

The Iterative Design Process

No other screens



Prof. Lydia Chilton
COMS 4170
30 March 2020

Say your name



Given specifications, you can create interactions

Part 1 – Usable Functionality:

1. Menu/Navigation.

- For consistency, all the templates should be rendered with a shared template that contains a navbar.
- The navbar should contain:
 - A home link (at the "/" route)
 - A text box to enter a search query and a "go" button (at the "/search" route). When the user presses enter on the search bar it should also "go".
 - A create link (at the "/create" route)

2. Home. The home link should render at the "/".

- It should contain a one sentence summary of the mission of the site. This mission should make it clear who the intended user is and what specific goal it helps them achieve.
- It should show the latest 10 entries added to the database to entice the viewer to click on something and start exploring.
- Each of the 10 entries should be formatted as a Bootstrap Card that contains an image and the title of the item. If there is some other essential field, it can show that too, but it should not show all the data fields – it's meant to be a summary.
- When you click the image, it should take you to the page for viewing the item.

3. Search. When the user presses "go" on the search link (or presses enter), it should search for the items and return a list of all matching results.

- Flexibility.** The query must do substring matching that is not case sensitive on the title and one other text field.
- Feedback.** In addition to returning the results, the page must say how many results there are. If there are zero results, you don't need to do anything other than say there are zero results.
- Feedback.** When you present the results to the user, the bit that matches the substring must be easy to scan for, according to gestalt principles.

4. State/Options/Transitions. On the template for creating a new database item, you will still have input boxes for all the fields the user must input. In addition:

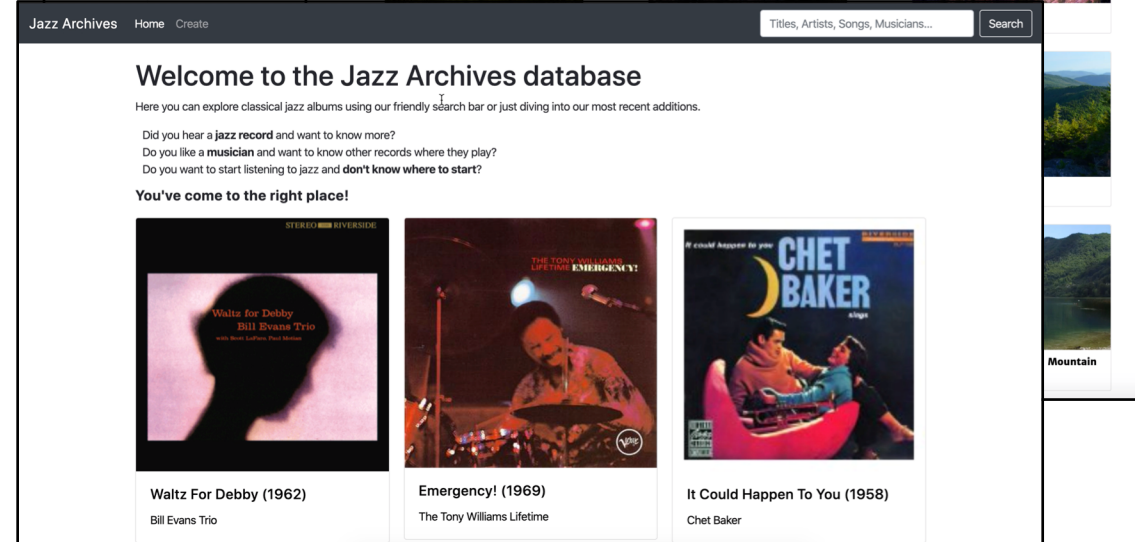
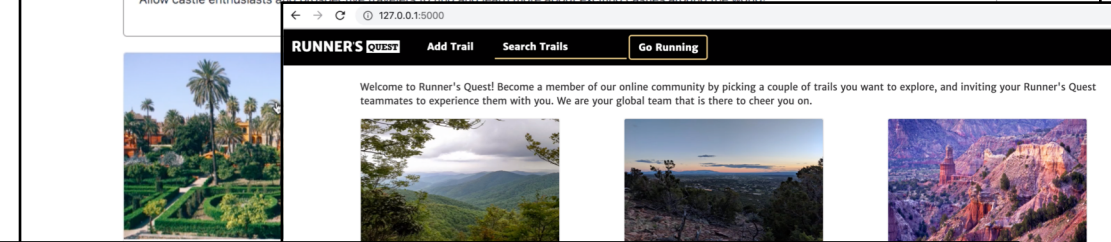
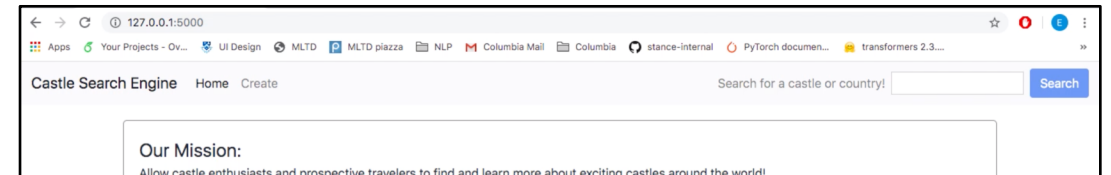
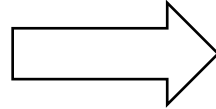
- Error Detection.** When creating a new database entry, there must be error handling on all the fields. If the field must be a number, then ensure it is a number. At the very least, you can check that the field is not blank (remember to trim the text to test if it's blank). Design the error feedback so that it directs the user's attention to the right place to correct the error.
- Transitions.** After the user presses "submit" and the data successfully submits, allow the user to either view the item or enter a new item.
 - At the top of the page it should say, "New item successfully created." With a button or link that says "see it here" (or words to that effect). This links to a page for viewing the item.
 - Additionally, the input boxes should clear and the focus should be placed on the first text box so the user is ready to submit another item.

5. State/Options/Transitions. There will no longer be a separate /edit/<id> route. Editing will now be done in /view/<id>

- For each field that can be edited, create a small edit icon next to it. (at least two fields must be editable – including one that is involves changes the text)
- State Change.** When the user presses the "edit" icon the field to be edited, it must immediately turn editable with a "submit" and "discard changes" option.
- Options.** The chosen text must disappear, and in its place, there should be a textbox or text input with the text they way to edit, with the focus in the input field.
- Transitions.** After the users presses "submit" or "discard changes" the page should go back to how it looked when they were viewing it (and not editing it).
- Note: If your "update" was to add a review to a list, you don't need to populate the textbox with any text. You may call it "add review" instead of "edit" if you like.

6. User control and freedom (Undo).

- The user should no longer be able to delete entire database items from the search page.



The next step is to become a user interface designer.

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You identify the user

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You identify a problem

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You find the solution

4. State/Options/Transitions.

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 - Error Detection.** When creating a new database entry, there must be error handling on all the fields. If the field must be a number, then ensure it is a number. At the very least, you can check that the field is not blank. Remember to trim the input before checking for errors. If you find an error, you should display the error message to the user. If the user presses "submit" and the data successfully submits, allow the user to either view the item or enter a new item.
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What is design?



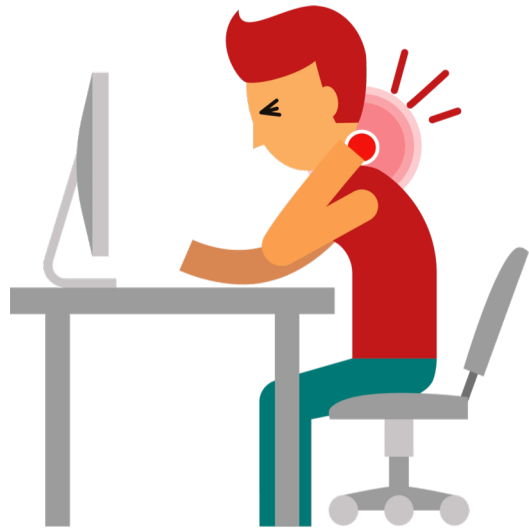
“Design is a plan for arranging elements to accomplish a particular purpose.”

– Charles Eames

Design is **not** a magical leap where a brilliant idea comes from no where.



Design is a iterative progress where you work with users to identify and solve their problems.



Sitting all day hurts!

Leaning forwards

No support for curve of lumbar spine

Excessive strain on lumbar discs

Don't perch on front of seat



Why does it hurt?
How do people sit?

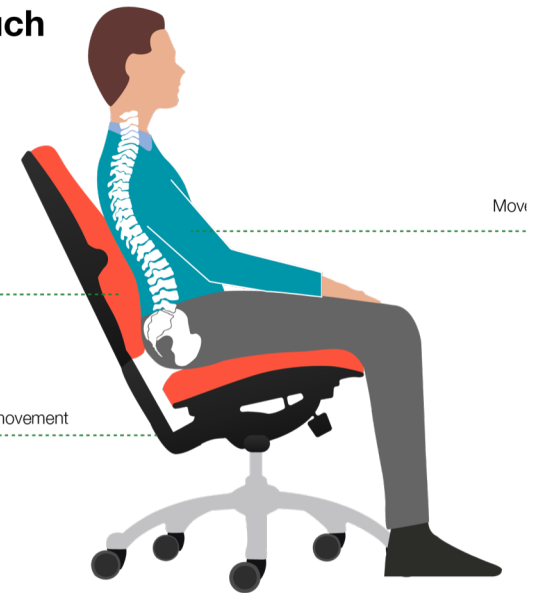


Good slouch

for ergonomic chairs with floating tilt

Back remains supported

Floating seat tilt gives freedom of movement



What does good sitting look like?

Identify

Users needs:

For people who sit all day in an office, alleviate back pain by designing a chair that supports the lower back.

Test solutions

on users:



Start by helping a **specific person** with a **specific need**



Nadia, age 11

www.math.about.com

Score: 25

Ace this fractions test

If you start specific, you can usually generalize later.

Domain

Specific Need

Generalized to



Online shopping

Uncommon books

Clothes, Food,
Amazon Fresh
Other sellers



facebook

Social Networking

Harvard students looking
up dorm, classes,
relationship status

Ivy League
US Colleges
Everybody



Gmail

Read/send Email

No page reload
Never Delete

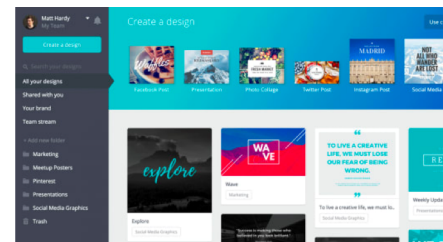
Chat
GDrive



Graphic Design
For novices

High School
Yearbooks

Posters,
flyers, ads



Starting with a specific person and problem allows you to understand the problem and test various solutions.



Math worksheet titled "Fraction Test: Review of Fraction Concepts".

Compare the fractions (or $= >$ or <math>< ></math> or $> >$).

1. $6\frac{1}{2}$ vs $6\frac{1}{4}$ 2. $9\frac{3}{4}$ vs $9\frac{4}{8}$ 3. $\frac{8}{8}$ vs $\frac{11}{8}$

4. $\frac{6}{10}$ vs $4\frac{1}{10}$ 5. $\frac{12}{10}$ vs $\frac{6}{5}$ 6. $8\frac{5}{10}$ vs $8\frac{6}{10}$

Calculate (reduce to smallest terms):

7. $1\frac{1}{2} \times 2\frac{2}{3} =$ 8. $8\frac{1}{2} - 5\frac{2}{3} =$ 9. $4\frac{1}{4} - 2\frac{2}{4} =$

10. $7\frac{2}{10} - 4\frac{4}{10} =$ 11. $9\frac{1}{10} + 3\frac{5}{10} =$ 12. $7\frac{1}{3} + 3\frac{1}{3} =$

13. $2\frac{5}{10} \times 1\frac{2}{10} =$ 14. $2\frac{1}{10} \times 7\frac{6}{10} =$ 15. $4\frac{2}{3} \times 3\frac{1}{3} =$

16. $4\frac{3}{10} \times 2\frac{4}{5} =$ 17. $9\frac{1}{10} - 7\frac{2}{10} =$ 18. $6\frac{1}{3} + 9\frac{1}{3} =$

Simplify the Fractions:

19. $\frac{12}{18} =$ 20. $\frac{13}{18} =$ 21. $\frac{12}{18} =$ 22. $\frac{11}{18} =$

23. $\frac{12}{18} =$ 24. $\frac{22}{18} =$ 25. $\frac{12}{18} =$

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For every student, every classroom. Real results.

We're a nonprofit with the mission to provide a free, world-class education for anyone, anywhere.

Learners Teachers Districts Parents

Example of a specific need

Columbia Housing Selection Stats

Use this site as a way to help better plan for your housing selection time. All data was obtained from [this PDF](#) that Columbia Housing posted. Please reach out if you feel like there's an error, and make sure to share with others!

If you're in a group, enter either your group's lottery number or your group name.

If you're **not** in a group, enter your UNI.

See Results

Columbia Housing Selection Stats

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If you're in a group, enter either your group's lottery number or your group name.

If you're **not** in a group, enter your UNI.

See Results

Your selection time: 4/1/20 12:19

Group Size	Number of Groups Selecting Before You	Total Number of Groups
1	29	543
2	20	211
3	1	36

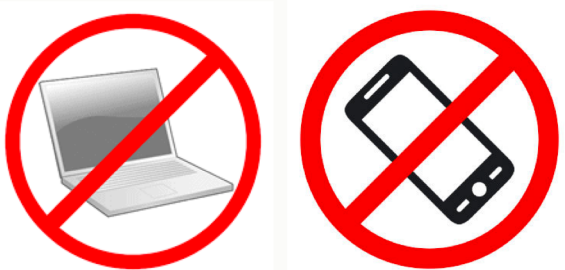
Your 6-week design challenge:

Challenge:

- Build a **web** application
- That allows a user to **interact** with media
- Within a **domain of your choosing**
- To help a user learn an introductory topic **interactively**
- And help them assess themselves with a **quiz**.
- And keep learning through **feedback** from the quiz.
- In under **10 minutes** total

The Iterative Design Process

No other screens

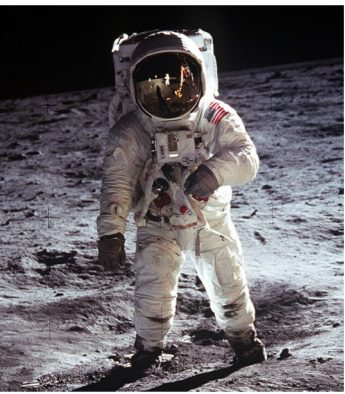


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What I expect the design process to be:



Challenge

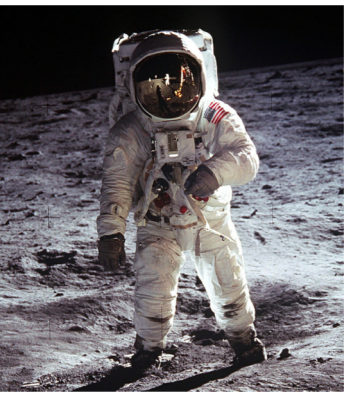


Idea

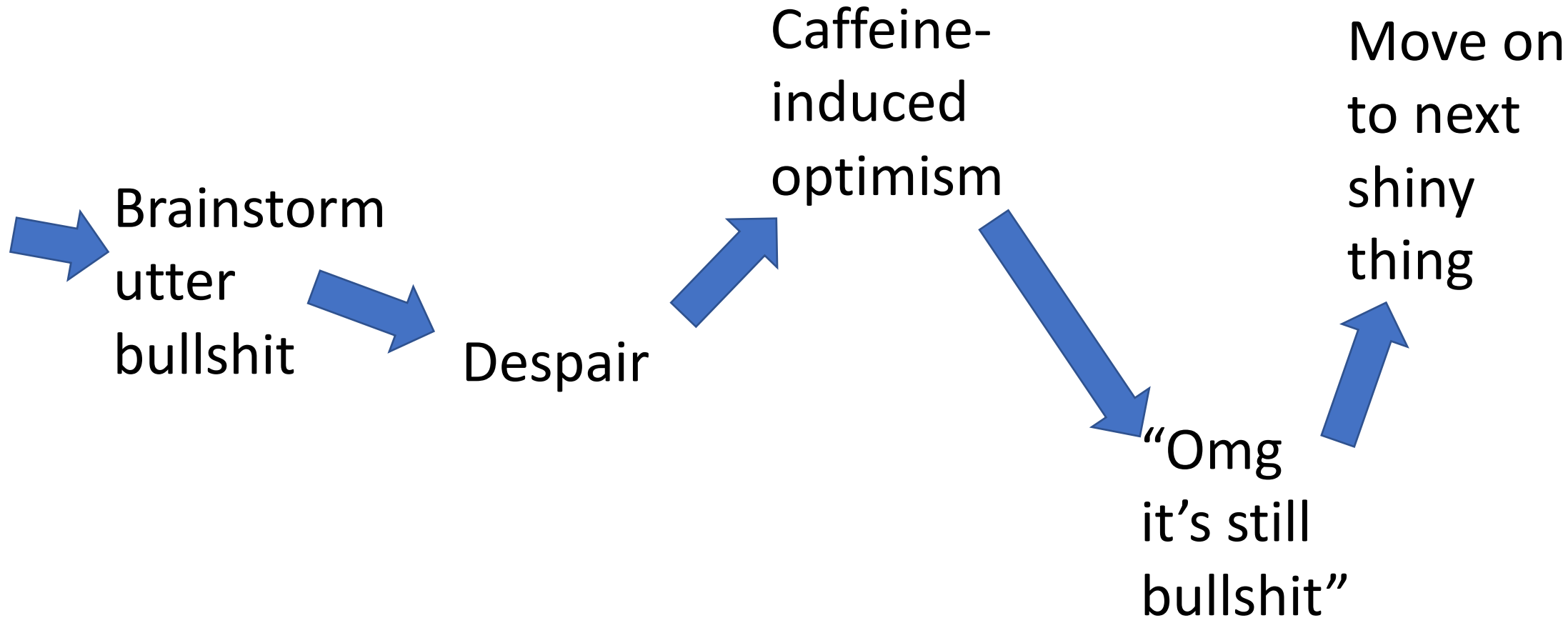


Product

What my design process actually is:



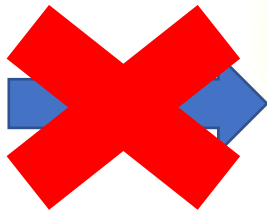
Challenge



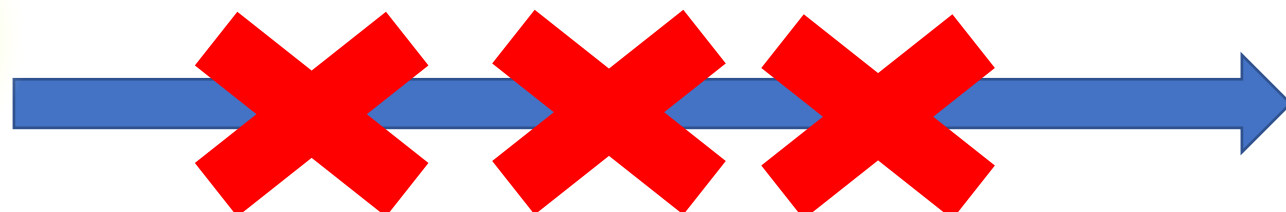
If you expect the design process to be straightforward, you will probably be frustrated.



Challenge

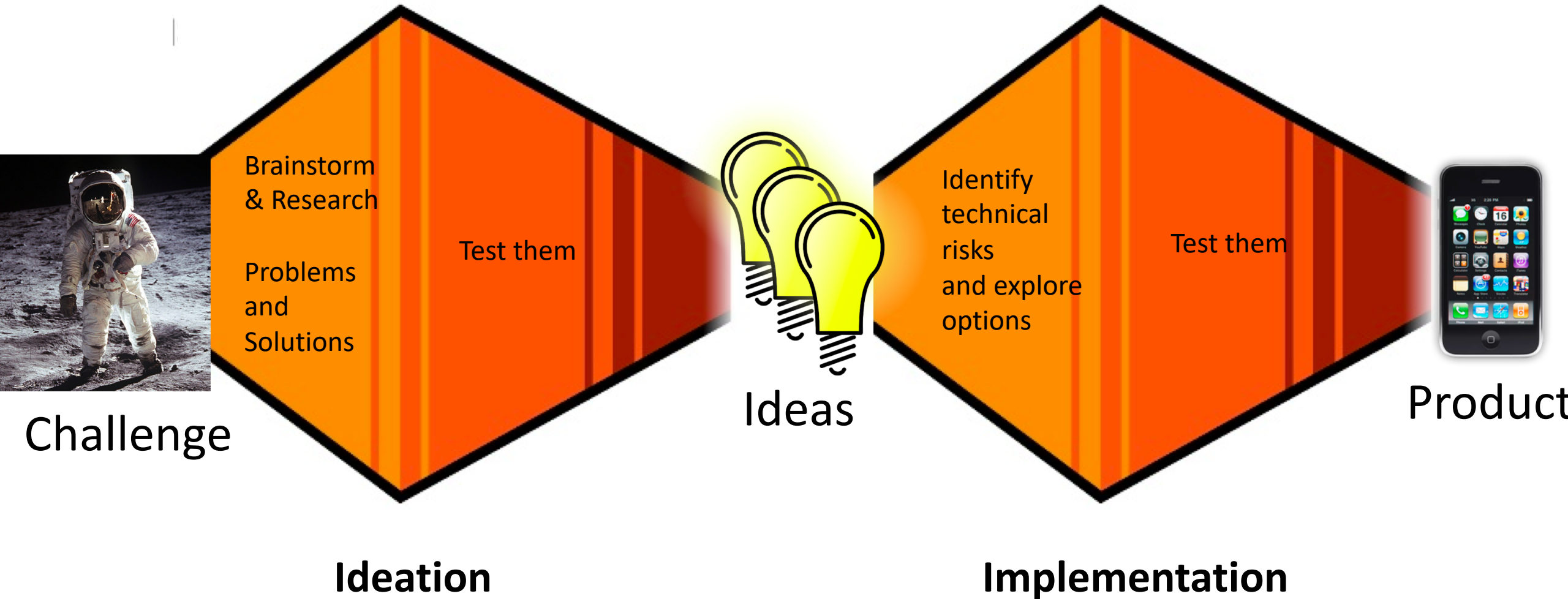


Idea



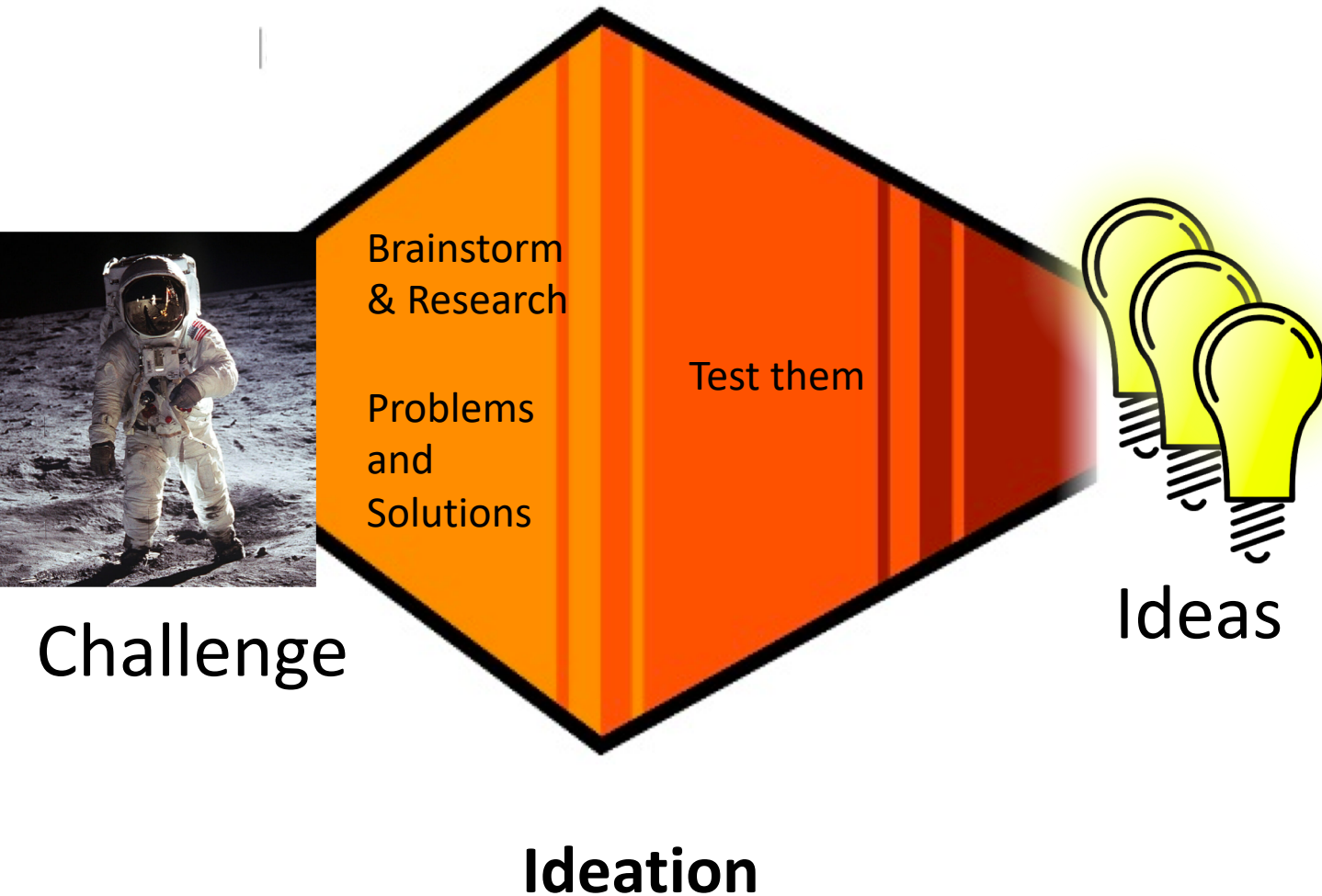
Product

The Double Diamond Process

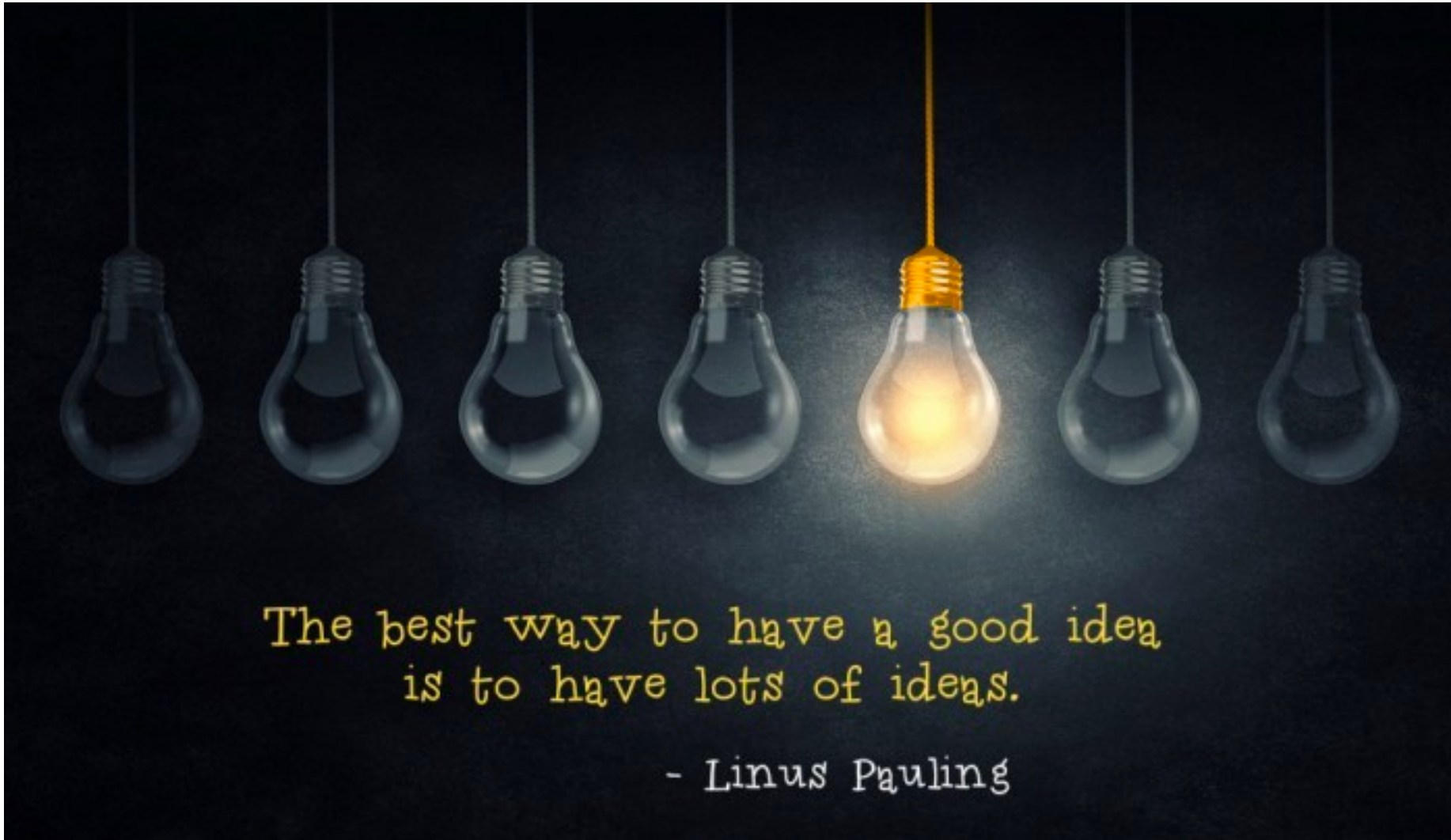


Phase 1: Ideation

Ideas are a *potential* solution for a specific problem.



Brainstorm ideas for domains and specific problems



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.

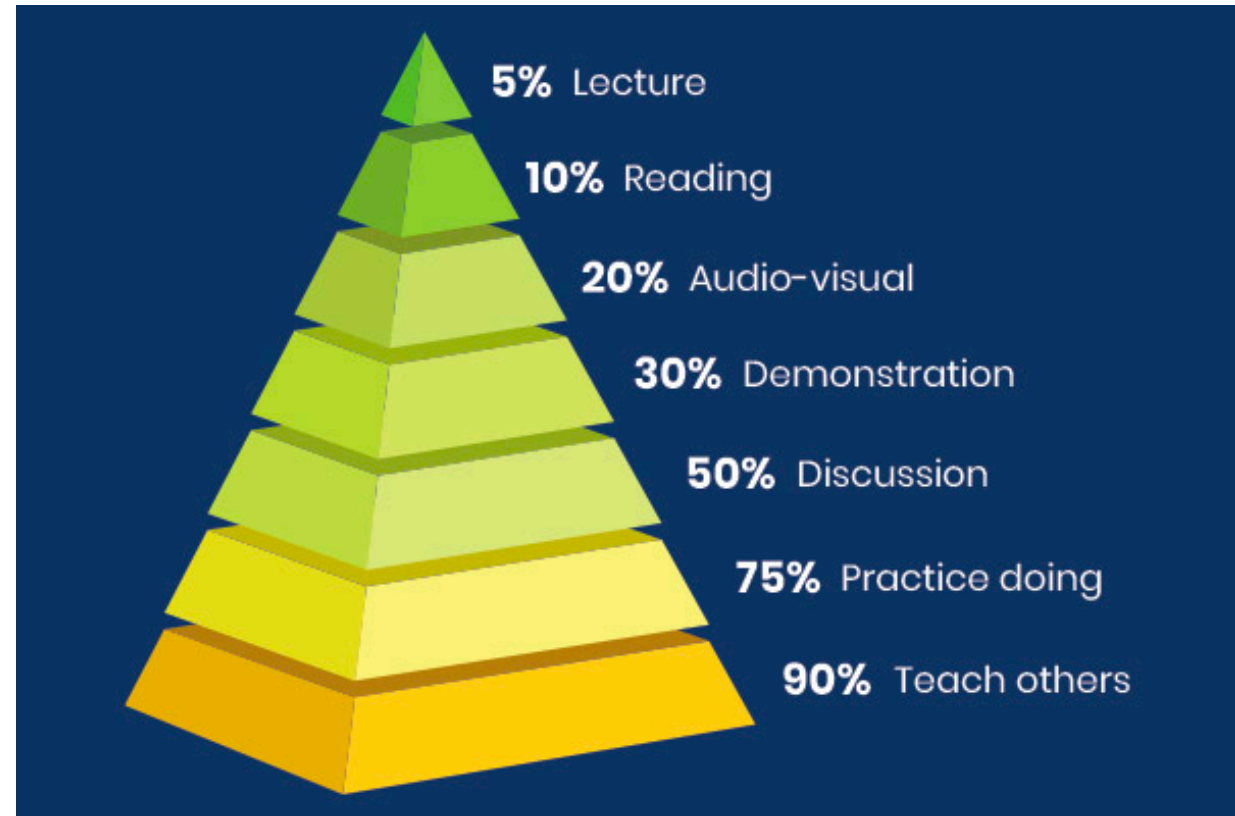
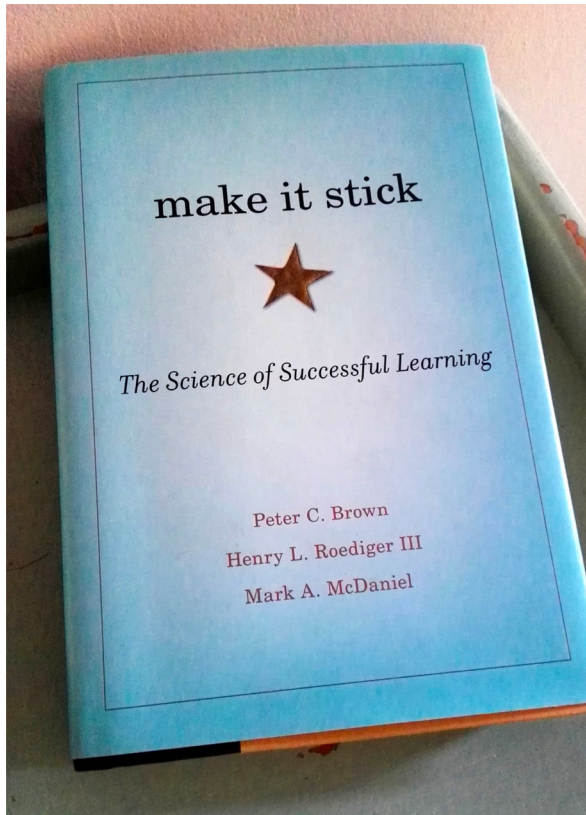
People take crappy photos and are not too eager to share them. What if filters made every photo beautiful?

Where do insights come from?

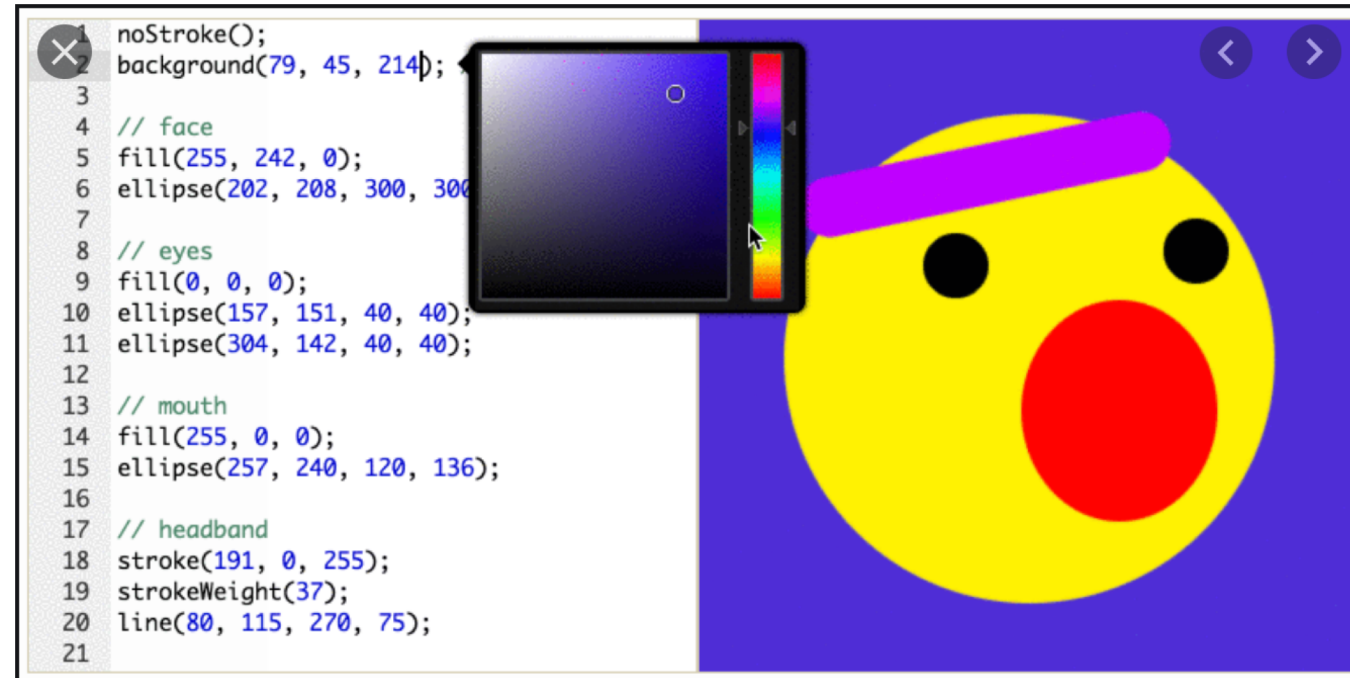
1. Related work
2. Talking to people about their experiences

Insights:
Related Work

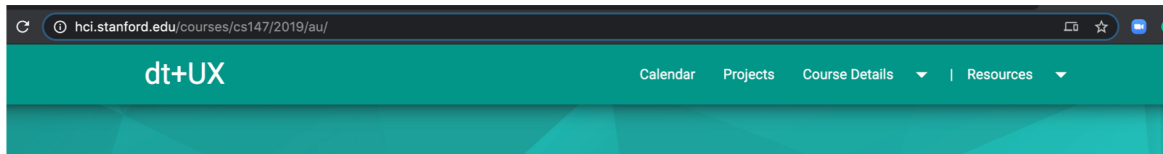
Related work: academic research



Related work: other teaching tools



Related work: Competitors



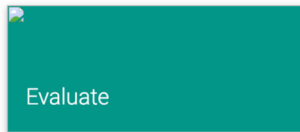
Design

The dt+UX course focuses on bringing design thinking, processes, and tools to user experience design. From sketching to hands-on studio sessions, students in the dt+UX course learn the importance of making many design artifacts before narrowing down the space to focus on a final design.



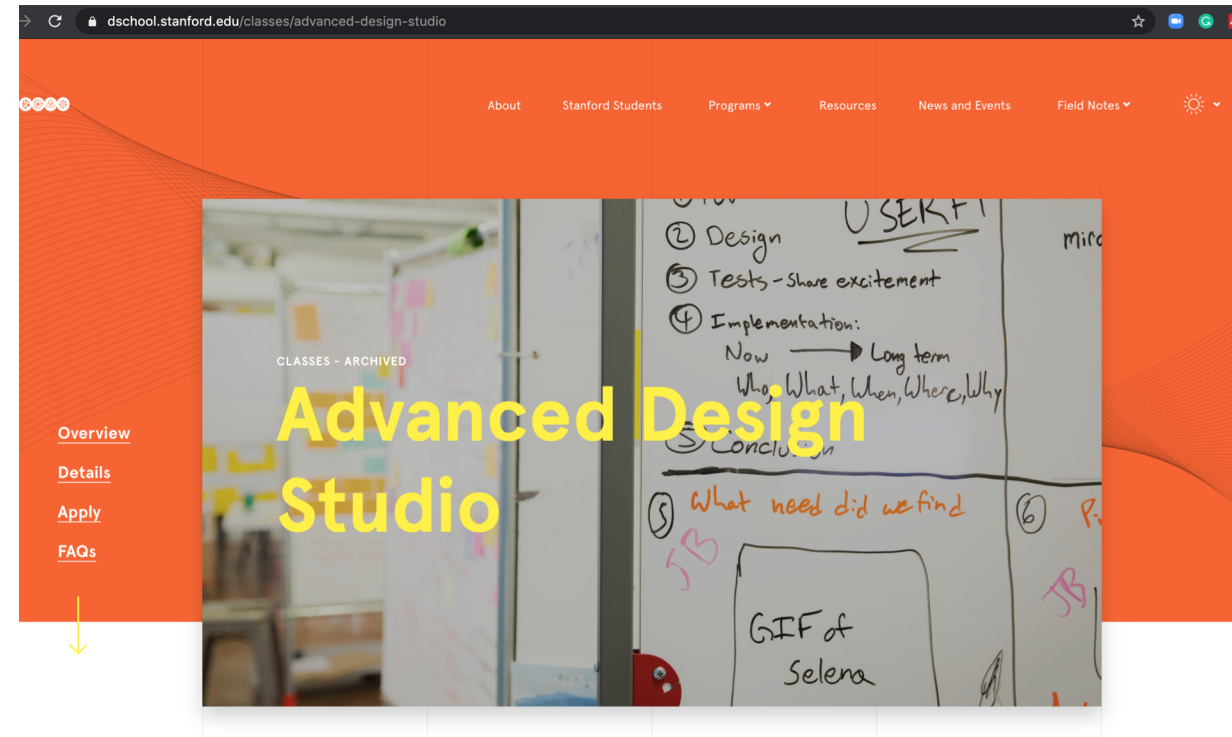
Prototype

Prototyping is the key tool to move ideas out of a designer's head and put them into a tangible form to evaluate for inclusion in the next design iteration. Students in the dt+UX course produce prototypes that range from paper sketches to concept videos to wireframes to code running on the target platform.



Evaluate

Evaluation is how we choose whether a design or feature moves forward in our process or needs to be discarded or revised. Students in the dt+UX course learn and use evaluation techniques that run the gamut from critique to expert evaluation to usability testing in the lab or field to remote usability testing.



Related work

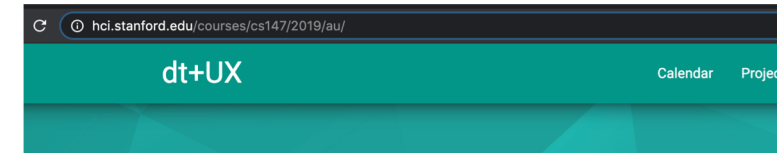
Academic studies



Related systems



Competitors



The dt+UX course focuses on bringing design thinking, processes, and tools to user experience design. From sketching to hands-on studio sessions, students in the dt+UX course learn the importance of making many design artifacts before narrowing down the space to focus on a final design.



Prototyping is the key tool to move ideas out of a designer's head and put them into a tangible form to evaluate for inclusion in the next design iteration. Students in the dt+UX course produce prototypes that range from paper sketches to concept videos to wireframes to code running on the target platform.

Insights:

Talking to people about their
experience

If you ask “What are your problems?” you get things like this.

I hate paying taxes

I hate homework

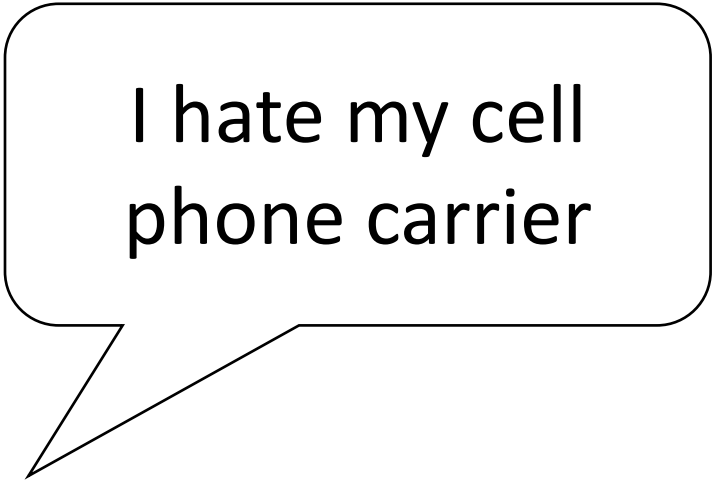
I hate eating vegetables

I hate my cell phone carrier

I hate speaking up in class

These answers doesn't provide us with the insights we need to solve a problem. Why?

To find insights and opportunities to help users, we need to dig into the details of their experience.



I hate my cell phone carrier

What's the experience of switching mobile phone plans?

Step 1.

Find a real person who has done this recently.



Jamie

Step 2.

Ask them about the last time they did it.



When was the last time you switched phone plans?

What made you want to do that?

What did you expect the experience to be like. Hard? Easy? Boring? Exciting?



JAMIE

Scenario: Jamie needs to switch her current mobile plan. She wants a plan that can save her money without having to sacrifice usage limits.

EXPECTATIONS

- Clear online information
- Ability to compare plan breakdowns
- Friendly and helpful customer support

Why not ask a broad question: “What is like to switch phone plans?”



When was the last time you switched phone plans?

What made you want to do that?

What did you expect the experience to be like. Hard? Easy? Boring? Exciting?

People are better at accurately recalling a specific incident.

Asking about a general experience will force them to synthesize and generalize on the spot.

We want to get data on one raw, authentic experience and synthesize it ourselves.

Step 3.

Listen to their story. Ask question to help elicit the chain of events. At each stage, ask:

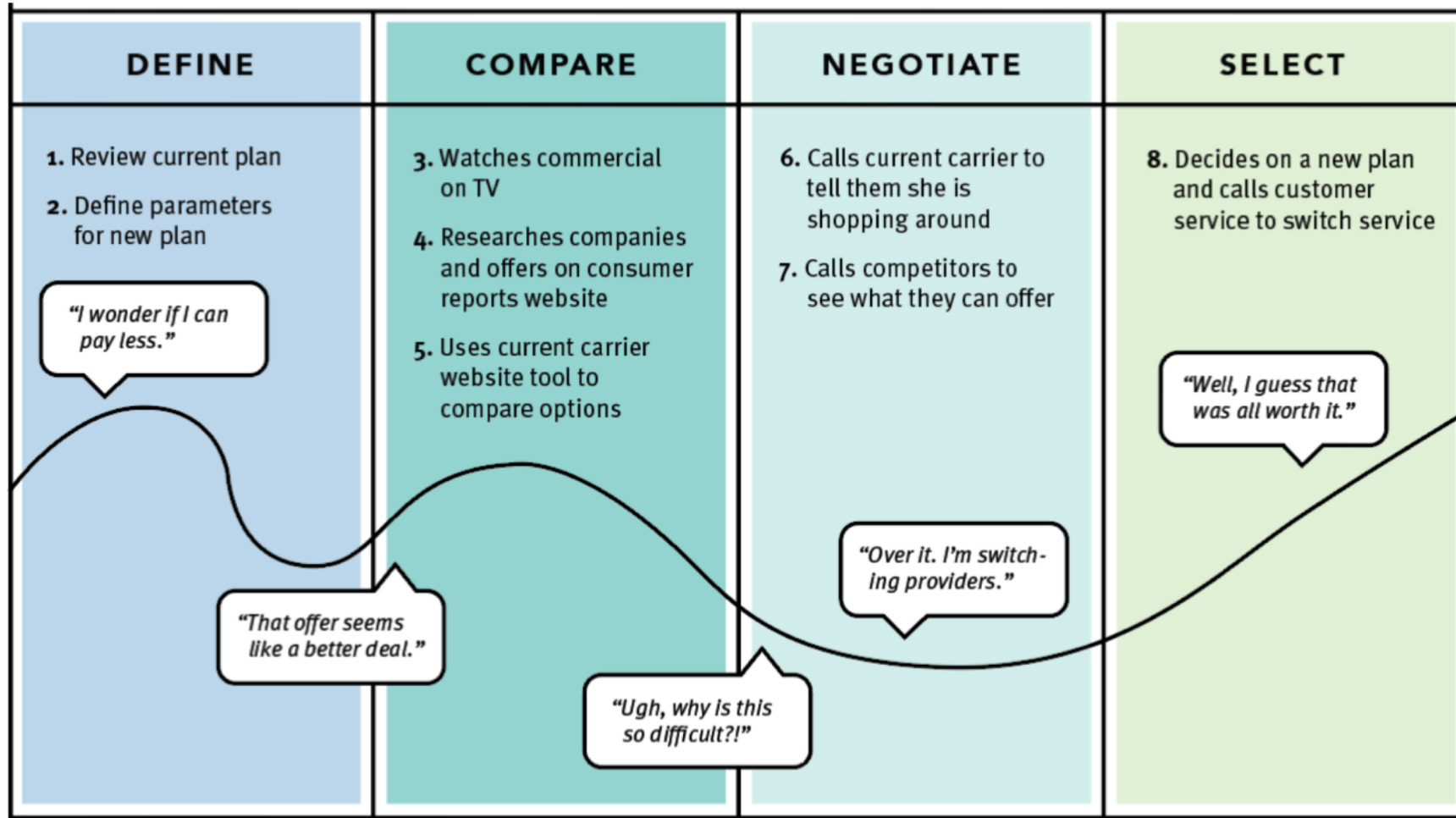
What were they doing?

What were they thinking?

What were they saying?

Step 4.

Synthesize the experience into phases. Name them.
Map out the emotional highs and lows.



Step 5.

Identify insights, opportunities and metrics.

OPPORTUNITIES

- Compare alternate companys' offers for her
- Breakdown current plan into \$ amounts
- Customer support via text messaging/chat

INTERNAL OWNERSHIP + METRICS

- Cusomer Support Team: reduce average call time to 2 minutes
- Web Team: add funtionality to allow Jamie to compare plans within our site
- Marketing Team: track competing offers to create competitor database

I sat down with some of you:

“Tell me about the last time you participated in class?”

I'm worried my accent won't be understood

I only saw something if I'm 100% sure of the answer. I don't like to guess

I'm so nervous about participating that I don't pay attention

It takes me a few seconds to think of something, and by then you've called on someone in the front row.

I always forget to fill out the participation form.

I always forget to fill out the participation form.

I always forget to fill out the participation form.

I always forget to fill out the participation form.

I always forget to fill out the participation form.

BUT WHY????

Fill out participation now!

Columbia University

User Interface Design

COMS 4170 · Spring 2020

Home Grading Syllabus **Piazza**

9	MARCH 23 No Class	MARCH 25 No Class	MARCH 27 Participation Form
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Don't you pull out your phone as soon as class is over anyway???

There is other stuff to check on my phone that I get sucked into.

I'm running to my next class, and my mind switches tasks

I need a computer to fill it out because I have to be logged in.

I didn't know there was a deadline to fill them out by!!!!

I fill it out after I go home

What if I sent out a reminder at 5pm?

In reality this takes months:

sarahmorrisonsmith.com/wp-content/uploads/2019/09/Syllabus.pdf

BARNARD

BARNARD COLLEGE • COLUMBIA UNIVERSITY

COMPS BC 3364

Introduction to Contextual Design for Technology

Course Syllabus, 2.3, last revised 8/26/2019

* Note that this syllabus is subject to change. Students will be notified about any changes.

Course Logistics

Meeting Times:

Tuesdays/Thursdays from 10:10 am – 11:25 am

Meeting Location:

- Milstein 516

Instructor Information

Instructor: Sarah Morrison-Smith, PhD

- E-mail address (preferred): smorriso@barnard.edu (put “COMS 3364” in the subject)
- Office hours: TBD
- Office location: Milstein 512
- Telephone: 212-853-0333 (during office hours only)
- Class Web site: CourseWorks Only

To make an appointment, send a formal email with the subject including “COMS 3364” and include your meeting goals, any relevant questions, and several proposed meeting times.

Course Information

Prerequisites:

There are no prerequisites for this course.

Catalog Descriptions:

- Course Number 3364 – Introduction to Contextual Inquiry– Credits: 3.
Introduces methods and tools used in Contextual Inquiry (CI) specifically the early stages of software design focused on meeting user needs. Key concepts include user research, contextual design, design thinking, ideation, iterative design, prototyping, and design documentation. Projects utilize software tools used in the industry.

Always be on the lookout for insights.



The screenshot shows the Columbia College website. At the top left is the Columbia College logo with the text "COLUMBIA COLLEGE" and "COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK" below it. A search bar is located to the right of the logo. Below the logo is a navigation menu with items: "About the College", "The Core Curriculum", "Academics", "Advising", "Admissions", "Campus Life", and "Supporting the College". The main content area has a dark blue header with "The Core Curriculum" and "Home / The Core Curriculum". On the left is a sidebar menu with categories: "The Classes" (Literature Humanities, Contemporary Civilization, University Writing, Art Humanities, Music Humanities, Frontiers of Science), "Requirements" (Science Requirement, Global Core Requirement, Foreign Language Requirement, Physical Education Requirement), "Core Registration & Core Policy", "Core Scholars Program", "Core Curriculum Prizes", "Committee on the Core", "Core Lecturers", "Course-wide Lectures", "History of the Core", "Center for the Core Curriculum", "About the Core Curriculum", and "Visiting Professorship". To the right of the sidebar is a large image of an open book with "PLATO" and "REPUBLIC" visible on the pages.

The Core Curriculum is the set of common courses required of all undergraduates and considered the necessary general education for students, irrespective of their choice in major. The communal learning—with all students encountering the same texts and issues at the same time—and the critical dialogue experienced in small seminars are the distinctive features of the Core. Begin in the early



For your design project:
Two insights about Learning

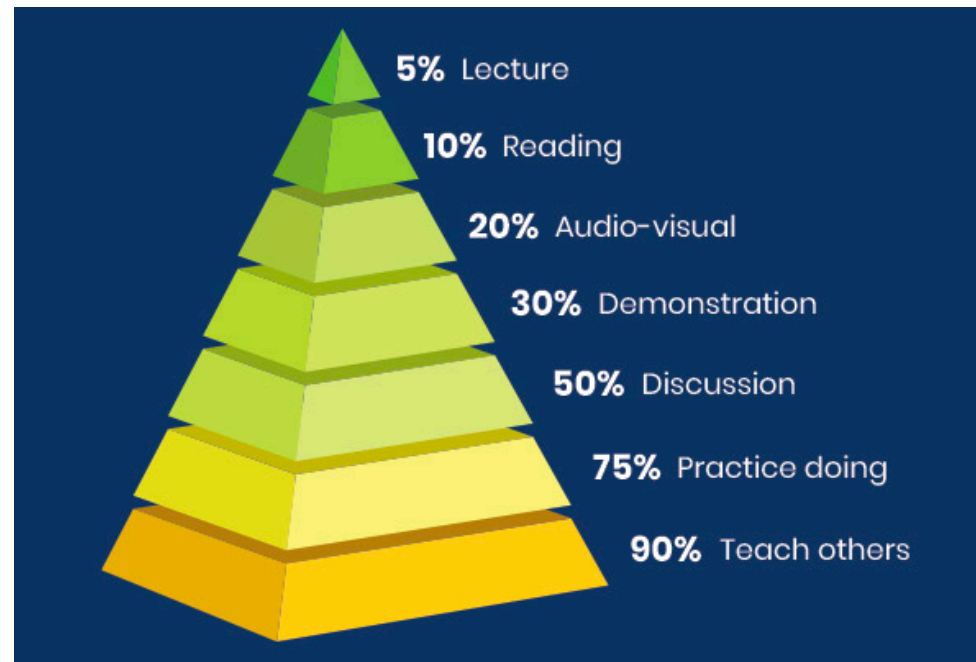
Educational insight #1:

Students are terrible at assessing their learning. They need tools to assess themselves.

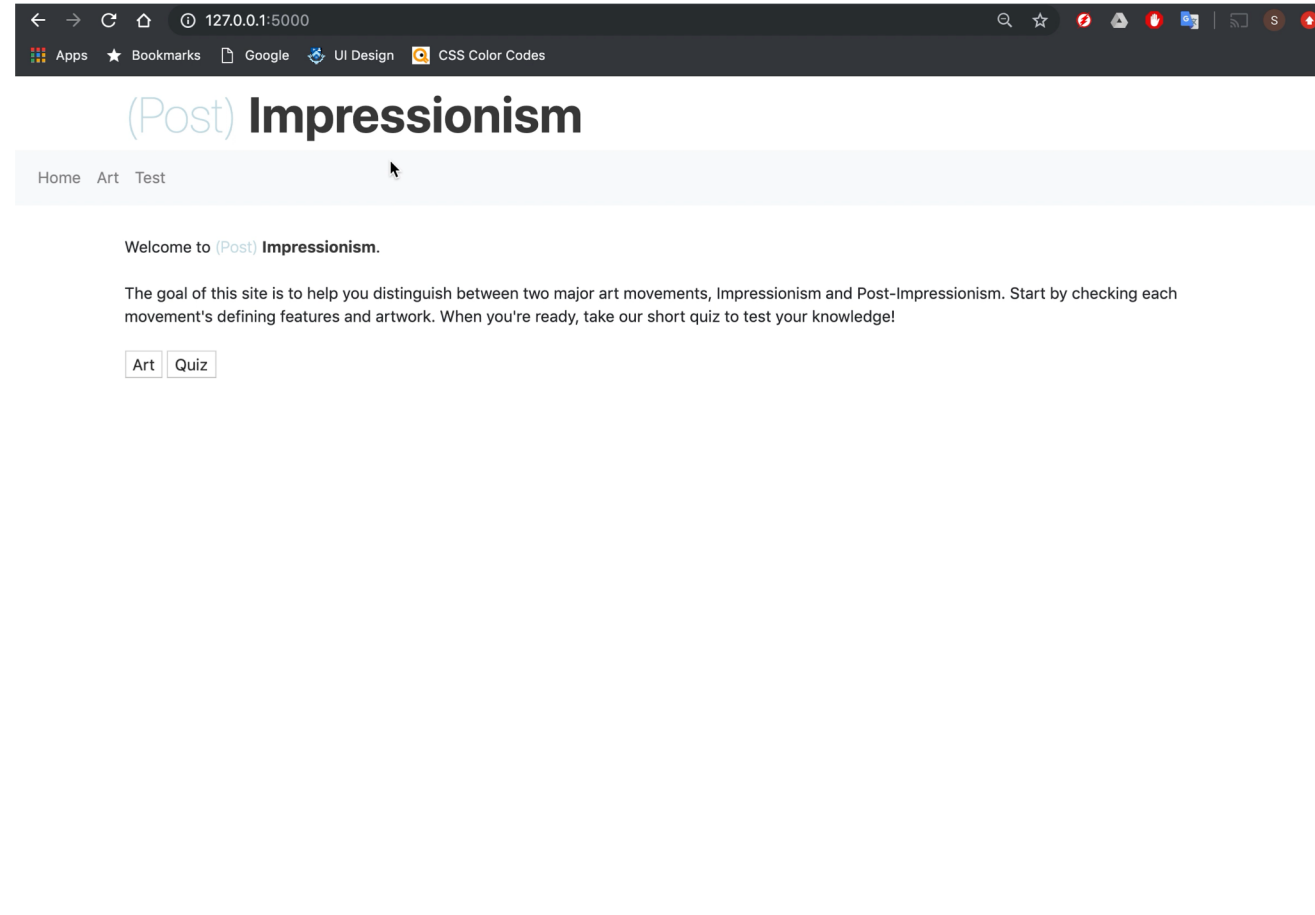


Educational insight #2:

Reading textbooks is boring. Nobody learns from that. People learn by practicing - from doing something and getting feedback.

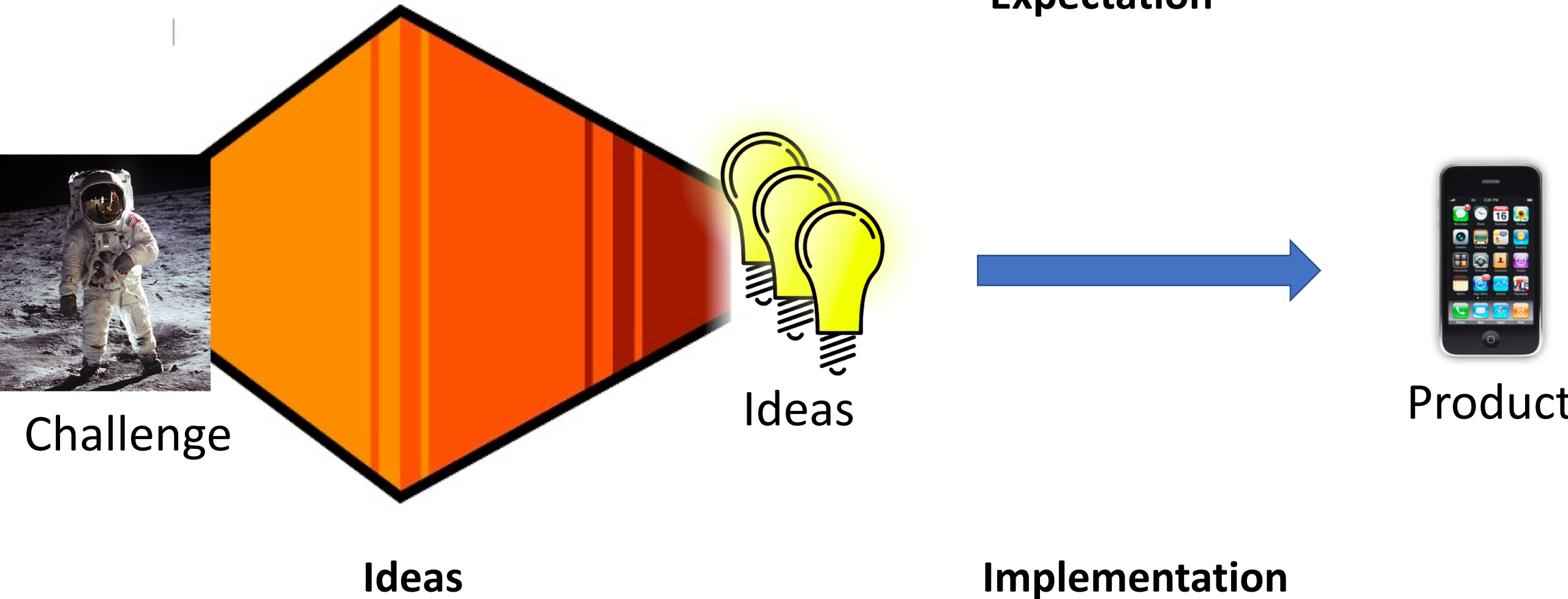


Example:

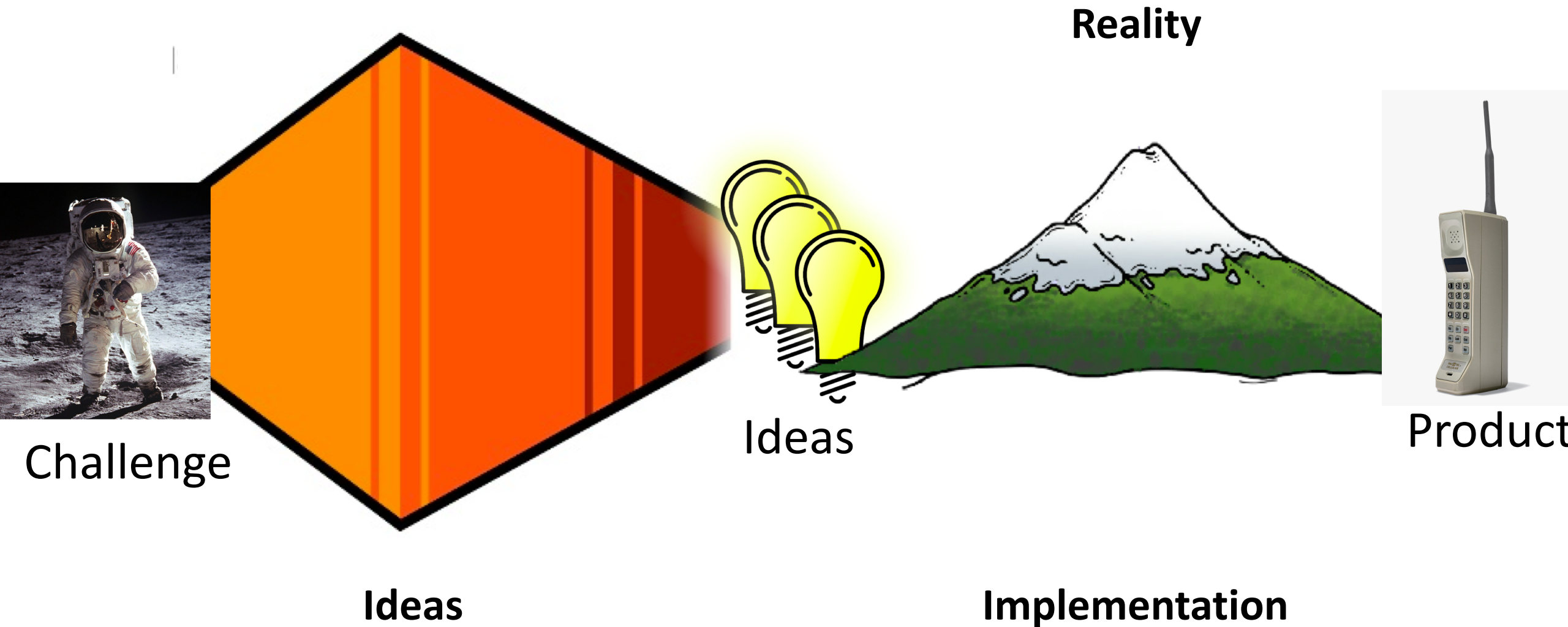


Phase 2: Implementation

Implementing an idea



Implementing an idea



Challenge

Ideas

Ideas

Implementation

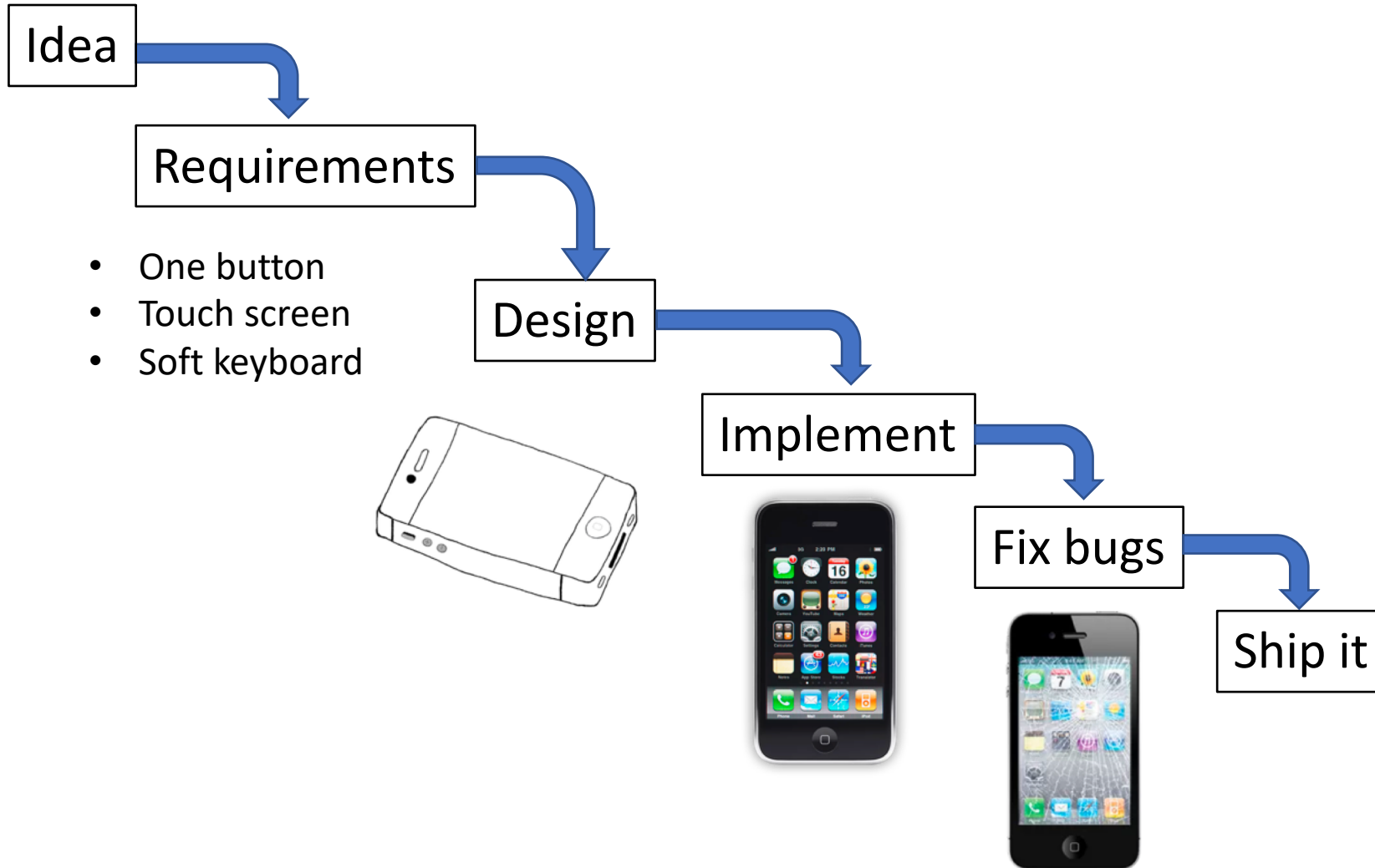
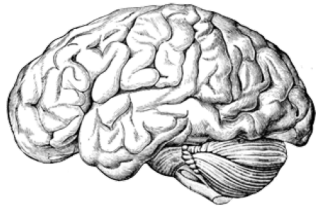
Reality

Product

Two Design Processes

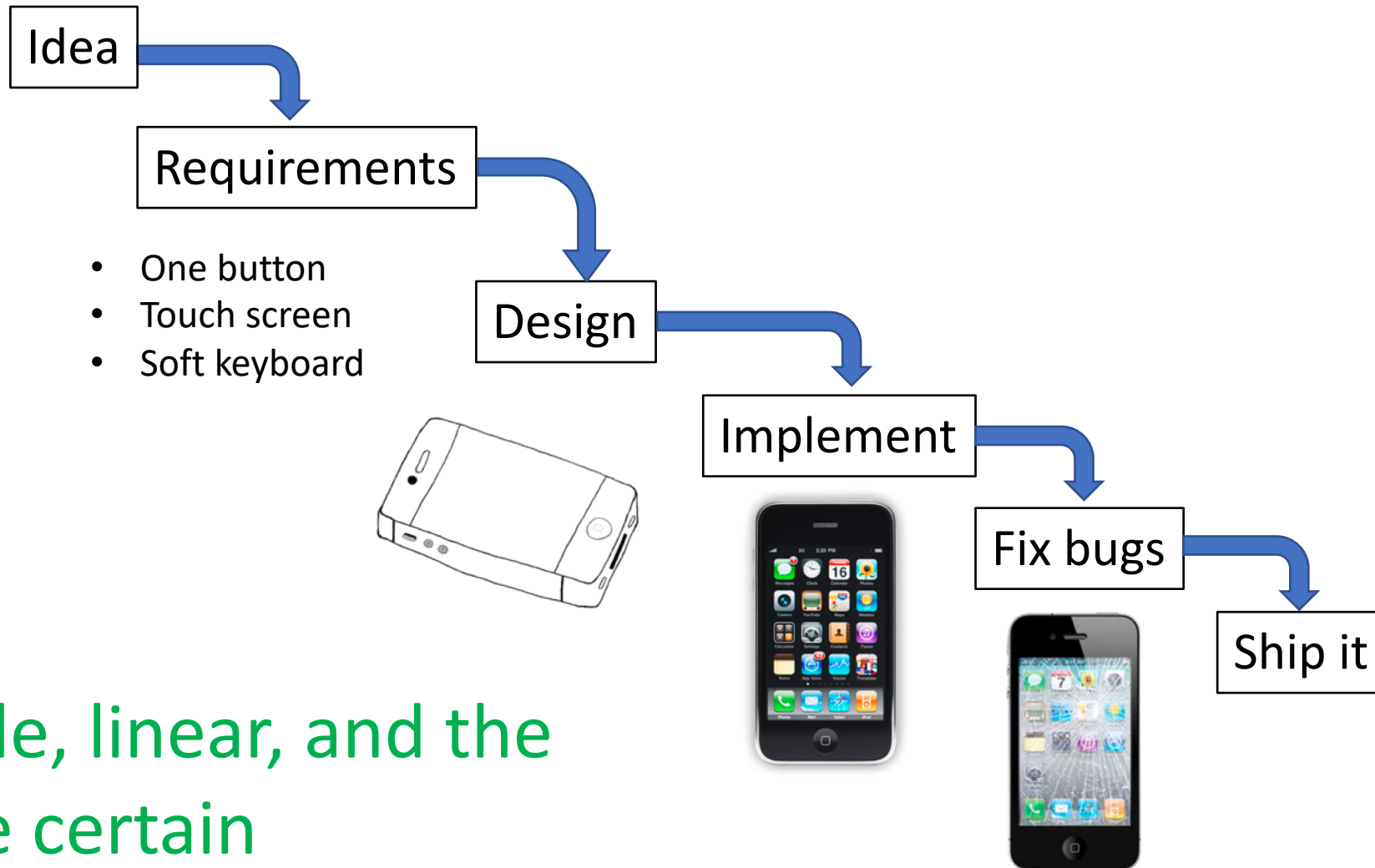
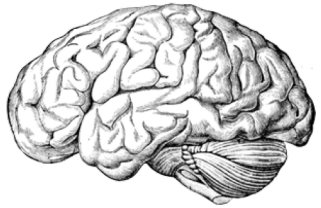
The waterfall model, and iterative design

The Waterfall Model



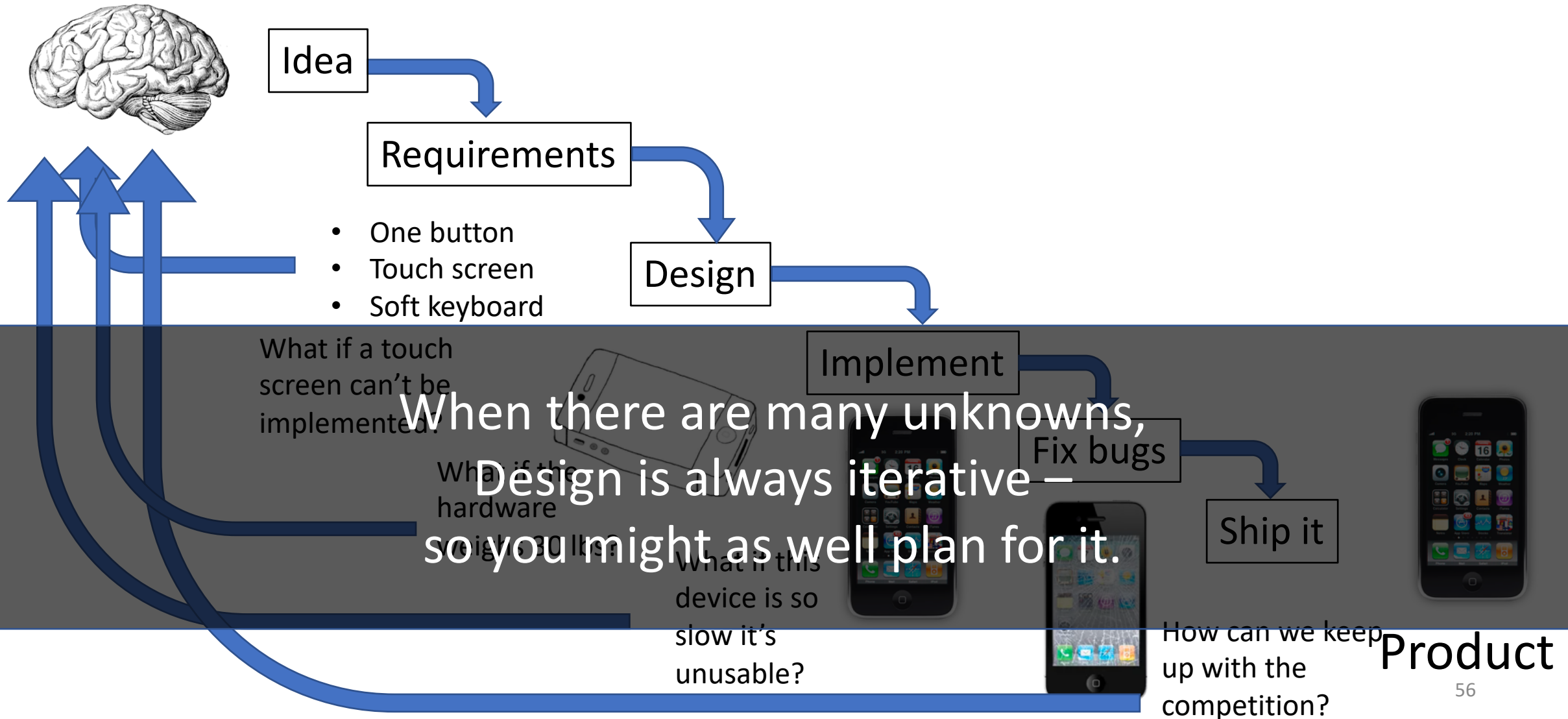
Product

The Waterfall Model: What's good about it?

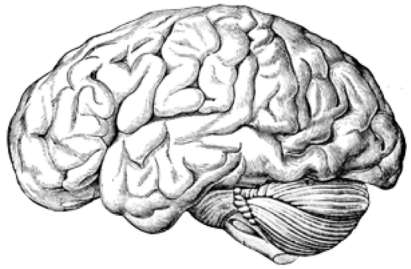


It's simple, linear, and the steps are certain

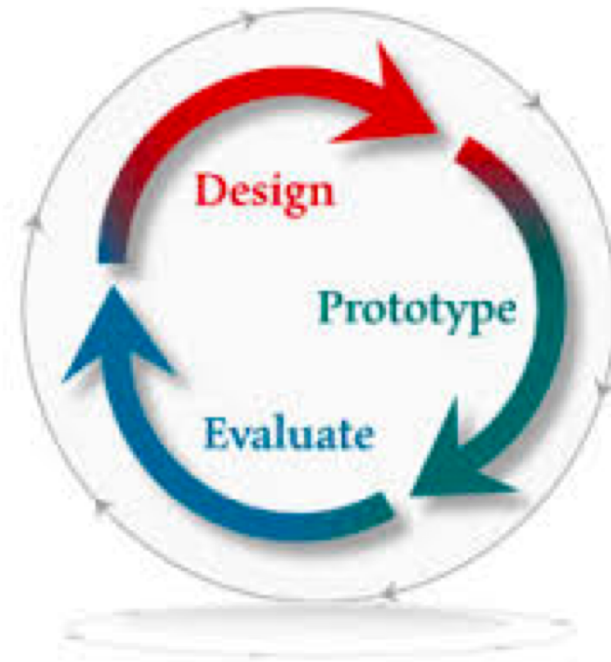
The Waterfall Model: **What could go wrong?**



Iterative Design

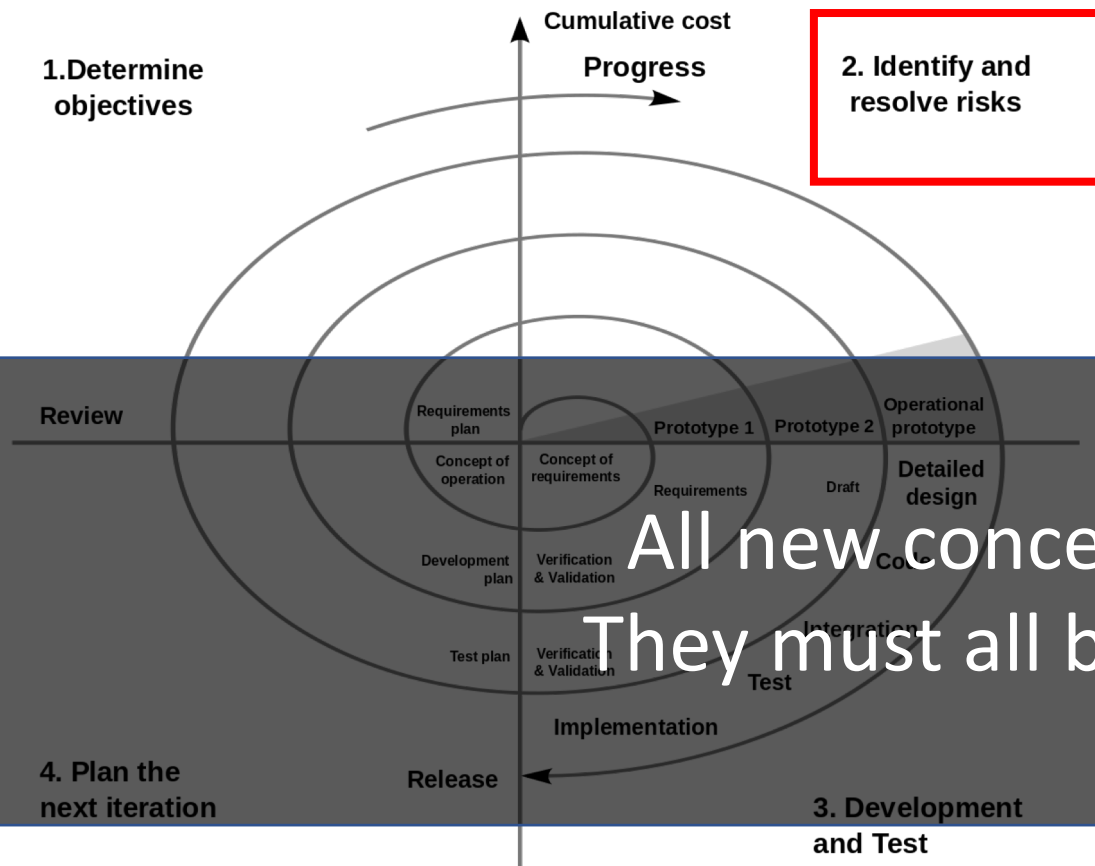


Idea



Product

Iterative Design origins: Spiral Model of software engineering (Barry Boehm, 1988)



Every iteration should experiment with the next biggest risk.

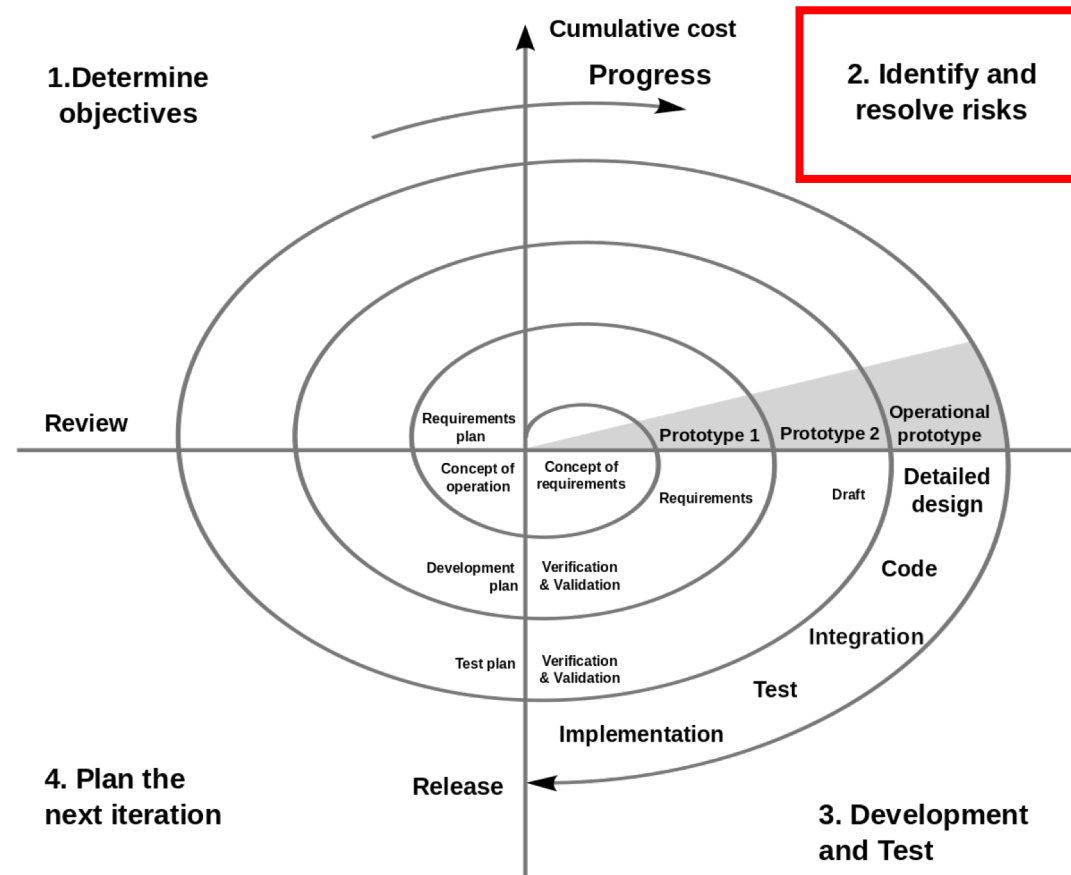
How to achieve the perfect gradient on app icons?

Does touch work?

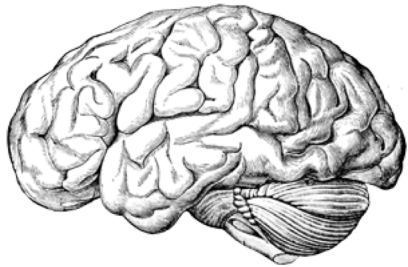
All new concepts are risks.
They must all be prototyped.



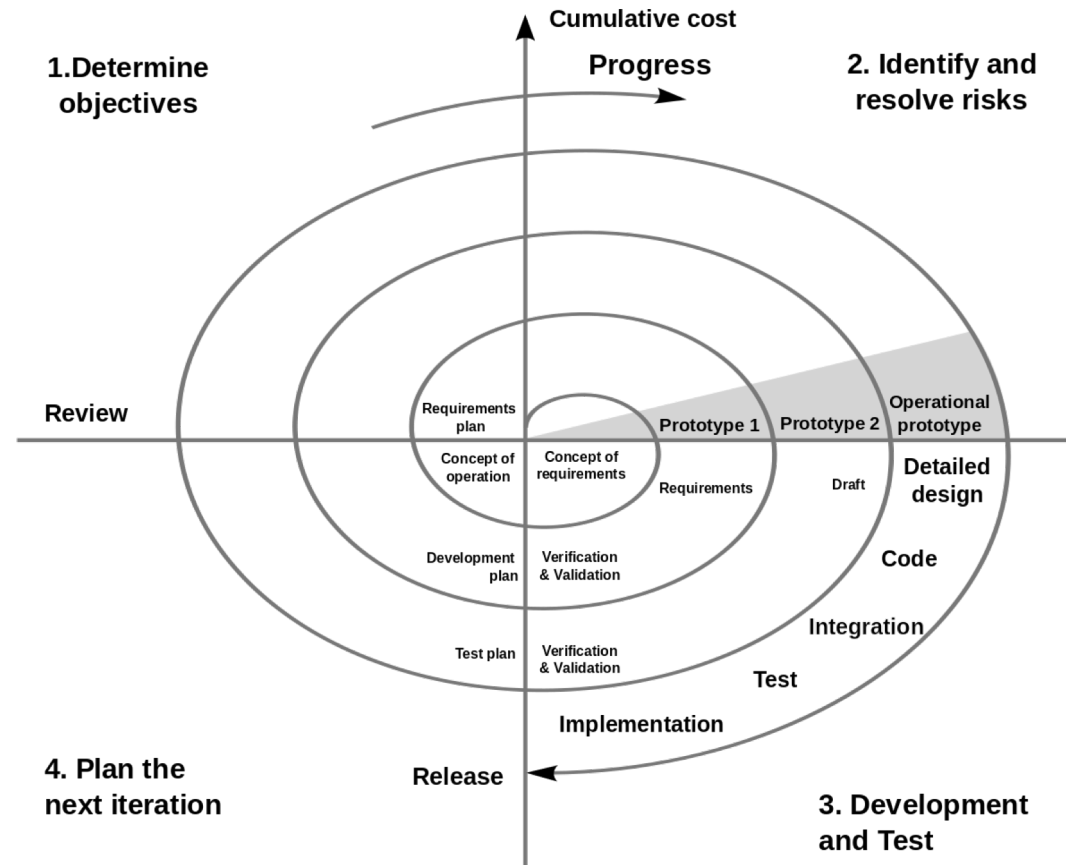
Iterative Design is good because it minimizes risk



Iterative Design: **what's hard about it?**



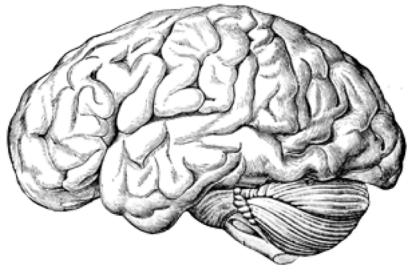
Idea



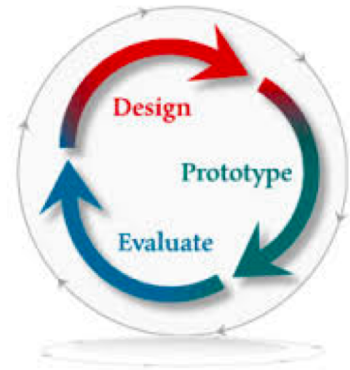
Product

The steps aren't certain from the start.

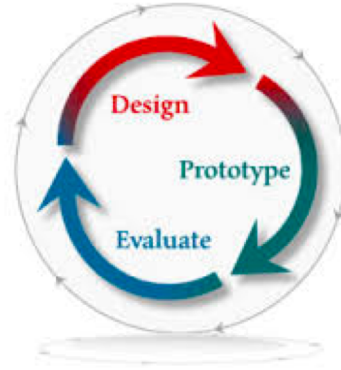
To minimize risk on novel designs,
Use iteration on each risky aspect of the design



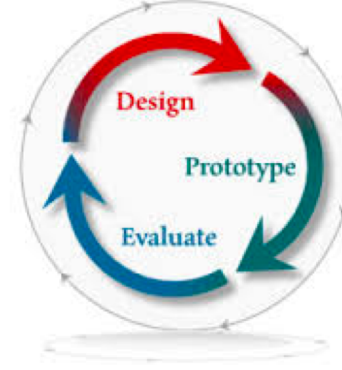
Idea



Touch screen



Soft keyboard



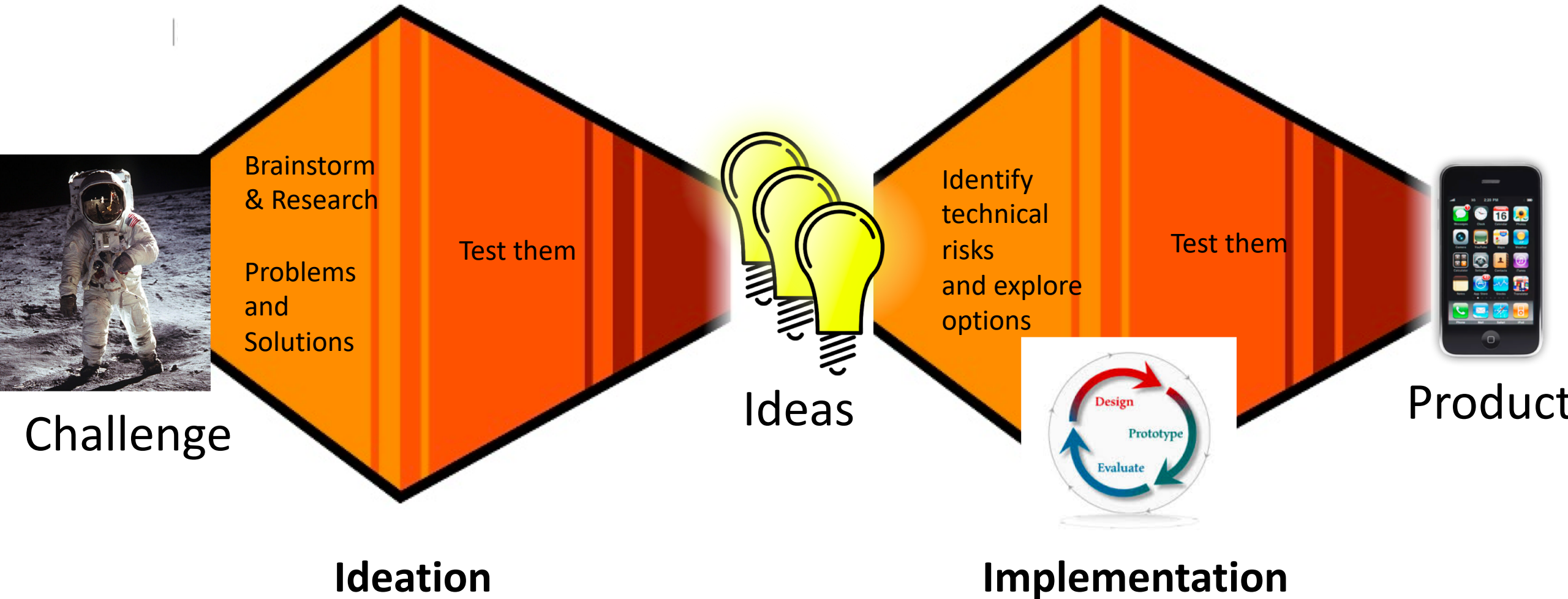
One button



Product

Flare and Focus

The Double Diamond Process



Sam's Design Process for COMS 4170: UI Design

Challenge

- Build a **web** application
- That allows a user to **interact** with media
- Within a **domain of your choosing**
- To help a user learn *something*
- And help them assess themselves with a **quiz**.
- And keep learning through **feedback** from the quiz.
- In under **10 minutes** total



Brainstorm Domains and Specific Needs

1. Domains

- I. Art History—Identifying art movements
- II. Music Theory—Recognizing different chords/harmonies
- III. Gaming—Learning Super Smash Bros terminology
- IV. Poetry—Finding poetic devices
- V. Gymnastics—Naming gymnastics skills
- VI. Language Learning—Learn Korean alphabet
- VII. Education—Learning national flags
- VIII. Gaming—Know Pokémon type match-ups
- IX. Philosophy—Learn the most influential philosophers and t
- X. Color Theory—Learn how to choose different types of colc

TA Feedback:

Learning Art movements is too easy.

Everyone can tell realism from surrealism.

What's hard to learn?

What's a real need?

Specific Needs

- I. **Who:** Someone who wants to be more knowledgeable about art/art history
Media: Can examine images of paintings
Interaction: Then drag and drop the images onto either an “Impressionist”, “Post-Impressionist”, or “Fauvist” droppable element
Goal: By doing this, they will learn how to distinguish between these relatively similar styled art movements
Visible: After going through each of the paintings, percentages and lists of correct vs incorrect will be shown to the user (along with the correct answers and explanation for why the piece is classified that way)
- II. **Who:** Someone who wants to be more knowledgeable about art/art history
Media: Can examine images of paintings
Interaction: And click on specific points of the image that demonstrate elements indicative of the movement to pop up a further explanation
Goal: Help users learn the distinguishing features of specific works and art the art movement as a whole
Visible: They will take a drag and drop quiz (mentioned above) to see if they learned how to distinguish the pieces
- III. **Who:** A vexillologist (or an aspiring one)
Media: Can use an interactive map of Western Europe
Interaction: To click on countries and see their national flag
Goal: Teach users countries' flags
Visible: Users will take a quiz on matching flags to countries
- IV. **Who:** A vexillologist (or an aspiring one)
Media: Will look at a picture of a flag
Interaction: And click the corresponding country on the map
Goal: Assess users ability to match flag to country
Visible: The country will either turn green (if correct) or red (if incorrect), and a final percentage will be shown.
- V. **Who:** A musician who wants to do ear training/learn more music theory
Media: Can interact with an octave of a piano (with specific notes highlighted for the given chord)
Interaction: By clicking the highlighted keys to hear the individual notes, and then click some button to hear them all played together
Goal: Familiarize user with the sound of different chord types (major, minor

Research: Related Apps

one place for each movement, making the learning easier to

d. Duolingo

i. This is similar because it uses audio and tests the user.

ii.



Translate this sentence



fine

Yes

doing

am

Paul

Marie

Research: Competitors

The screenshot shows the Sporcle website interface. At the top, there's a search bar and navigation links. The main content area features a quiz titled "Can you guess whether the painting was done by Monet or Manet?" by user bazmerelda. The quiz has 17,104 plays and was updated on July 27, 2015. The user's current score is 80% (4.8 stars) and the timer is at 04:51. The current question shows a painting of a vase of white flowers, which the user has correctly identified as "Édouard Manet". A progress bar at the bottom indicates the user is on question 16 out of 20.

- iii. I like how Sporcle keeps track of the site averages. This would be a nice way for the user to set or accomplish personal goals. I also like how you can skip and come back to questions, allowing for flexibility from the user when taking the test.

The screenshot shows an educational page about Impressionism. The title is "Impressionism" under the heading "EUROPE: 19TH CENTURY". The text states: "These artists broke new ground with sketchy, light-filled canvases shown in independent exhibitions. c. 1874 - 1886".

Beginner's guide

- Impressionism, an introduction
- How the Impressionists got their name
- Impressionist pictorial space
- Impressionist color
- Looking east: how Japan inspired Monet, Van Gogh and other Western artists

videos + essays

The Impressionists painted city parks and city streets, train stations and ballet rehearsals, cafés and lily ponds.

Impressionist color
Blue snow and violet-tinted flesh—the Impressionists radically changed our expectation of color.

Impressionist pictorial space
The surprising pictorial effects of modern art may seem at first like errors, but they are quite intentional!

What does "Impressionism" mean?
Impressionist paintings—once considered sloppy and unfinished—draw huge crowds to museums today.

A summer day in Paris: Berthe Morisot's *Hunting Butterflies*
The subject takes control over the outdoor setting, expressing her independence in spite of limitations.

How to recognize Monet: *The Basin at Argenteuil*
In the suburbs, Parisians escaped the pressures of modern life. Monet painted their sun-drenched pleasures.

How to recognize Renoir: *The Swing*
Renoir wanted to forget everything he knew about how to paint so that he could render light as it really is.

I like how the site lists paintings and explains the aspects that make it impressionist or post-impressionist, not just the general biography/context of the work, which really helps when trying to distinguish between styles. I also like the layout and how there key points and example paintings are all in one place for each movement, making the learning easier to navigate.

Research: talk to people about learning experiences

None, and it was a mistake

Research: Academic studies

None, and it was a mistake

Educational insight #1:

Students are terrible at assessing their learning.
They need tools to assess themselves.

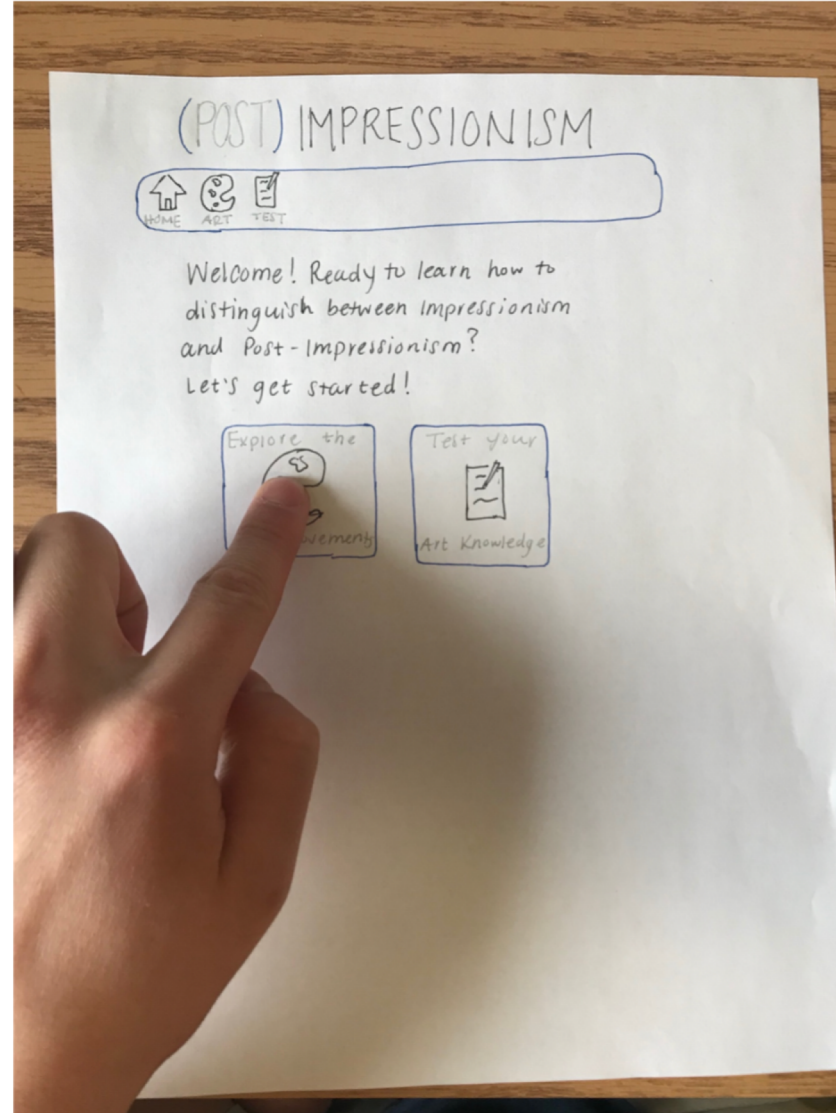
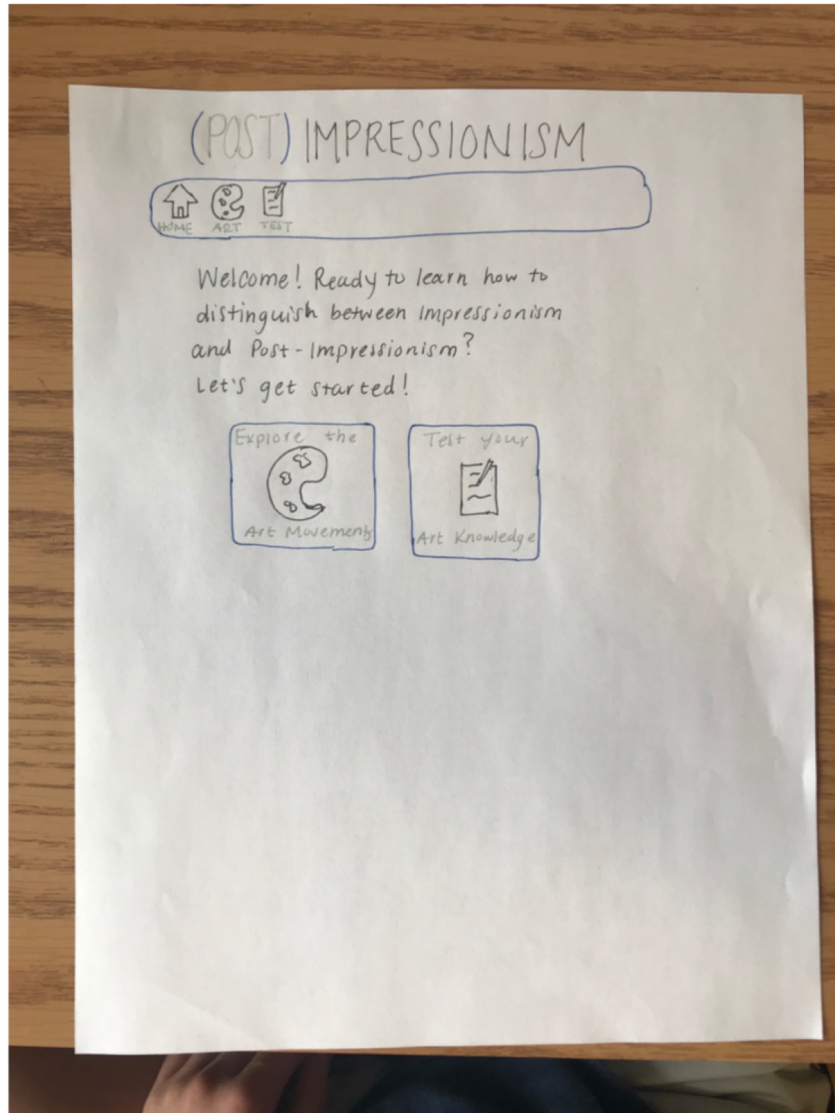


Educational insight #2:

Reading textbooks is boring. Nobody learns from that. People learn by practicing - from doing something and getting feedback.



Solidify the 2 ideas by creating a paper prototypes of the solution. Test it!

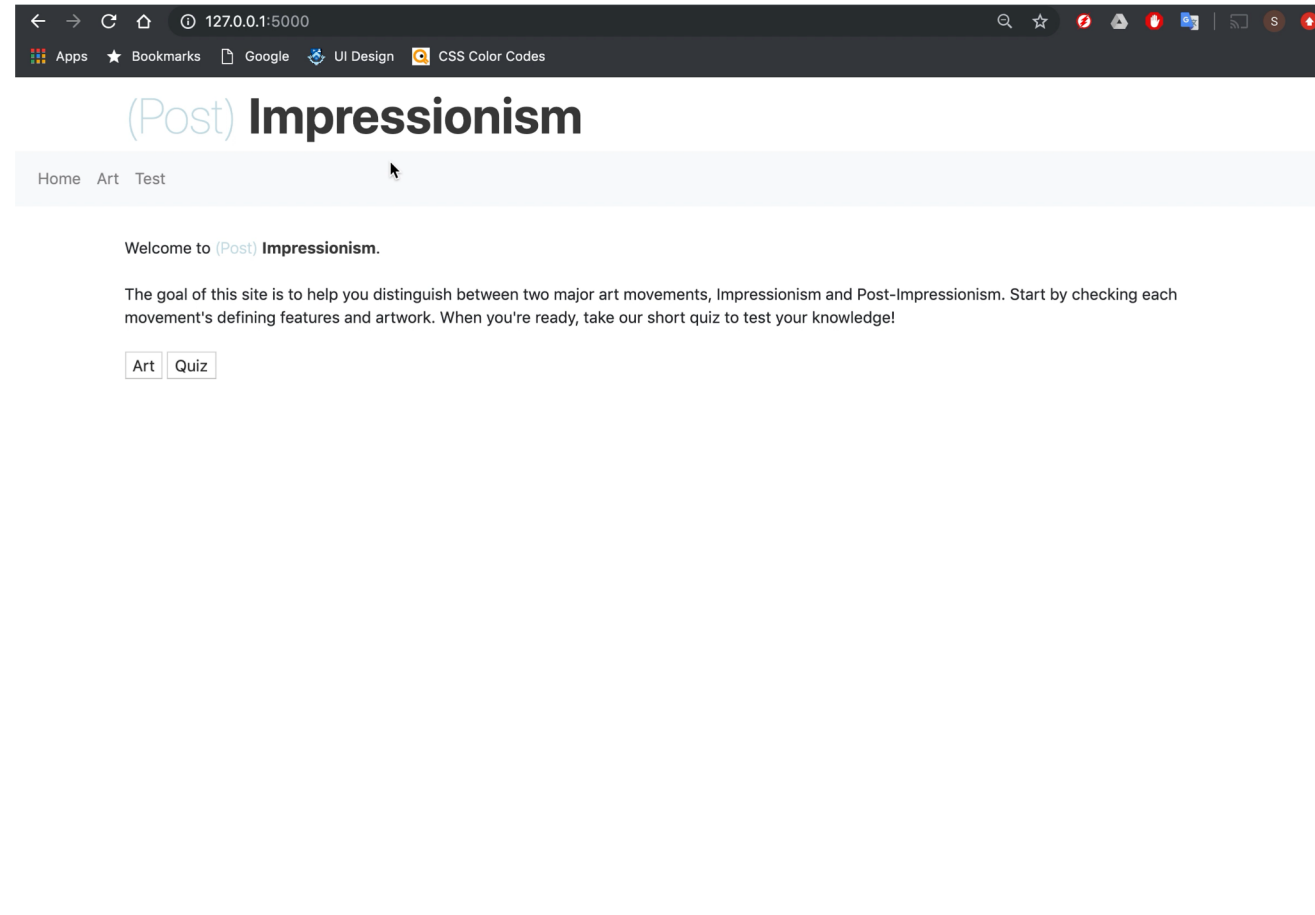


Select one idea to implement

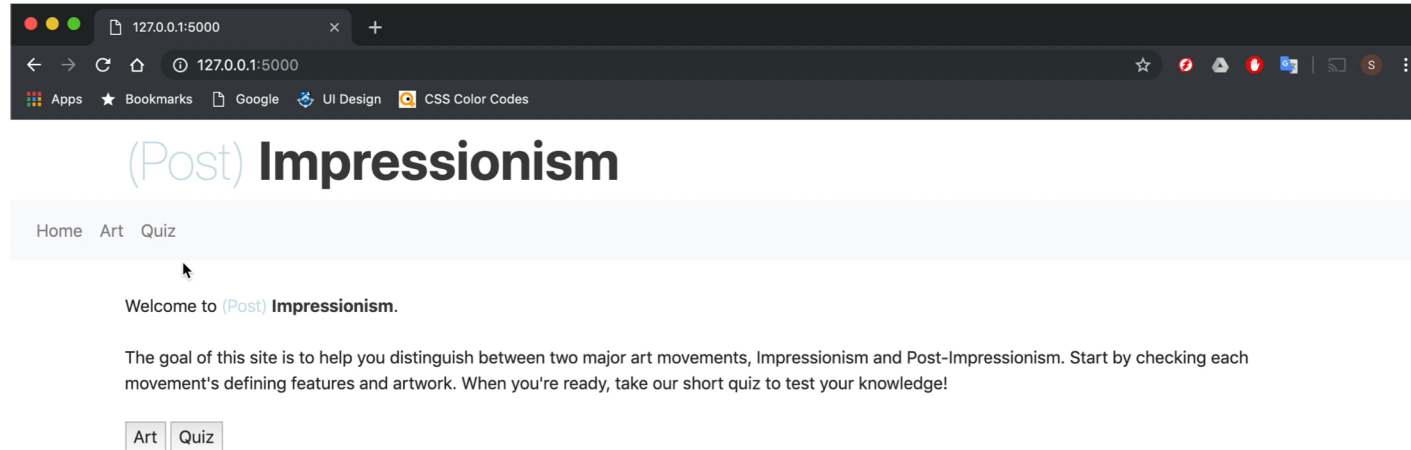
Ideas

- a. Art History (Impressionism vs Post-Impressionism)
 - i. **Who:** Someone who wants to be more knowledgeable about art/art history
 - ii. **Media:** Can examine images of paintings
 - iii. **Interaction:** Then drag and drop the images onto either an “Impressionist” or “Post-Impressionist” droppable element
 - iv. **Goal:** By doing this, they will learn how to distinguish between these relatively similar styled art movements
 - v. **Visible:** After going through each of the paintings, a score out of 15 will be displayed.

Technical Prototype + user testing



Improve Prototype + User Testing



Improve + Graphic Design + Testing

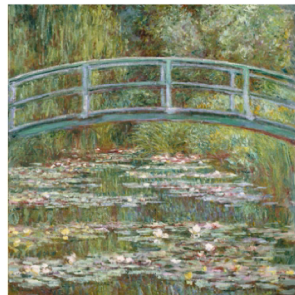
ART

n Quiz

Impressionism

1872-1892

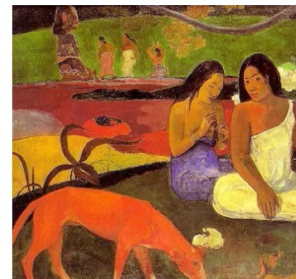
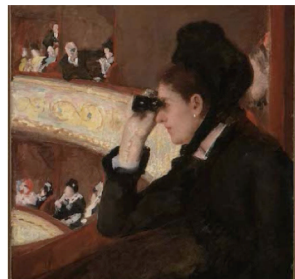
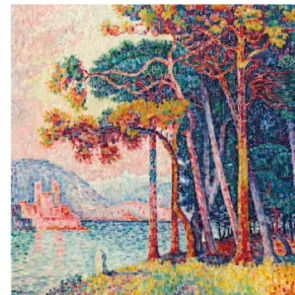
- Loosened brushwork
- Lightened color palette—pure, intense colors
- Abandoned clarity of form
- Captured ephemeral moments on canvas
- Sought to capture the optical effects of light
- Focused on scenes of public leisure and the new metropolis



Post-Impressionism

1880-1914

- Symbolic and highly personal meanings
- Painted from memory and emotion rather than the world
- Used evocative colors, not necessarily realistic ones
- Focused on abstract form and pattern
- Used distinctive brush strokes
- Motifs of primitivism and non-western images



Brushwork

Both Impressionism and Post-Impressionism can contain visible brush strokes.

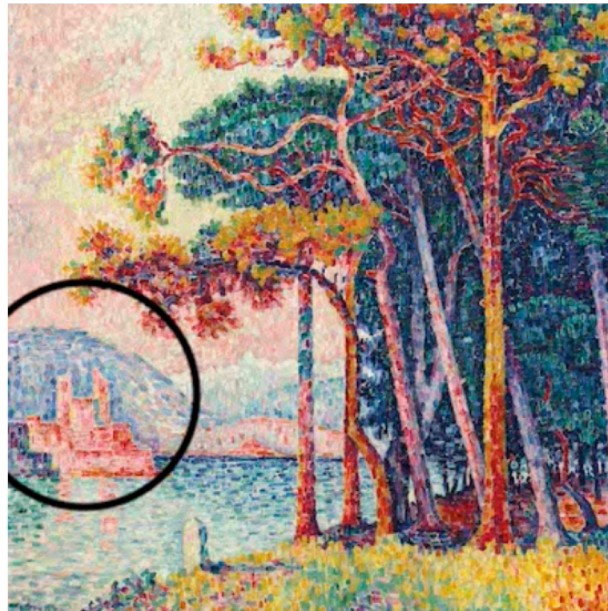
Drag each of these examples of brushwork to the correct side, then check your answer!

Impressionism

Visible brush strokes obscure form, add a physical texture

Post-Impressionism

Visible brush strokes form patterns, contribute to some abstract representation



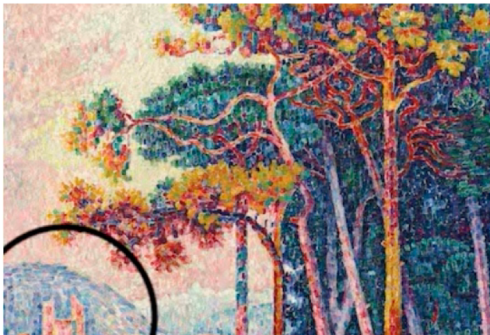
Brushwork

Both Impressionism and Post-Impressionism can contain visible brush strokes.

Drag each of these examples of brushwork to the correct side, then check your answer!

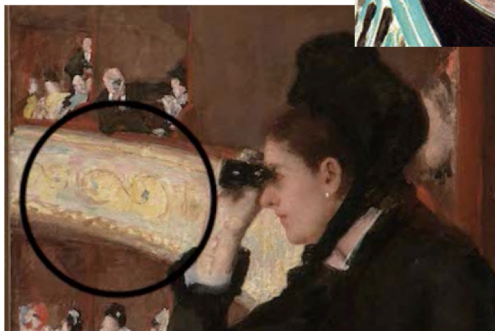
Impressionism

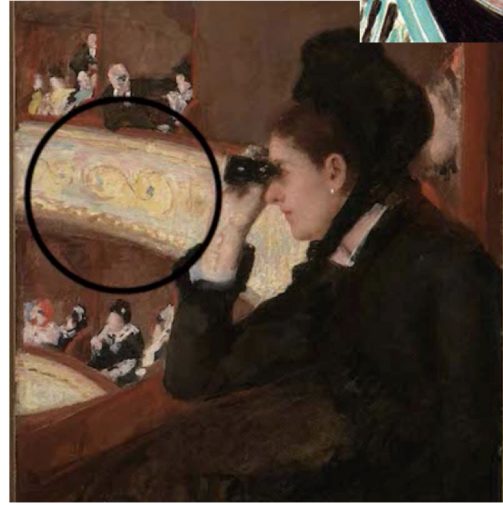
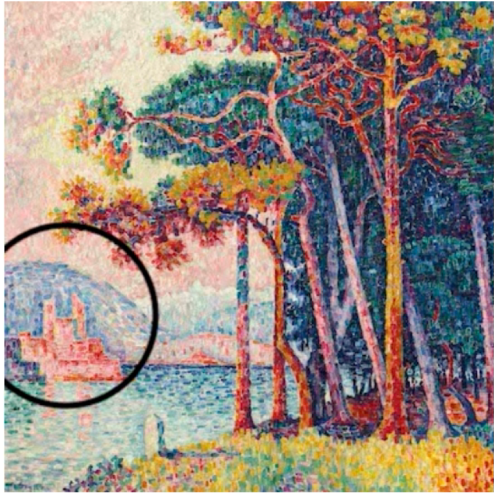
Visible brush strokes obscure form, add a physical texture



Post-Impressionism

Visible brush strokes form patterns, contribute to some abstract representation





Check Answers

Next

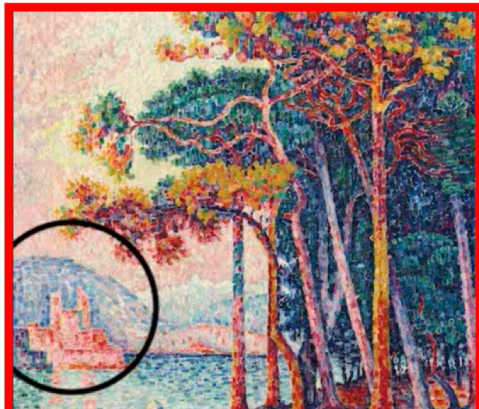
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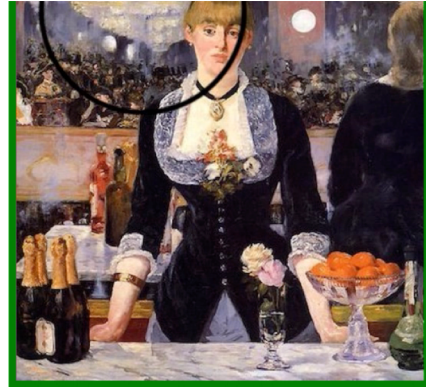
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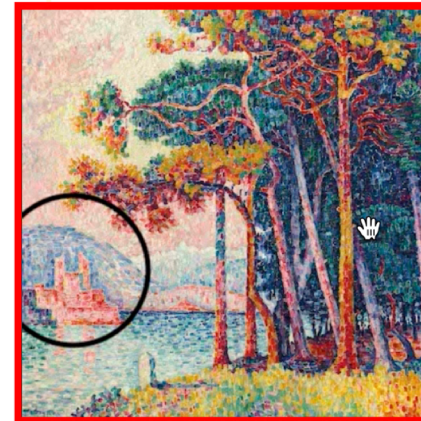
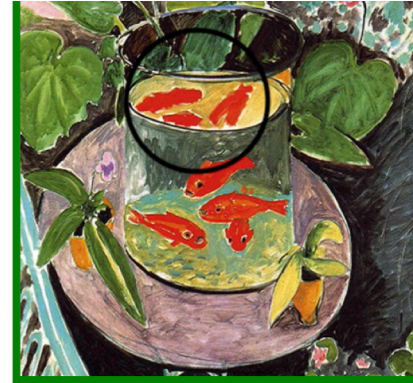
Impressionism

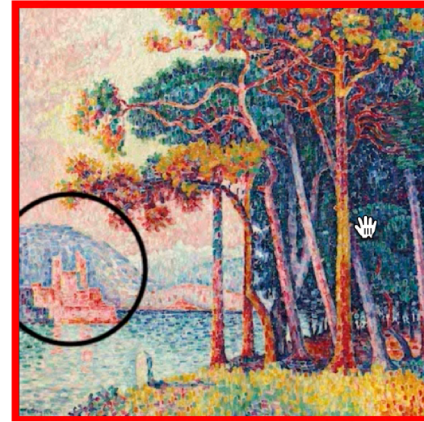
Visible brush strokes obscure form, add a physical texture



Post-Impressionism

Visible brush strokes form patterns, contribute to some abstract representation





Check Answers

Next

Abstraction vs Clarity of Form

Sometimes lack of clarity of form in
Impressionism may seem like abstraction.
Think carefully about the shapes.

Drag each of these examples of brushwork to
the correct side, then check your answer!

Impressionism

Forms blur together,
like squinting at a life-like image

Post-Impressionism

Forms are distorted,
often with unrealistically
geometric or fluid shapes



Public Leisure

Scenes of public leisure are most associated with Impressionism, but can appear in both types of paintings. Pay attention to other identifiers to correctly label each work.

Drag each of these examples of brushwork to the correct side, then check your answer!

Impressionism

Look for blurriness,
generally life-like figures,
subtle lines, attention to light

Post-Impressionism

Look for abstraction
(overly geometric or fluid shapes),
harsh lines, evocative colors,
non-western subjects



1/15

Drag the tile below to the correct art movement.



Impressionist

Post-Impressionist

TA feedback sessions: Friday and Monday

Listen to your TA!

Summary

Given specifications, you can create interactions

Part 1 – Usable Functionality:

1. Menu/Navigation.

- For consistency, all the templates should be rendered with a shared template that contains a navbar.
- The navbar should contain:
 - A home link (at the "/" route)
 - A text box to enter a search query and a "go" button (at the "/search" route). When the user presses enter on the search bar it should also "go".
 - A create link (at the "/create" route)

2. Home. The home link should render at the "/".

- It should contain a one sentence summary of the mission of the site. This mission should make it clear who the intended user is and what specific goal it helps them achieve.
- It should show the latest 10 entries added to the database to entice the viewer to click on something and start exploring.
- Each of the 10 entries should be formatted as a Bootstrap Card that contains an image and the title of the item. If there is some other essential field, it can show that too, but it should not show all the data fields – it's meant to be a summary.
- When you click the image, it should take you to the page for viewing the item.

3. Search. When the user presses "go" on the search link (or presses enter), it should search for the items and return a list of all matching results.

- Flexibility.** The query must do substring matching that is not case sensitive on the title and one other text field.
- Feedback.** In addition to returning the results, the page must say how many results there are. If there are zero results, you don't need to do anything other than say there are zero results.
- Feedback.** When you present the results to the user, the bit that matches the substring must be easy to scan for, according to gestalt principles.

4. State/Options/Transitions. On the template for creating a new database item, you will still have input boxes for all the fields the user must input. In addition:

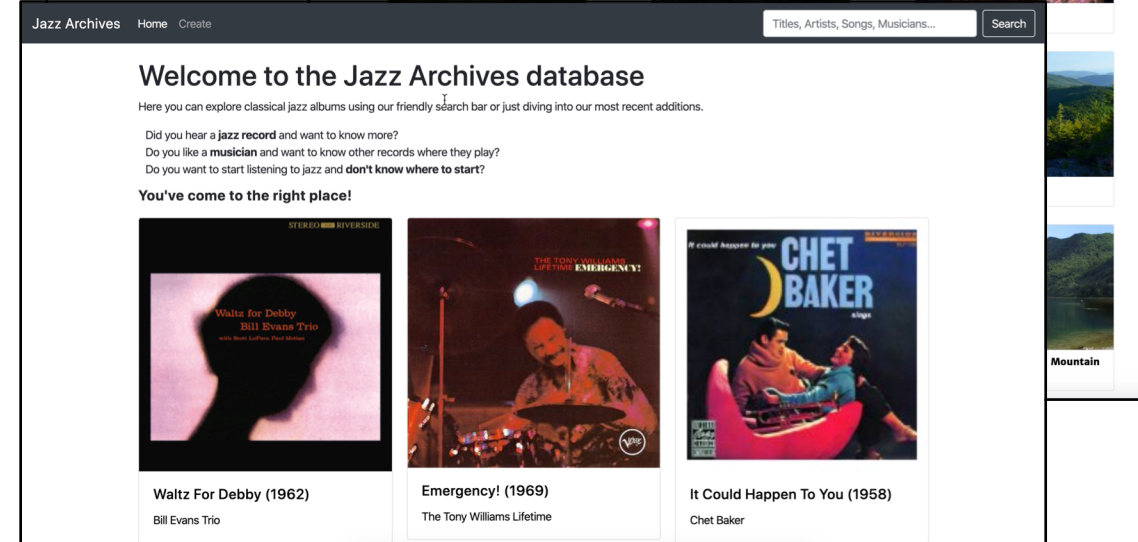
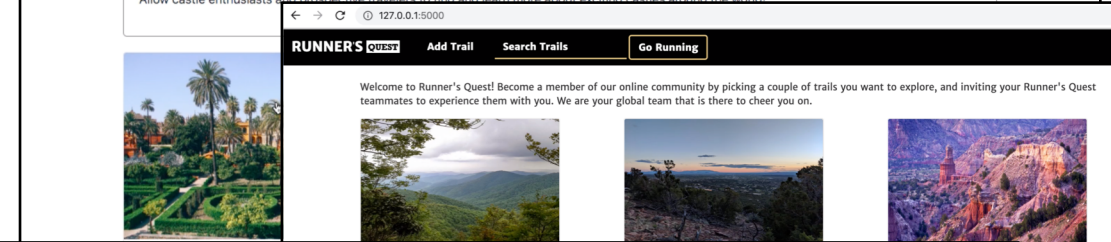
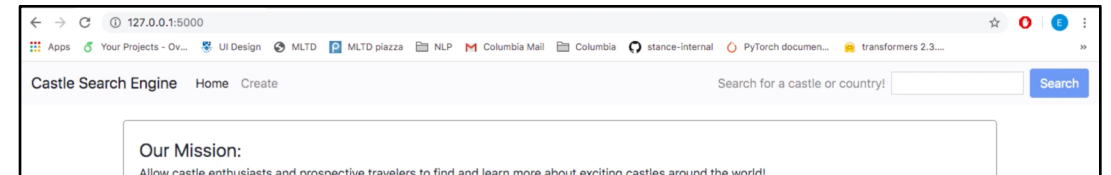
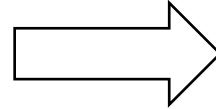
- Error Detection.** When creating a new database entry, there must be error handling on all the fields. If the field must be a number, then ensure it is a number. At the very least, you can check that the field is not blank (remember to trim the text to test if it's blank). Design the error feedback so that it directs the user's attention to the right place to correct the error.
- Transitions.** After the user presses "submit" and the data successfully submits, allow the user to either view the item or enter a new item.
 - At the top of the page it should say, "New item successfully created." With a button or link that says "see it here" (or words to that effect). This links to a page for viewing the item.
 - Additionally, the input boxes should clear and the focus should be placed on the first text box so the user is ready to submit another item.

5. State/Options/Transitions. There will no longer be a separate /edit/<id> route. Editing will now be done in /view/<id>

- For each field that can be edited, create a small edit icon next to it. (at least two fields must be editable – including one that is involves changes the text)
- State Change.** When the user presses the "edit" icon the field to be edited, it must immediately turn editable with a "submit" and "discard changes" option.
- Options.** The chosen text must disappear, and in its place, there should be a textbox or text input with the text they way to edit, with the focus in the input field.
- Transitions.** After the users presses "submit" or "discard changes" the page should go back to how it looked when they were viewing it (and not editing it).
- Note: If your "update" was to add a review to a list, you don't need to populate the textbox with any text. You may call it "add review" instead of "edit" if you like.

6. User control and freedom (Undo).

- The user should no longer be able to delete entire database items from the search page.



The next step is to become a user interface designer.

Part 1 – Usable Functionality:

1. Menu/Navigation.

- For consistency, all the templates should be rendered with a shared template that contains a navbar.
- The navbar should contain:
 - A home link (at the "/" route)
 - A text box to enter a search query and a "go" button (at the "/search" route). When the user presses enter on the search bar it should also "go".
 - A create link (at the "/create" route)

You identify the user

2. Home.

- The home link should render at the top of the page.
- It should show the latest 10 entries added to the database to entice the viewer to click on something and start exploring.
- Each of the 10 entries should be formatted as a Bootstrap Card that contains an image and the title of the item. If there is some other essential field, it can show that too, but it should not show all the data fields – it's meant to be a summary.
- When you click the image, it should take you to the page for viewing the item.

You identify a problem

3. Search.

- When the user presses "go" on the search link (or presses enter), it should search for the items and return a list of all matching results.
- Feedback. When you present the results to the user, the bit that matches the substring must be easy to scan for, according to gestalt principles.

You find the solution

4. State/Options/Transitions.

- On the template for creating a new database item, you will still have input boxes for all the fields the user must input. In addition:
 - Error Detection.** When creating a new database entry, there must be error handling on all the fields. If the field must be a number, then ensure it is a number. At the very least, you can check that the field is not blank. Remember to provide a message to the user if there is an error. If possible, place the error message directly next to the input field. When the user presses "submit" and the data successfully submits, allow the user to either view the item or enter a new item.
 - At the top of the page it should say, "New item successfully created." With a button or link that says "see it here" (or words to that effect). This links to a page for viewing the item.
 - Additionally, the input boxes should clear and the focus should be placed on the first text box so the user is ready to submit another item.

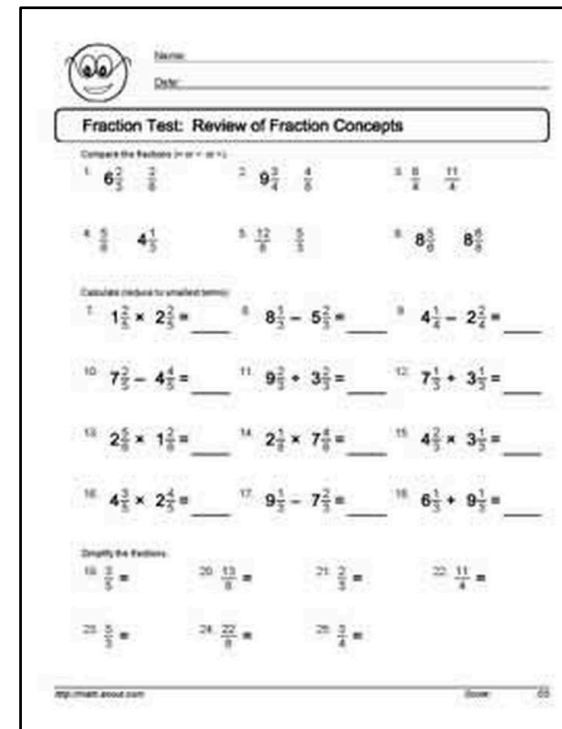
5. State/Options/Transitions.

- There will no longer be a separate /edit/<id> route. Editing will now be done in /view/<id>
- For each field that can be edited, create a small edit icon next to it. (at least two fields must be editable – including one that involves changes the text)
- State Change.** When the user presses the "edit" icon the field to be edited, it must immediately turn editable with a "submit" and "discard changes" option.
- Options.** The chosen text must disappear, and in its place, there should be a textbox or text input with the text they way to edit, with the focus in the input field.
- Transitions.** After the users presses "submit" or "discard changes" the page should go back to how it looked when they were viewing it (and not editing it).
- Note:** If your "update" was to add a review to a list, you don't need to populate the textbox with any text. You may call it "add review" instead of "edit" if you like.

Started by helping a **specific person** with a **specific need**



Nadia, age 11



Ace this fractions test

Challenge:

- Build a **web** application
- That allows a user to **interact** with media
- Within a **domain of your choosing**
- To help a user learn an introductory topic **interactively**
- And help them assess themselves with a **quiz**.
- And keep learning through **feedback** from the quiz.
- In under **10 minutes** total

What I expect the design process to be:



Challenge

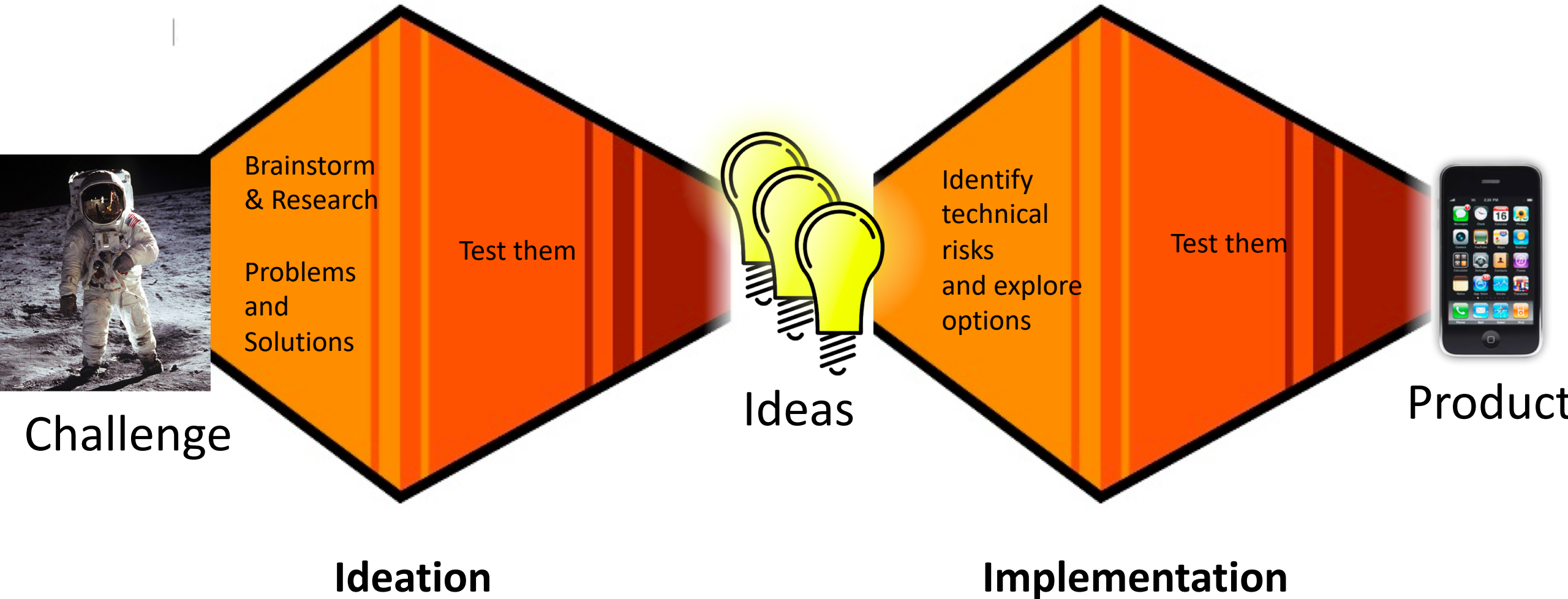


Idea



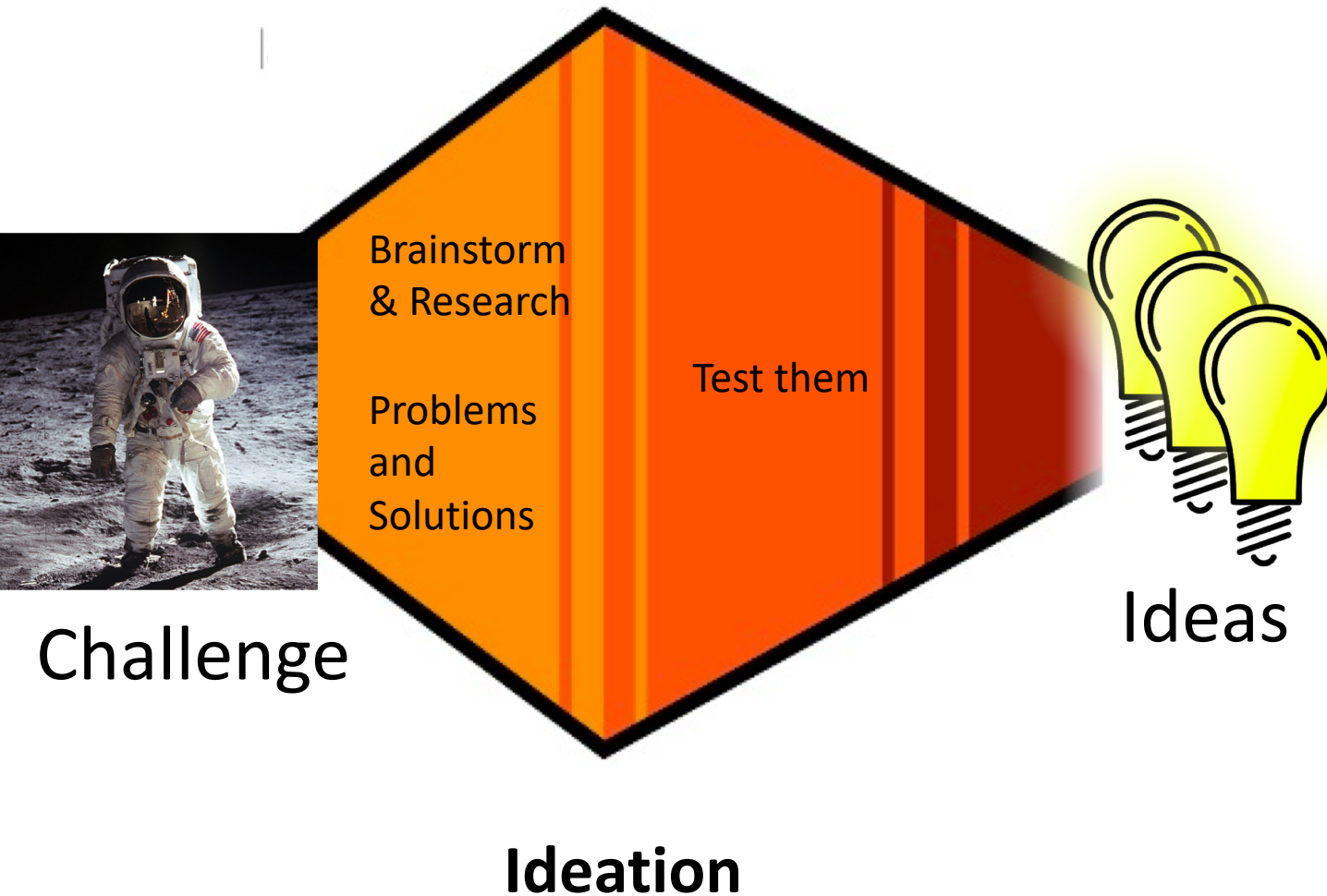
Product

The Double Diamond Process

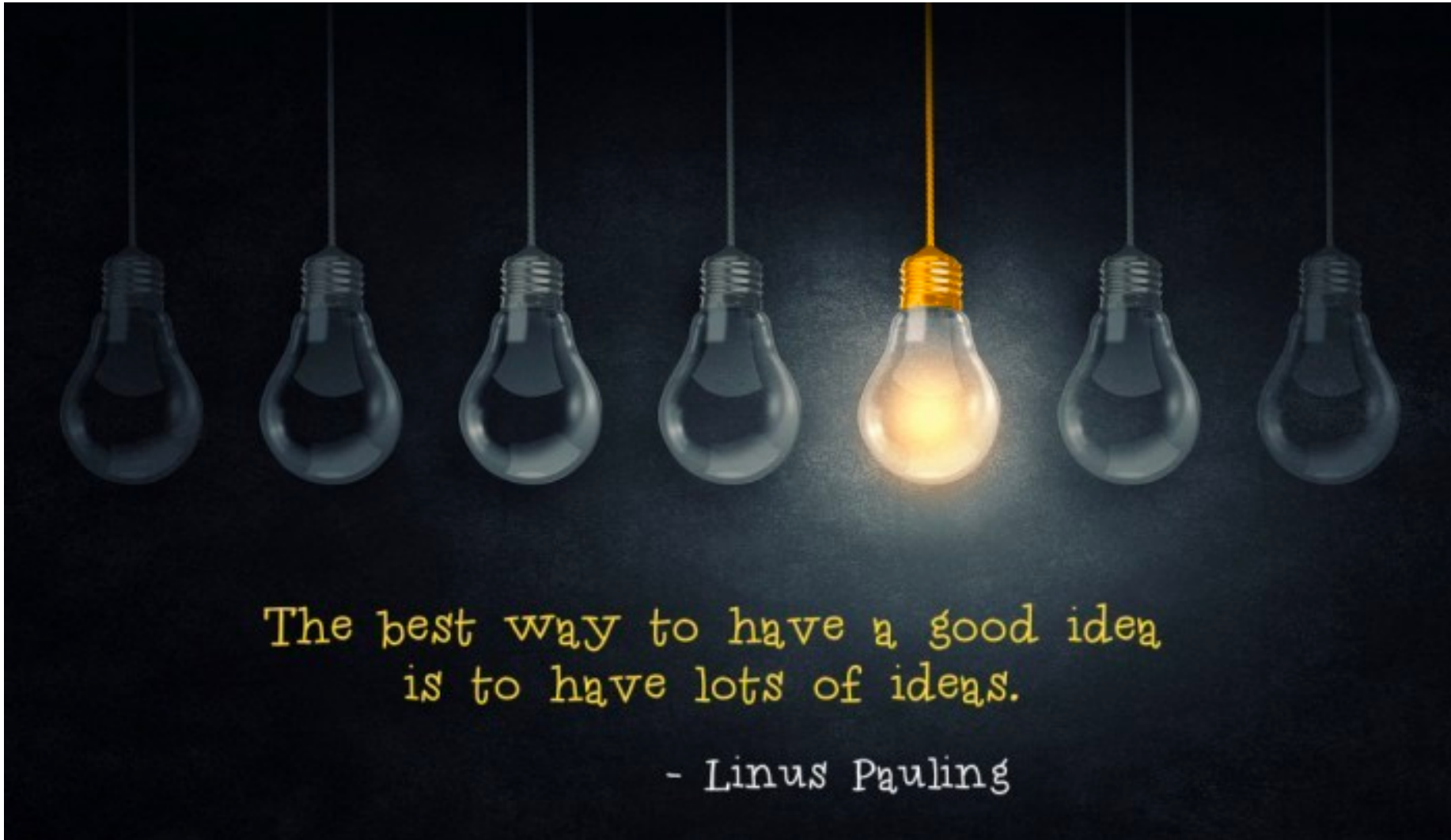


Phase 1: Ideation:

Potential solutions for a specific problem.



Ideation: Brainstorm domains and specific problems



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

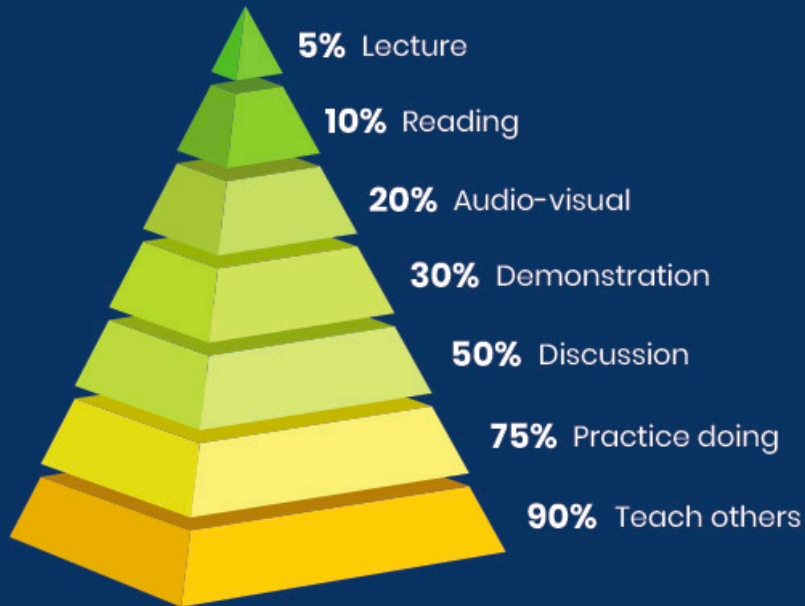
Photoshop is HARD, and sharing resources is annoying. Maybe some online templates can make this easier.

Social network for photos.

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

Ideation: Research related work

Academic studies



Related systems

duolingo Home Words Activity Discussion Immersion

Spanish skills LEVEL 12

Lingot store

Basics 1

Basics 2

Phrases

Food 4/5

Animals

Plurals

Competitors

< EUROPE: 19TH CENTURY

Impressionism

These artists broke new ground with sketchy, light-filled canvases shown in independent exhibitions.

c. 1874 - 1886

Beginner's guide

These artists each sought their own solutions for the depiction of modern life. Can we even call Impressionism a unified style?

- Impressionism, an introduction
- Impressionist color
- Looking east: how Japan inspired Monet, Van Gogh and other Western artists
- Impressionist pictorial space

videos + essays

The Impressionists painted city parks and city streets, train stations and ballet rehearsals, cafes and lily ponds.

Impressionist color
Blue snow and violet-tinted flesh—the Impressionists radically changed our expectation of color.

Impressionist pictorial space
The surprising pictorial effects of modern art may seem at first like errors, but they are quite intentional!

What does "Impressionism" mean?
Impressionist paintings—once considered sloppy and unfinished—draw huge crowds to museums today.

A summer day in Paris: Berthe Morisot's *Hunting Butterflies*
The subject takes control over the outdoor setting, expressing her independence in spite of limitations.

How to recognize Monet: *The Basin at Argenteuil*
In the suburbs, Parisians escaped the pressures of modern life. Monet painted their sun-drenched pleasures.

How to recognize Renoir: *The Swing*
Renoir wanted to forget everything he knew about how to paint so that he could render light as it really is.

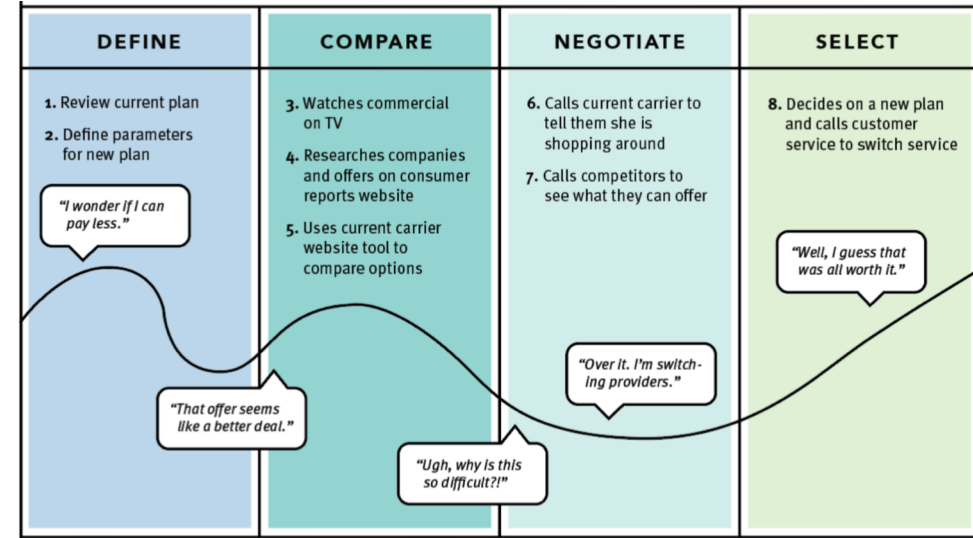
Ideation: Talk to people about their experience

Find someone who has done it recently



Ask: "Tell me about that experience" (include thoughts, feelings, actions at every step)

Synthesize into phases
Mark highs and lows of the experience



You will discover things you wouldn't even think to ask.

"I always forget to fill out the participation form."

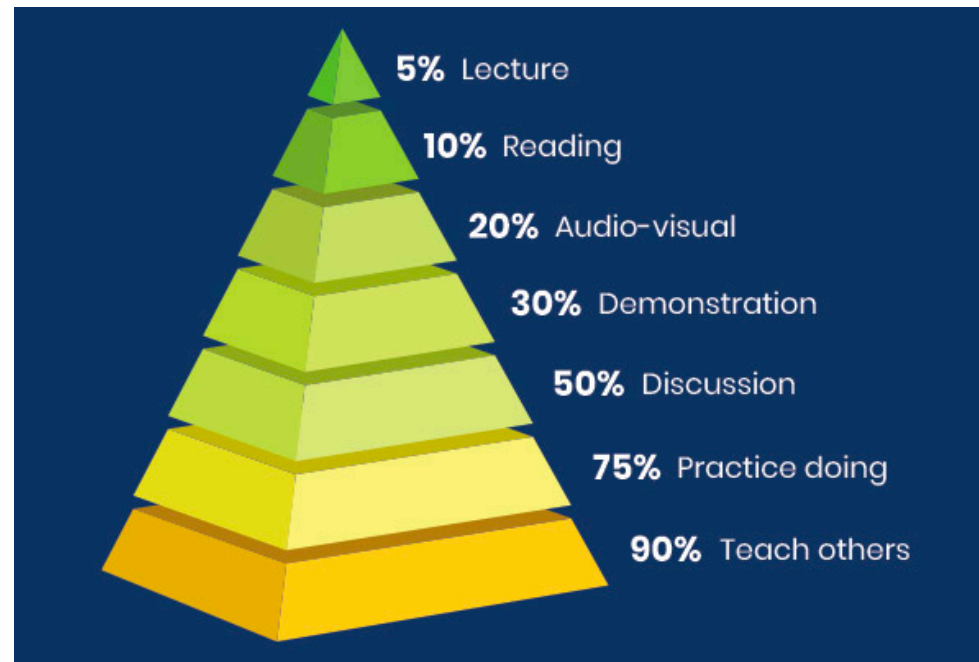
Educational insight #1:

Students are terrible at assessing their learning. They need tools to assess themselves.

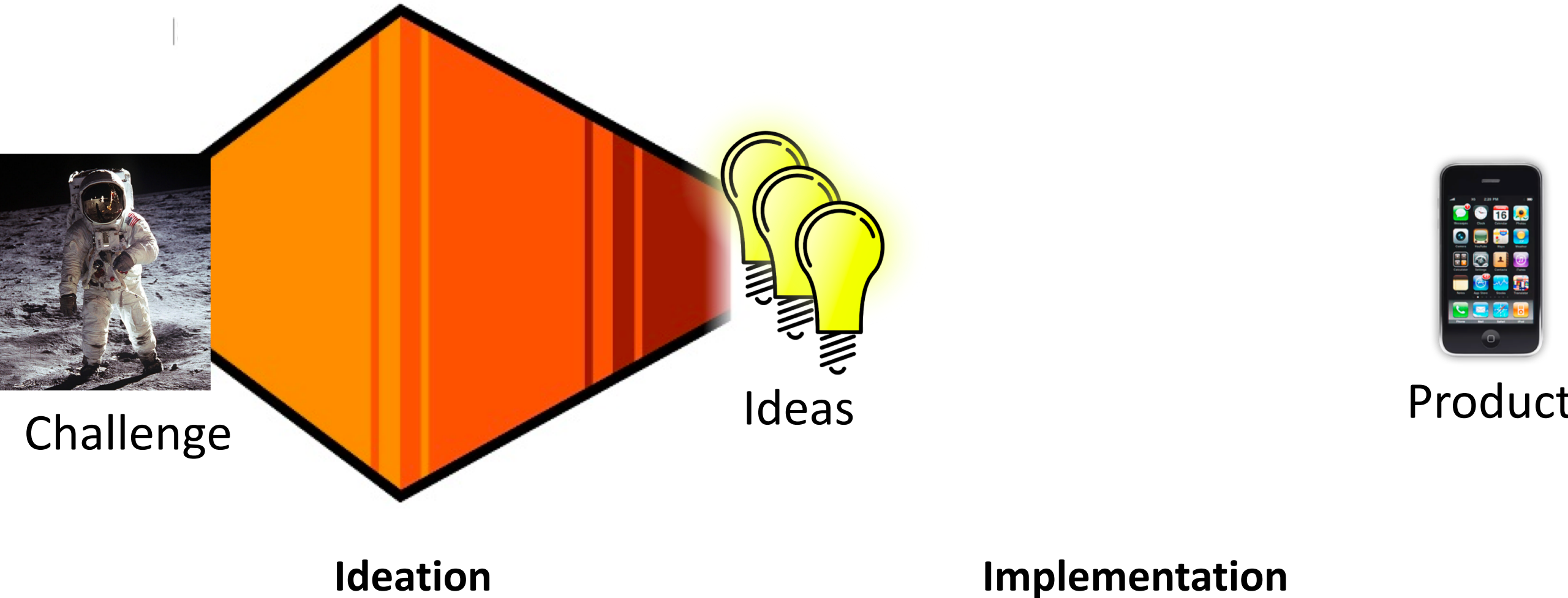


Educational insight #2:

Reading textbooks is boring. Nobody learns from that. People learn by practicing - from doing something and getting feedback.

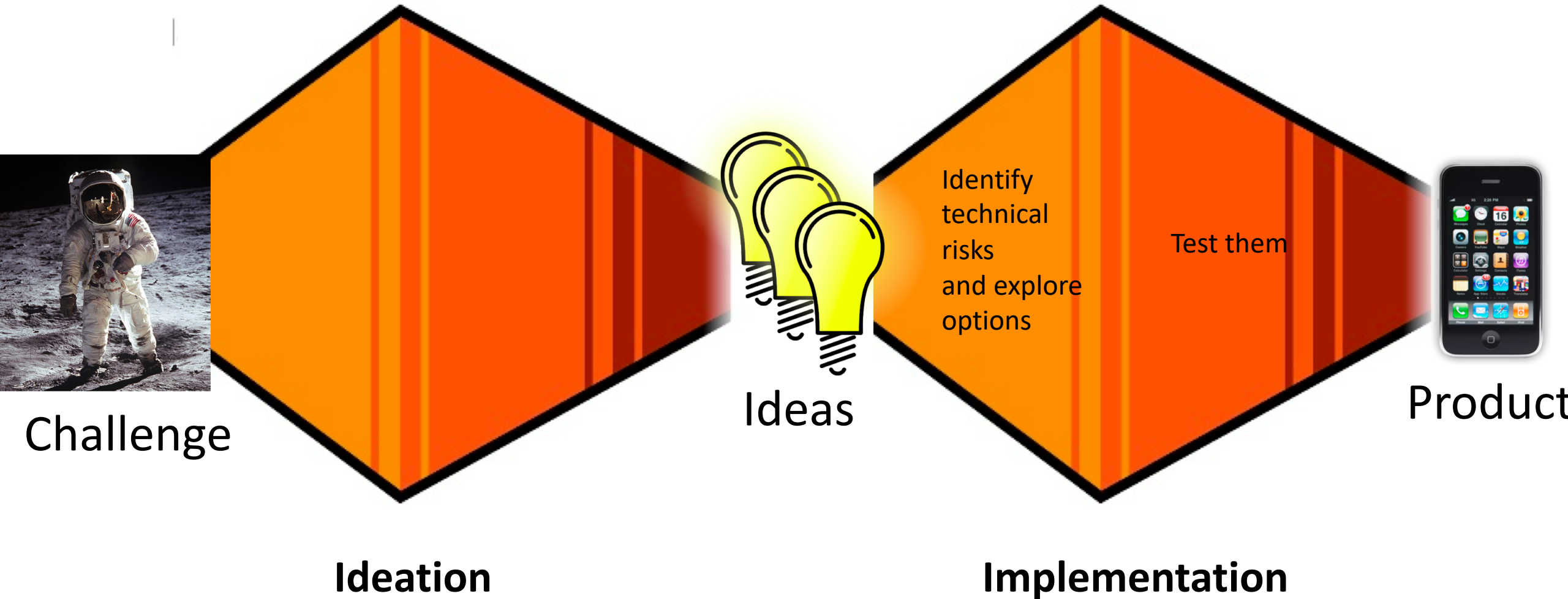


How do I implement the idea?



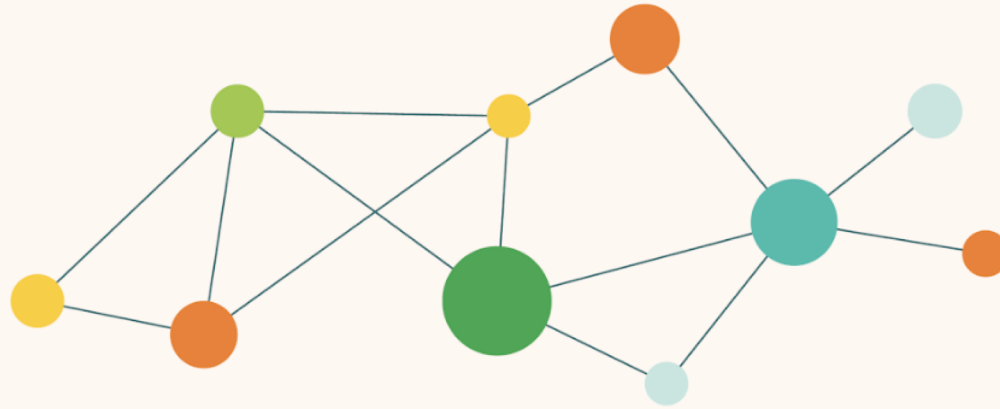
Flare and Focus

The Double Diamond Process



TA feedback sessions: Friday and Monday

Listen to your TA!



VIRTUAL CAMPUS DESIGN CHALLENGE

COVID-19

When: April 4, 2020 - April 6, 2020

Where: Online

RSVP at <https://bit.ly/design-challenge-rsvp>

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