Welcome to CS122! 🎨⚒️

Please take the cardstock and a marker, fold it in half lengthwise, and write your name on one side. This is your **name tag** for the semester.

Your first assignment is to **decorate** your name tag by collaging cool/ interesting things you find from the magazines. Cut them out and glue them on!

Logistics can be a bit boring, so feel free to do this throughout the class. Drop off your name tag in the wooden box before you leave.

Let’s get making!

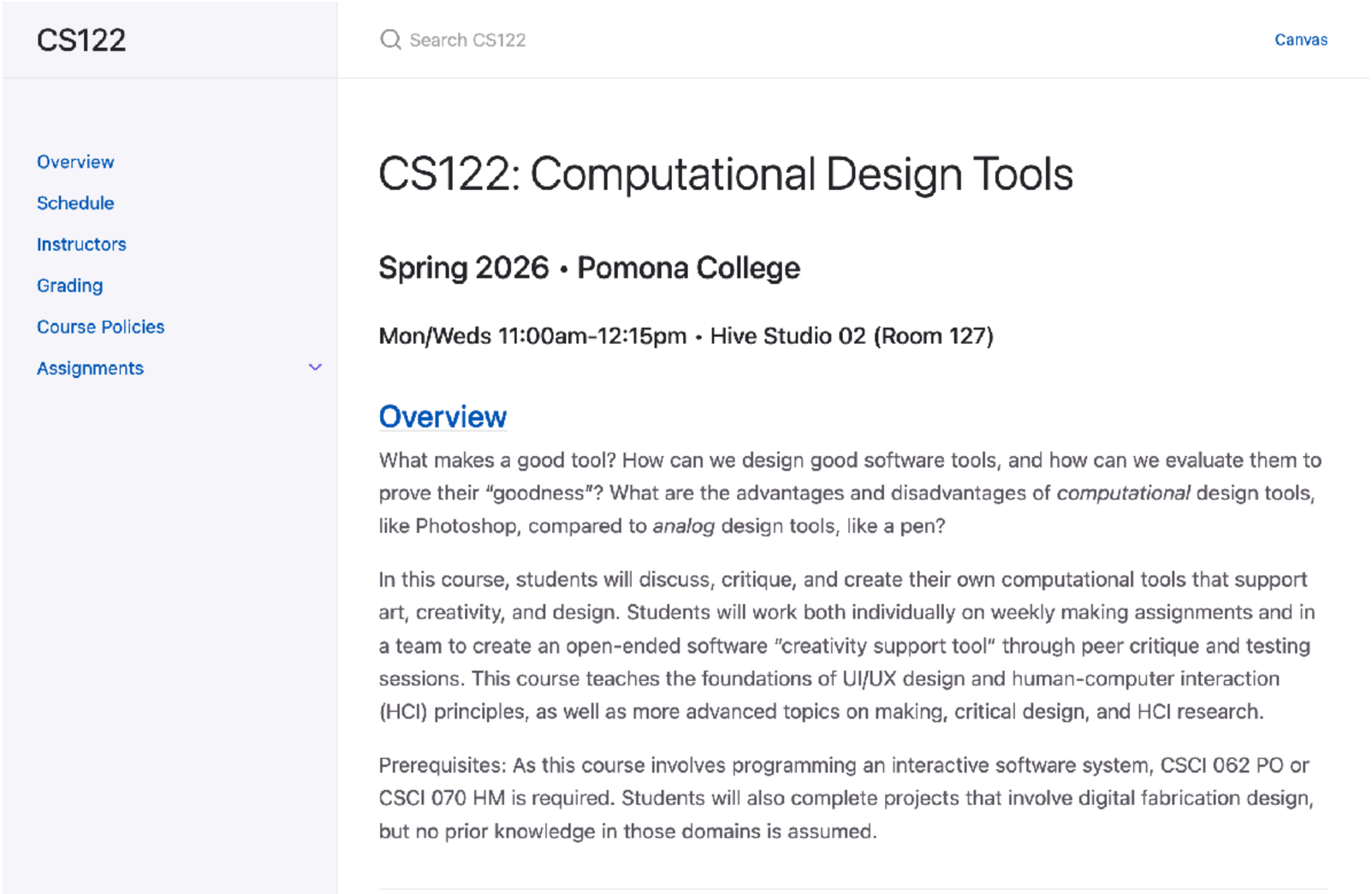
Class 1 agenda

- Course overview. What will you learn?
- Class intros
- What is design? What are tools?
- Boring but important logistics
- Personal Making 1 assignment: Hacking Zine

Course overview

Please use the class website!!!

https://cs.pomona.edu/classes/cs122/



Course thirds

1 Making

Make things with many tools to establish proficiency at using tools

4 personal making assignments

- Maker movement
- Design activism
- Analog fabrication
- Digital fabrication
- Creative coding

2 Tools

Make a tool

(Final project, Wizard-of-Oz prototype)

- Brainstorming
- Needfinding
- Prototyping
- Software systems design
- Evaluation

3 Craft

Be critical of computational tools

(Final project implemented)

3 more (simpler) personal making assignments

- Critical design
- Research through design
- Materiality & craft
- Power & art
- Generative AI & (its negative effects on) creativity
- TBD?! Your choice!?

And three types of modules for class

1 Lecture

Like right now

(There will be interactive components, don’t worry)

2 Seminar

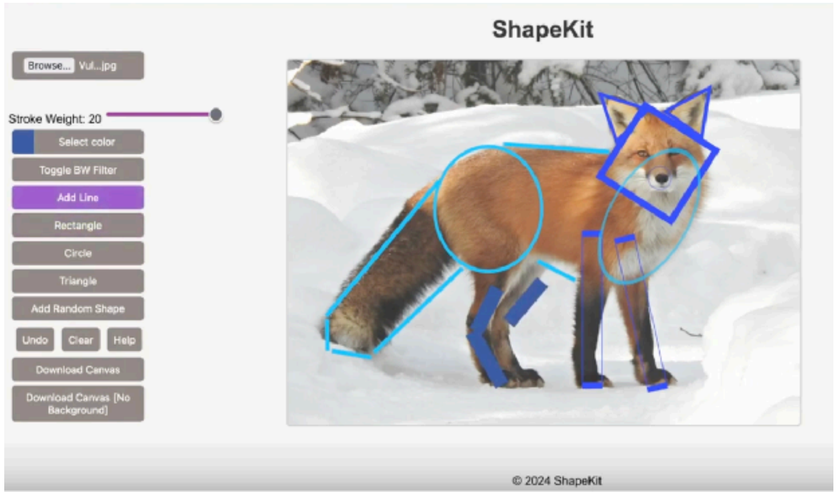
Discussing the readings: lead by a pair of students

(except for the first one next Monday, I’ll lead that)

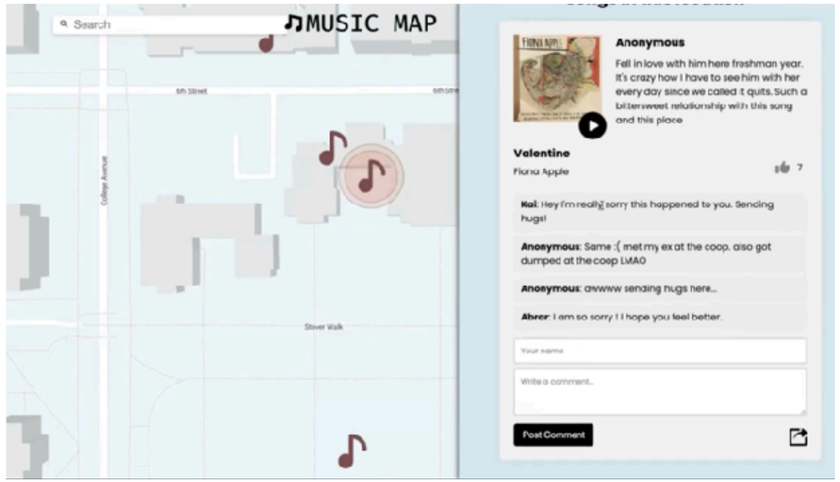
3 Studio

Other guided activities, like a workshop tutorial, project critique, project work time

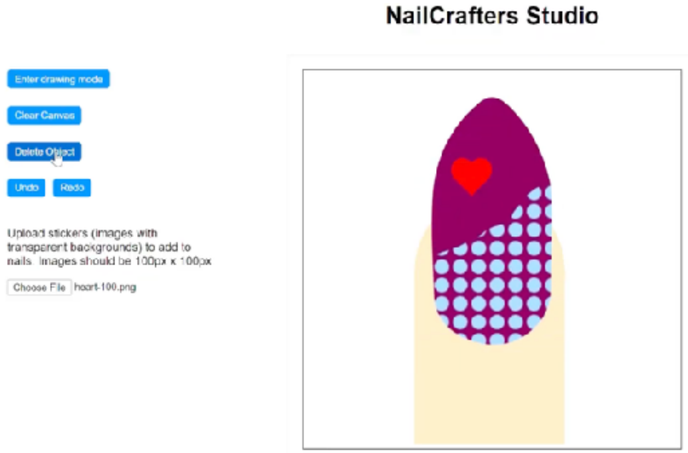
Selected final projects - Spring 2024



ShapeKit (decomposing photos into shapes for drawing)

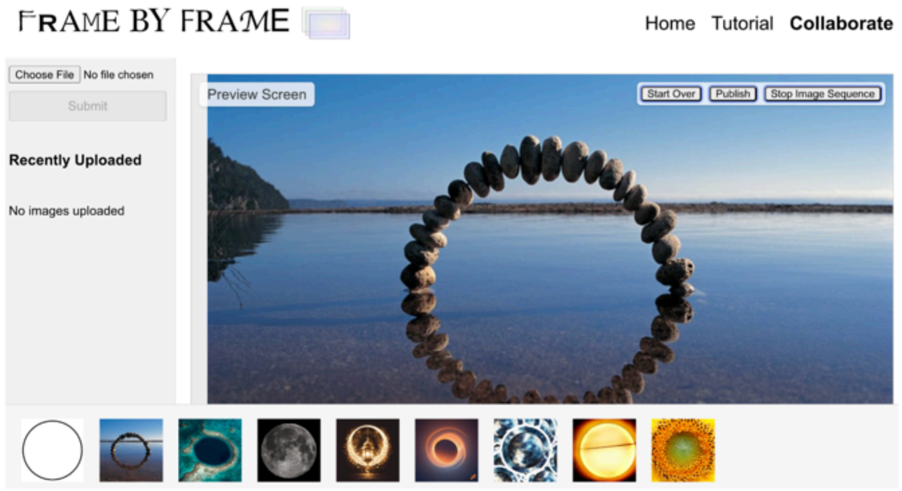


MusicMap (location based song memories)

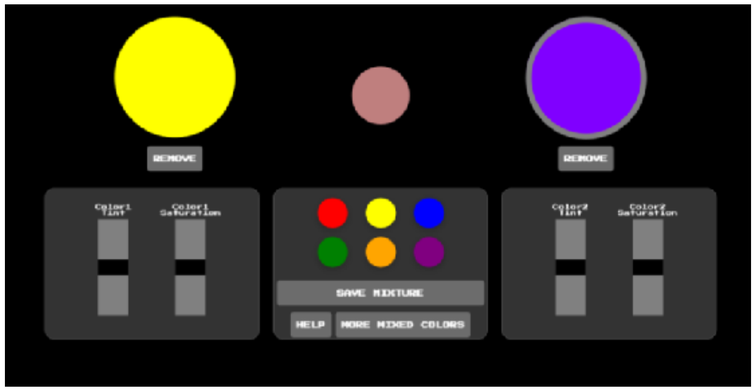


NailCrafter's Studio (digitally design & plan out your nails)

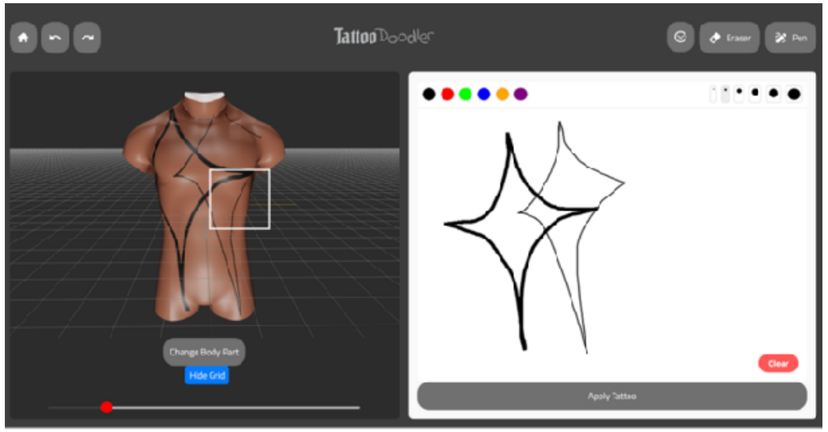
Selected final projects - Fall 2024



Frame by Frame (collaborative collaging)



Project MUSE (mix colors to create music)



Tattoo Doodler (preview tattoos on your body)

Course intros

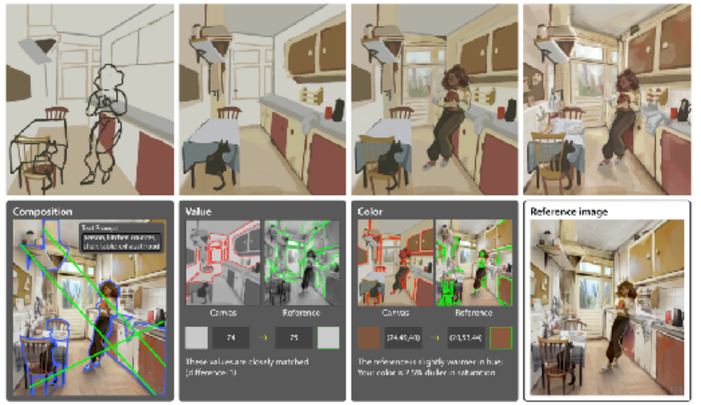
Prof. Li

they/them • jingyi.li@pomona.edu • Edmunds 111 • jingyi.me

- Teaching CS62 & CS122
  OH: Mon 1:30-3pm, Weds 4-5:30p, by appointment

- Research: human-computer interaction, specifically in art creation tools. I run the Doodle Lab.

- Things that make me happy:
  - drawing/painting/sewing; talking about art
  - going to concerts, reading, video games, Pokémon, my cats
  - birding, biking, being outside



Your turn!

- Name, school, year
- Pronouns (if you'd like)
- The last "creativity support tool" you used (e.g., a pen, VSCode, Microsoft Word…)
- 1 thing that you're looking forward to this semester and/or
  1 thing that you liked over break

Computational ✅
Design ❓
Tools ❓

Design

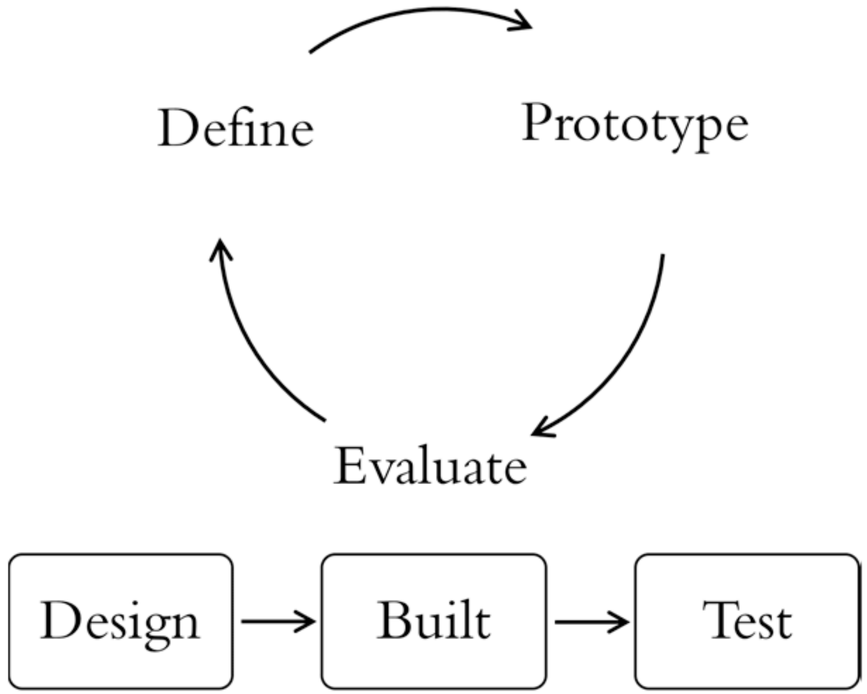
What is design?

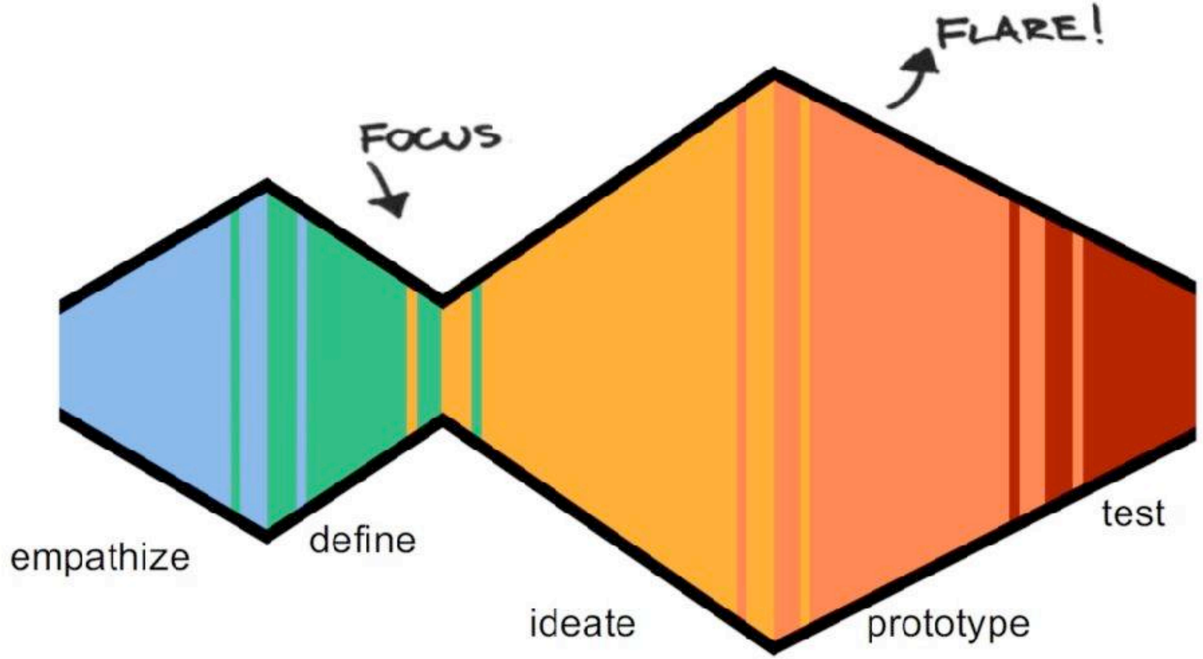
- With your table, discuss…
  - What was the last thing you designed?
  - How would you define “design”?
  - What is the difference between design and art?

  - Come up with a group consensus definition and difference.
  - The person wearing the most colorful outfit will share back to the class.

Human-centered design

- A *methodology* for building stuff that places the *user* at the heart of the process
- Also called user-centered design, or design thinking





Human-centered design

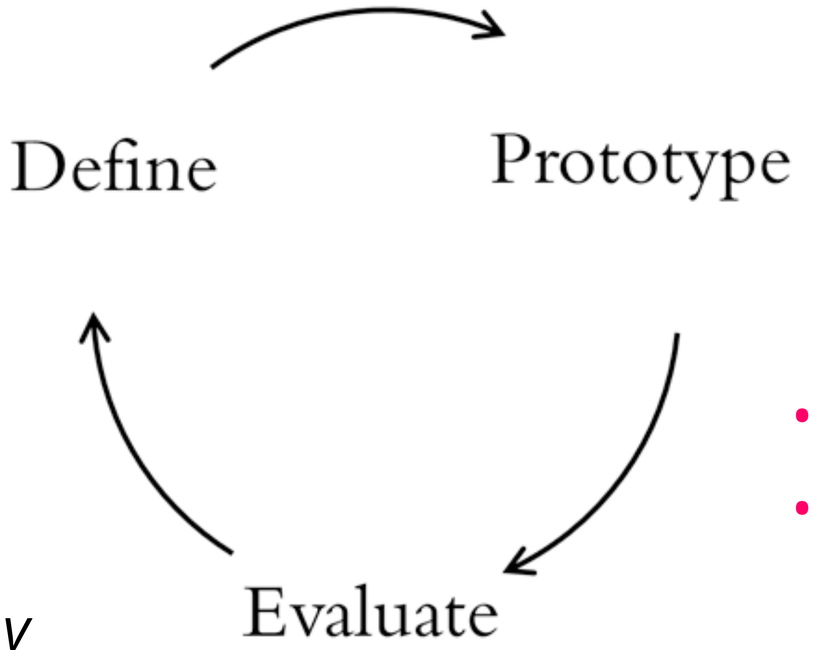
You will be doing…

Ideating / brainstorming

Need finding

- User interviews
- Competitive analysis

Communicating design ideas via storyboards



- Low-fidelity prototyping (paper)
- Interaction prototyping (video)
- High-fidelity prototyping (Figma)

- User testing
- Qualitative data (e.g., participant quotes)
- Quantitative data (e.g., Likert scale surveys)
- Picking best evaluation metrics to match goals

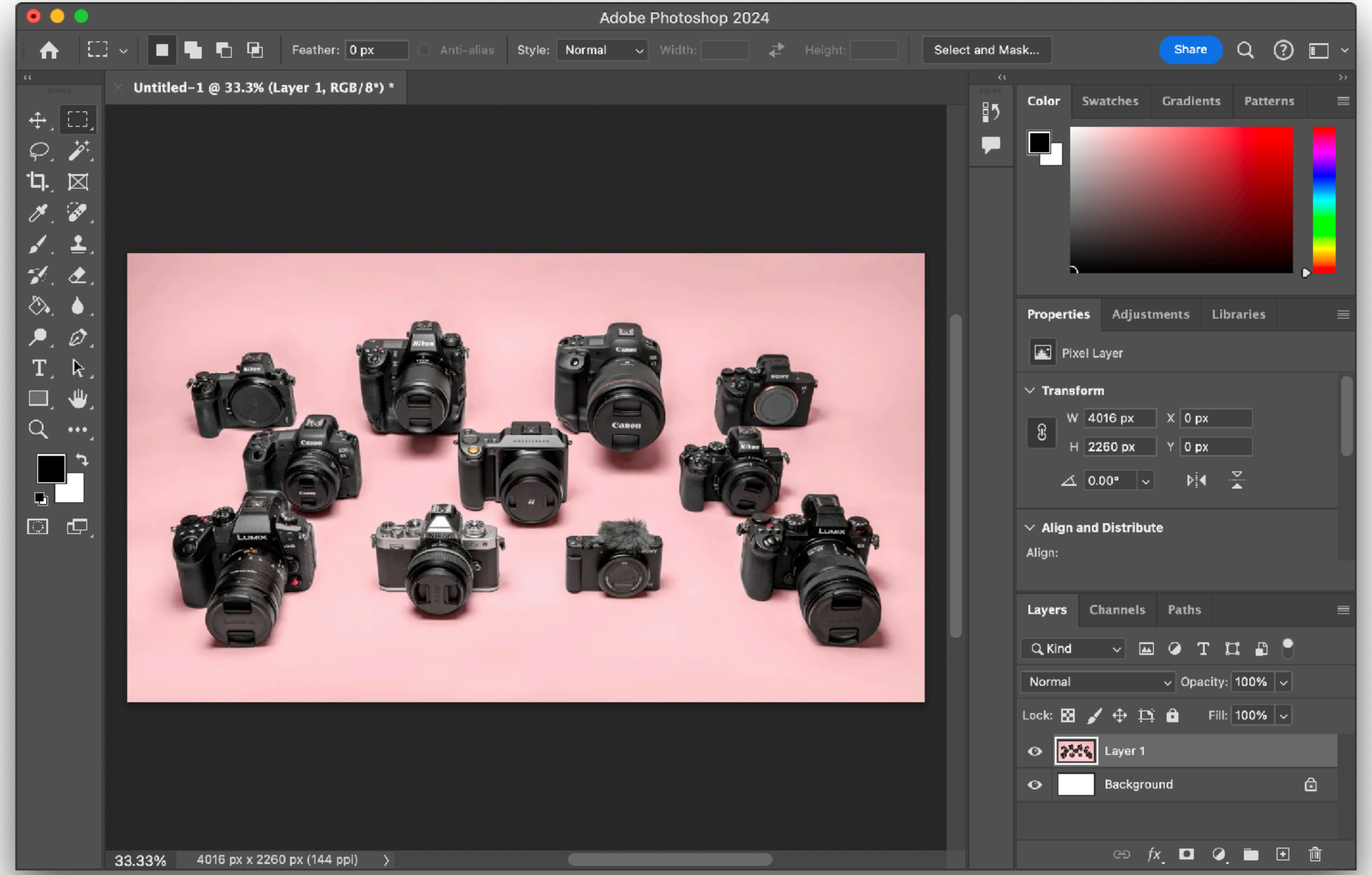
+ theory and rationale for why doing this process is "good"

+ academic literature on why design can be "bad" sometimes

Tools


Proferred
Proferred


Nikon
Nikon
Canon
EOS R3
Canon
SONY
Canon
EOS R5
Canon
HASSELBLAD
Nikon
LUMIX
GH6
Nikon
SONY
LUMIX
S5


Adobe Photoshop 2024
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Anti-alias
Style: Normal
Width:
Height:
Select and Mask...
Share
Untitled-1 @ 33.3% (Layer 1, RGB/8*) *
Color
Swatches
Gradients
Patterns
Properties
Adjustments
Libraries
Pixel Layer
Transform
W 4016 px
X 0 px
H 2260 px
Y 0 px
0.00°
Align and Distribute
Align:
Layers
Channels
Paths
Kind
Normal
Opacity: 100%
Lock:
Fill: 100%
Layer 1
Background
33.33%
4016 px x 2260 px (144 ppi)

DALL·E History Collections

Start with a detailed description **Surprise me**

An Impressionist oil painting of sunflowers in a purple vase... Generate

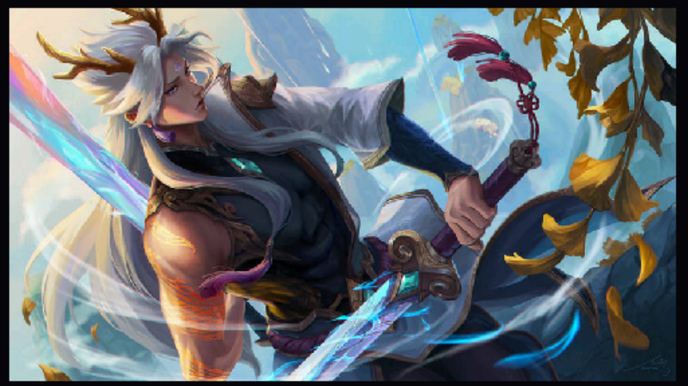
Or, upload an image to edit

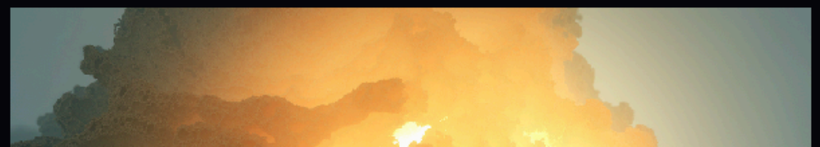
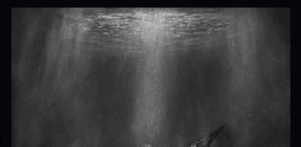
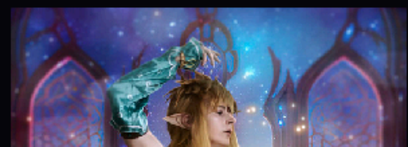
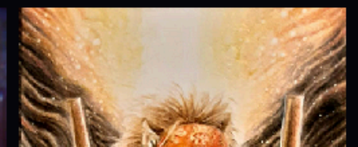
Home







Pomona College Outlook Search

Home View Help

CS dept meeting
Tomorrow 9:30 AM

New mail | Quick steps | Read / Unread

Folders

- Inbox 56
- Drafts 1
- Sent Items
- Deleted Items 67
- Junk Email 63
- Archive
- Notes
- <3
- Conversation History
- Reference

Create new folder

Search Folders

Go to new Groups

Focused Other

CS Colloquium- Friday, Jan 23, 11am Summarize

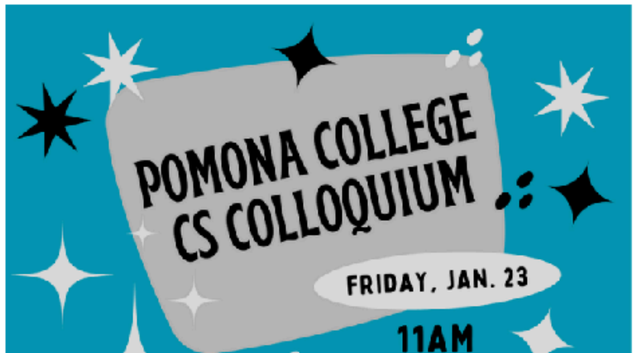
CS Colloquium

Friday, Jan 23

11am

Estella 1051-Argue Auditorium

Come learn about SURP (Summer undergraduate research program) opportunities in the department! CS professors will pitch their summer research projects.



README.md — cs122-sp26

UNREGISTERED

FOLDERS

- cs122-sp26
  - .github
  - _announcements
  - _includes
  - _layouts
  - _modules
  - _sass
  - _site
  - assets
  - assignments
    - as1.md
    - as2.md
    - as3.md
    - as4.md
    - as5.md
    - as6.md
    - as7.md
    - index.md
  - project
    - fsm.png
    - index.md
  - .ruby-version
  - _config.yml
  - Gemfile
  - Gemfile.lock
  - LICENSE
  - README.md
  - sketchnotes.md
  - visual-software-design.m

README.md | index.md | as7.md | as6.md | as5.md | as4.md | as3.md | as2.md | as1.md

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64
65  Schedule subject to change due to feedback and student needs.
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67
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72        <th>Date</th>
73        <th>Topic</th>
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81        <td>Jan 19</td>
82        <td><i>No class 🌱 (MLK Jr. Day)</i></td>
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93      </tr>
94
95      <tr>
96        <td>2A</td>
97        <td>Jan 26</td>
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.* Aa “” sampelzin Find Find Prev Find All

Line 4, Column 18 spring26 78 Spaces: 2 HTML

A definition of a tool

- A tool is any **external object** that increases our **physical abilities** or **cognitive skills**.

Hammer

Email

Coding

Camera

Photoshop

Dall-E

DeviantArt

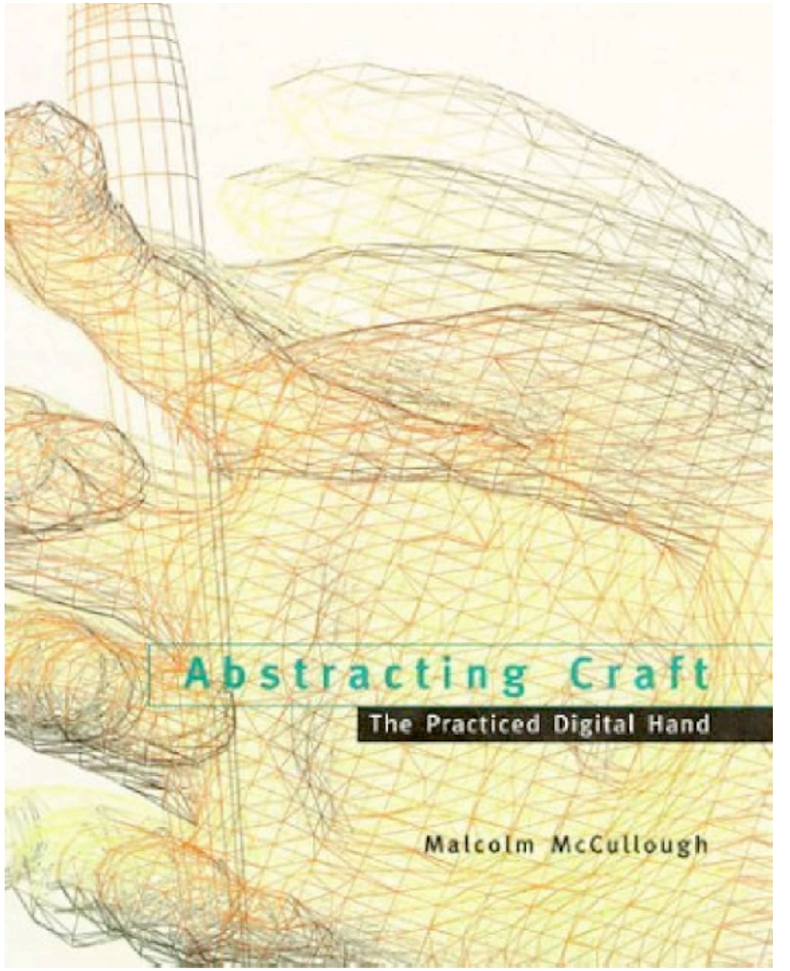
Implication: tools let you **accomplish goals** that

(1) weren't possible before, or
(2) were more difficult/unpleasant to do without the tool

The Toolman effect: Preexisting non-tool-use experience improves subsequent tool-use performance.
https://www.sciencedirect.com/science/article/pii/S0001691821001396

Another definition of a tool

- a **moving entity** whose use is initiated and actively **guided by a human being**, for whom it acts as an **extension**, toward a specific **purpose**
  – Malcom McCullough, on computational tools
- This to me implies..
  - 1. Interactivity (moving)
  - 2. Agency from humans (guided by)
  - 3. Complimenting human skills (extension)
  - 4. Existence of goals (purpose)



Course logistics

Types of assignments

- Zipcrit (I'll demonstrate next class)
- Reading responses + seminar (I'll demonstrate next class)
- Personal making (almost always released Monday in class, due next Monday)
- Final project (computational tool)
- Almost everything is due at 11:00am before class

Zipcrit: 5 min at the start of class

- (*From the course website)* Each student will sign up to present a "zipcrit" at the start of class. A zipcrit is a **rapid critique of a tool** (or a specific feature of a tool) of the student's choice. The presenting student has a maximum of **2 minutes and 3 slides** to introduce the tool to the class, as well as one question they would like to center the discussion around. The question should be about some aspect of "toolfulness" (interactivity, agency, goals, extension, etc.). The class will then collectively critique the artifact. Students are encouraged to use an expansive definition of “tool.” It can be physical, digital, envisioned. Cute things from the depths of the internet or your personal passions are encouraged.

Past ZC topics included...

- Procreate
- Notes app
- Cups
- Binder clips
- Spotify daylist
- When2meet
- reedsy plot generator
- Skiplagged
- Pinterest
- URL Longener
- Strava route builder
- Anki method
- Gmail filters
- A soft murmur
- Tesla steering wheel
- Airbnb's "categories" feature
- Carrd
- Library of Babel
- Wikipedia
- E-scooters
- iPhone control center
- Dry fly
- Inkscape
- Roblox
- coolors.co
- BeReal
- Queering the Map
- Caffeinated drinks
- VPNs
- The n+7 method
- Pitch grips
- Crochet needles
- Kiosks
- and more....

Reading responses

- ~100 word response
- Please skim the readings for the main ideas (you'll get better and faster at this as the semester progresses)
- Lowest 4 are dropped (submit "I want to drop this" so you don't use your late days)
- Graded in 3 buckets: Good (✓ 93), superb (✓+ 100), needs work (✓- 80)
- Should feel low stakes — don't stress yourself out aiming for a ✓+
- First two reading responses due **next class**
  (on the "maker movement" and AI art)

Course policies

- 7 total no questions asked late days, but message me if you will be using them
- You can use ChatGPT to help you write code as long as it's **cited**. You cannot use ChatGPT for most other things, like to help you write words (reading responses, reflections, etc.)
- Please come to class whenever possible. If you have a conflict, send me an email or Slack message to let me know
- I will be traveling week of 2/9 and 3/23; your TAs (Miriam and Tara) will lead class!
- All course policies are flexible; we're here to support you

Grading

Grading

There are no exams in this course. There are 7 individual “personal making” assignments worth 35% of your grade (5% each) and a group final project worth 40%. Readings and participation compose the remaining 25%.

- 40% final project
- 35% personal making assignments
- 20% readings & seminar
  - Reading responses (10%) - Your lowest 4 reading responses will be dropped (4 individual readings, not 4 days’ worth of readings)
  - Leading a seminar discussion (10%)
- 5% participation
  - Zipcrit presentation (2%)
  - Attendance and participation in critiques, seminar discussions, in class activities, etc. (3%)

Mastery based bucket-style grading: you can resubmit check minus assignments

This is maybe unlike other CS classes you've taken at Pomona...

- Unlike problem sets or code run on an autograder, the assignments do not have an objective right answer. They're subjective and artsy, and you get out what you put in
- My tips for success (and sanity):
  - Don't aim for a ✓+, aim for mastering the learning goals
  - Don't stress out yourself because you don't feel "creative enough", ask for help
  - Don't aim for creative perfectionism for every assignment, you'll burn yourself out
- This class has *a lot* of work: reading, making, designing. There is almost something due every class session. Pace yourself!
  - 4 total reading responses will be dropped

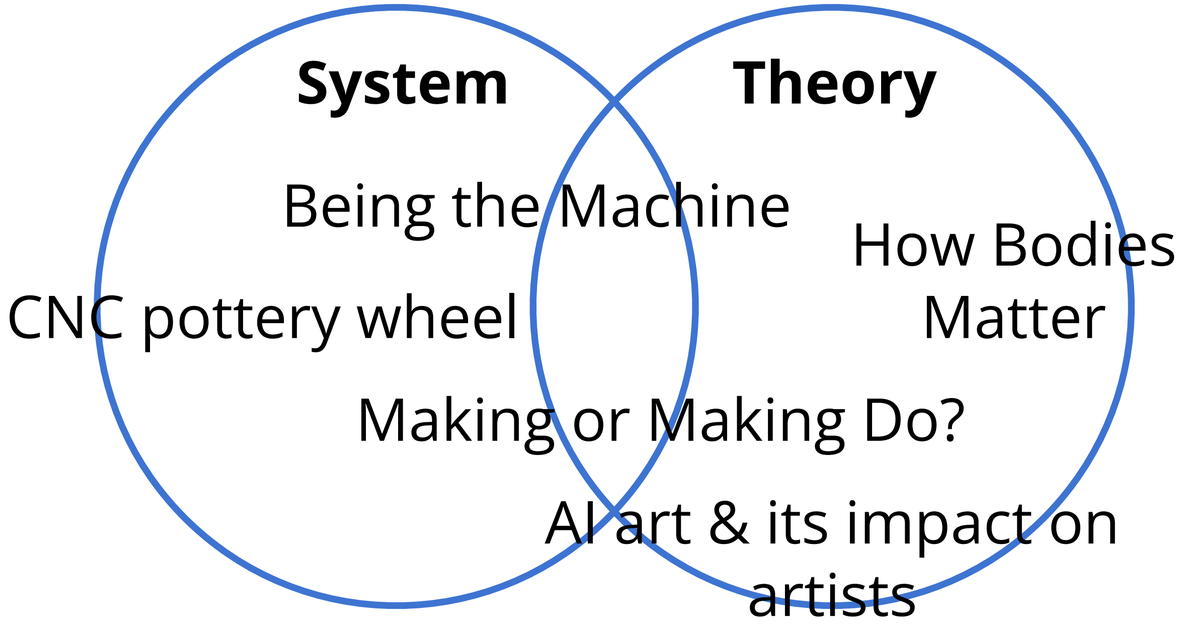
Getting help

- Doing creative assignments can be intimidating
- I am here to support you!!! But I cannot help you if you do not let me know.
- Office hours: Edmunds 111, Mon 1:30-3pm, Weds 4-5:30pm
  - Also by appointment: happy to meet 30 min before class for seminar feedback, for example
- You'll all be added to a course Slack soon. Treat it as a forum. Your classmates are here to support you, too!
- Best way to contact me is via Slack DM (or email)
- TAs will most likely hold "project parties" for personal making assignments, and definitely for the final project

How to read HCI research papers for CS122

Types of HCI papers

- In this class, we'll be mainly reading 2 types of HCI papers
  - A description of a *system* that was built
  - A more *theoretical* or *design* oriented contribution



How to read system HCI papers

- First, don’t read the paper. Instead, search the paper title to see if there’s a video the author posted.
  - Always find and watch the video of a system first - a static PDF is a poor medium to describe an interactive system
- Read and understand the **introduction** carefully: this is where the authors make their argument and motivation for why the work is important
- It’s OK to skim the related work & methods sections
- Build a wholistic understanding of the system through the system written description, but more importantly the figures & video
- The discussion is a grab bag; worth skimming or reading deeply if something in there interests you

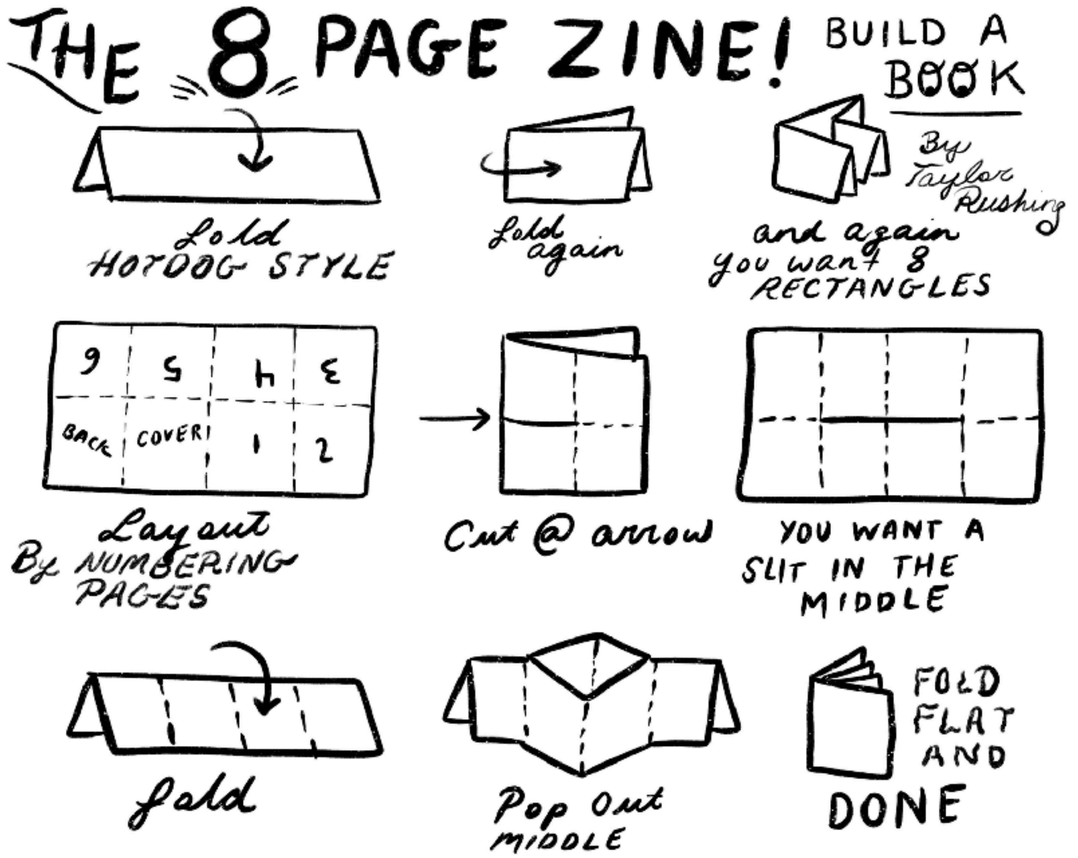
How to read theory HCI papers

- Your goal is to understand the **main point of the theory** and **read the examples** that crystallize and apply the theory
- The sections are slightly different than a systems paper; you should still fully read the intro and skim the related work
- Ask yourself: how does this theory apply to my assignment due next week?
- For all papers, the goal is to be able to have the background to participate in the in-class seminar discussion/activity!

PM1: Hacking Zine

https://cs.pomona.edu/classes/cs181dt/assignments/as1/

- First, read Making or Making Do?
- **Make a physical zine about a time you hacked something**
- Not about drawing ability!
- Detailed instructions are on the class website
- Due next Weds (9/4) 11am: turn in on Canvas & **bring to class for our first critique**



Class 1 recap

- TODOs:
  - By **EOD Thurs**: Class survey (linked on Canvas, and class website), unless you're on the PERM list
    - Give preferences for seminar & zipcrit days
  - By **next Monday**'s class: two 100 word reading responses (Making or making do? & AI art and its impact on artists)
  - By **next Wednesday**'s class: PM1 - Hacking Zine
- So 3 assignments for your first week: (1) welcome survey, (2) reading responses, (3) zine
- Bookmark the class website: https://cs.pomona.edu/classes/cs122/
- Drop off your name tag before you go!