

Low-Fi Prototyping

No screens



Prof. Lydia Chilton
COMS 4170
1 April 2020

Say your name



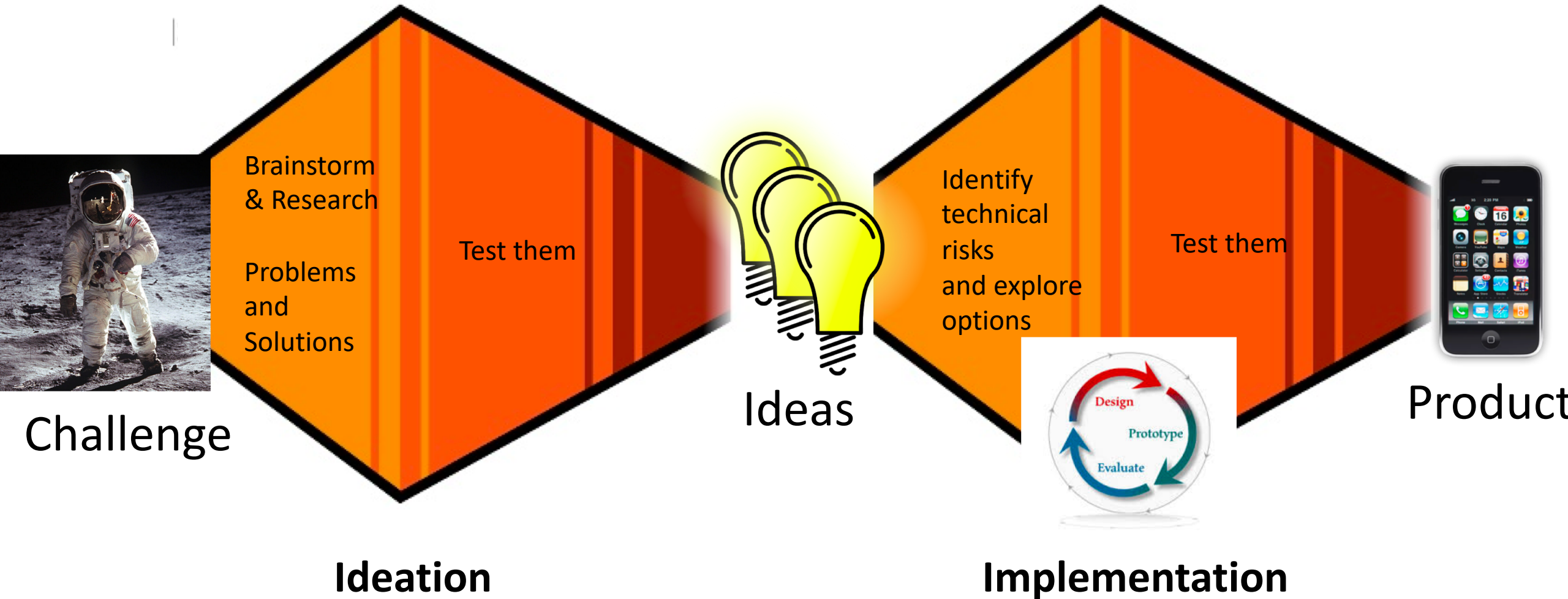
What is design?



*“Design is a plan for arranging elements
to accomplish a particular purpose.”*

– Charles Eames

The Iterative Design Process



Brainstorm ideas for domains and specific problems



The best way to have a good idea
is to have lots of ideas.

- Linus Pauling

In addition to a specific problem,
we need an **insights** into the solution

Problem

Insight

Electric light source

Heat metal until it glows

A machine that does computation

Programmable tape can calculate anything (theoretically)

Teaching fractions

Workbooks suck. I'm going to show people how I think through them problem.

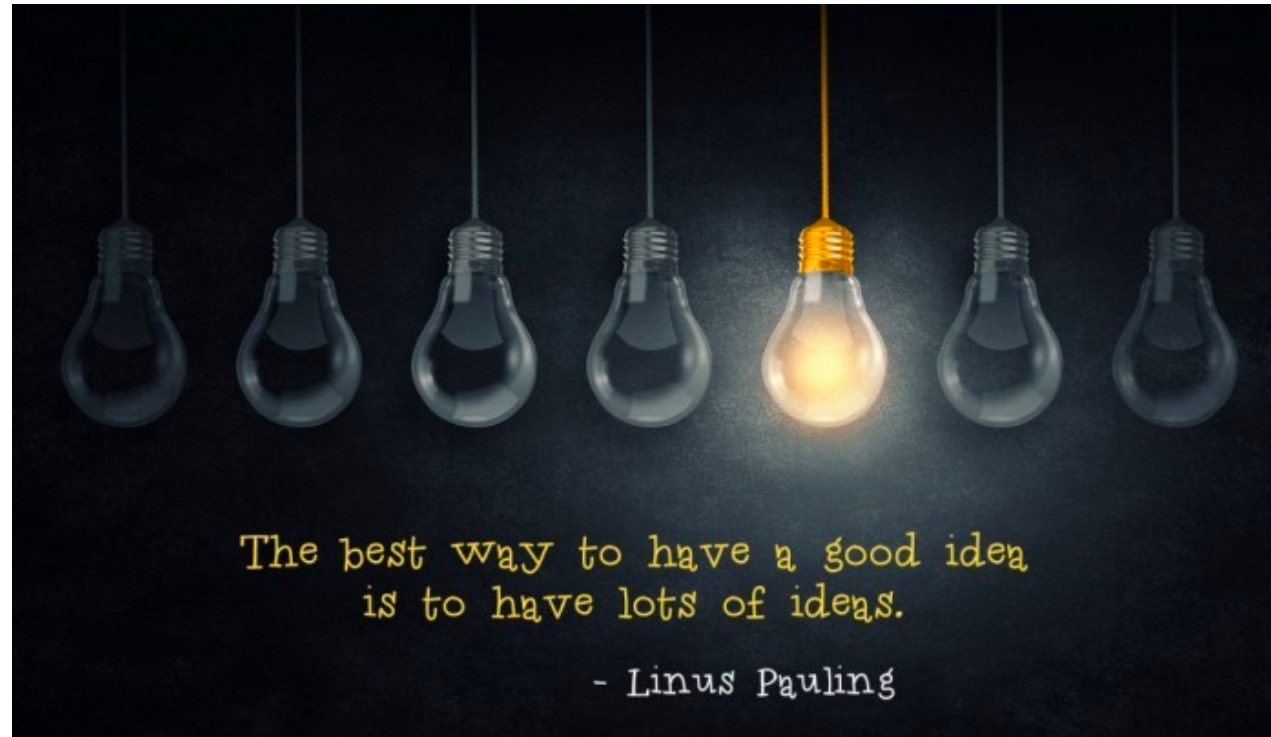
Making yearbooks

Photoshop is HARD, and sharing resources is annoying. Maybe some online templates can make this easier.

Social network for photos.

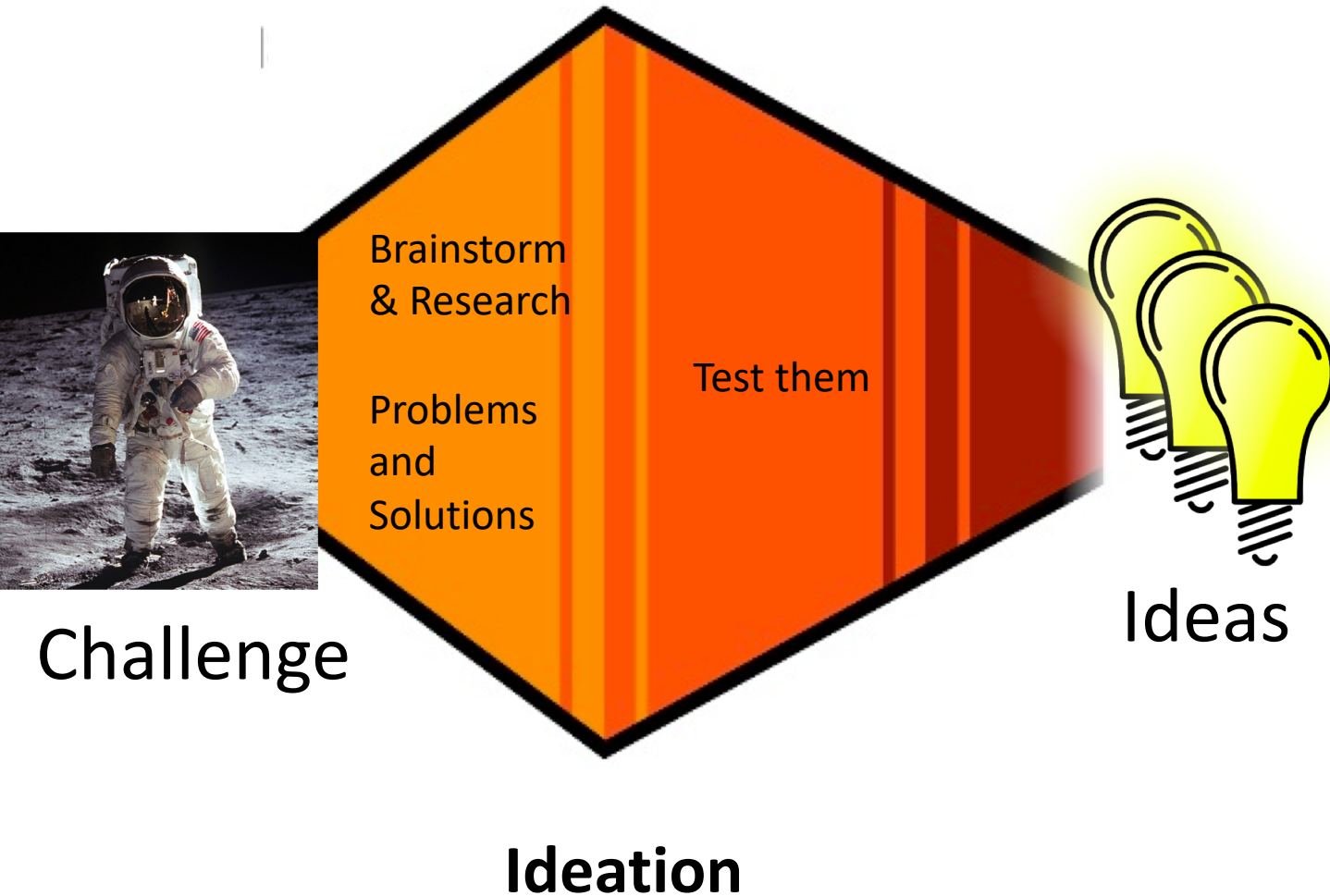
People take crappy photos and are not too eager to share them. What if filters made every photo beautiful?

Ideas are a good starting point, but they are not enough. Why?

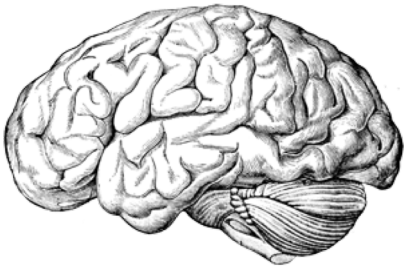


Ideas need to be tested!

How do we start to test ideas?



How do get from idea to product?

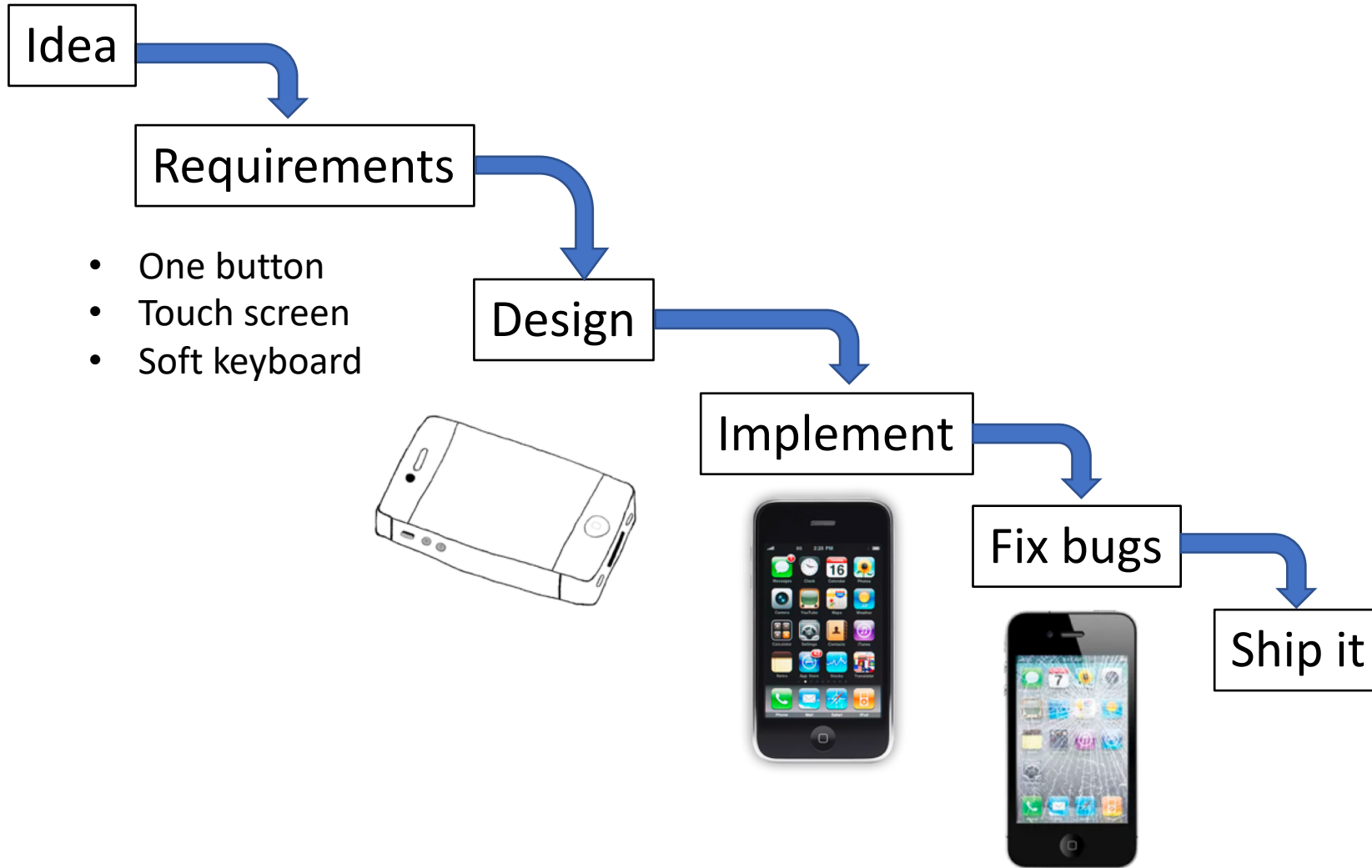


Idea



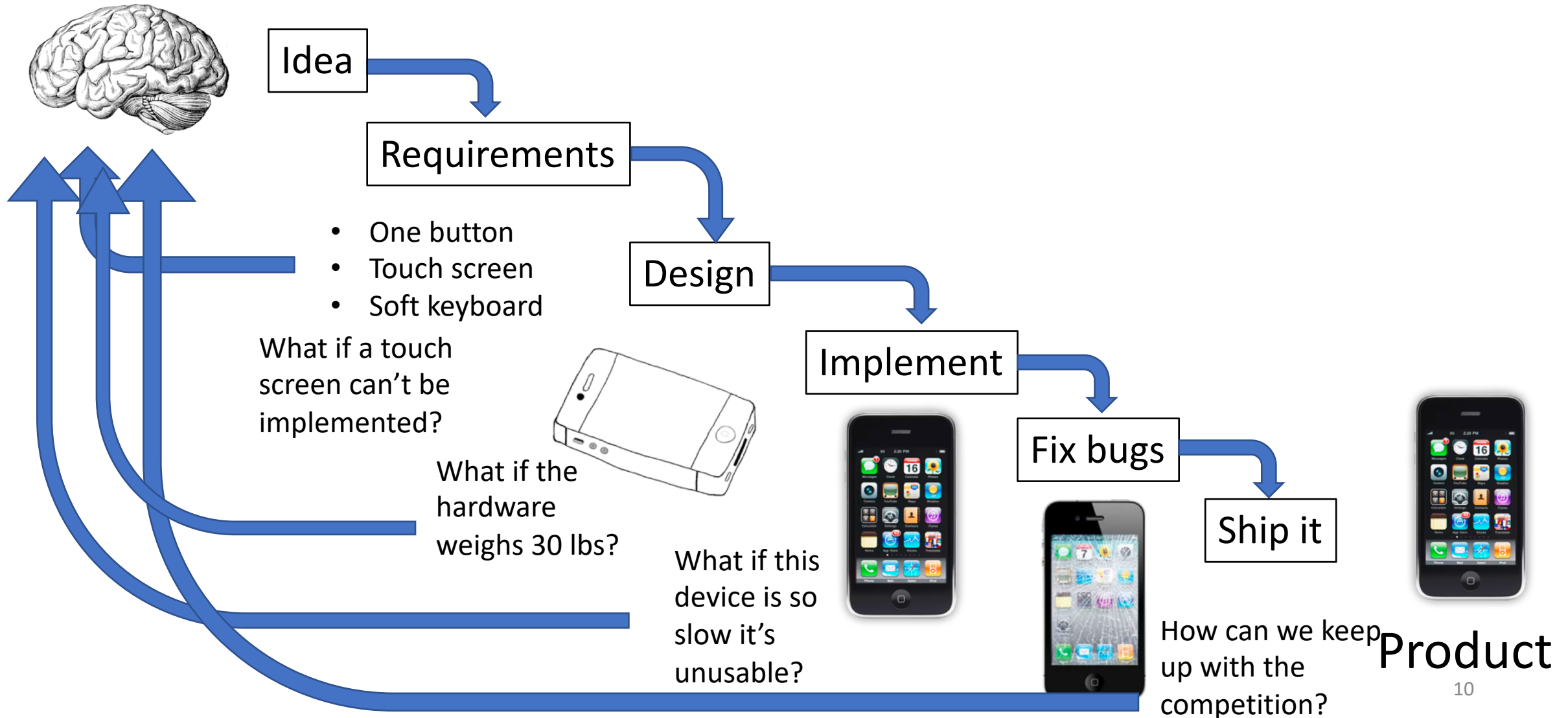
Product

The Waterfall Model

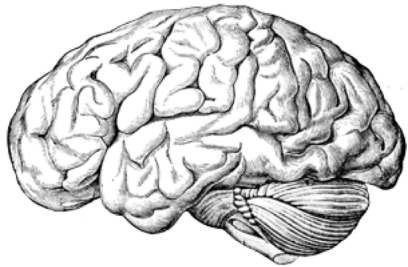


Product

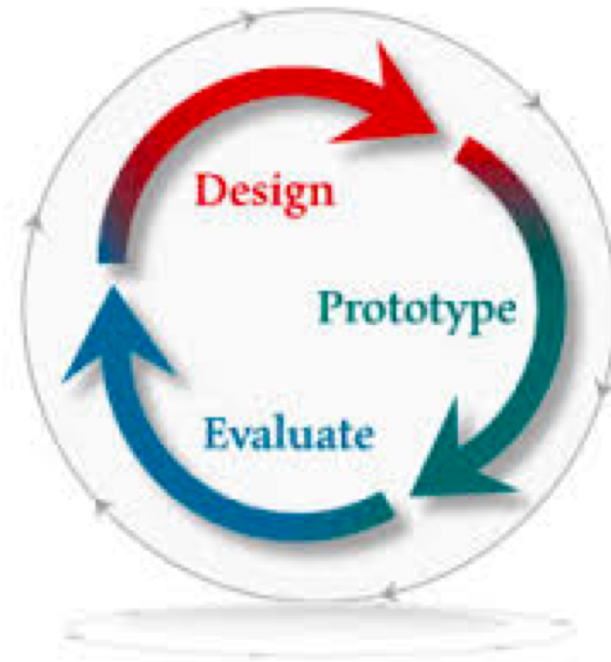
The Waterfall Model **is too rigid.**



Iterative Design

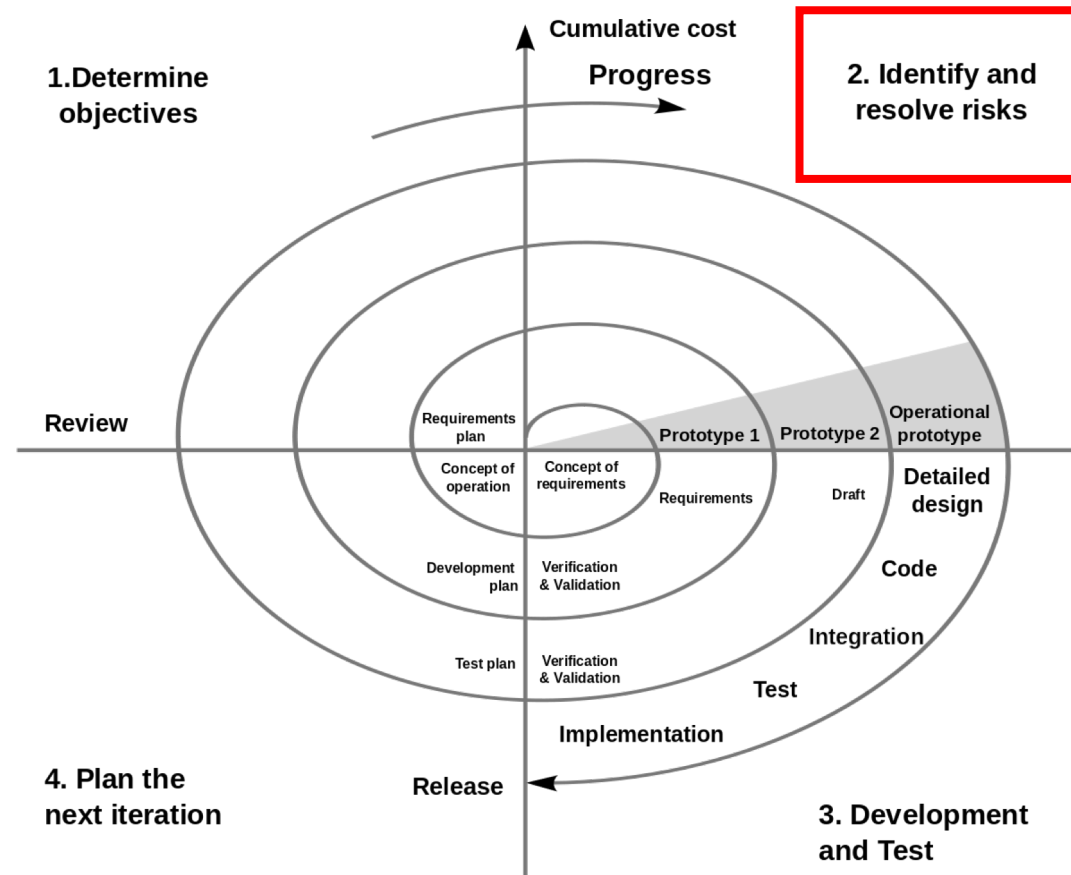


Idea



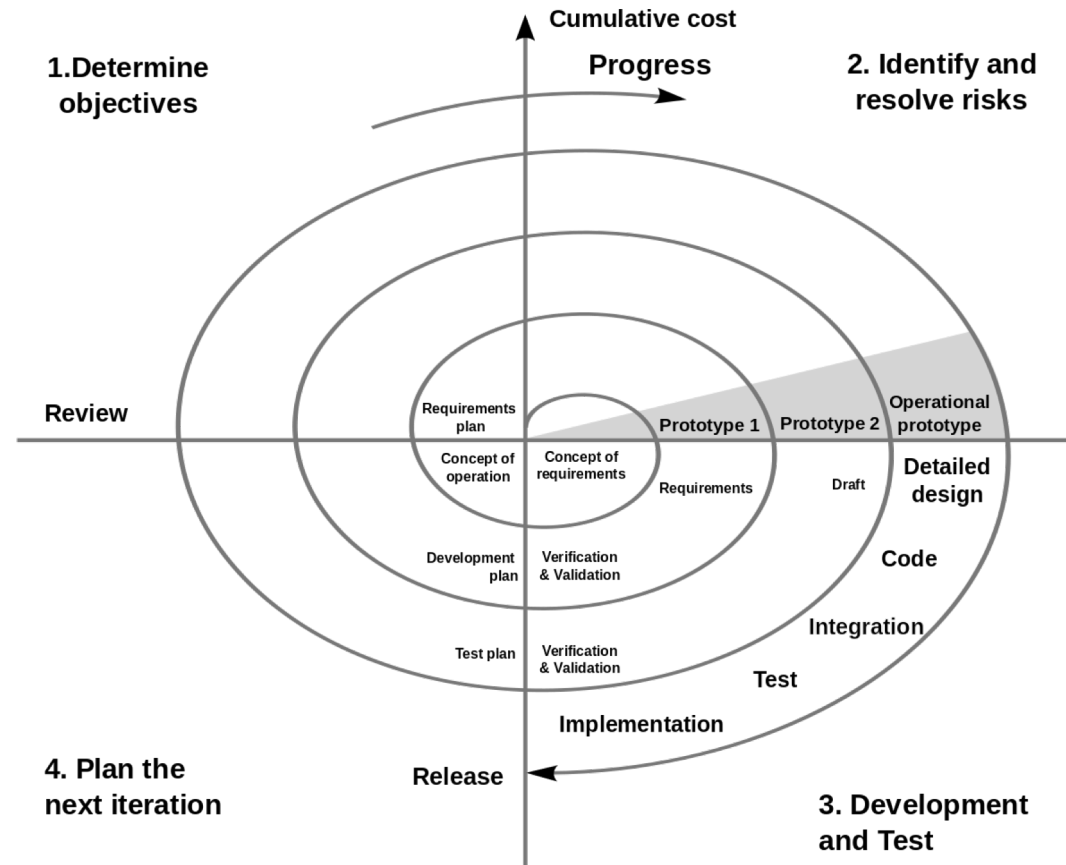
Product

Iterative Design is good because it minimizes risk



Low-Fidelity Prototypes

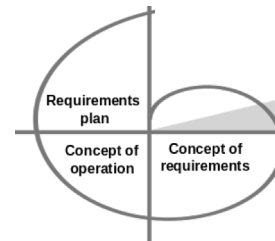
In Iterative Design, Prototypes get increasingly high-fidelity



The first iteration should be as low-fidelity as possible

1. Determine objectives

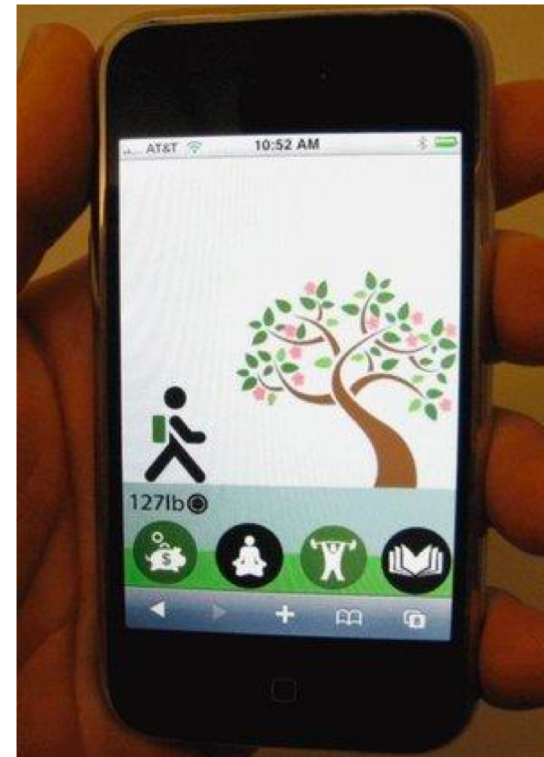
2. Identify and resolve risks



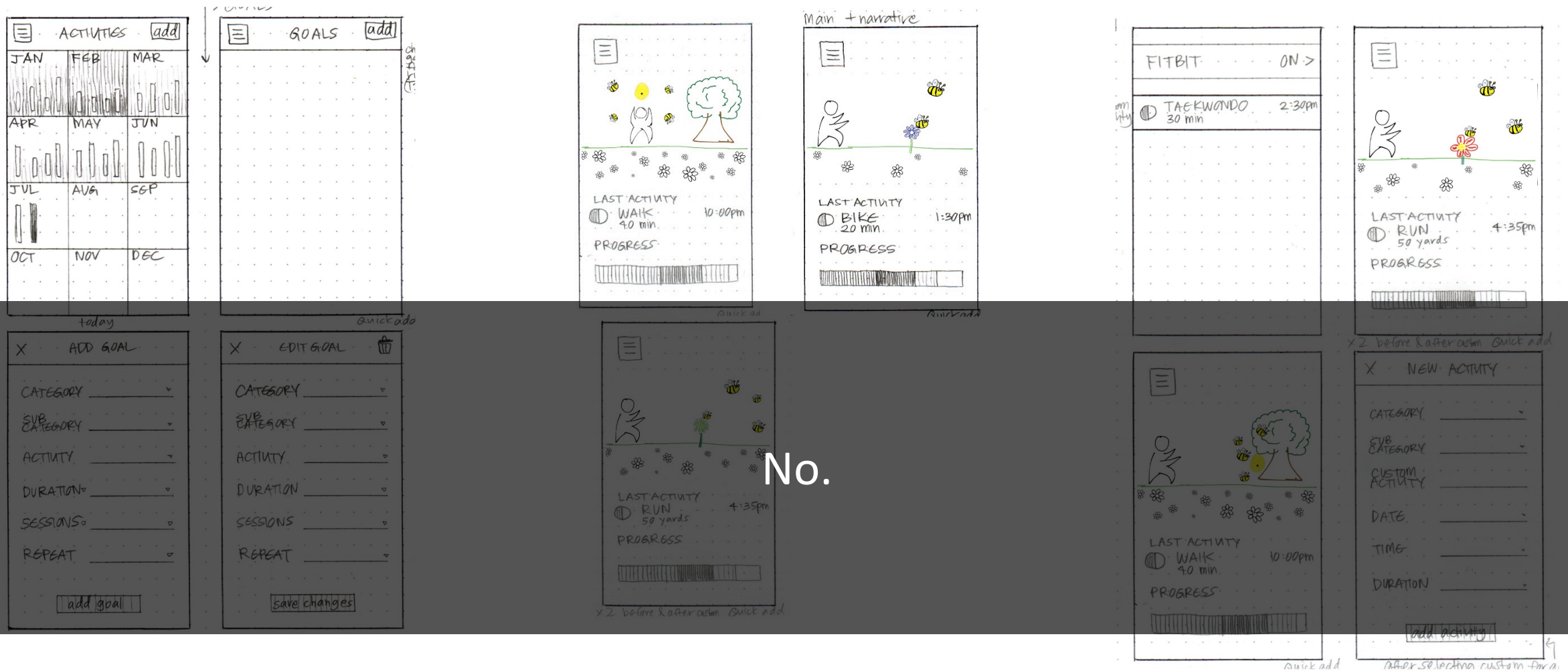
4. Plan the next iteration

3. Development and Test

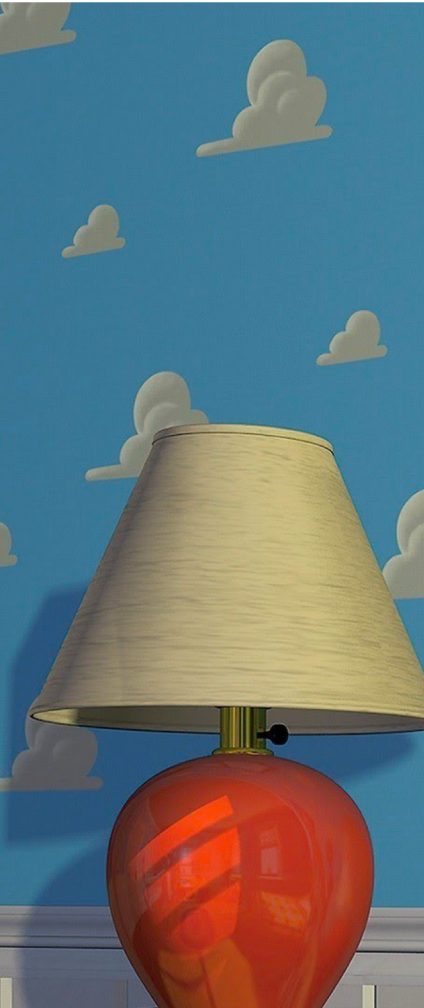
Start with a paper prototype



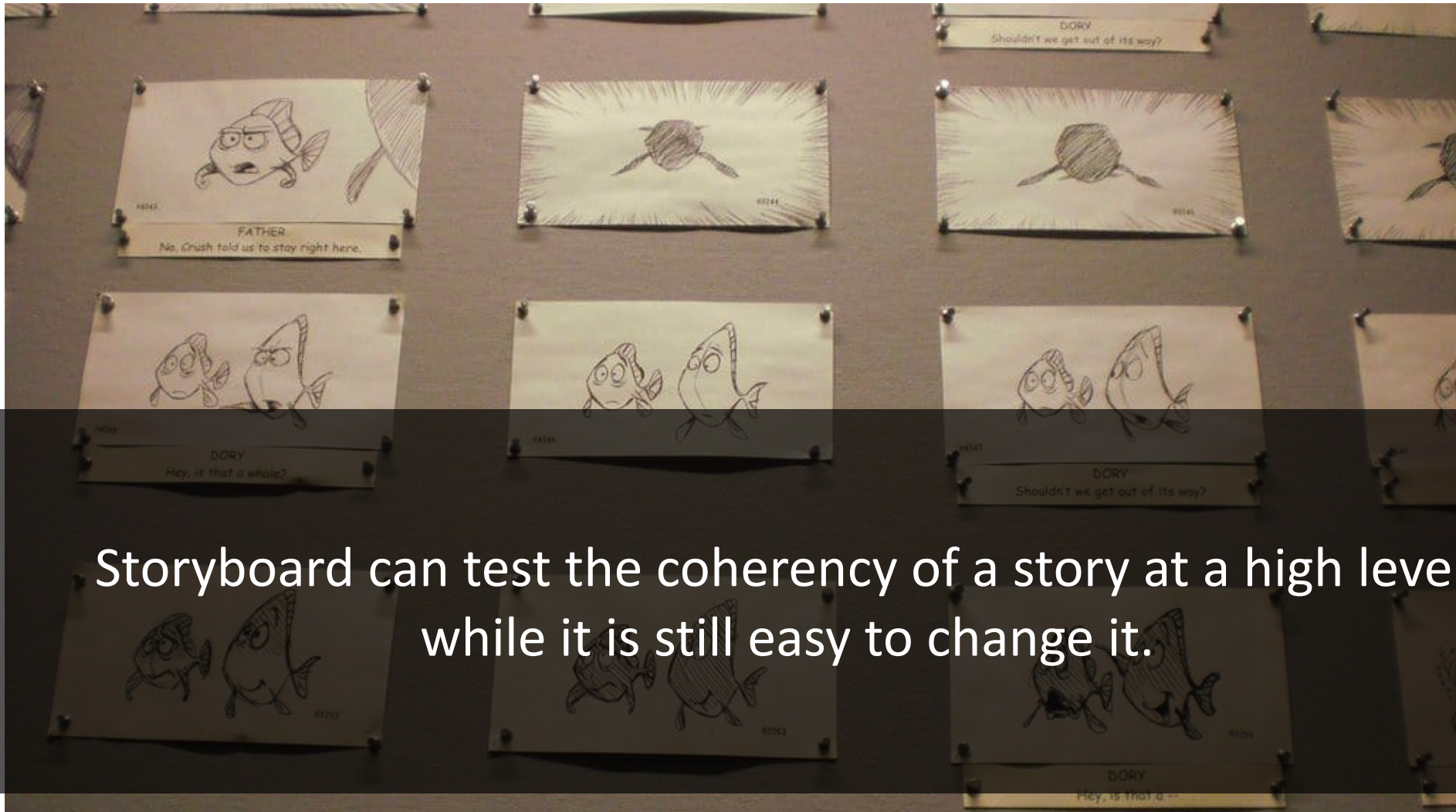
Paper? Are you kidding me?



Pixar makes detailed and beautiful films

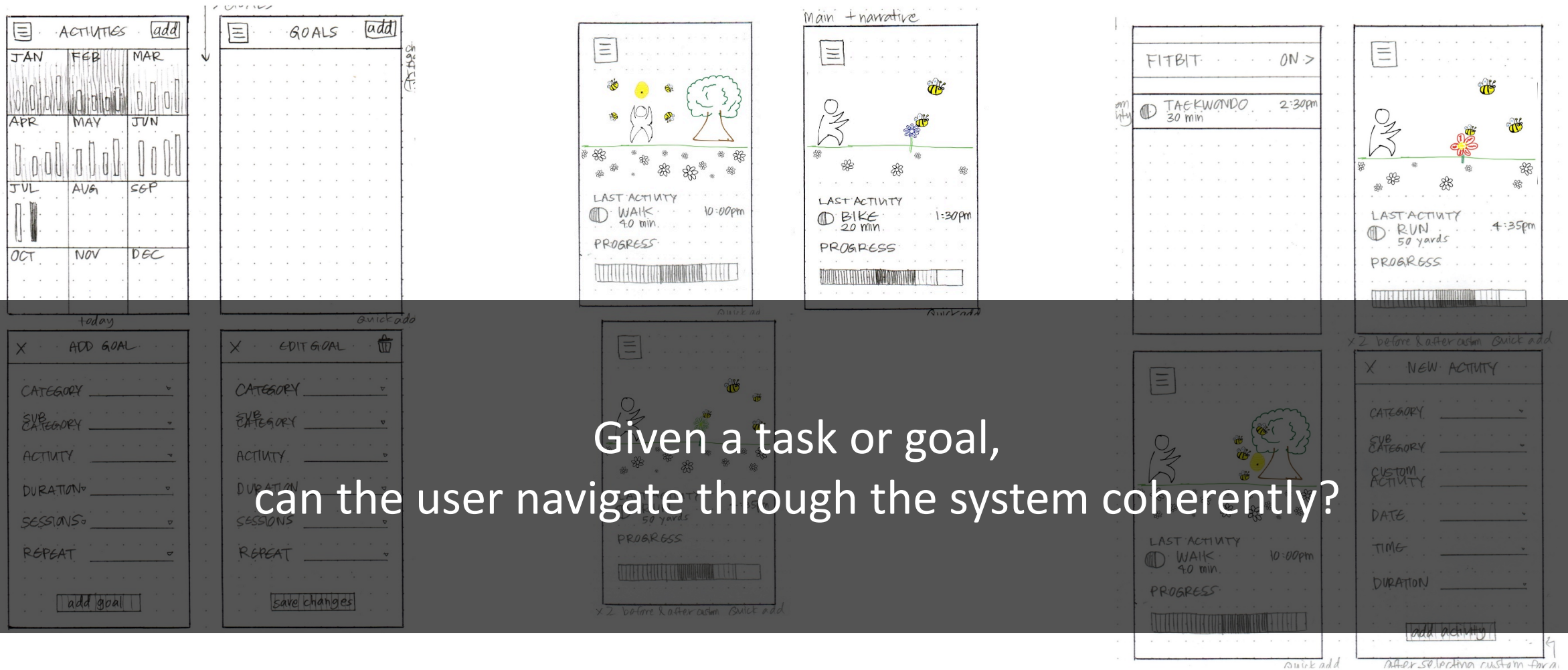


They always start with a storyboard. Why?



Storyboard can test the coherency of a story at a high level, while it is still easy to change it.

Storyboards are also good for prototyping software interactions



Given a task or goal,
can the user navigate through the system coherently?

Menus and Navigation

No screens

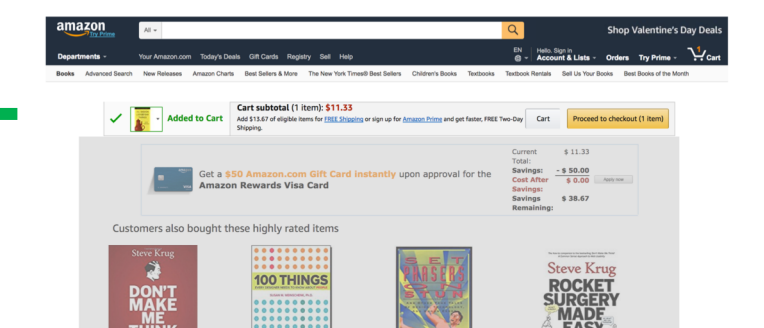
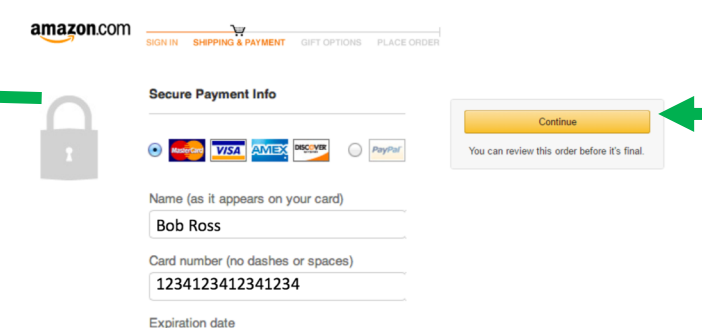
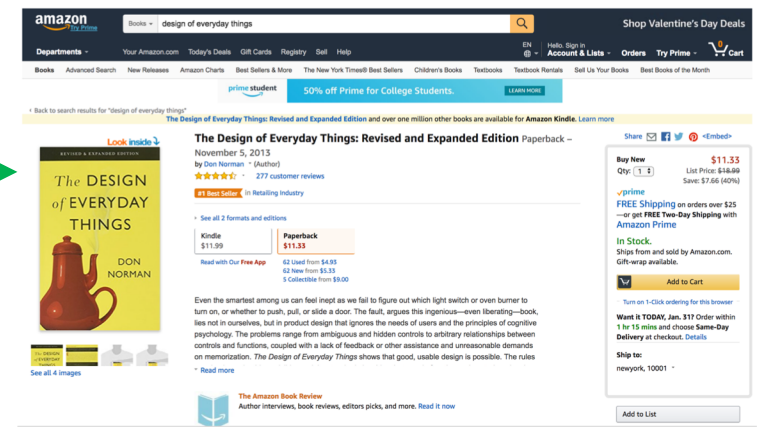
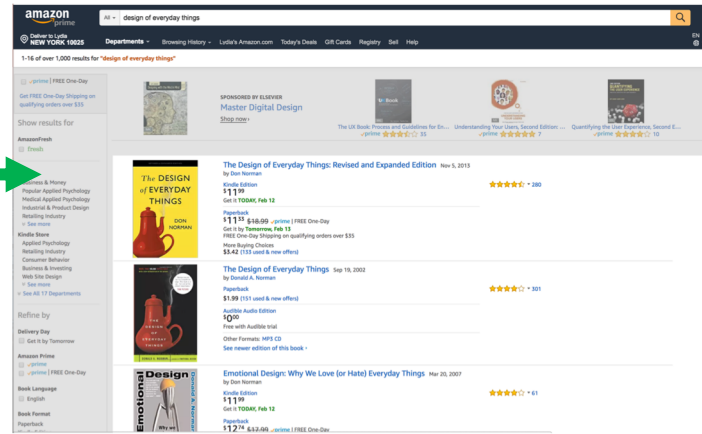
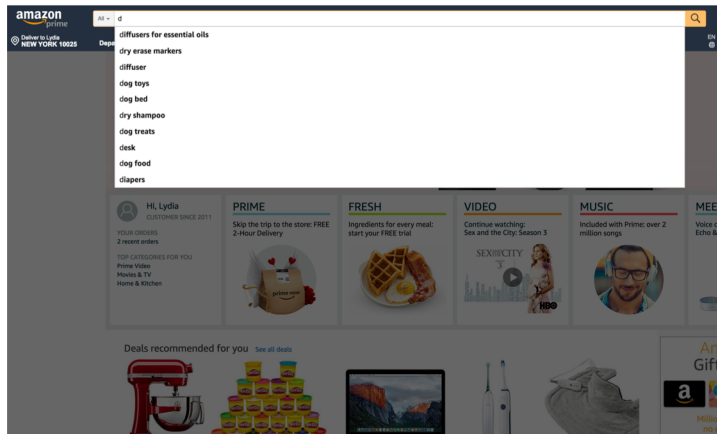


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COMS 4170
25 February 2020

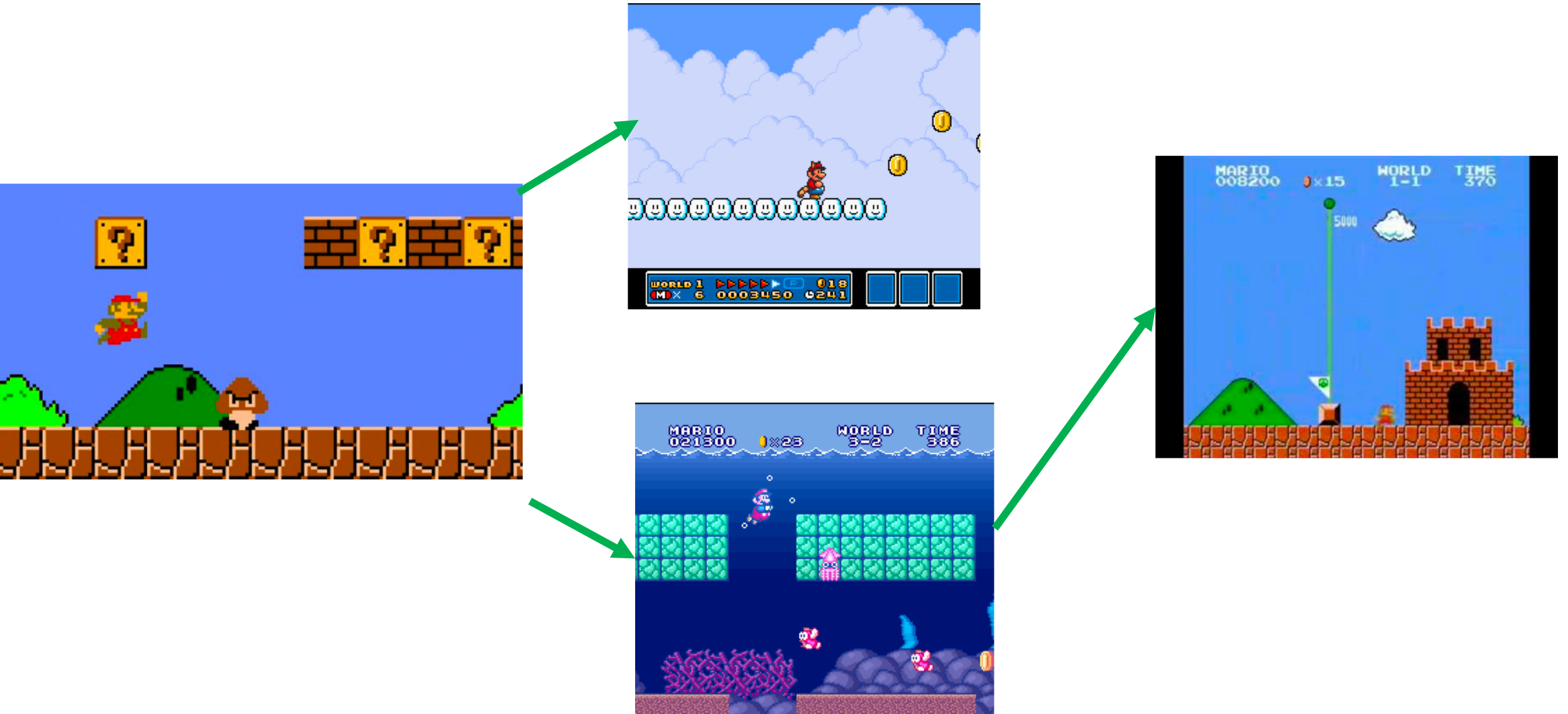
Say your name



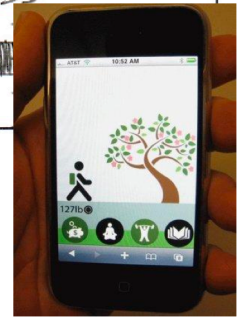
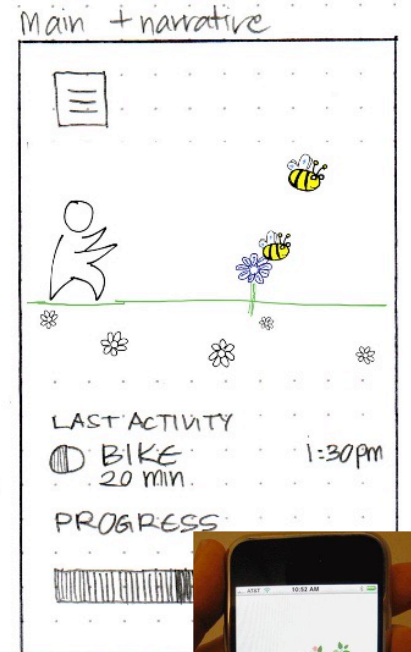
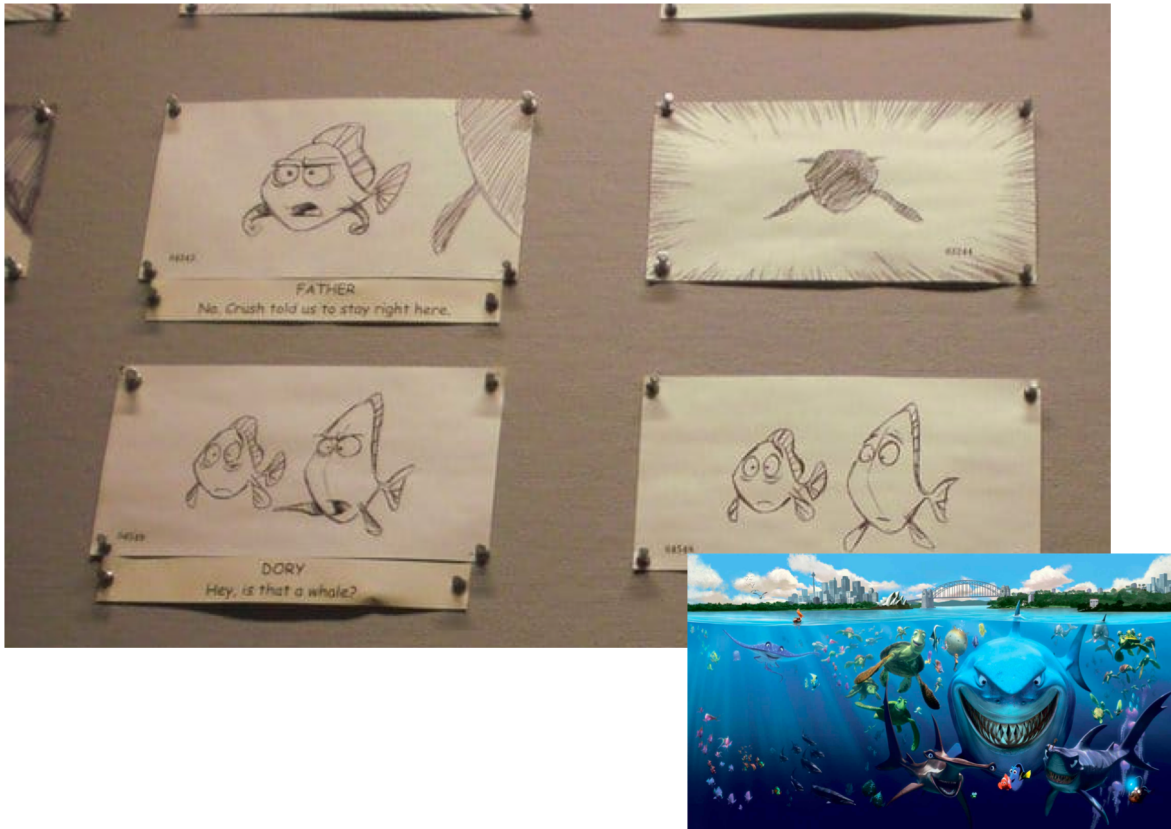
For complex goals, break the task into states, options, and transitions to new states.



Think of it like a video game and
You are designing the experience of your user

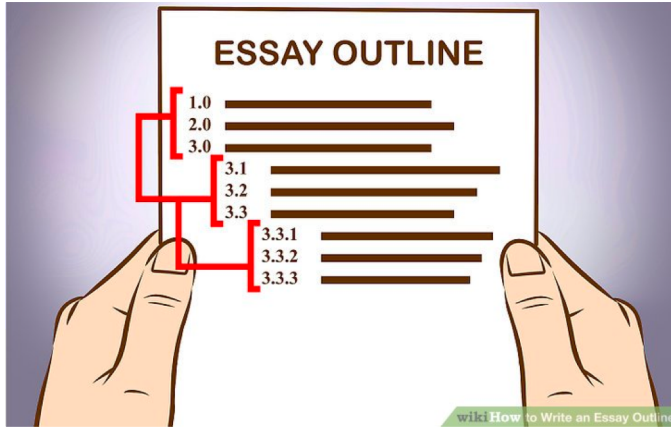


Pixar starts with storyboards. Software starts with paper prototypes.



Other domains with low-fi prototypes

Essays: outlines



Acting: Table reads



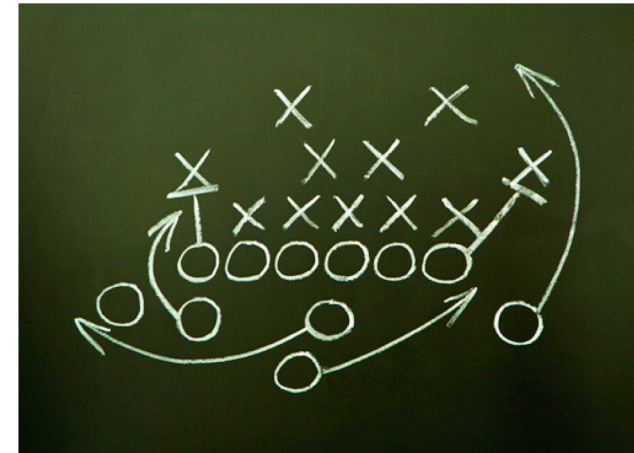
Painting: Sketches



Fashion: Sketches



Sports: Diagram "plays"



Paper Prototype Example

Write down a **Persona:** **Person**, a high level **Goal**, 4 or 5 subgoals

- **Idea:** Zumba playlist maker

- **Person:**

- You are Katie - a Zumba instructor in New York City.

- **Goal**

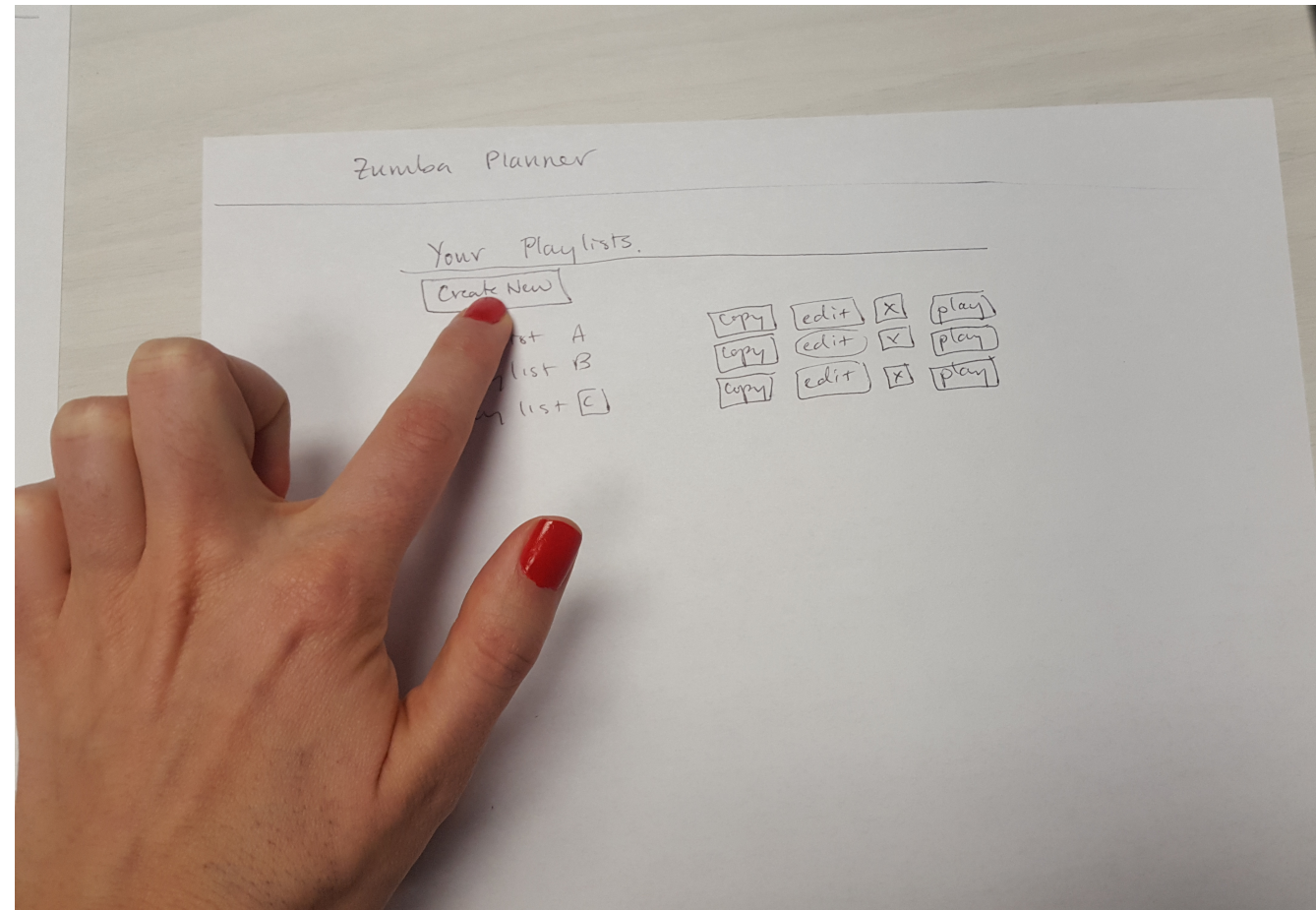
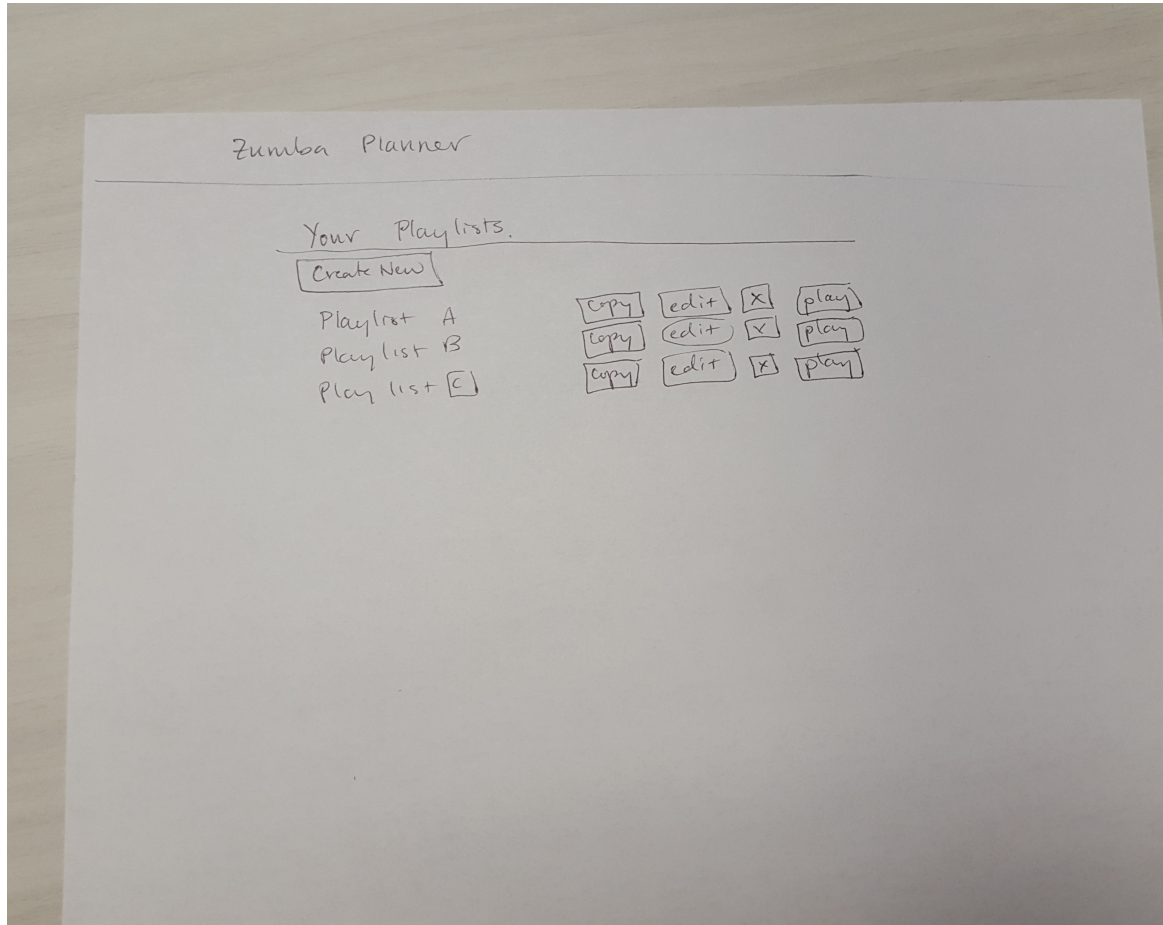
- Your goal is make a playlist of dance songs that last 20 minutes (at least 19 minutes and at most 21 minutes)

- **Subgoals:**

- 1. Create a new playlist
- 2. Add a song to the playlist
- 3. Add songs to the playlist until the play list is at least 20 minutes long
- 4. If the playlist is too long, remove a song
- 5. Play the playlist

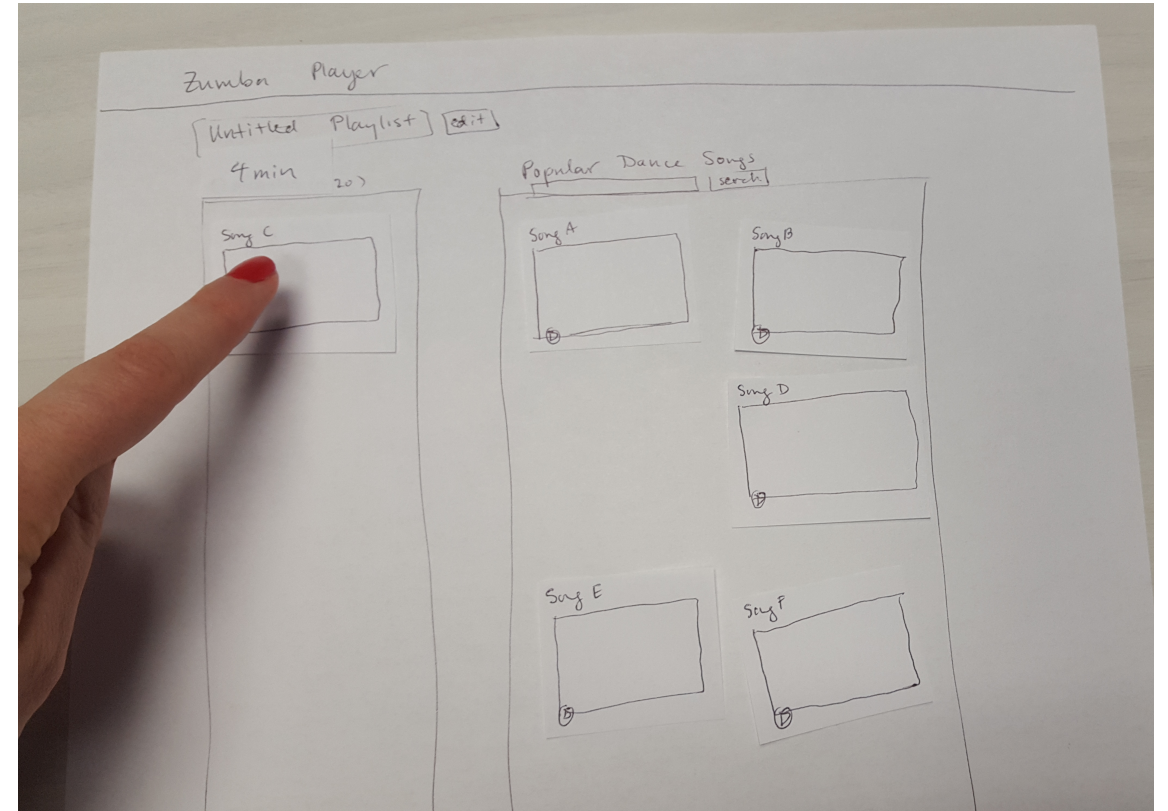
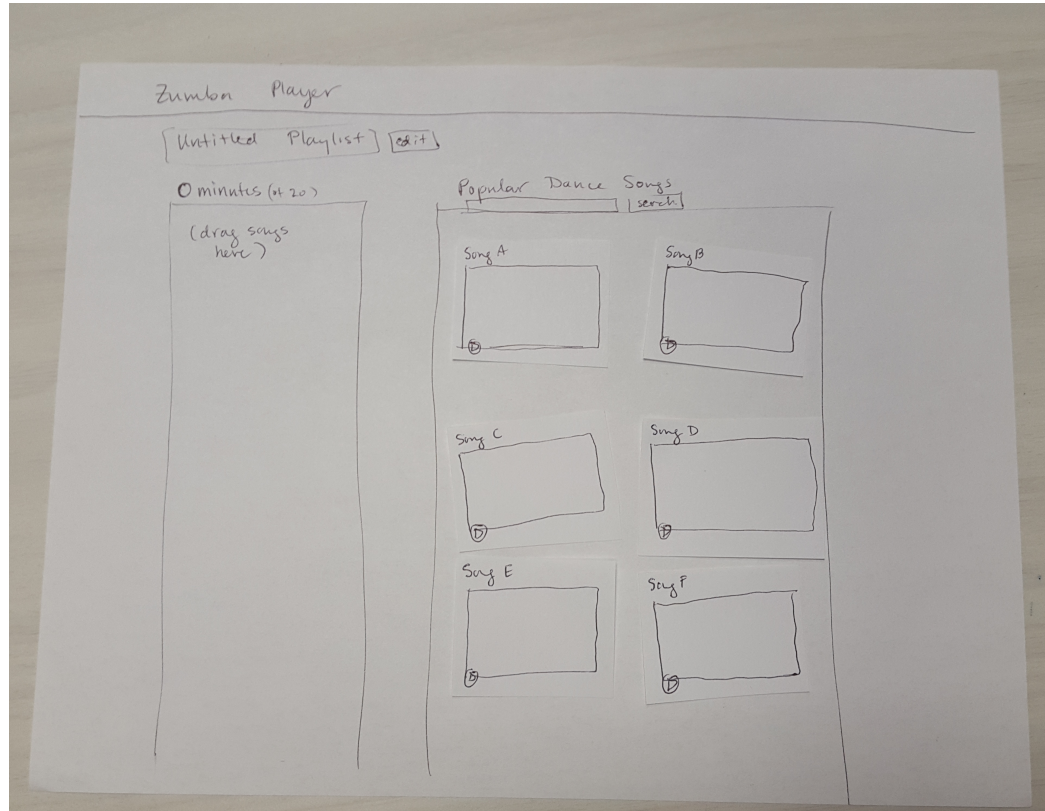
Subgoal 1:

Create a new playlist



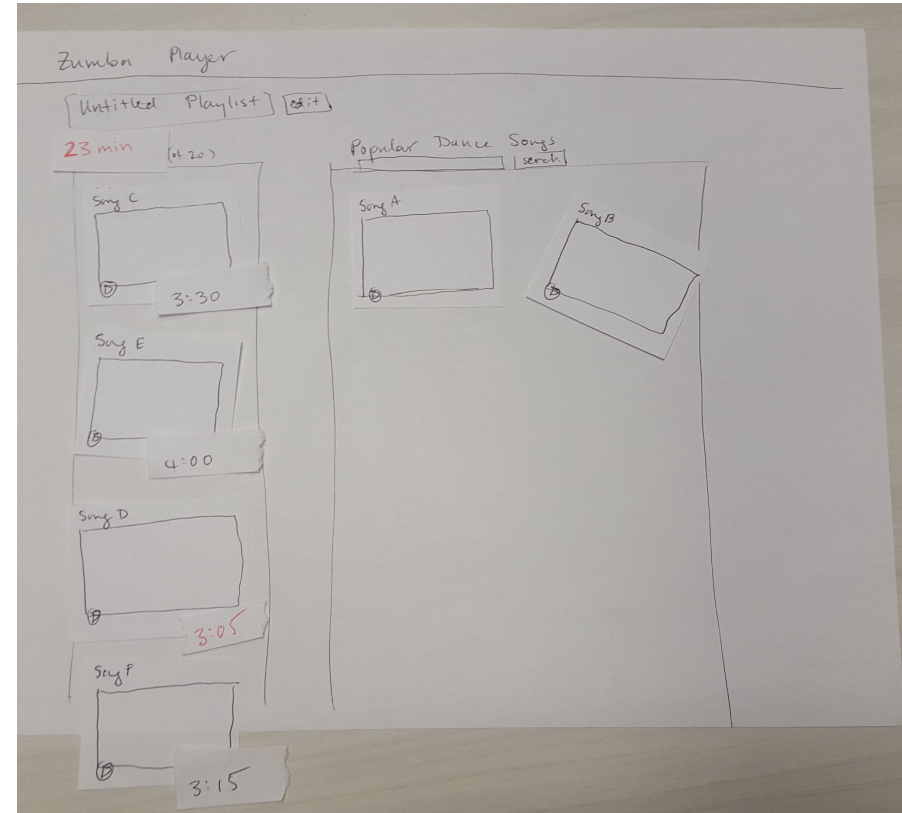
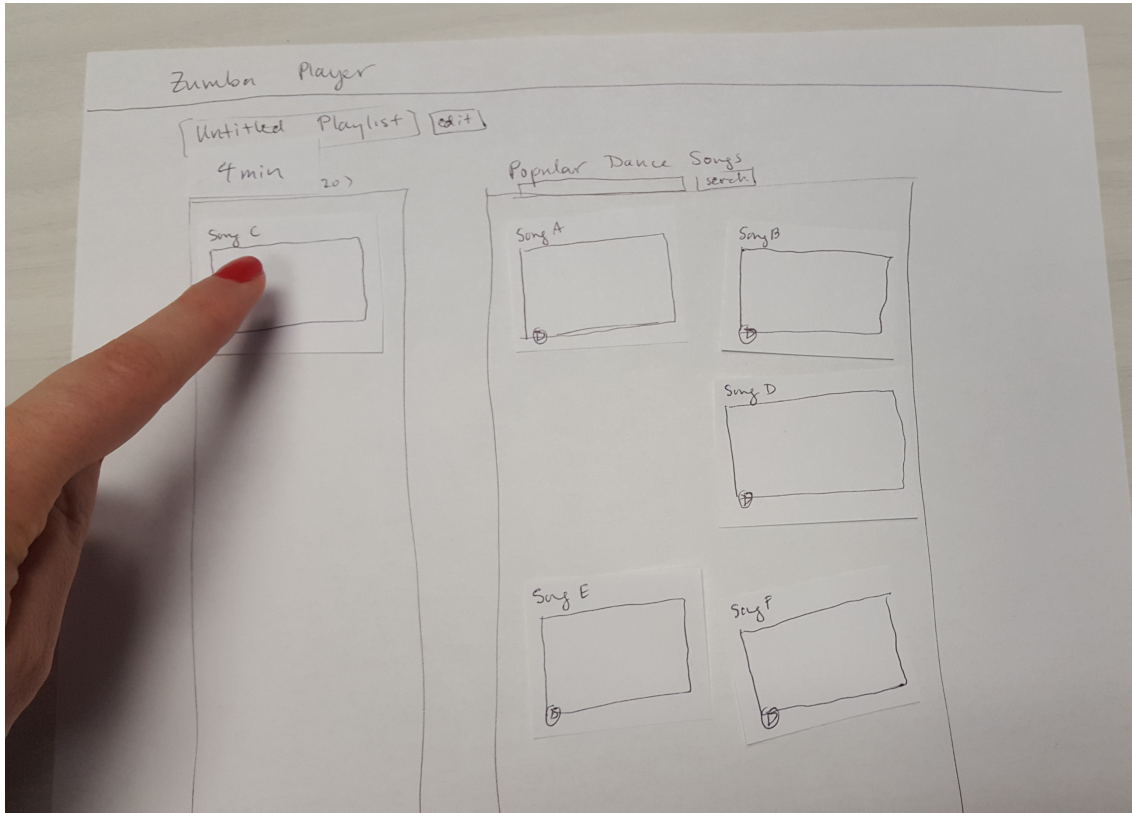
Subgoal 2:

Add the first song to the playlist



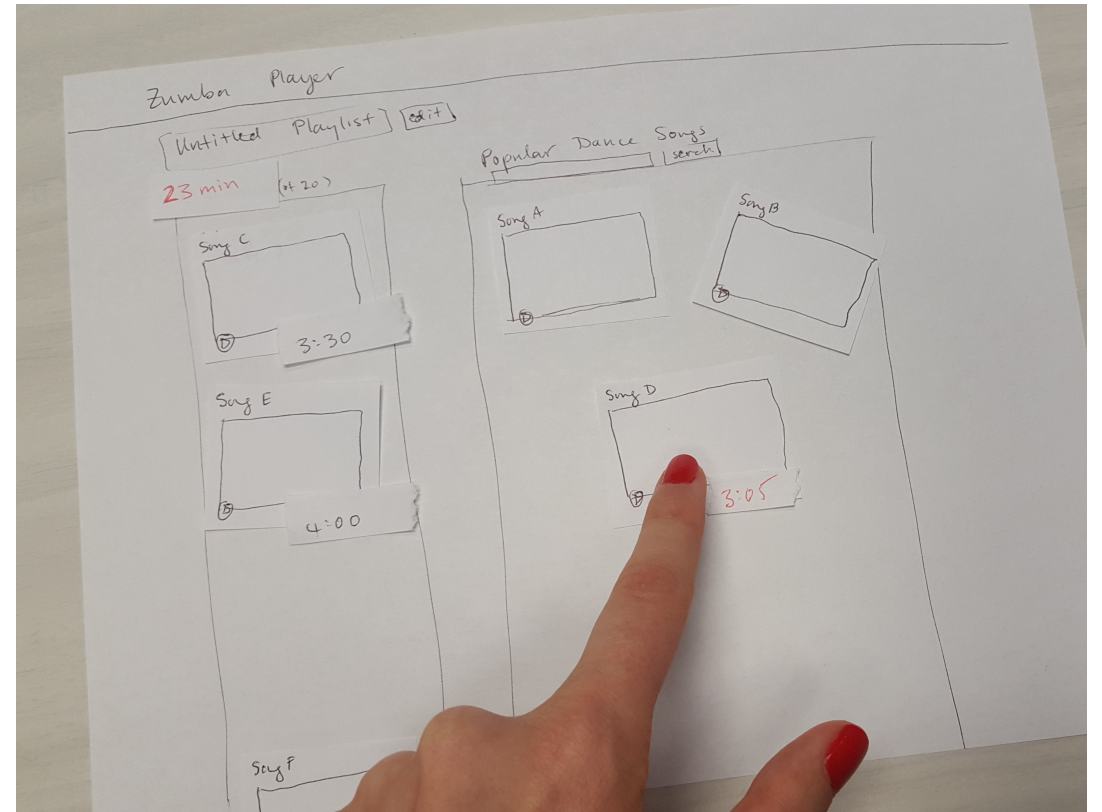
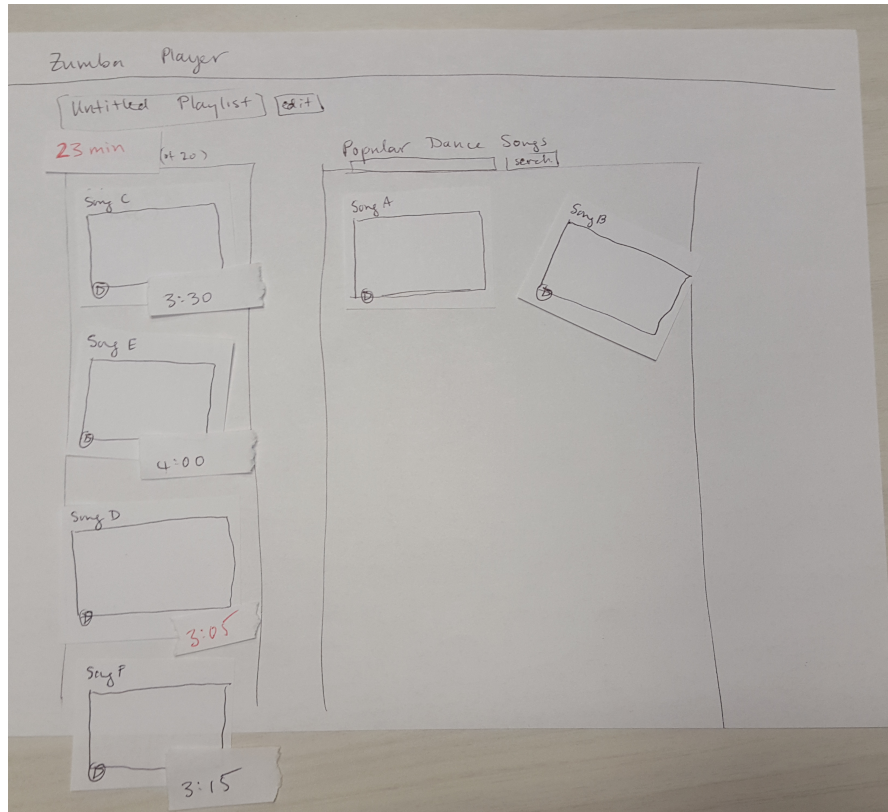
Subgoal 3:

Add songs until the playlist is at least 20 minutes.



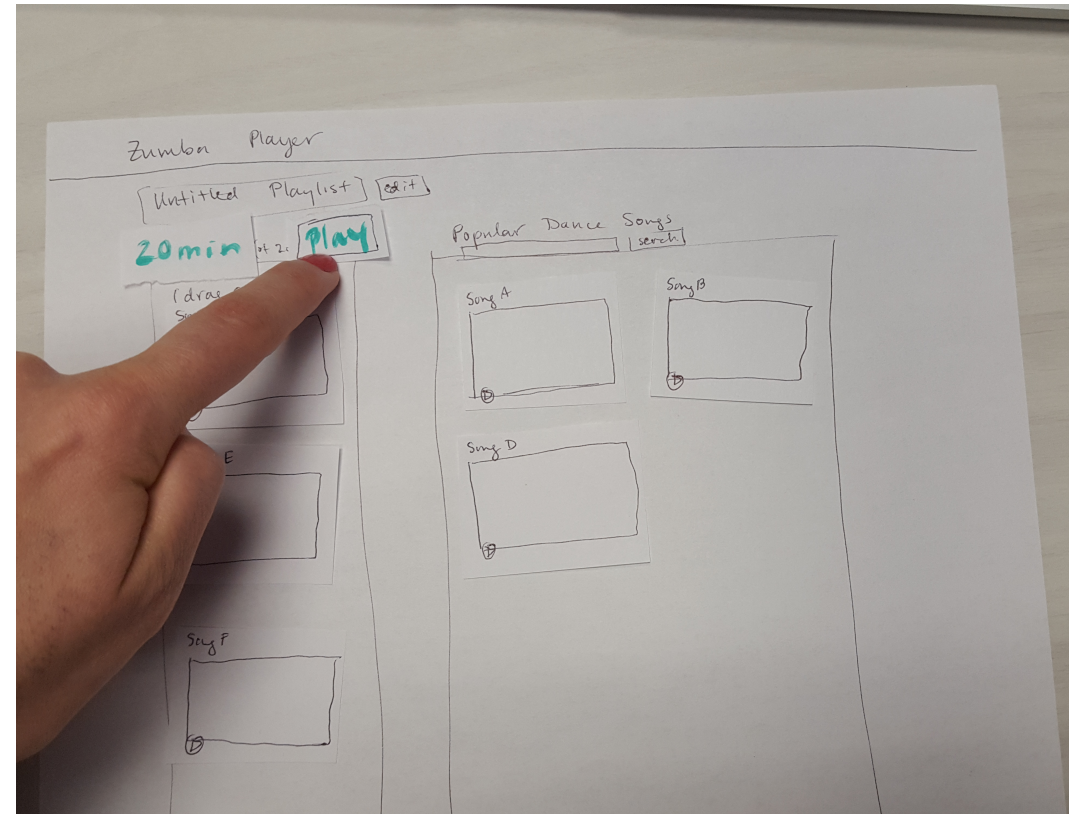
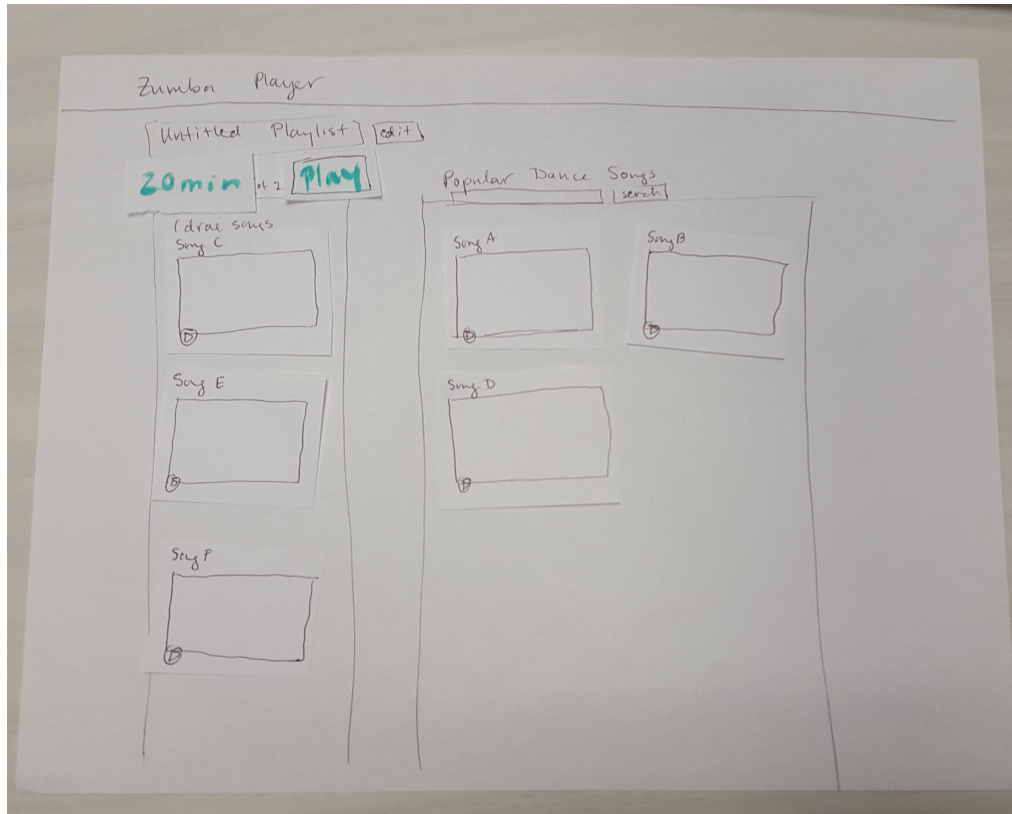
Subgoal 3:

Remove songs until the playlist is 19-21 min



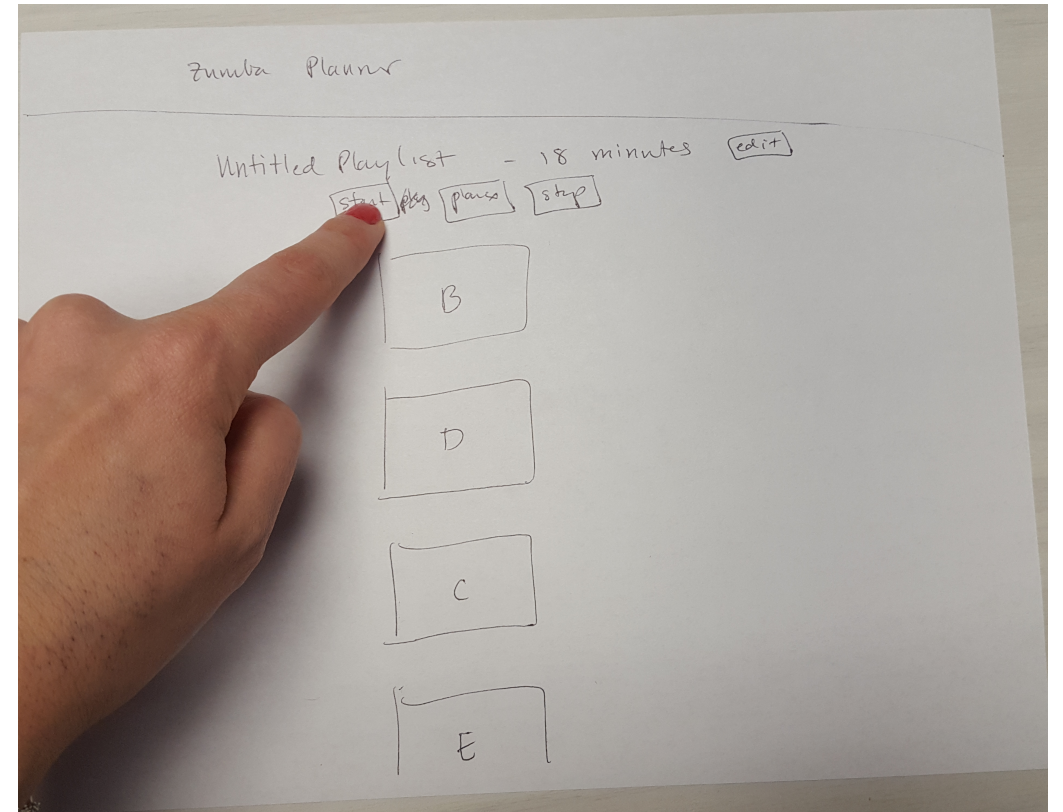
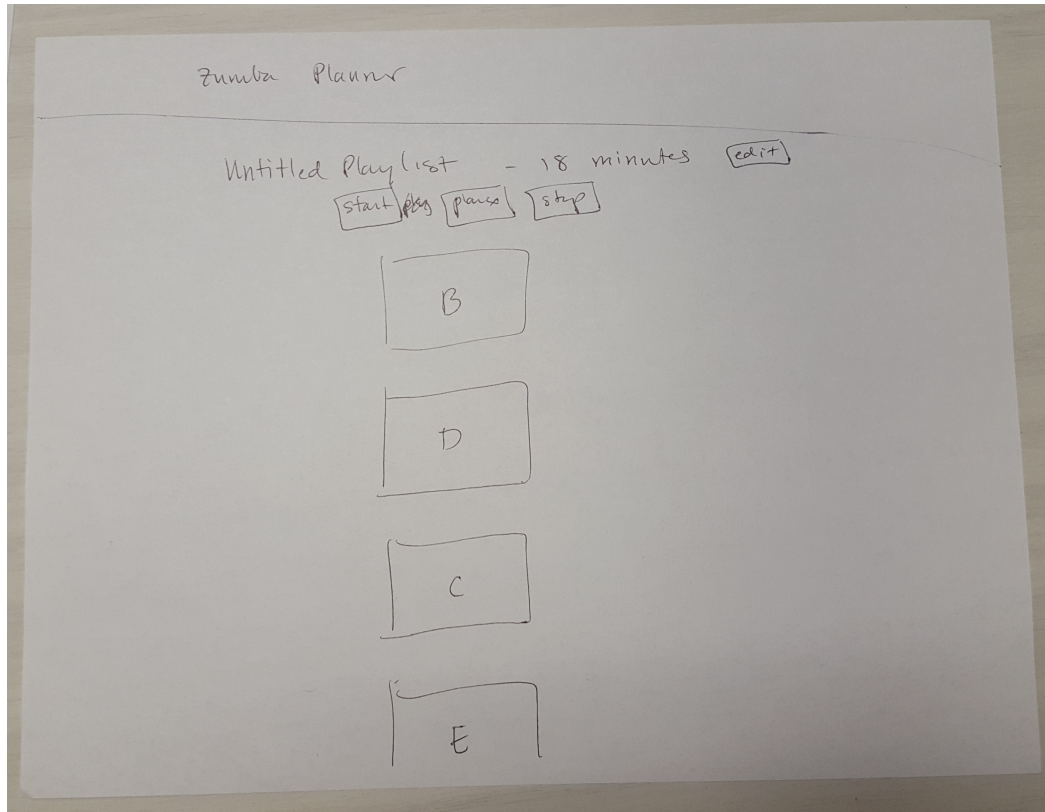
Subgoal 5:

Play the playlist (part 1)



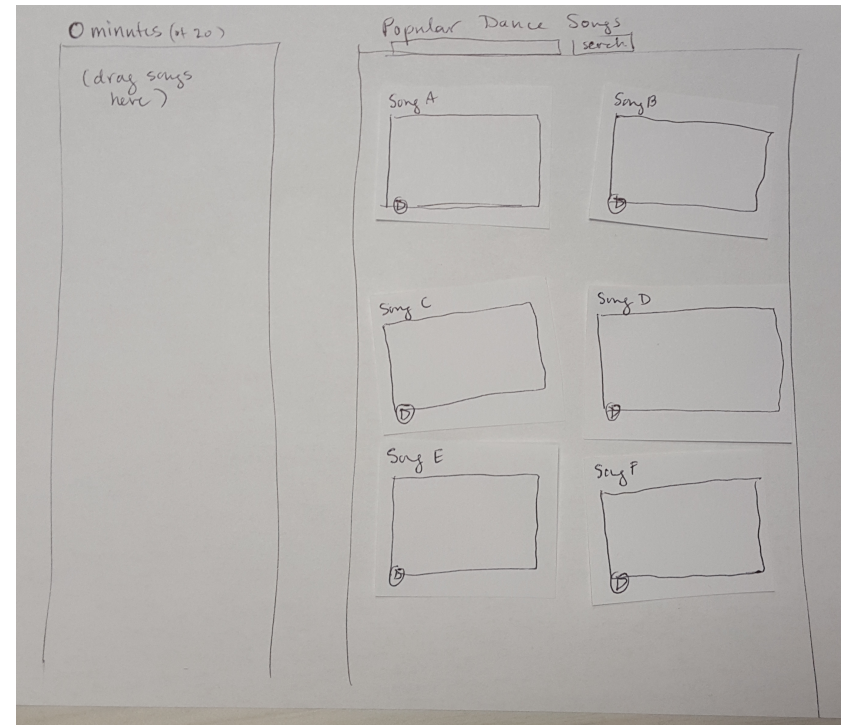
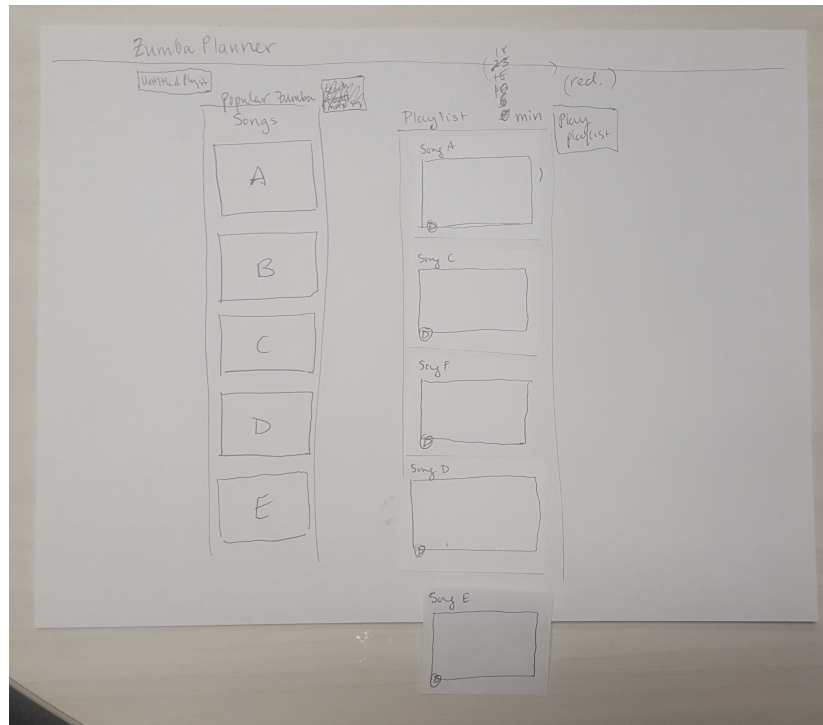
Subgoal 5:

Play the playlist (part 2)



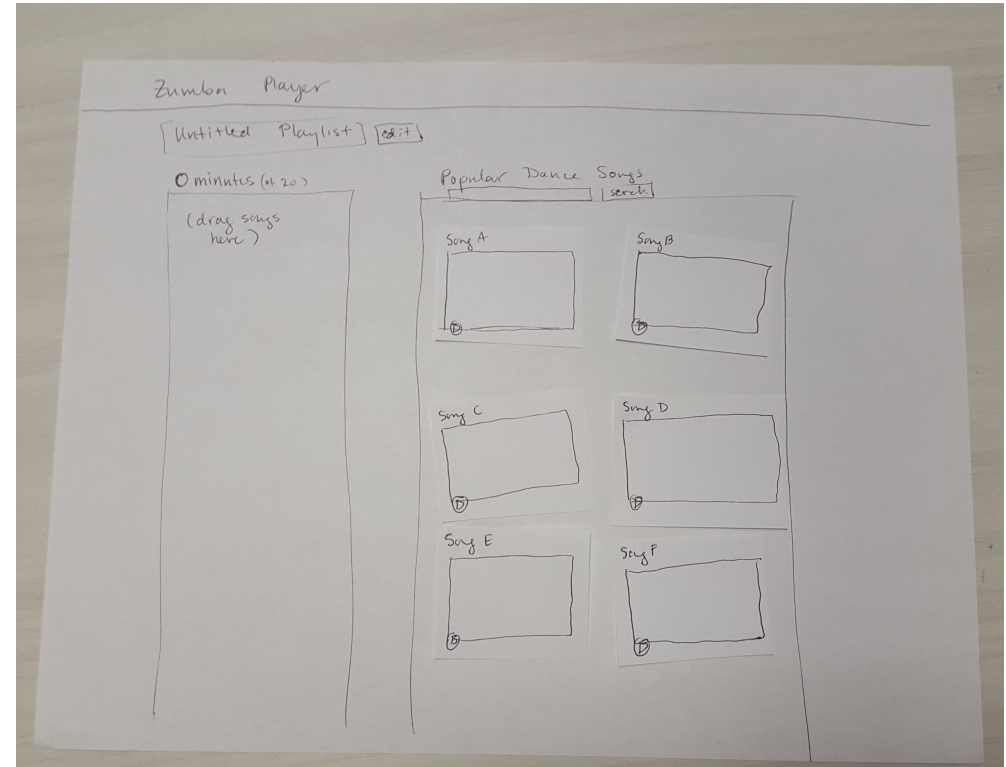
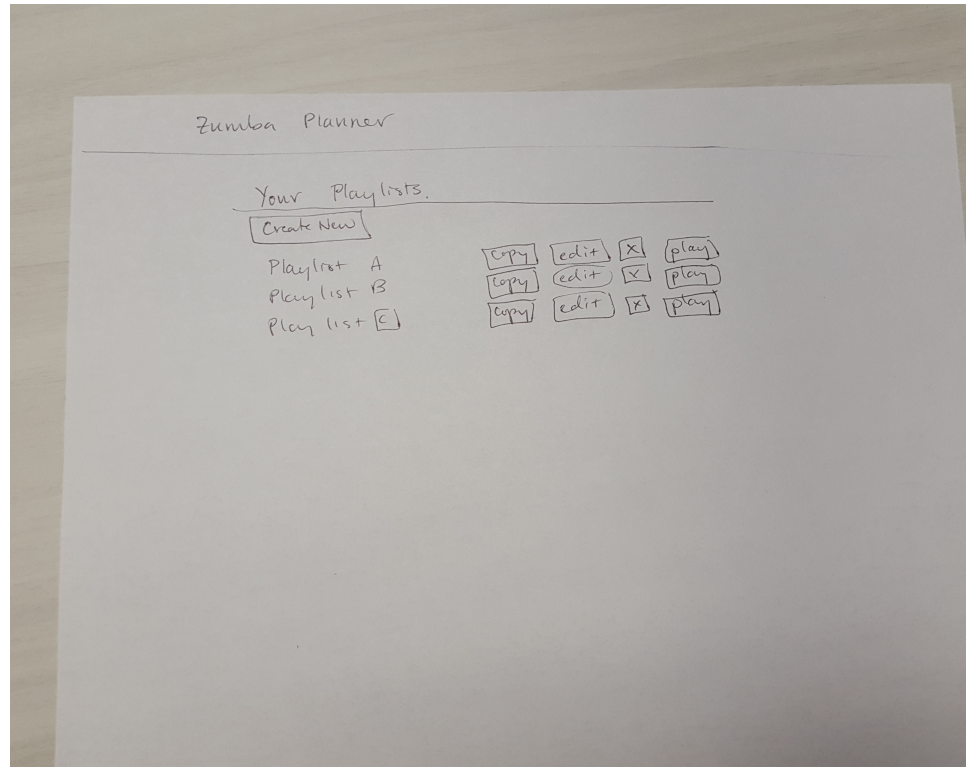
You will probably learn as much from
making the prototype,
as you will from **running** it.

I started with the the playlist drag interface...

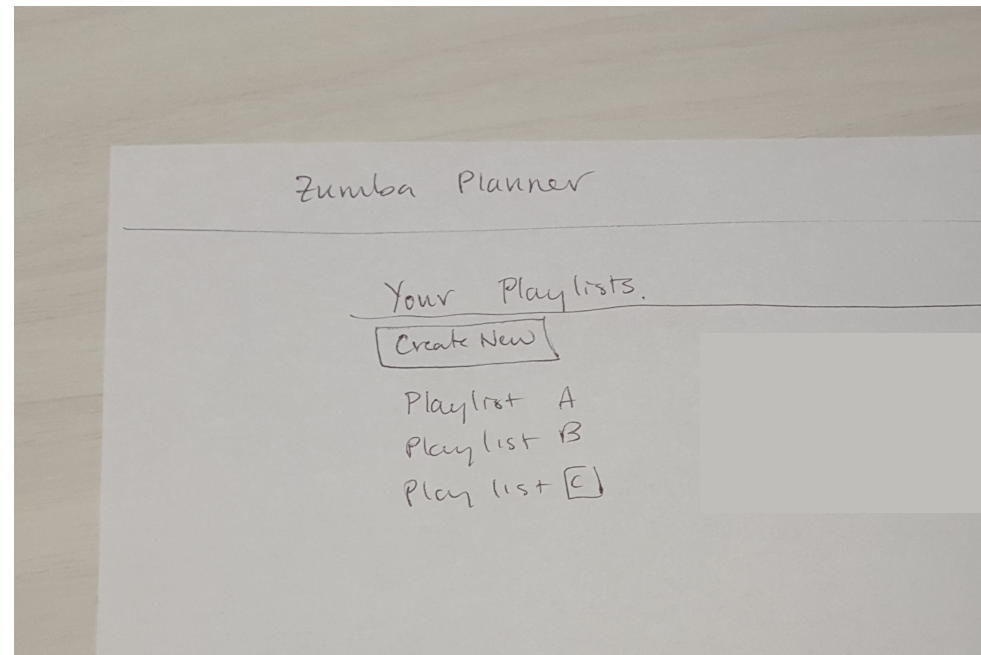


And I realized I needed more songs to pick from, so I made the songs to pick from 2 columns.

I learned that playlists need names



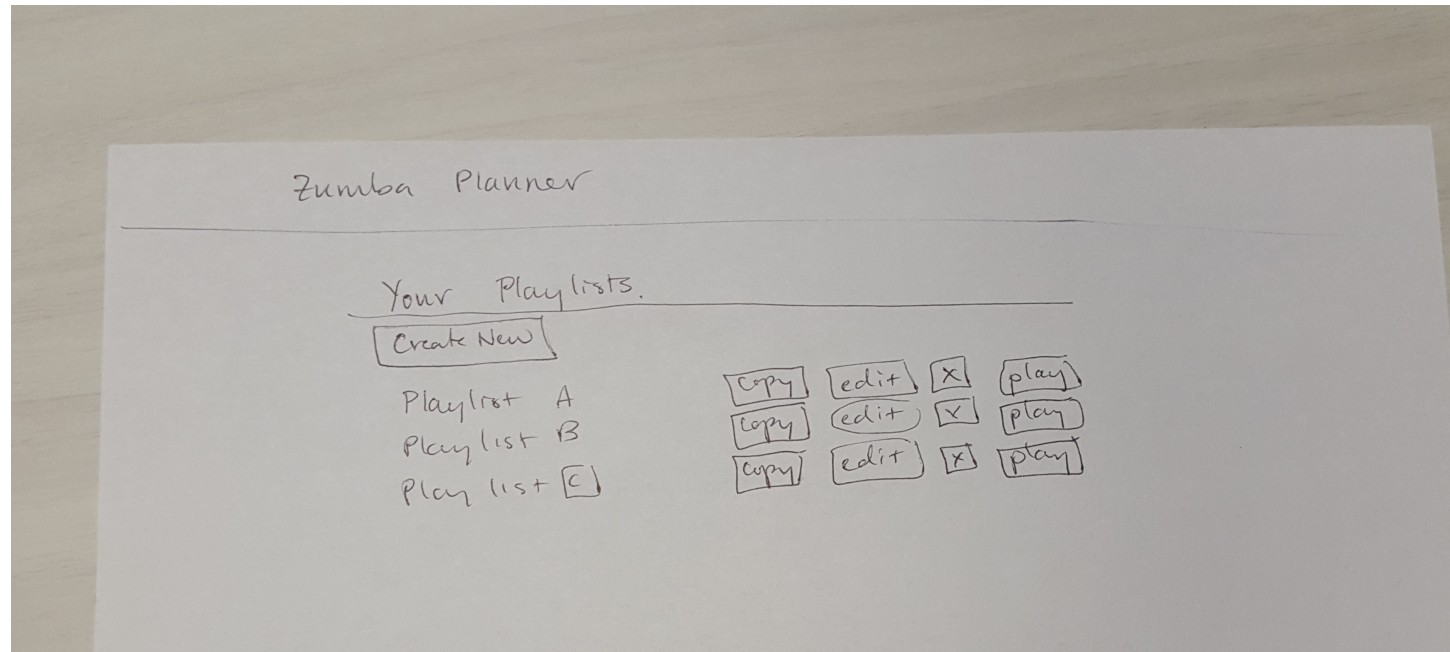
I realized I needed a homepage to create playlists from....
And also probably list the previous ones.



I realized I'd need CRUD operations

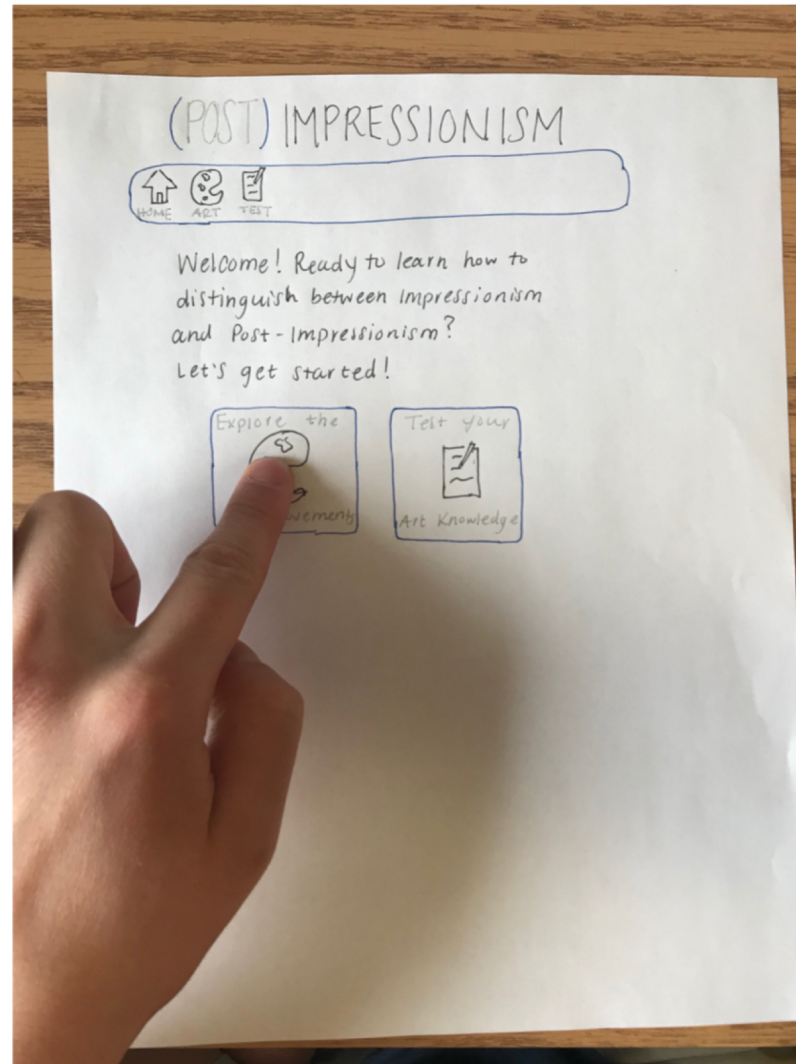
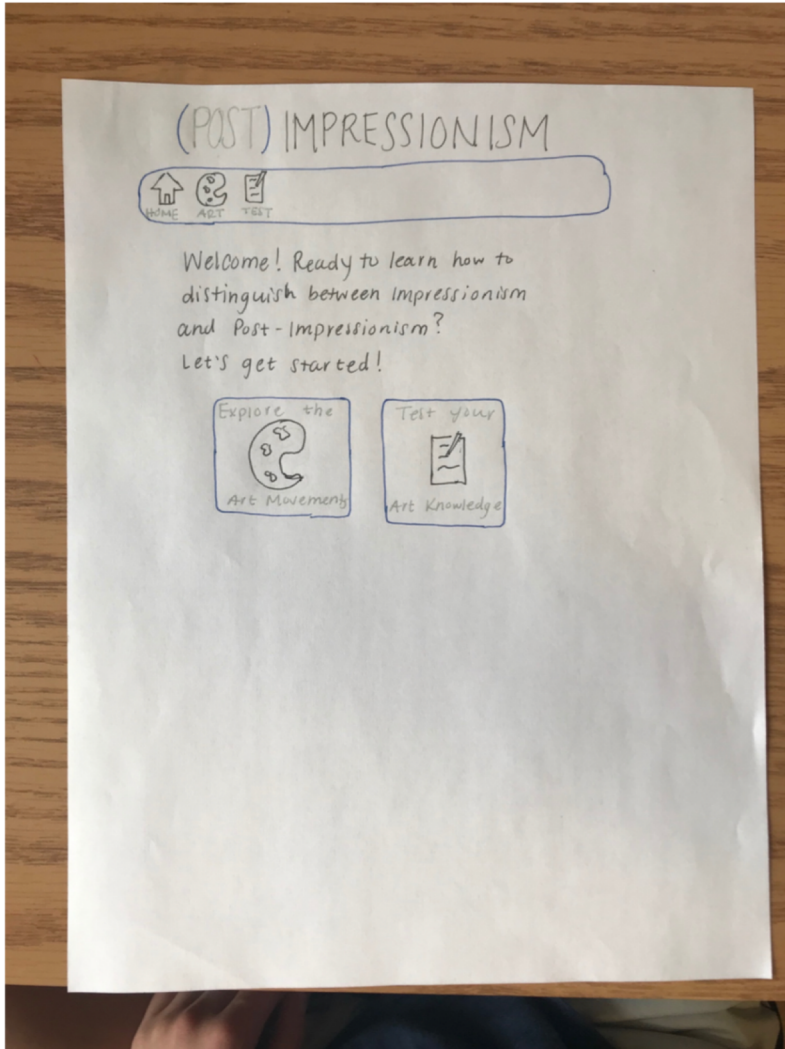
(create, read, update and delete)

on the list of playlists

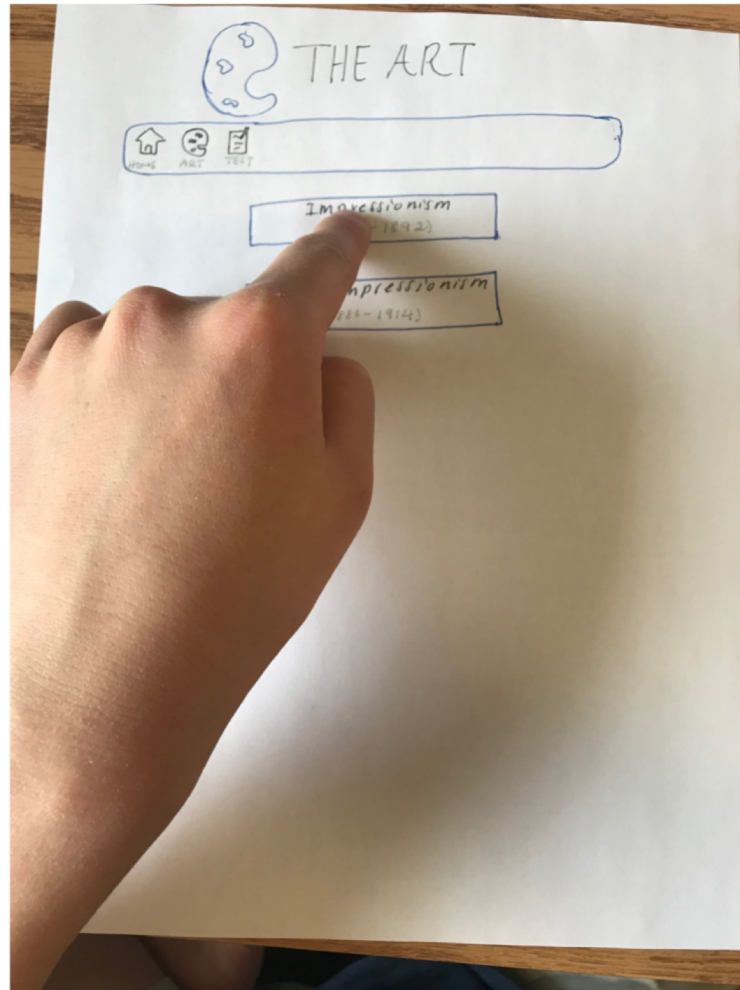
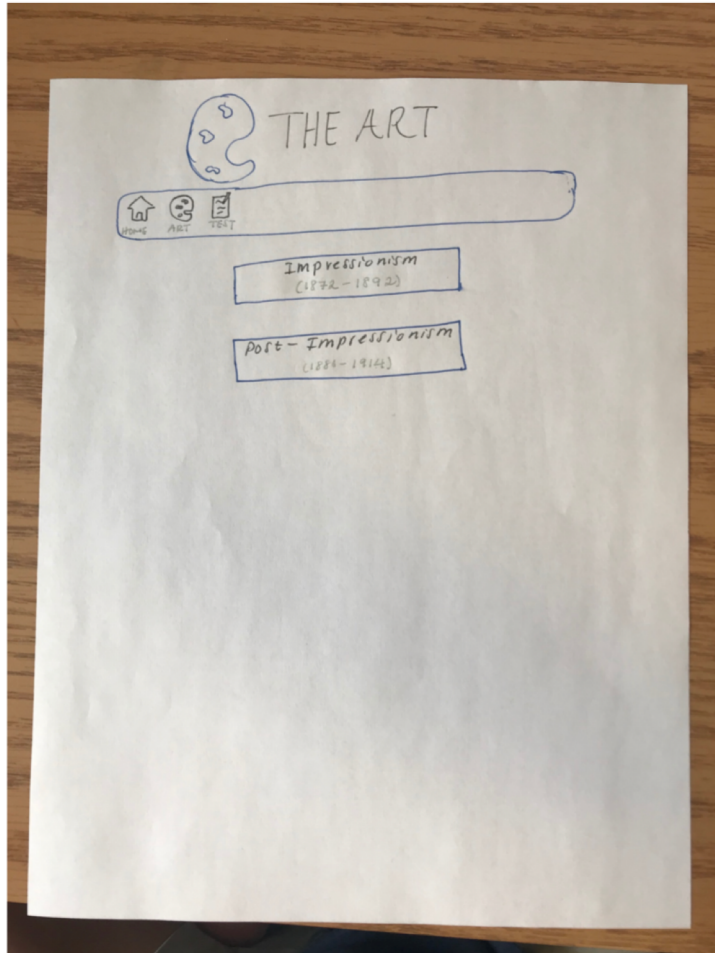


Sam's Paper Prototype

1. Home Screen



Select a lesson



Note: this page is weirdly sparse

Learn Impressionism

THE ART

HOME ART TEST

Impressionism
(1872 - 1892)

Impressionism can be considered the first distinctly modern movement in painting. Developing in Paris in the 1860s, its influence spread throughout Europe and eventually the United States. Its originators were artists who rejected the official, government-sanctioned exhibitions, or salons, and were consequently shunned by powerful academic art institutions. In turning away from the fine finish and detail to which most artists of their day aspired, the Impressionists aimed to capture the momentary, sensory effect of a scene - the impression objects made on the eye in a fleeting instant. To achieve this effect, many Impressionist artists moved from the studio to the streets and countryside, painting *en plein air*.

KEY POINTS:

- The Impressionists loosened their brushwork and lightened their palettes to include pure, intense colors. They abandoned traditional linear perspective and avoided the clarity of form that had previously served to distinguish the more important elements of a picture from the lesser ones. For this reason, many critics faulted Impressionist paintings for their unfinished appearance and seemingly amateurish quality.
- Picking up on the ideas of Gustave Courbet, the Impressionists aimed to be painters of the real - they aimed to extend the possible subjects for paintings. Getting away from depictions of idealized forms and perfect symmetry, but rather concentrating on the world as they saw it, imperfect in a myriad of ways.
- At the time, there were many ideas of what constituted modernity. Part of the Impressionist idea was to capture a split second of life, an ephemeral moment in time on the canvas: the impression.
- Scientific thought at the time was beginning to recognize that what the eye perceived and what the brain understood were two different things. The Impressionists sought to capture the former - the optical effects of light - to convey the passage of time, changes in weather, and other shifts in the atmosphere in their canvases. Their art did not necessarily rely on realistic depictions.
- Impressionism records the effects of the massive mid-19th-century renovation of Paris led by civic planner Georges-Eugène Haussmann, which included the city's newly constructed railway stations; wide, tree-lined boulevards that replaced the formerly narrow, crowded streets; and large, deluxe apartment buildings. The works that focused on scenes of public leisure - especially scenes of cafés and cabarets - conveyed the new sense of alienation experienced by the inhabitants of the first modern metropolis.

see the art

THE ART

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


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see the art


Hmm.. Maybe people need to see art AS they read

IMPRESSIONISM








"Bal du moulin de la Galette"
Pierre-Auguste Renoir
1876



"The Dance Class"
Edgar Degas
1874







"Bridge Over a Pond of Water Lilies"
Claude Monet
1899

POST
IMPRESSIONISM


TEST

IMPRESSIONISM








"Bal du moulin de la Galette"
Pierre-Auguste Renoir
1876



"The Dance Class"
Edgar Degas
1874







"Bridge Over a Pond of Water Lilies"
Claude Monet
1899

POST
IMPRESSIONISM

TEST

IMPRESSIONISM









"Bal du moulin de la Galette"
Pierre-Auguste Renoir
1876

Bal du moulin de la Galette (commonly known as Dance at Le moulin de la Galette) is an 1876 painting by French artist Pierre-Auguste Renoir. It is housed at the Musée d'Orsay in Paris and is one of Impressionism's most celebrated masterpieces.¹⁰ The painting depicts a typical Sunday afternoon at the original Moulin de la Galette in the district of Montmartre in Paris. In the late 19th century, working class Parisians would dress up and spend time there dancing, drinking, and eating galettes into the evening.

Like other works of Renoir's early maturity, Bal du moulin de la Galette is a typically Impressionist snapshot of real life. It shows a richness of form, a fluidity of brush stroke, and a flickering, sun-dappled light.



"The Dance Class"
Edgar Degas
1874



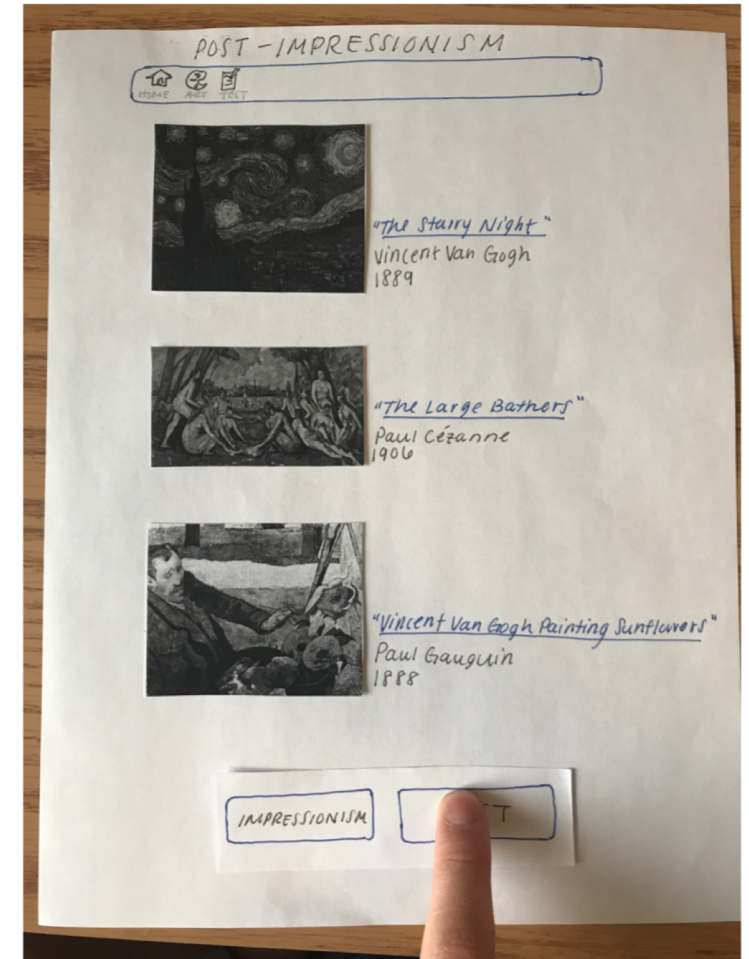
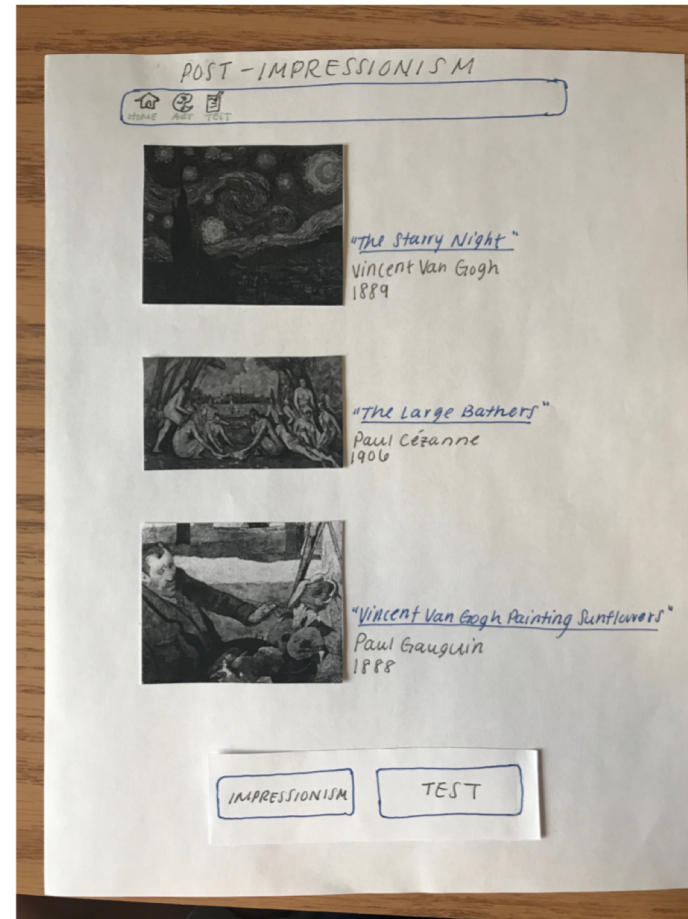
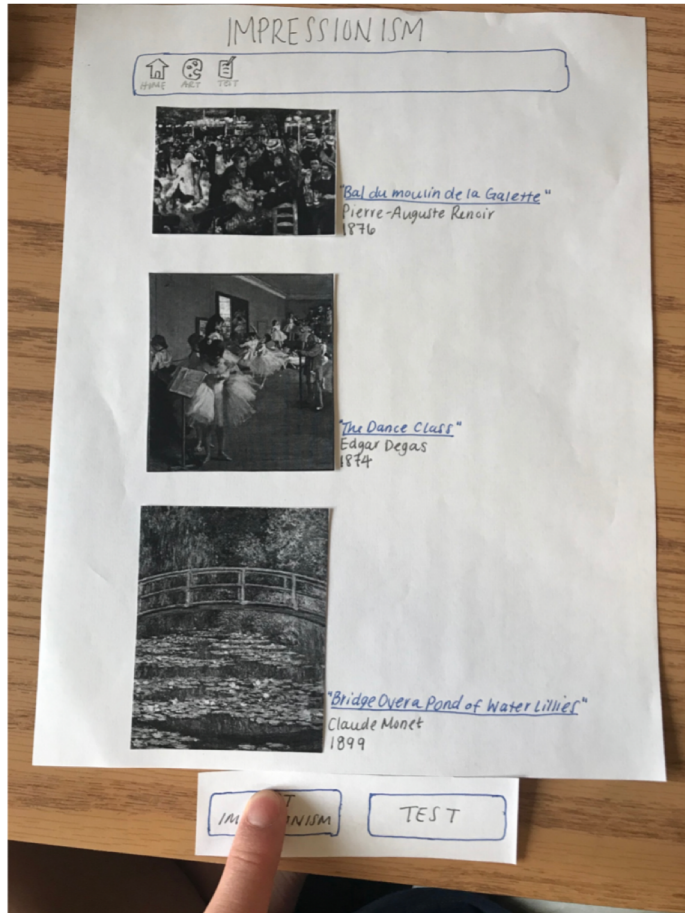
"Bridge Over a Pond of Water Lilies"
Claude Monet
1899

POST
IMPRESSIONISM

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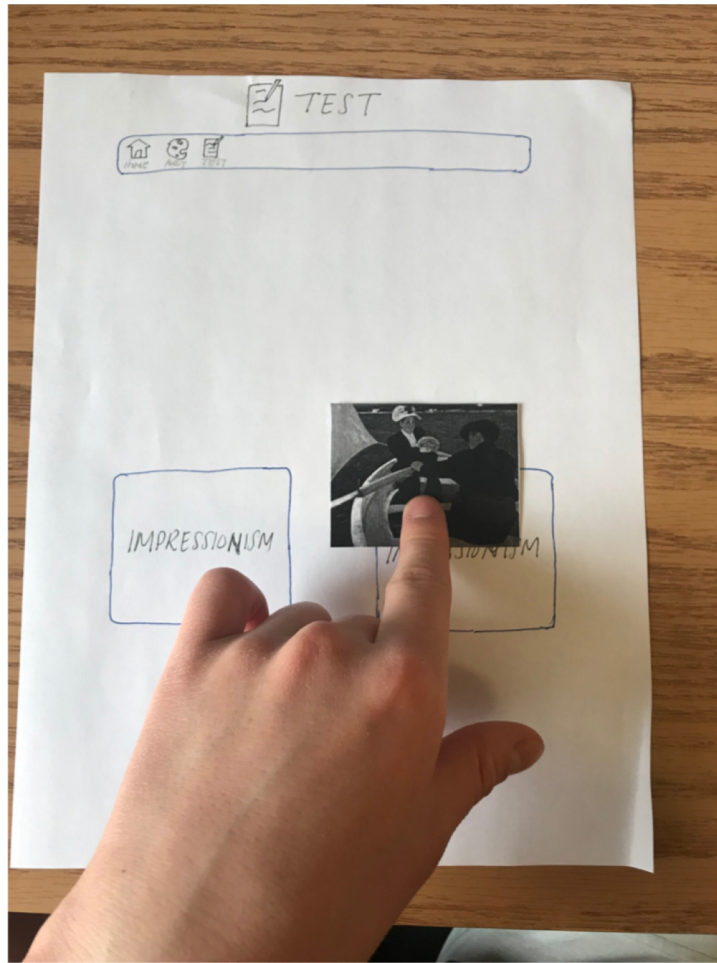
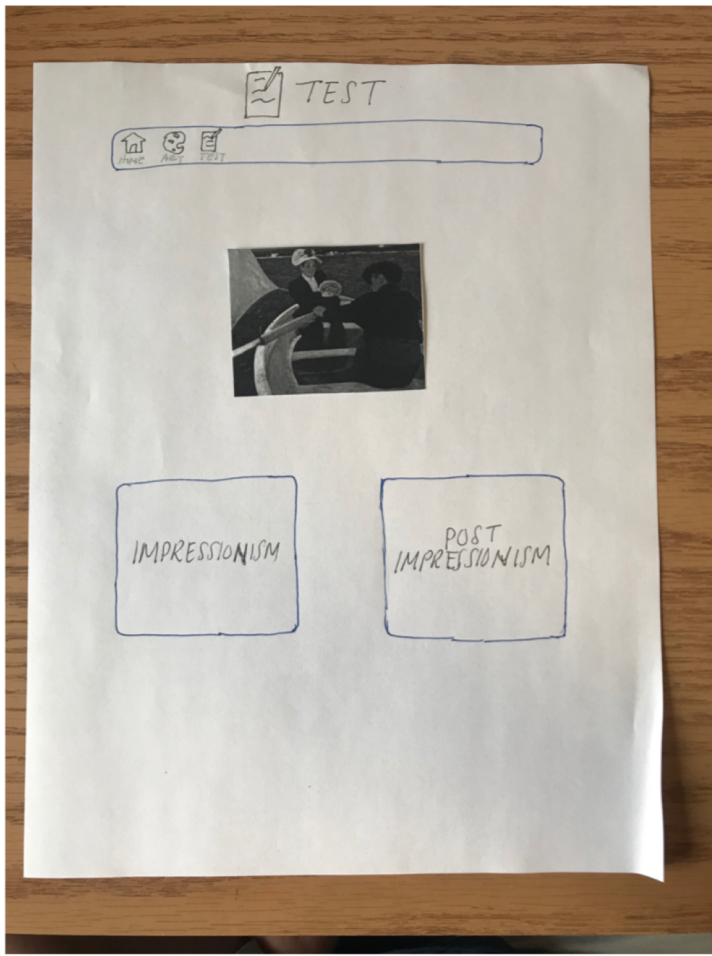
I didn't know you could click that!

Learn post-impressionism



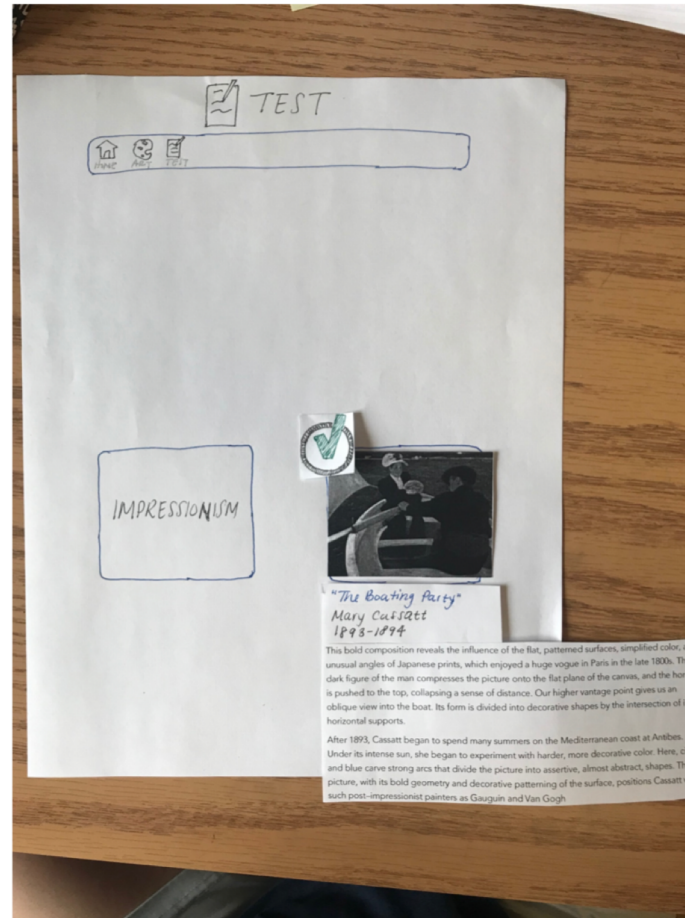
Oh shit! I forgot the overview!

Quiz



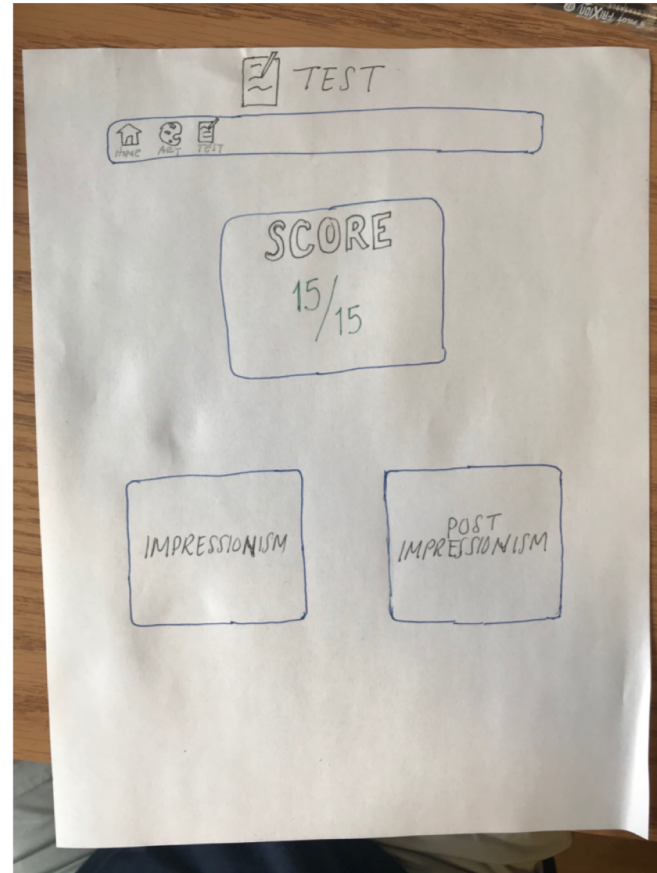
People like dragging!

Feedback



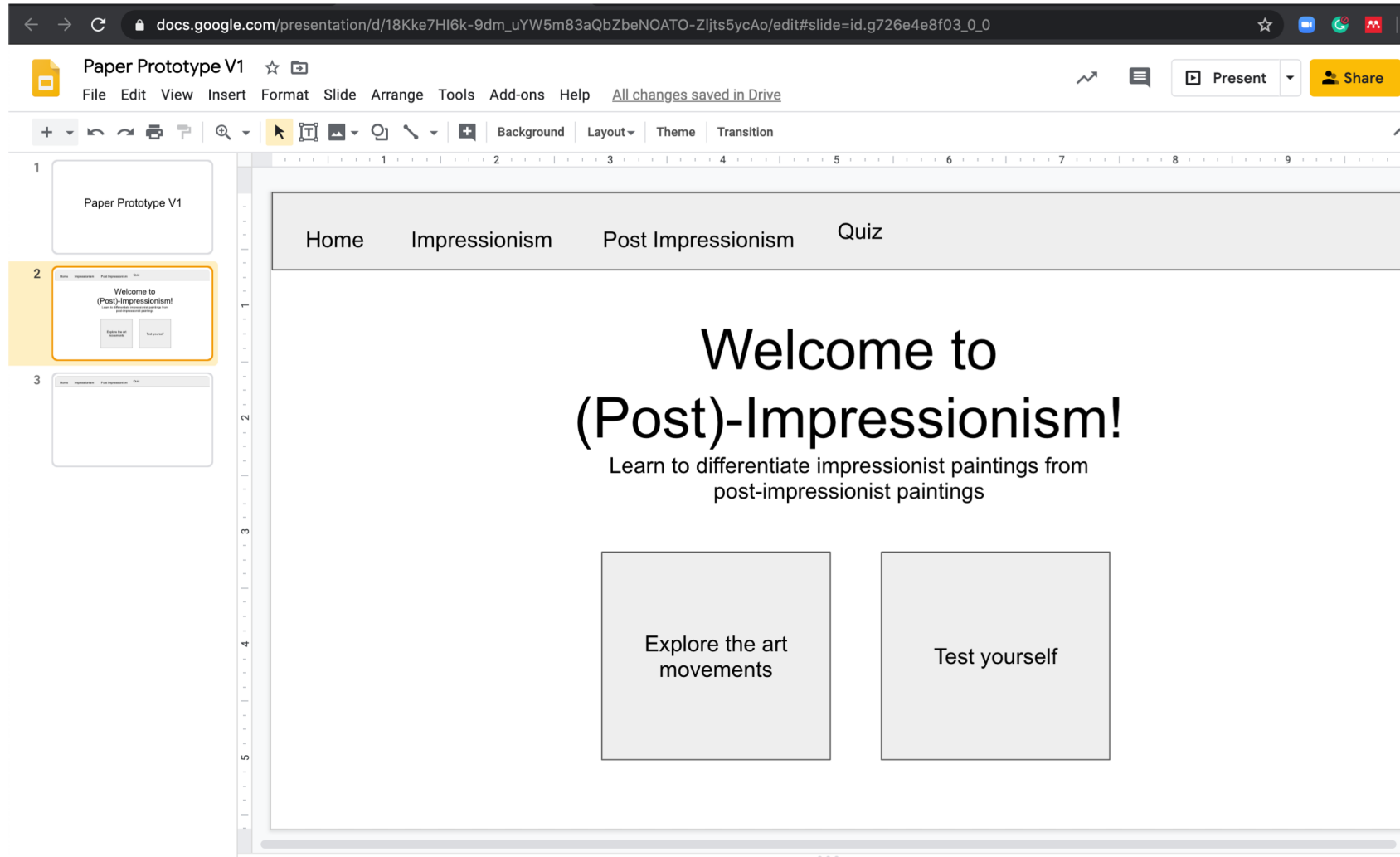
People like immediate feedback, but don't read the text

Final feedback.



Where do I go next?

In this class, instead of a paper prototype, we will use a Google Slides prototype



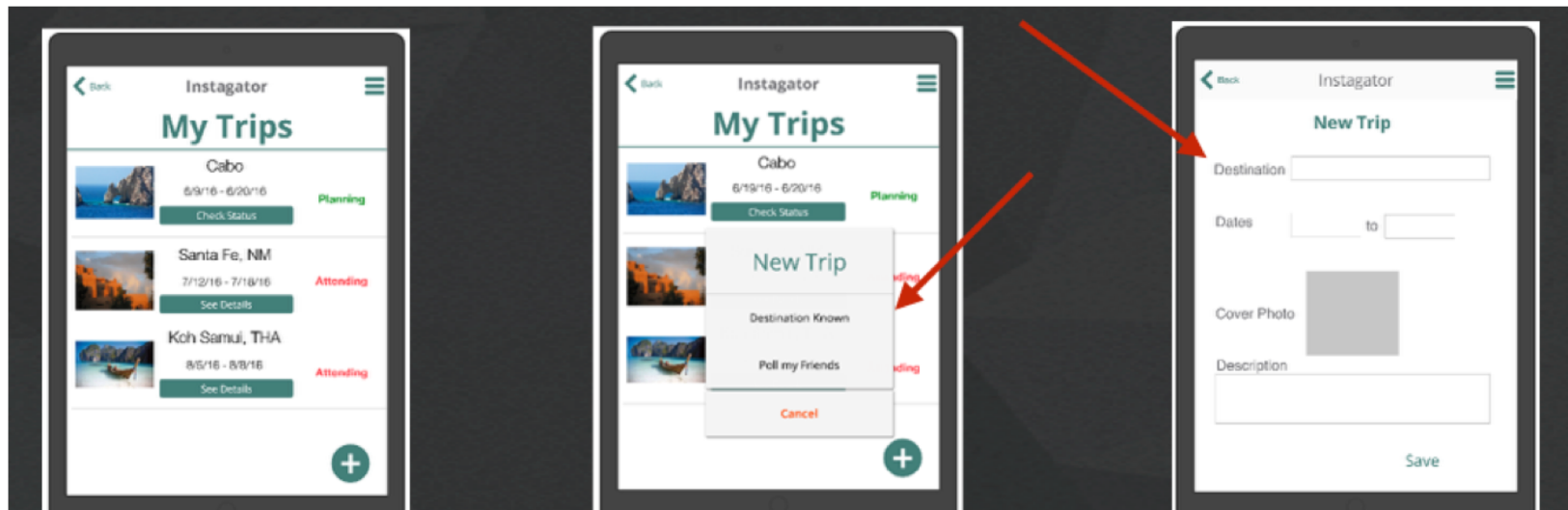
Why is low-fidelity
better than hi-fidelity
at early stages?

What if the prototype is too polished?



1. It takes too long to make.

2. Designers become attached to designs the spent to most time on.



3. You get feedback on the wrong thing:

- color,
- Images
- fonts,
- wording

Use real examples of media in your Google Slides Prototype

Paper Prototype V1 ☆ 📄

File Edit View Insert Format Slide Arrange Tools Add-ons Help [All changes saved in Drive](#)

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1 Paper Prototype V1

2 Welcome to (Post-)Impressionism!

3 Quiz: 1/15

Home Impressionism Post Impressionism Quiz

Quiz: 1/15



impressionism post-impressionism

The image shows a Google Slides interface with a paper prototype. The main slide displays a navigation menu with 'Home', 'Impressionism', 'Post Impressionism', and 'Quiz'. Below the menu, the text 'Quiz: 1/15' is centered. Underneath, there is a reproduction of the painting 'The Starry Night' by J.M.W. Turner. At the bottom of the slide, there are two buttons: 'impressionism' and 'post-impressionism'. The left sidebar shows three slide thumbnails, with the third one, 'Quiz: 1/15', highlighted in yellow. The top of the interface includes the title 'Paper Prototype V1', a menu bar, and 'Present' and 'Share' buttons.

Running a Prototype

Running Prototypes



- Put your low-fi prototype in front of users.
- Read them their goal, and ask them to
- Ask them to think out loud as they do the task
- Don't interrupt them.
- Don't lead them.
- Observe **“critical incidents”**
 - Times they are unsure
 - Times they did something you did not intend
- Write it down, take screen shots.

Summary

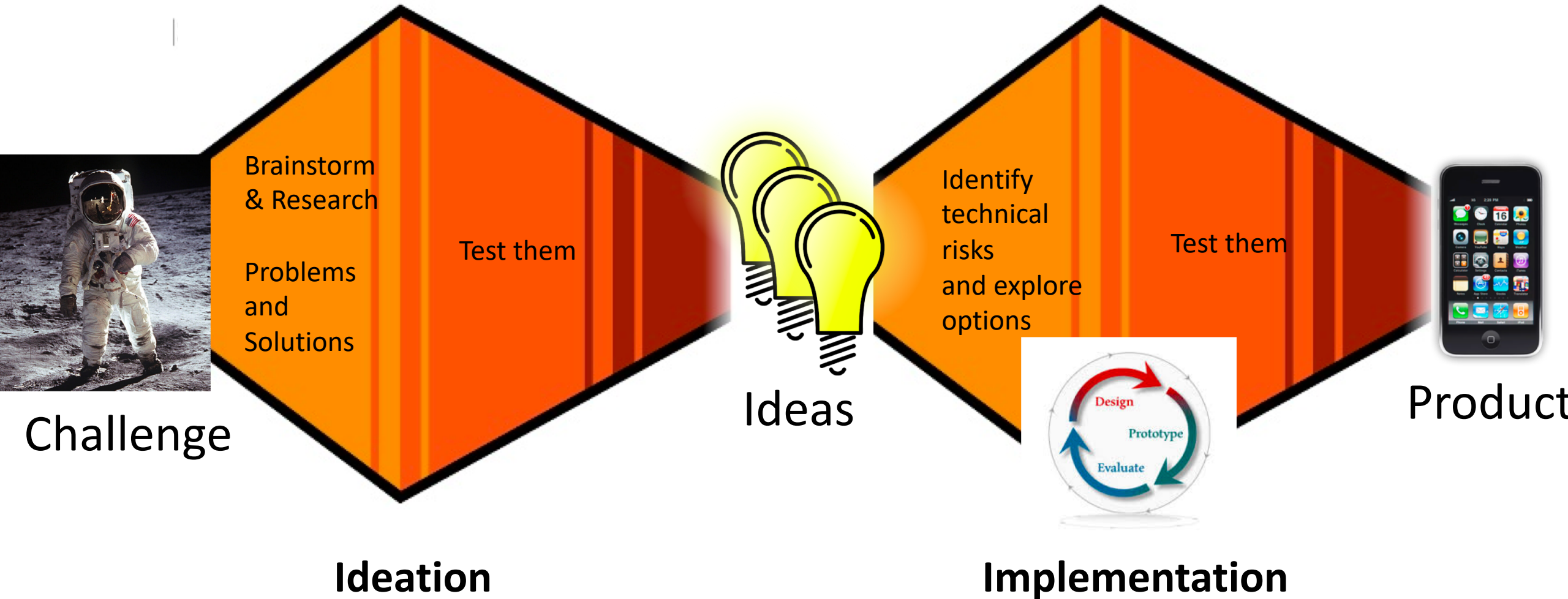
What is design?



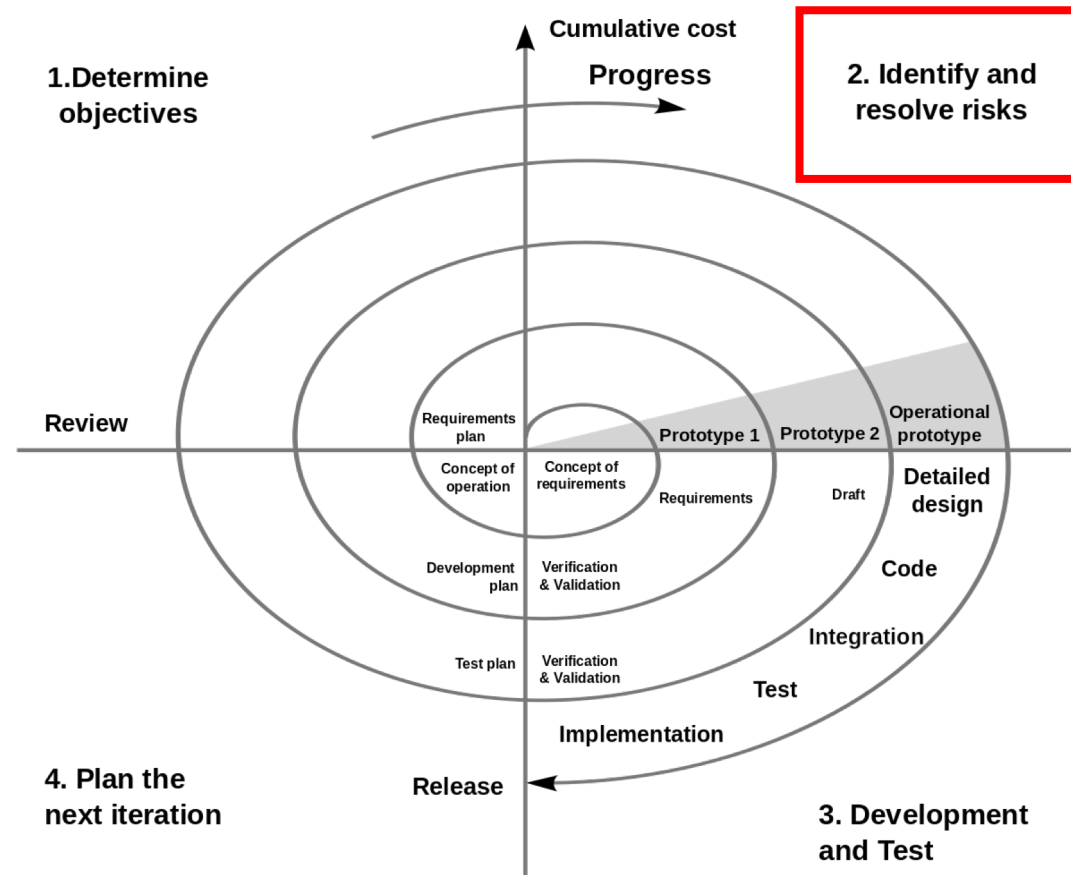
*“Design is a plan for arranging elements
to accomplish a particular purpose.”*

– Charles Eames

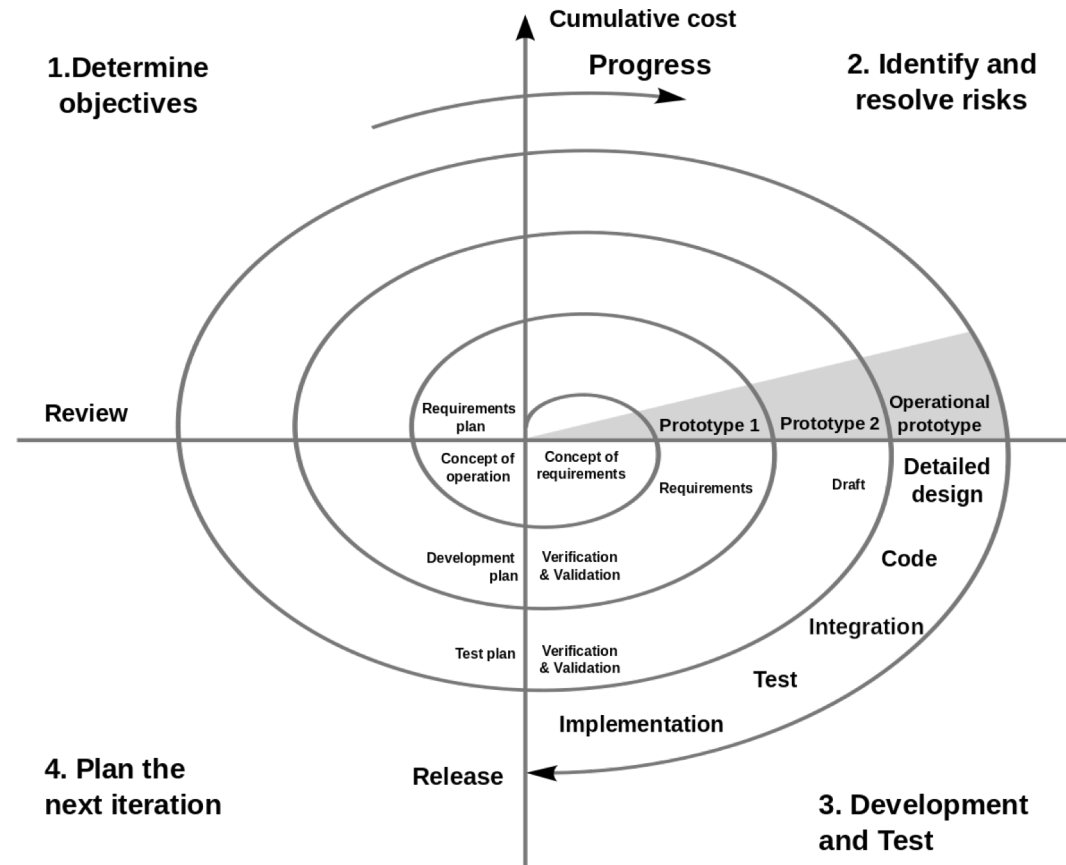
The Iterative Design Process



Iterative Design is good because it minimizes risk



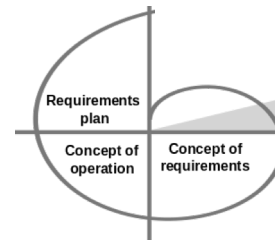
In Iterative Design, Prototypes get increasingly high-fidelity



The first iteration should be as low-fidelity as possible

1. Determine objectives

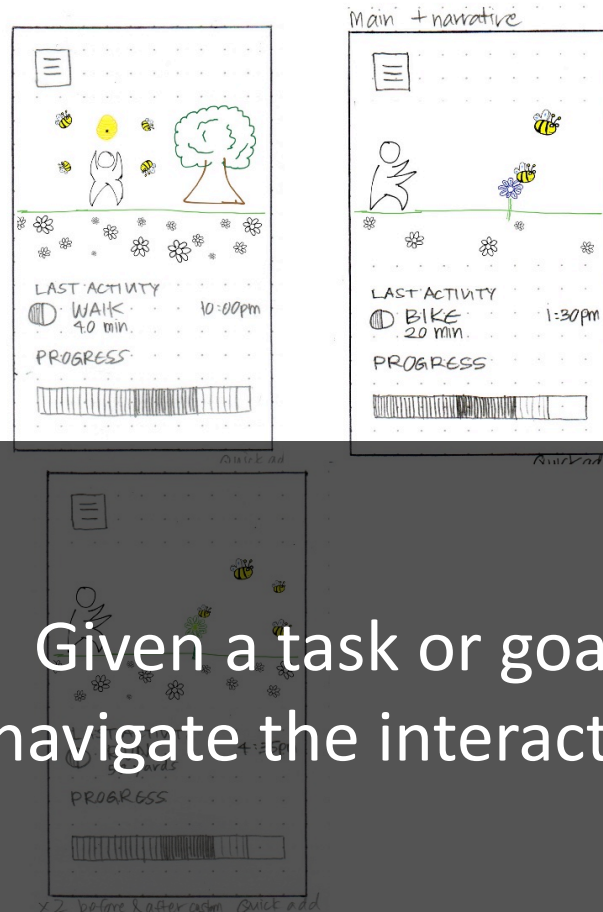
2. Identify and resolve risks



4. Plan the next iteration

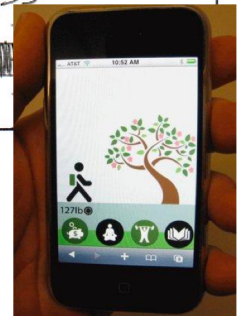
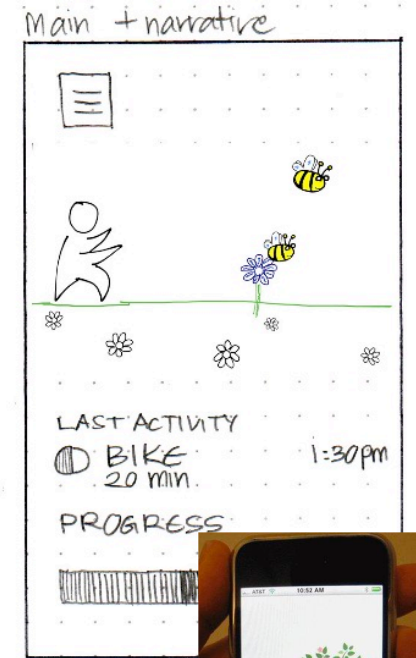
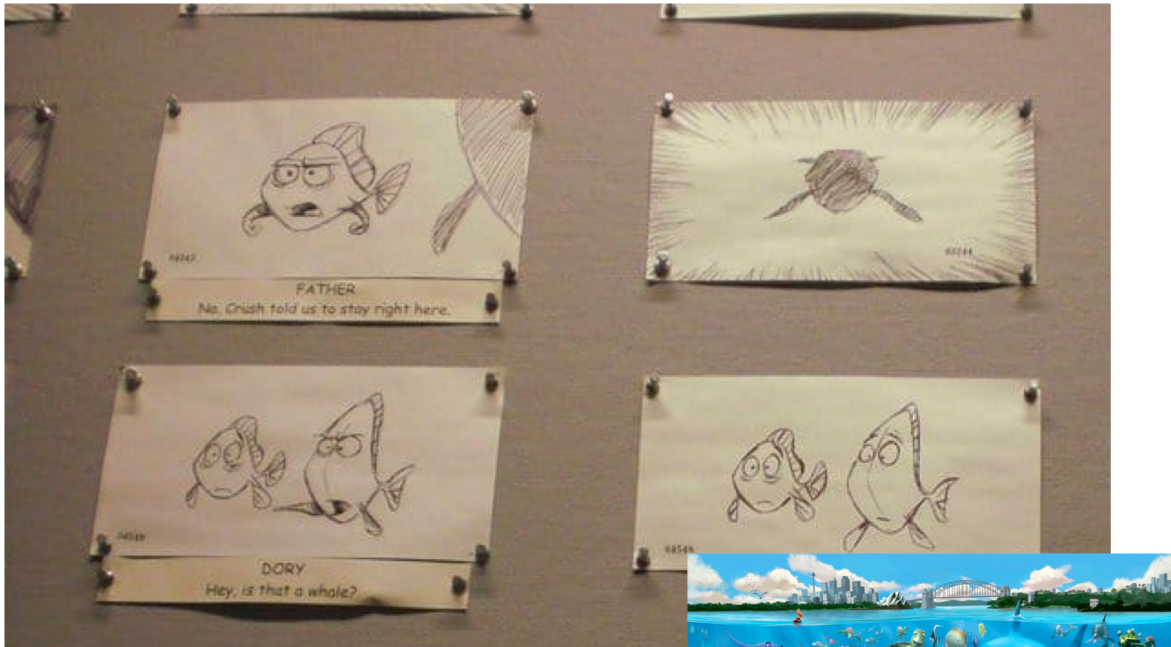
3. Development and Test

Low-Fi Prototypes mitigate risk by getting feedback on the most fundamental aspects of the design first

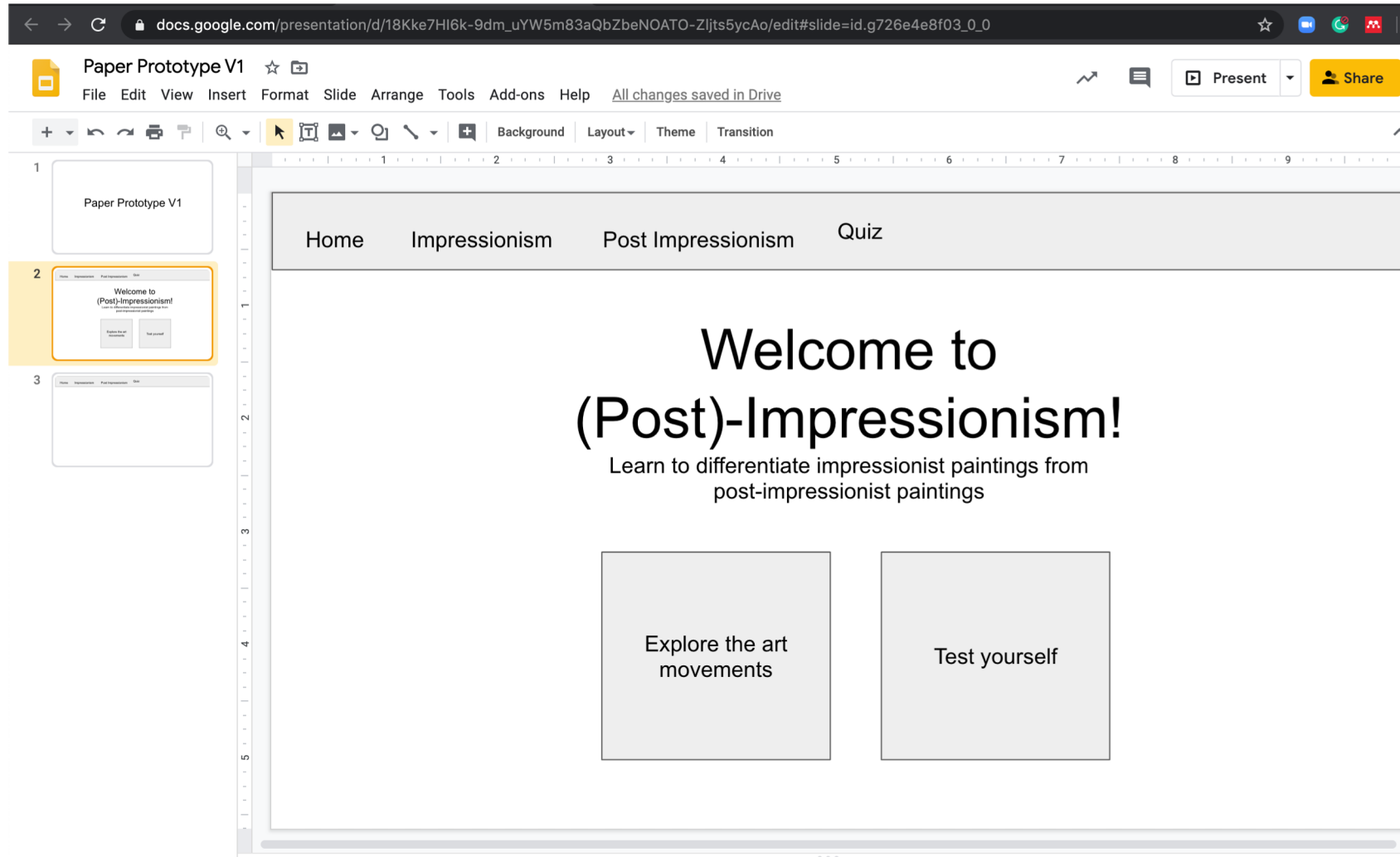


Given a task or goal,
can the user navigate the interaction coherently?

Pixar starts with storyboards.
Software starts with paper prototypes.



In this class, instead of a paper prototype, we will use a Google Slides prototype



Use real examples of media in your Google Slides Prototype

Paper Prototype V1 ☆ 📄

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impressionism post-impressionism

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Homework 9: Due Wednesday 4/8

- Gathering insights
- Google Slide Prototypes
- Testing them

Everyone:
Fill out participation when you see the video!

Columbia University

User Interface Design

COMS 4170 · Spring 2020

Home

Grading

Syllabus

Piazza

10

MARCH 30

[Participation Form](#)

APRIL 1

Homework 8 due @ 4pm

Now:
Run your ideas by me