

Rapid Prototyping

ITIS 4350/5350

Today's Agenda

- Introductions & Setup
- Canvas Tour & Syllabus
- Introduction to Rapid Prototyping
- Introductory Sketching Activity

Notes:

- Slides / recording will typically be posted after class session
- Team Formation survey can be completed by late Thu - will have some in-class group activities - can update submissions before final deadline

Getting to Know Course Staff

- David Wilson - Instructor
- Saquib Sarwar - Teaching Assistant (TA)

Contacting Course Staff

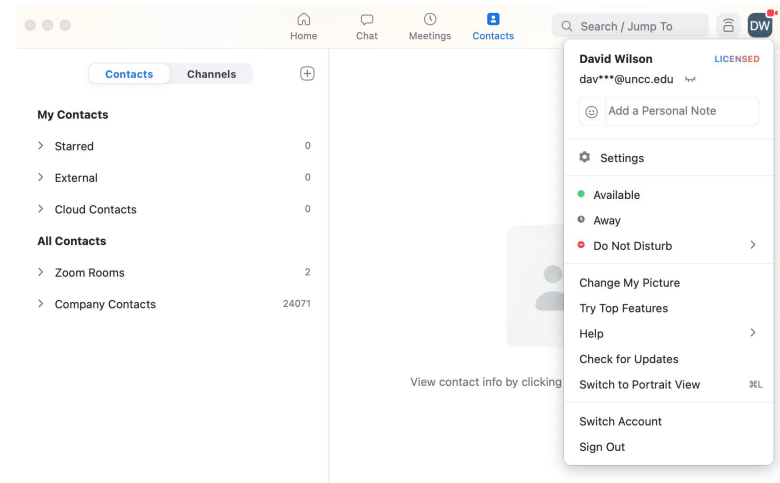
- Avoid using email for regular course questions (that you might ask in class)
- Private matter? (my grade, group concern, health issue). Please email.
- Primary Contact: Use Canvas - General Course Questions & Discussion
 - Others likely have same concerns / questions (they may even have the answer)
 - Course staff may post a response on forum
- See staff link in Canvas for office hours (usually before class or by appointment)

Setup Expectations

- Desktop / Laptop Computer with Camera / Audio
 - Small-format mobile is typically not so appropriate for in-class activities
- Browser set up and logged in to Canvas for course
- Browser logged in to ninernet for use of Google Workspaces
- Zoom session open for this class day

Zoom Highlights

- UNC Charlotte login
- Typically open ~10-15 minutes before start of class
- Connect before start of class
- Main Items
 - Chat
 - Reactions
 - Breakouts
 - Share Screen
- Etiquette
- Questions in chat during presentation
- Chat or unmute & ask for open questions

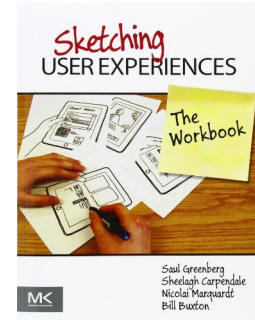
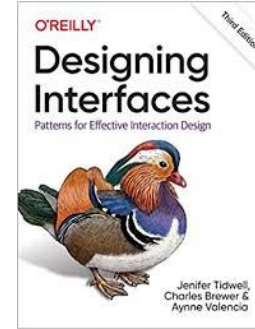


Materials

2 Required Textbooks

- Designing Interfaces (DI)
 - 3rd Edition
 - Possible O'Reilly limited free trial to start with
- Sketching User Experiences: The Workbook (SUE)
 - Atkins Library - free eBook version - see Canvas materials

Sketchbook (later)



Course Format

- This course is scheduled as **all online** for the whole semester.
- It has a scheduled meeting time (**synchronous online**)
 - so students are expected to join and participate in real-time for the whole time during each scheduled class period.
- Class times are Thu @ 5:30pm-8:15pm.
 - You should plan to join the Zoom session a bit earlier than the 5:30 start time.

Class Time Expectations

- Be present the whole scheduled time
- Remain in Zoom Meeting for whole scheduled time
 - Even if team members may use supplemental channels
 - Zoom is how course staff will be communication during class
- Use class time for progress on coursework for this class
- If an in-class activity is genuinely and thoroughly complete, use the time to begin next steps (e.g., prep work, next activity planning, report development)
- In order to receive credit for in-class activities, you must be present for that class time (this applies to the grace / late period)

Canvas Introduction

- This course will use Canvas for all course content, including materials, instructions, and assignment submission.
- You will be expected to access the Canvas site regularly to keep up on readings, check our live class sessions prior to class start, and come prepared with assigned work.
- You are expected to be subscribed / pay attention to the course general discussion forum / announcements
- Additionally, we will use Canvas for all course communication and grades.

Canvas Tour & Syllabus

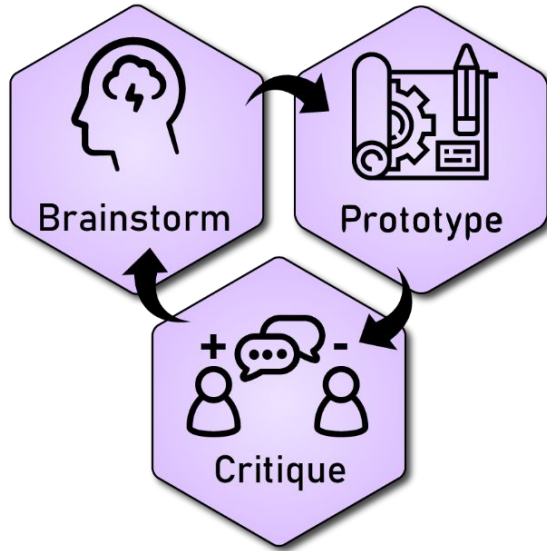
What is a prototype?

Why do you need a prototype?

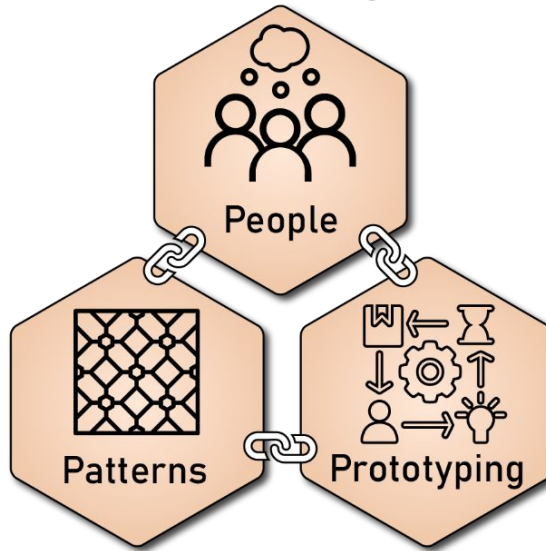
What is rapid prototyping?

Overview

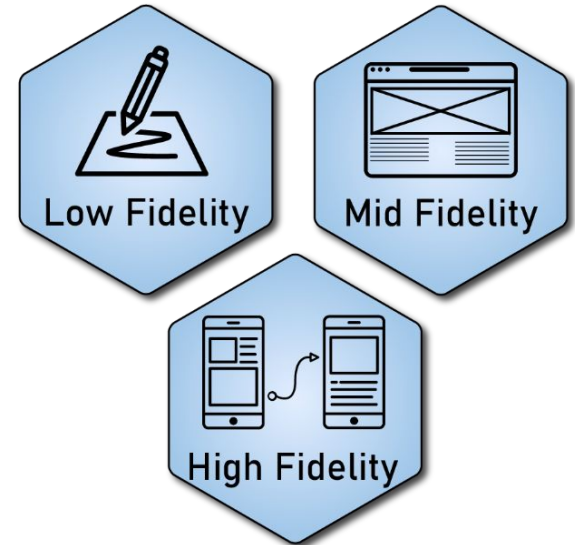
Approach



Theory



Practice



Course Objectives

- Utilize human behavior/cognition patterns and for application design creation and critique.
- Utilize interface design principles for application design creation and critique.
- Utilize interface design patterns for application design creation and critique.
- Utilize prototyping techniques for application design creation and critique.
- Create prototype designs at different fidelities for diverse contexts and users.
- Critique interface designs for diverse contexts and users.
- Evaluate interface design aspects through user studies.

Course Topics

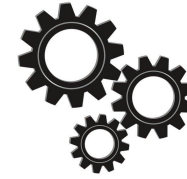
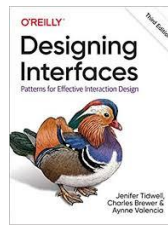
- Cognition and user behavior in Interface Design
- Design critique
- Evolutionary/iterative prototyping
- Prototyping across different levels of content fidelity

Design Patterns

- Content organization
- Navigation
- Layout
- Visual style
- Mobile interfaces
- Lists
- Actions
- Input

User Interface Prototyping Techniques

- Sketching
- Storyboarding
- Paper Prototyping
- Prototyping with general software tools
- Prototyping with specialty prototyping software tools
- Prototyping tools for different levels of interactivity / functionality



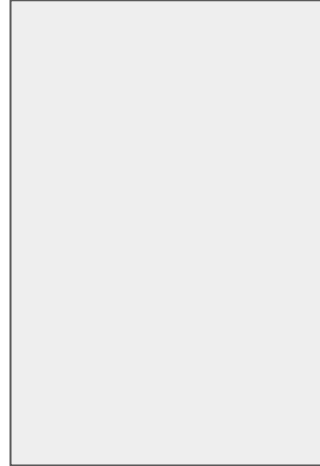
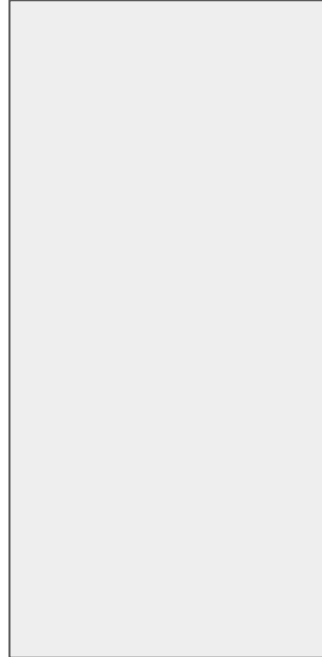
Theory / Vocabulary Design Patterns

Sketching / Ideation Tools

Prototyping Techniques / Tools

Week

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17



Final Exam Period

2 Main Types of Activity

Prep Work / In-Class Activities

- Individual activities
- Provide practice on different prototyping elements / approaches
- Each class

Project Activities

- Team activities
- Apply different prototyping elements / approaches to create a substantive prototype
- Periodically in mid-later weeks

First weeks will focus on foundational preparation - prep work & in-class activities

Later weeks will incorporate a team project exploring a different prototyping technique each week

Different Avenues for Feedback

- In-Class peer critique / review on
 - In-class activities and prep works
 - In-Class TA questions / feedback
 - Feedback on Prep Work / In-Class Activities applied to Projects
 - Comments on assignments
 - Office hours / meeting with staff outside class time
-
- It is your responsibility to be proactive in connecting with feedback, both through peer interaction and instructional feedback

Sketching

Why Sketch?

- think more openly and creatively about your ideas;
- create abundant ideas without worrying about their quality;
- invent and explore concepts by being able to record ideas quickly;
- record ideas that you come across;
- discuss, critique, and share ideas with others;
- choose ideas worth pursuing;
- archive your ideas for later reflection;
- have fun creating while designing.



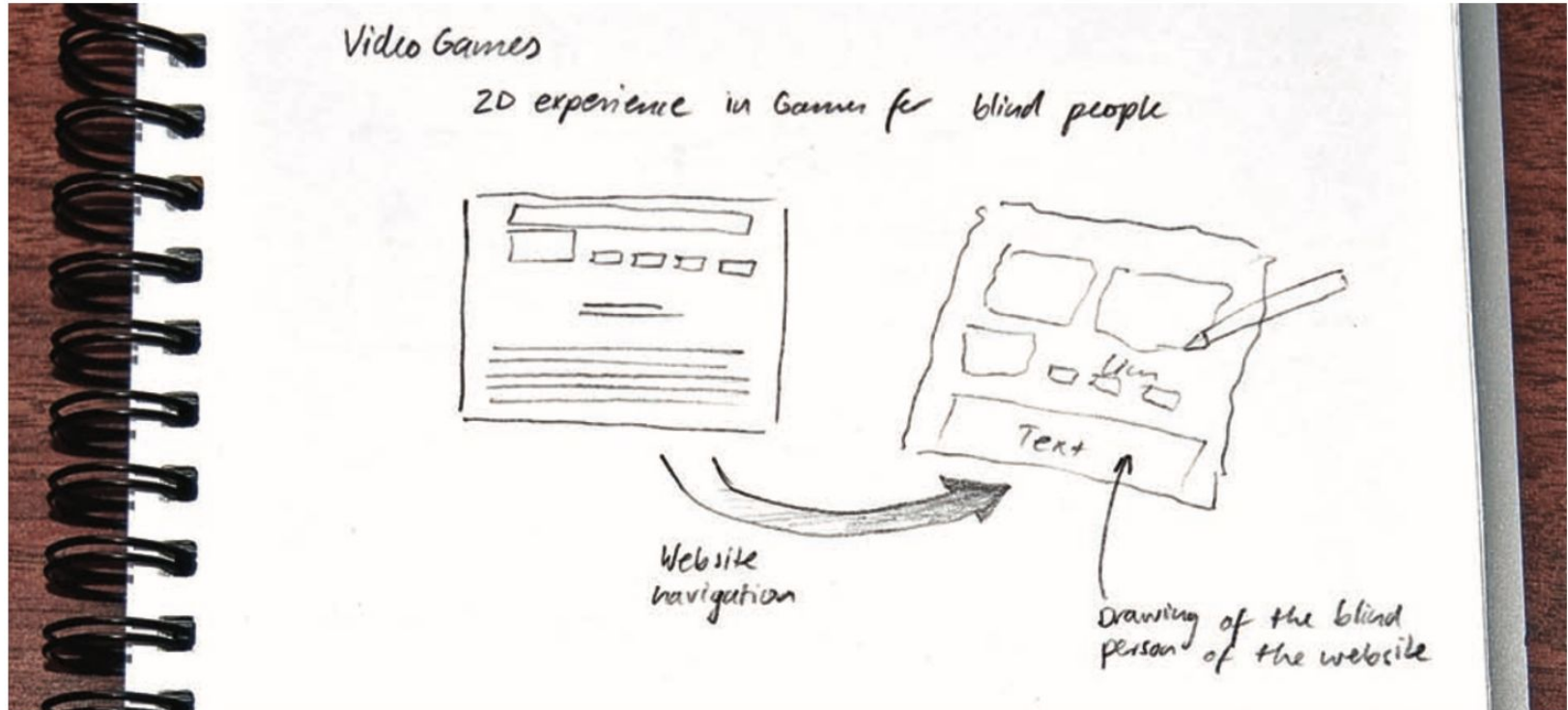
The Sketches in This Preface

Are you experiencing a sinking feeling looking at the sketches of the four authors in this preface? While far from high art, you may think sketches like these are beyond your abilities. Like most people, it could be that the last drawing you did was in Grade 5.

Don't lose heart. These sketches were actually made by one of the authors who has – to be frank – quite pathetic artistic skills. He used a method called *photo traces* to quickly generate these sketches, where he simply traced over existing photographs. We'll introduce you to photo tracing and many other methods that you – the non-artist – can use to generate your own passable sketches.

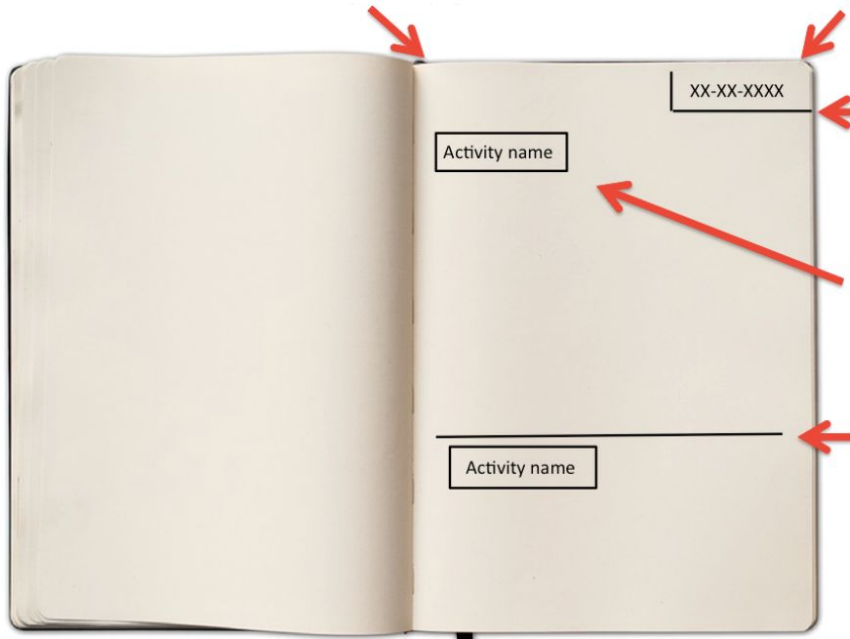
You, the Bad Artist

The methods in this book do not require high or even intermediate levels of artistic skills. As you will see, the very best sketches are sometimes just rough line drawings.



Sketchbook

Start each primary sketching assignment on the first blank right-side page



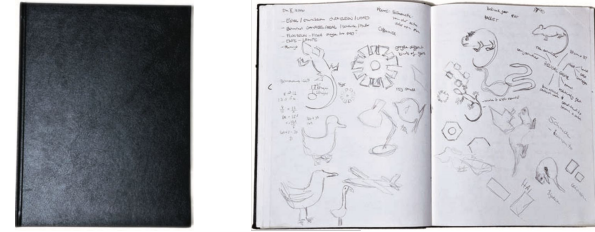
Date in the right top corner. Consistent format.

Draw a box around the date.

Sketching assignments may have multiple parts / activities.

Indicate each activity with title + box.

Draw a line to separate different parts / activities.



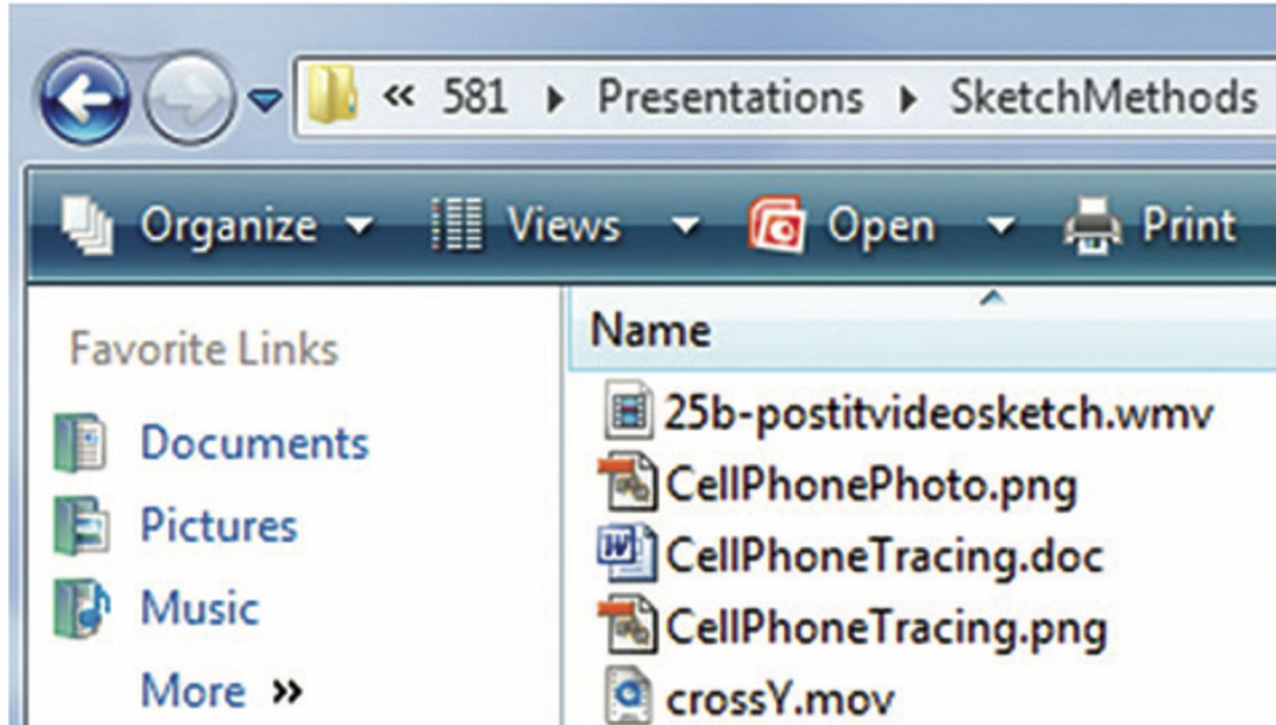
- Sketchbook (not loose leaf paper)
- 8.5 x 11 (no small or large sketchbooks)
- Plain Paper (no grids or lines)
- Hard or Soft Bound (no wires)

Scribble Sketching

Scribble Sketching

- **Scribbling** – drawing very quickly, without much attention to detail, and at very low fidelity.
- **Scribble Sketching** – scribble focuses on the essence of whatever idea you want to capture.

- Look at the screen shot below (a view of Microsoft's Explorer window for file browsing).
- Create a scribble sketch that captures a primary idea (for example, the structural layout of the window) as laid out in this view.





Purpose: emphasize the overall layout into panes and what is in them

What details are included

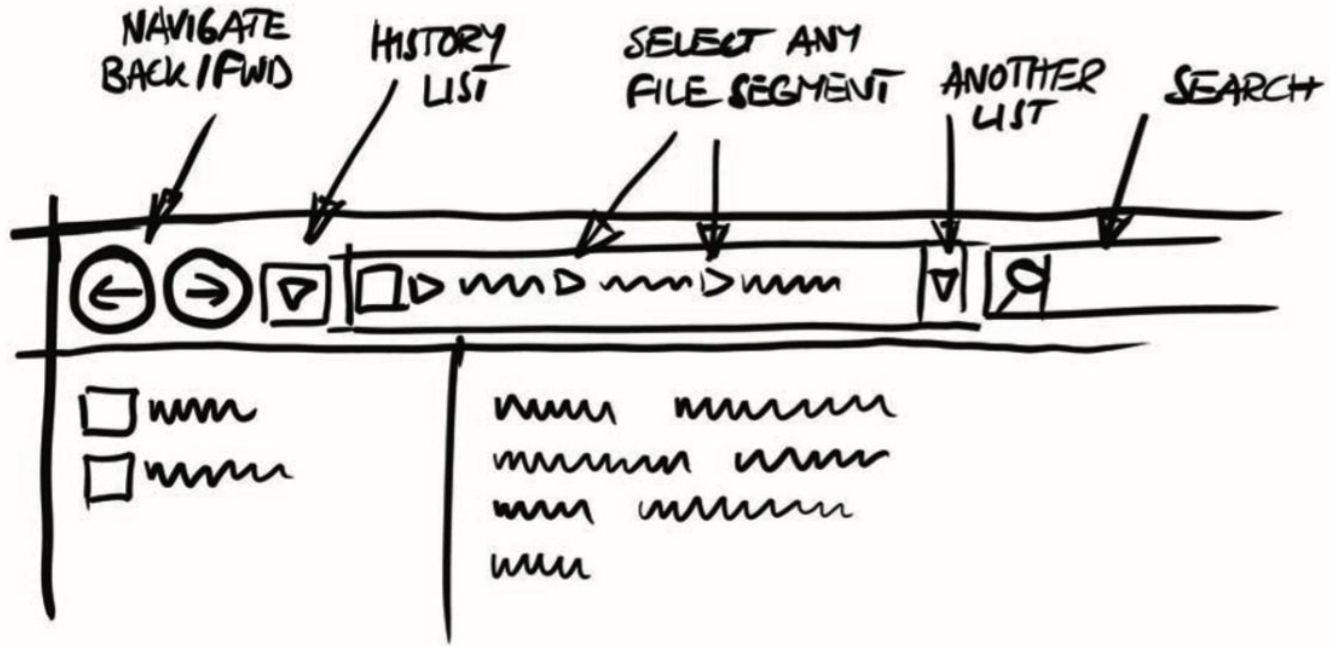
- highlight the primary concept being captured
- structure of the panes,
- few key buttons / fields

What is abstracted as a caricature

- less important aspects are muted
- icons/labels (for files/folders/commands) = box with scribble text.

What is left out

- non-important details omitted entirely
- decorations,
- actual text
- lesser interface controls



Purpose: emphasize interaction methods used in the title bar to rapidly navigate to other folders

Critique

Critique

When critique is done well, it

1. identifies the strengths of the work
2. helps to improve the weaknesses of the work
3. helps our professional development
4. enhances mutual trust and collaboration
5. ultimately helps entire professions like design to advance and grow.

In short, critique matters because it enables us to improve our work.

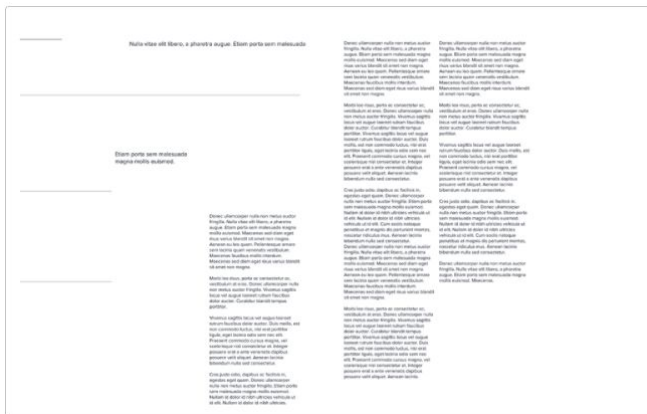
Critique Approach

When Reviewing

- Identify good / poor
- Balance positive / negative
- Goldilocks Zone

In Feedback

- Respectful tone
- Identify potential paths, don't dictate how to do
- Guidance in Questions



“

Rivers between columns

Font is crazy small!

Font too light

Too much whitespace — look at my project!

Poor font choice — try a serif

Margins too small

”

“

Hey! Thanks for asking me to take a look at your draft. I really enjoyed reading the chapter you sent me — lots to learn there and it's going to be a great book when it hits the market.

Anyways, here's my feedback on the points you asked about:

— **Layout:** *I like it — it's fresh and minimal, which is just the right look for the book's subject matter. I was wondering if there's *too* much white space though?*

— **Typography:** *I found the body text pretty hard to read. Given the size format of the book, the text is set very small and in a very light weight. Did you consider any other typefaces?*

— **Use of columns:** *I think they will work okay once the typography is tweaked. At the moment the rivers of whitespace between columns are a bit distracting. Did you see that article on Designlab the other day about calculating gutters and margins? Man, I love those guys!*

Hope that helps! The illustrations, by the way, are looking fantastic (are you going to offer them as prints? You totally could!)

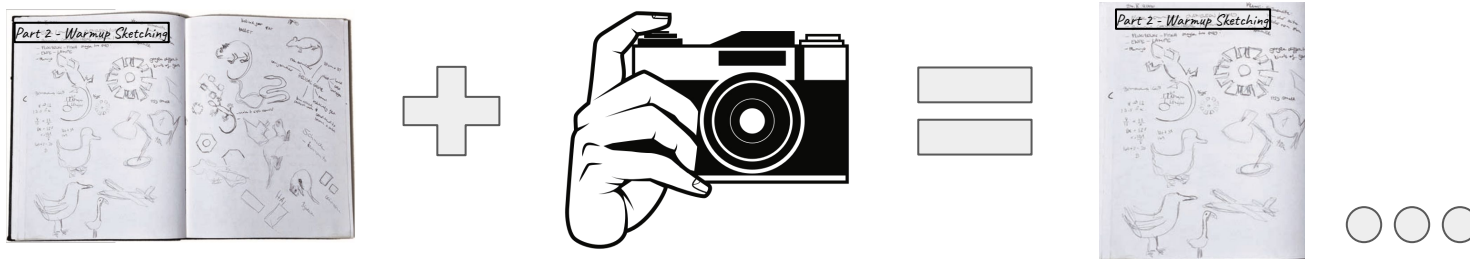
Let me know if I can help with looking at the next draft. :)

”

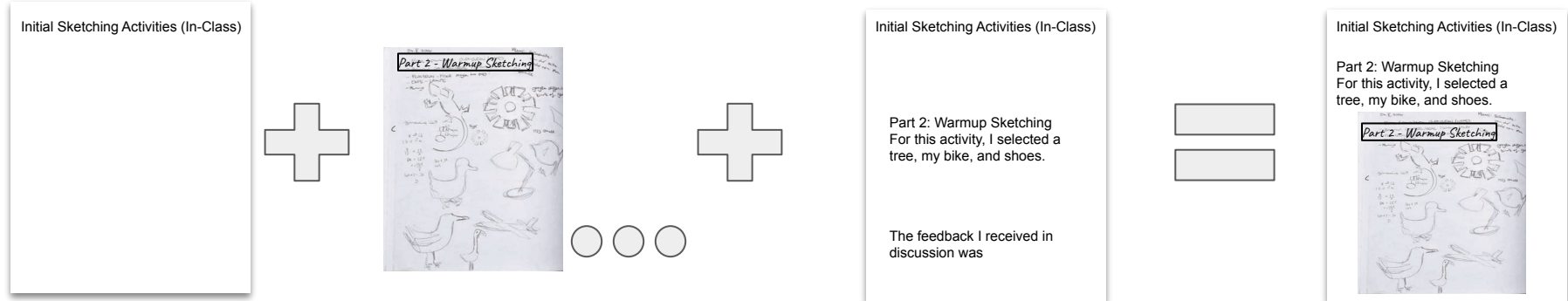
Sketchbook Submissions

Sketchbook Submission Process

Take pictures of hand-drawn sketching to add to submission document.



Create submission document (google doc/word), insert sketching pictures, and activity text / discussion.



Export the final submission document with sketch images and activity headers / discussion to PDF.

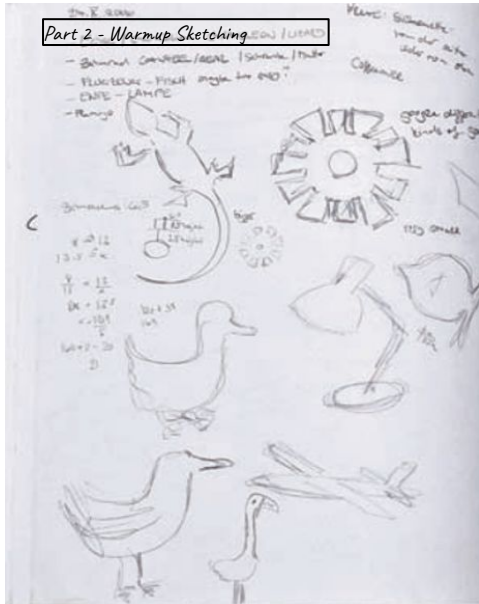
Sketchbook Submission Process

sketch pictures -
direct overhead shot,
fully framed & legible

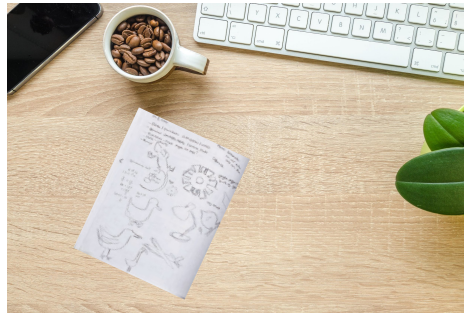
... not zoomed out,
not crazy angle

... not blurry

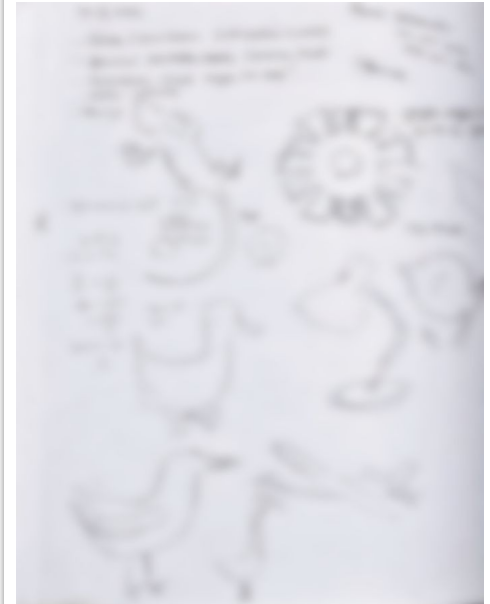
Initial Sketching Activities (In-Class)



Initial Sketching Activities (In-Class)



Initial Sketching Activities (In-Class)



To Do

2 Flavors of Prep Work

Prep Work + Review Quiz

- For prep work material that does not have a specific activity associated with it
 - Typically more conceptual material on different aspects of prototyping
 - E.g., DI readings, topical readings, prototyping videos
-
- Complete the noted quiz
 - Multiple attempts allowed (up to 5)
 - Keeps the score of the last submission

Prep Work + Activity

- Prep work with a specific prototyping activity
 - Typically more hands-on practice
 - E.g., sketching practice, initial prototyping activities
-
- Complete the prep work activities
 - Submit activity outcomes as noted in the submission for the prep work assignment