be confusing to beginners. While reading over your zine, double check if you've used acronyms like API, TCP, CPU, etc, and spell them out and explain them.

Write diverse characters

If you've included people in explanations or stories, check over them. Are any non-white? Are there non-male characters? Androgynous characters? Characters with disabilities? Do you include names of different ethnicities?

Currently, children's books contain more characters that are inanimate objects than Asian and Black characters combined.

Diversity in Children's Books 2015

Percentages of books depicting characters from diverse backgrounds. Based on the 2015 publishing statistics compiled by the Cooperative Children's Book Center, School of Education, University of Wisconsin-Madison. cCBC.education.wisc.edu/books/postdata.asp



0.9%
American
Indians/
First Nations

2.4%
Latinx

3.3%
Asian Pacifics/
Asian Pacific
Americans

7.6%
African/
African
Americans

12.5%*
Animals, Trucks, etc.

73.3%**
White

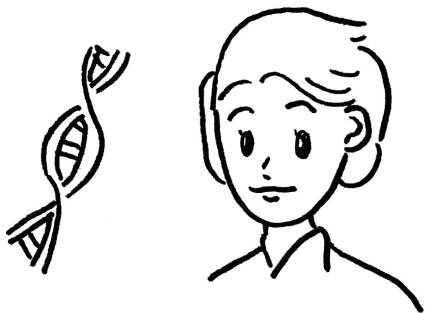
Illustration by David Hayik, in consultation with Sarah Park Dahlen & Molly Beth Griffin. Released under a Creative Commons BY-NC-SA license: <https://creativecommons.org/licenses/by-nc-sa/4.0/>

* About a quarter of the total children's books published in 2015 were picture books, and about half of those depict non-human characters, like animals & trucks.

** The remainder depict white characters.

Double-check the history

So many discoveries in STEM included work of marginalized people that went uncredited. Watson and Crick used data dishonestly acquired from Rosalind Franklin to make their discoveries about DNA, but never credited her, for instance. It worthwhile to make an active effort to include the untold stories of told stories of marginalized people in STEM. They deserve credit and also, it helps marginalized people see examples of themselves in fields that they might not otherwise.



Don't be dismissive

Refrain from writing things like "This will be easy" or "obviously" or "clearly". What's easy for you might not be easy for someone else.

Include drawings and diagrams

My high school test reader always gives the feedback "More drawings please!" It helps her feel less intimidated by the material and makes the subject more fun. Also, some people learn better with visuals, and it's good to try to cater to different kinds of learning styles.

Non-technical test reader

Speaking of high school test readers, you can test how accessible your zine is by having test readers of varying skill levels to see if they all understand.

chapter 4: editing

My experience with writing is that it's only 10% of the writing process--and that the other 90% is editing.

Taking a break

I find that it helps to take a small break between writing and editing so that you have fresh eyes!

Asking for help

I usually have at least two other people read my zine that are not me--one person who is a domain expert in that area and can help me catch technical inaccuracies, and one person who is a technical writer, and can help me catch grammar or structure issues. Also, having a marginalized person do a sensitivity reading can help you catch subtly sexist/racist/ableist statements.

Value people's time! I pay the people who check over my zines. If your project has a smaller budget or no budget project, that might not be possible. But there are other ways that you can value someone's time:

- sending them several copies of the zine
- crediting them & adding a shoutout to a project of theirs

- sending them a thank you card/gift
- taking them out for a thank you meal
- offering a skill exchange--"I'll edit your zine if you edit mine" (or some other skill).

chapter 5: sharing

Now that your zine is completed, how do you get it out into the world?

If you want physical copies, you can print it on your own printer, at a local print shop, or copy shop.

You could also make a digital version, and you could share it online! You can let it be free, you can put it up for sale, you can let people pay what they can, you can collect the funds and donate them. So many possibilities!

If your local community has a zine fest, you could apply for a table to sell/give out your zines.

Your local library might have a zine section! You could ask them if they'll take zine donations.

Your local schools/after school programs could maybe use copies of your technical zines!

Hopefully, the love and care that you put into writing your zine will reach lots and lots of people! Or even just a snigle person, and that will make a difference!

chapter 5: inspiration

Here are some of my favorite STEM zines!

twophoton: <http://www.twophotonart.com/>

julia evans: <https://jvns.ca/zines/>

lin clark: <https://code-cartoons.com/>

vaidehi joshi: <https://medium.com/basecs>

free radicals: <https://freerads.org>