## Slide 1 - Sketching and Prototyping Designs
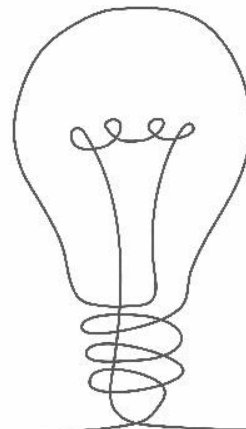


Welcome to the Sketching and Prototyping Designs lecture. Here we'll discuss why to prototype, how to prototype, and what type of prototype to create when.

## Slide 2 - Why sketch? Why prototype?



One of the most important parts of design is solving problems.

This is especially true with accessibility.

You notice where exclusion is happening in a design, and you want to redesign to make the prod product more inclusive.

I know as a designer, I have fought the urge to jump in and start designing, and I know there are others that are the same way.

But we all know that brainstorming and research needs to happen first.

For research, you look for the design problem or problems. That's part of prototyping, solving a design problem or problems.

Getting a design on paper, so to speak, helps you work through the layout.

What is the flow of information going to look like? What has your research shown you that will create a user friendly and accessible layout?

Sketching and prototyping is when you can explore the information architecture.

Information architecture and layout have a symbiotic relationship. Information architecture is structuring and organizing information in a way that users can find it, understand it, and then take that knowledge or accomplish a task.

Without a solid foundation or layout, deciding on where content will be is a challenge.

Sketching and prototyping is the best place also to establish any functionality.

Now is the time to brainstorm that, how it's going to function, how it's going to look, what needs to be done on the design and the development ends to make it happen.

And finally, prototyping is where you can share your ideas.

Whether it's a quick sketch to share with the team or a high fidelity prototype to share with a client, communicating your ideas will help you before and during the design process.

It's much cheaper and less time consuming to show a client a design that takes a few hours to create than to show a hundred plus hour full design for them to say, no. I don't like it. Or it's good, but let's move this and this and, oh, add this and so on and so on.

Prototyping is one of the best time saving tools you have as a designer.

## Slide 3 - Prototyping



Images source: https://stock.adobe.com/search?creator_id=203490516

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Prototypes have three different levels. There's low fidelity, medium fidelity, and high fidelity.

Low fidelity, mostly sketching or rough storyboards, and high fidelity, the closest to the finished product as you can get, are the most the two most common.

And medium gets forgotten often.

If you are in a very, very limited timeline, low and high will do. But medium is a good step to catch any issues in layout before you go all in on the design.

Medium is the go between for structure and layout and full color and interactive design.

In general, these are for web and print or digital print products.

Video has its own process, which I discussed, some on the last slide and will address again later in the lecture.

Realize that what is in this lecture is just a few ways to prototype.

You may have your own process already or the company or organization you work for has a specific process. Or you could be new to prototyping.

That's fine.

Over time, you'll develop your own way, but these slides give you a place to start.

## Slide 4 - Prototyping levels > low-fidelity



# Prototyping levels > low-fidelity

- Low-fidelity =
  - Hand-drawn rough sketches
  - Digital sketches
  - Digital wireframes, no interaction (web)
  - Digital comps/mockups, no interaction (web)

Image source: https://www.invisionapp.com/defined/prototype

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Low-fidelity prototypes can include hand-drawn digital sketches, digital wireframes if it's web with no interaction, or digital comps or mock ups with no interaction.

For print, many times it's Lorem Ipsum text, if that. It could just be squiggly lines saying this is where the text is going to be. Here's where an image is going to be, and it's a box with an X through it as shown in the example on the screen. This is for a mobile app.

And there are three boxes with X's that are meant to represent buttons.

The examples on this and the next two slides are of mobile applications.

These on web look similar, but prototypes will look different for other cross-media products.

Prototyping takes different forms and shapes of all sizes depending on the product you're creating.

With low-fidelity prototypes, there's little attention to the aesthetics like color or photos or specific scenes you want to draw out in, storyboarding that have color and characters.

It's about the structure and the flow, making sure it's logical and intuitive.

Low-fidelity prototypes are great for early ideation and brainstorming.

## Slide 5 - Prototyping levels > medium-fidelity



Medium fidelity would be more refined sketches or mock ups that have some functionality.

For example, for the web, it could be digital wireframes, such as the screenshot on the right.

Note that the hand-drawn parts from the last slide have been replaced with digitally drawn boxes and other shapes.

There's a video.

There's a box with an X through it, and then there's the little video play icon. So that says it's going to be a video. And there's Lorem Ipsum text. So if you haven't heard of Lorem Ipsum text, you can find it, on the web.

And it's just a placeholder text. So for example, you could use Figma to build a more refined sketch, and you could even have maybe a limited amount of functionality such as the navigation being active. But you'd still have those places where, okay. This is going to be an image. It's a box with an X. The text is all Lorem Ipsum.

Along with limited functionality, and this goes for all prototyping cross-media products, it's limited aesthetics on the medium fidelity.

There's still a focus on structure.

You can see the layout taking shape, so to speak.

For video, this could be a mockup or a low-fidelity prototype or storyboard done in Google Slides or another slide presentation software.

This is where you show the sequence of frames.

Remember that logical structure is one of the overarching guidelines, and a number of WCAG success criteria are devoted to having a solid accessible structure to whatever cross media product you create.

## Slide 6 - Prototyping levels > high-fidelity



## Prototyping levels > high-fidelity

- High-fidelity =
  - Working/functioning pages
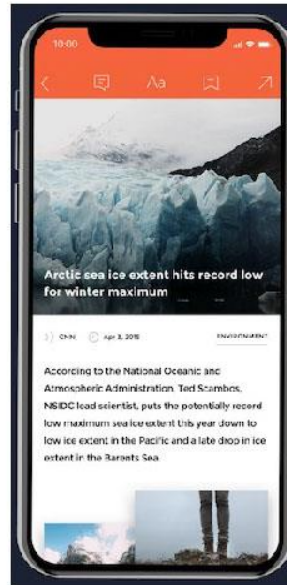  - More polished
  - More interaction

Image source: https://www.invisionapp.com/defined/prototype

GIT 598 Designing for Accessibility

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High-fidelity prototypes normally look like the real thing, and in some cases, they may be the real thing. The screenshot on the right looks more like an actual mobile screen, with actual images, text and colors.

With websites, it's often functionality, but just on the client side, so within the browser, such as being able to input information into form fields. Users can't actually submit it because there is no server-side functionality. That would gather the input and put it into a database.

For documents, it has a full visual design with actual colors, fonts, and images. No FPO or 'for placement only' images.

This level is meant mostly for final validation of the design, whether it's with stakeholders or a client.

## Slide 7 - Prototyping > web

# Prototyping > web

- Web prototyping examples:
  - Hand drawing of page
  - Digital wireframe
  - Prototype created in software
  - Comp/mockup created in imaging software
  - HTML page created within development environment

**Software/Tools:**

**By Hand:**
- Pen, pencil, marker
- Paper, ruler
- Sticky Notes

**Wireframe**
- Figma
- Adobe Illustrator

**Comp/Mockup**
- Adobe Illustrator
- Adobe Photoshop

**Prototype**
- Figma + Toolkit

**Development**
- HTML, CSS, JavaScript

Example prototypes for the web include hand-drawn pages, a digital wireframe, prototypes created in software such as Figma, comps or mockups created in imaging software, and even an HTML page coded within a development environment.

On the right is a list of software and tools normally used for web prototypes.

If you're drawing by hand, a pen, pencil, marker, paper, ruler, and even sticky notes can be used.

Actually, the by hand method can be used for all cross-media projects.

I asked GIT faculty what they use for prototyping and storyboarding. Realize these are people who run the gamut of cross media: Web, print design, digital design, video, video game design, photography, UX, and more. Three of them immediately said pen and paper. Professor Benji Wilhelm said, pen, paper, ruler, and a red Sharpie. Always. Several GIT professors said the same about hand-drawn.

I like to use sticky notes too sometimes because I can take them and move them around if I need to. 'Oh, I want that there. No. I don't want that there anymore. I want to move it over here'.

In addition, for digital prototypes, including wireframes, you can use Figma, Illustrator, or wireframing such as Balsamiq.

Comps and mock ups usually are done in Adobe Photoshop, Canva, or similar software.

And then in that development environment, you can be building pages using HTML, CSS, possibly some JavaScript.

## Slide 8 - Prototyping > documents

# Prototyping > documents

- Print and digital document examples:
  - Hand drawing of page
  - Digital sketch
  - Comp/mockup created in imaging software

**Software/Tools:**

**By Hand:**
- Pen, pencil, marker
- Paper, ruler

**Digital (sketch):**
- Adobe InDesign
- Adobe Illustrator

**Comp/Mockup:**
- Adobe Photoshop
- Canva

Print and digital document prototyping includes hand run pages, a digital sketch, and comms or mockups.

For print and digital document examples, the equivalent to a wireframe for web is to digitally sketch.

For prototyping print and digital document examples, the equivalent to a wireframe for web is to digitally sketch.

Just like wireframing in web, creating a digital sketch helps you see the layout of the information. Digital sketches can be done in InDesign or Illustrator, and mockups or comms can be done in Photoshop or even Canva. Realize that mock ups generally are the color version, So it's a bit more high fidelity visually, but there can be some content some actual content, or it could still be Lorem Ipsum text. Again, you can have those low fidelity or medium fidelity to help you work out any layout issues.

## Slide 9 - Prototyping > videos

## Prototyping > videos

- Video and video game examples:
  - Hand-drawn storyboards
  - Digital wireframes/animatics
  - Low-fidelity prototype
  - Rough-cut or mockup video

**Software/Tools:**

By Hand:
- Pen, pencil, marker
- Paper, ruler

Digital (wireframes/ animatics):
- Adobe Premiere Pro
- After Effects
- Blender
- Figma

Prototype:
- Slide deck
- Figma
- Video editing software

Prototyping for video is a longer process than web or print products.

Video prototyping can involve those hand drawn storyboards, which can be a representation of the video's key scenes or sequences, or it can be every frame.

Also, digital wireframes or animatics can be created as well as low-fidelity prototype and rough-cut videos.

Some examples include hand-drawn storyboards or digital wireframes.

And, again, for video, the equivalent of a wireframe could be an animatic if it's a video game.

Medium fidelity could include animatics or digitally animated wireframes or even a rough cut of the video.

Some of the software tools you can use is that old standby, pen, paper, marker, pencil, ruler, even sticky notes. For digitally, so that would be wireframes or animatics, You could use software such as Adobe Premiere Pro, After Effects, Blender, or even Figma.

And the prototype, you can use, again, Figma or you can use a slide deck software such as Google Slides and PowerPoint.

You also could use video editing software. The idea of prototyping is to think before you design.

By drawing this out by hand or digitally, it makes you think about what the product's outcome should be and how the best way is for you to get it there.

## Slide 10 - Taking and annotating screenshots



I want to discuss another tool you have in your tool book. You can take and annotate screenshots. That's what you'll be doing for assignment five and in the final assignment.

Note that annotating screenshots or prototypes is a prototyping tool.

It can be done at any point during the design process, the beginning during brainstorming, the middle while you're working on wireframes, etcetera.

Annotating screenshots will help with documenting the issues found, and in later design iterations, they can help with documenting the design decisions.

Annotating screenshots provide for clear communication, and this is important when you're working in a team.

If you are the UX designer on a team of other UX, you know, researcher, developer, etcetera.

You as the designer can clearly communicate what needs to happen.

You could annotate.

'Here is my prototype.

Here are my annotations about what's fixed what's being fixed, what needs to be inserted here, what type of functionality needs to be on here'. And then you hand it off to the developer, and they have that clear idea of where things need to move.

Also, it's visual documentation. This can be part of, a larger documentation packet for the product.

Annotating screenshots also saves time and misinterpretations.

Yes. You can prototype something and then just hand it off to developers.

But having those annotations in there, for instance, this is the end product that we're looking for.

So make sure you're working towards that end product.

Annotating screenshots also allows for binding accessibility issues.

When those are found, they can be addressed.

And it also helps with prioritizing issues.

Some issues can be cosmetic. It can wait until the next round of, changes.

And there are some that are this is actually blocking people from being able to do things, or it is an issue with accessibility that could have legal repercussions.

As listed in the yellow box at the right, some software tools for taking screenshots, they're basically kind of broken up into Windows and Mac.

So for Windows, there's the print screen, and sometimes it's the p r t s c n key on your keyboard, and that's built in.

And then there's also one called ShareX, just for Windows.

For Mac, screenshot is built in, and there's also a program called Skitch.

No matter what you do and which route you take when you are annotating, set up a design system of sorts for how you will decide the most critical issues so these can be addressed first.

Annotations allow for you to distinguish between crucial changes and minor enhancements at a glance.

You can have a report and read through it, but I'm guessing most of you are visual learners, and being able to see issues in a visual way helps reinforce what is in a report.

Also, realize that the software and tools that I mentioned on this slide and in the next slide, it's not an exhaustive list. These are more common and or I've used or heard about them through colleagues who use them.

## Slide 11 - Annotating screenshots > web, print, video



Okay. You've taken your screenshot. Now what? Well, you'll want to choose annotation tools or software and some that are available for web and video, Photoshop and Illustrator, Figma or FigJam.

You could even put it into Google Slides or PowerPoint.

You can annotate straight from preview on the Mac system.

There's mark markup.IO, which has a free trial, and Filestage, which has a free trial.

For PDFs, obviously, Adobe Acrobat, and the most recent version of Acrobat has extensive tools for annotating, including commenting, highlighting, underlining, drawing, and more.

There's also a PDF Annotator which is for Windows and is a free trial.

Make sure you keep that style guide of sorts or what I'm going to call an annotation legend based on the type of issue.

For example, a blue circle with a white P in it can stand for perceivable from the POUR principles. or a red box with a number in it. The number can be the success criterion that failed.

A black triangle with a symbol in it could stand for how critical the issue is.

Or you could simply have a shape with a number in it. The number shows in the screenshot and the number and explanation show in the legend or an explanations or details column.

Annotations can be for your use, such as making sure you remember what issues are where.

It also can be used in teams. If someone has to take over the screenshot and create a revised design or even a new design, they have a visual list of issues to fix.

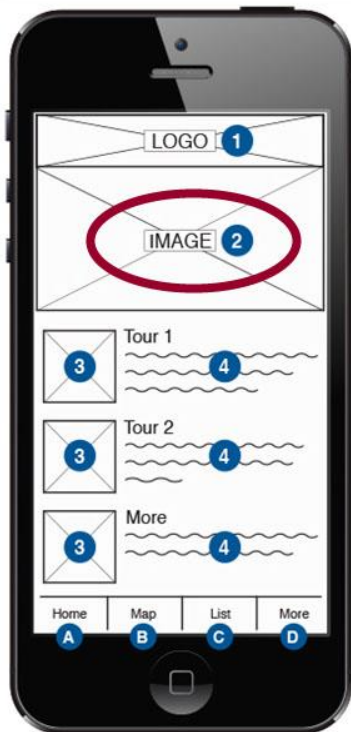And remember with the legend, don't use just color to convey importance.

I have only used screenshot for taking screenshots and either Figma or Photoshop for annotating them.

Also, I've used Adobe Acrobat for PDFs.

I haven't tested any of the others listed here. Let me know if you find another one or you have a good or bad experience with one listed here or in the reading page for this module.

## Slide 12 - Annotating screenshots > example



# Annotating screenshots > example

This annotated screenshot example is from Jen Blatz, who is the lead UX designer researcher at Rocket.

She doesn't have a legend per se, but the circles with the numbers and letters have clear descriptions for each issue or component she wants you to see.

Numbers are issues that need addressing with a short explanation.

For example, a blue circle with the number two is placed over the image, box with the X in it on the screenshot and is shown with a red circle around it.

On the right is the annotations, and the one next to circle two reads image of Hollywood attraction could be rotating carousel.

This area also has a red circle around it.

So pointing out where it is and what could happen, what needs to happen, whatever direction needs to be given. And then she also has letters. And for hers, a, b, c, and d are denoting expected functionality and what it should do.

So keep this kind of model in mind that there are going to be different types of issues and different things you need to point out. So it be should be clear what you are pointing out, and it should be clearly explained.

In the assignment five spreadsheet for the assessment, you're writing a very brief reason for why that particular area has failed one of the criteria.

Here is where you're going to give a little bit more information.

It's going to be more information because you'll be able to show visually what the issue is. But give a little bit more information here so that, again, developers or someone who's taking this project after you or even for yourself that you know there is an issue, and here's why it's an issue.

And it should be clear in a description.

## Slide 13 - Check module for more Assignment 5 information



Check module for more
Assignment 5 information

This is the end of the sketching and prototyping lecture. Remember to read the assignment five instructions carefully, and let me know if you have any questions. Thanks for watching.