

Advanced Web Design Studio

No screens



Prof. Lydia Chilton
COMS 6998
6 September 2019

Say your name



Staff

- Prof. Lydia Chilton
 - Office hours: Wednesday 3-4
- TAs:
 - Savvas Petridis
 - Robert Soden
- Course website:
 - <http://www.columbia.edu/~lc3251/courses/fall19/>

Advanced Web Design Studio

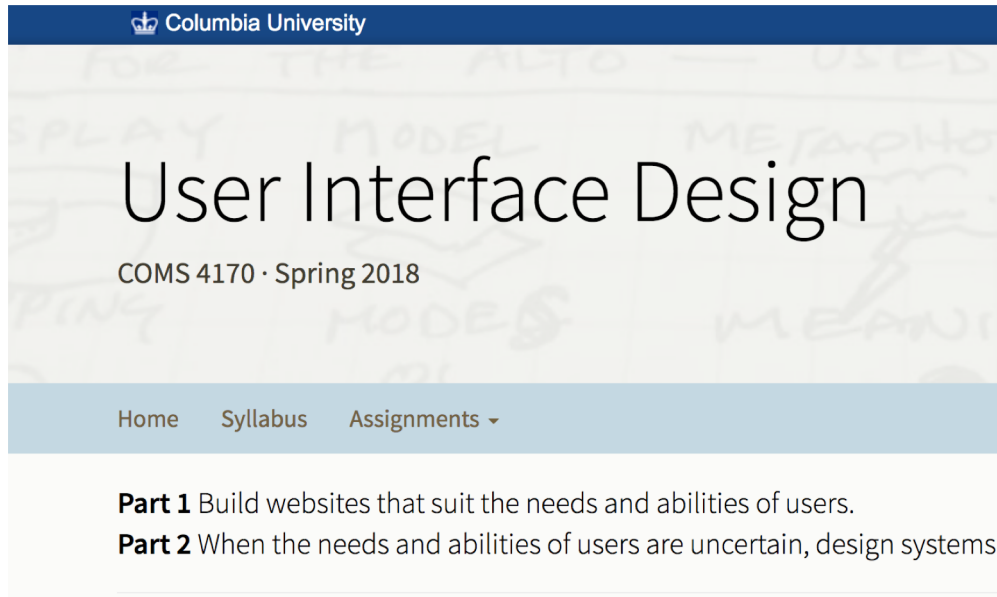
No screens



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You know **Design Principles**:

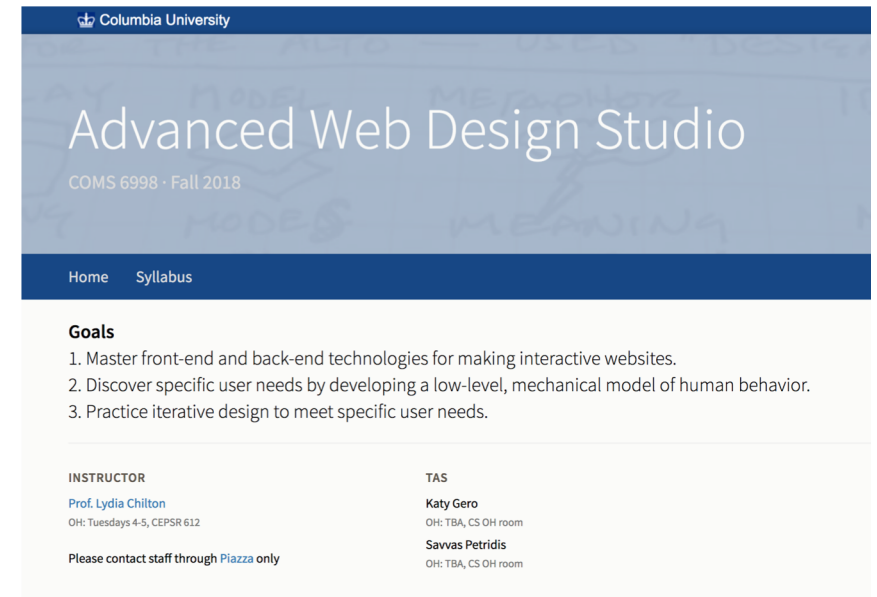
- Iterative Design
- Usability Principles

You know the **technology**:

- Front-end: HTML, JavaScript, Bootstrap, jQuery
- Back-end: Flask, Ajax, databases

Have **impact** on real people.

- Identify user needs
- Practice iterative design
- Get feedback from users



Grading

In-class participation

15%

Attendance is mandatory – this is where you get feedback to learn from. Any absence, excused or otherwise, must be made up. It is the students job to coordinate make up sessions within 6 days

Grading

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Weekly assignments	60%	Every week student will complete technical and design assignments, and bring them to class for feedback and iteration. There are 12 assignments, each is worth 5% of your final grade.

Grading

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Weekly assignments	60%	Every week student will complete technical and design assignments, and bring them to class for feedback and iteration. There are 12 assignments, each is worth 5% of your final grade.
Final Project	25%	The final project may be done individually. It is due Friday December 13 th at 11:59pm. We cannot accept late projects.

Advanced Web Design Studio

No screens



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What is a **studio** class?







Not a studio class



Why we do teach some topics in a studio?



Painting



Architecture



Acting

Because they are not just knowledge, but **skills**.
We learn skills by applying them and getting feedback.

What are other topics we learn through applying skills and receiving feedback?



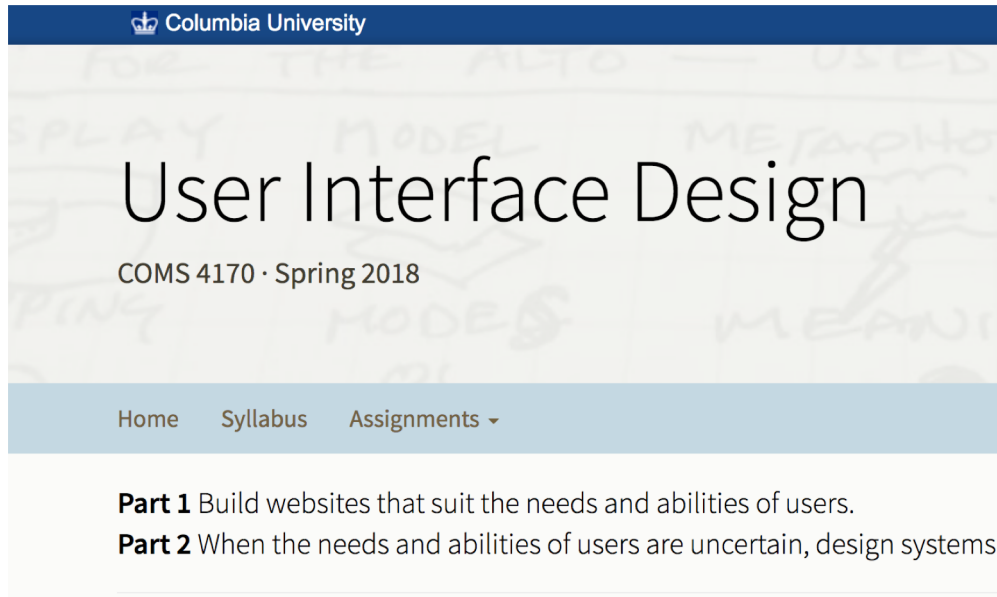
Sports



Languages



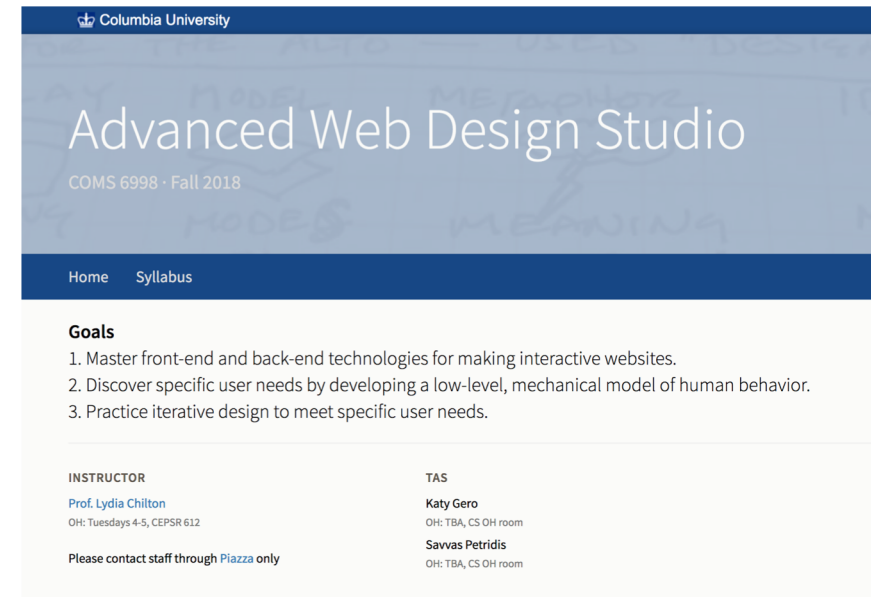
Cooking



You know the skills

- Iterative Design
- Usability Principles
- Front-end: HTML, JavaScript, Bootstrap, jQuery
- Back-end: Flask, Ajax, databases

Now we are going to **apply** them and get feedback.



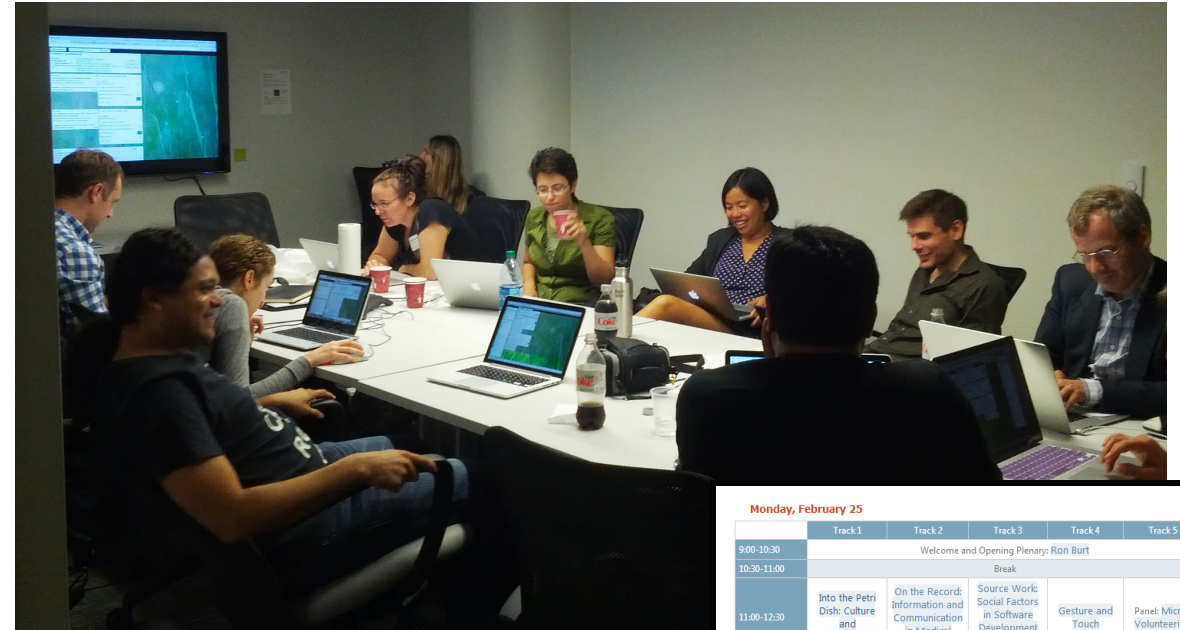
Primary Objective:

Make software
that impacts people

Not a portfolio Project



An *Impact* Project



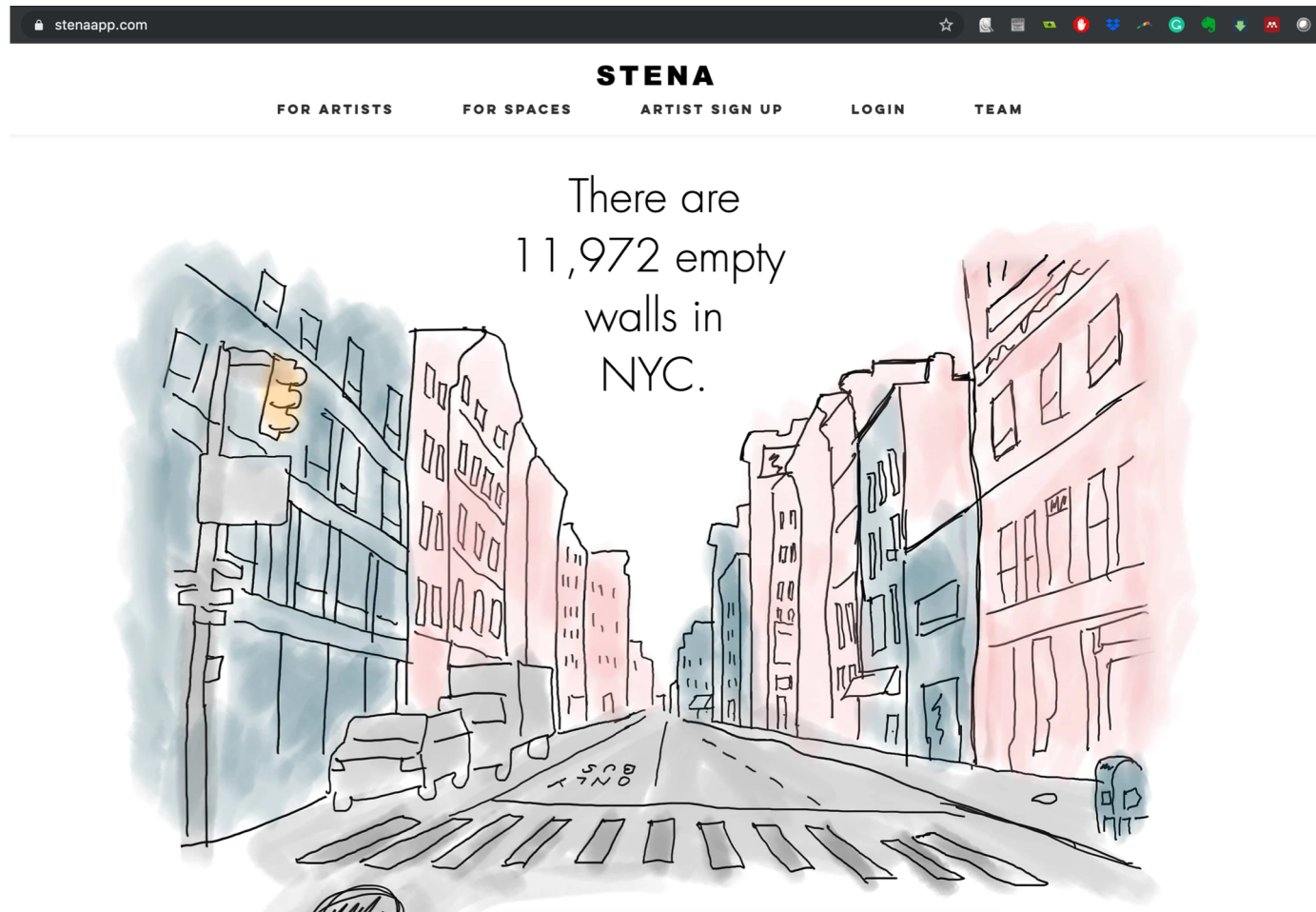
Monday, February 25					
	Track 1	Track 2	Track 3	Track 4	Track 5
9:00-10:30	Welcome and Opening Plenary: Ron Burt				
10:30-11:00	Break				
11:00-12:30	Into the Petri Dish: Culture and Collaboration	On the Record: Information and Communication in Medical Contexts	Source Work: Social Factors in Software Development 🍷	Gesture and Touch	Panel: Micro-Volunteering
12:30-14:30	Lunch				
14:30-16:00	<3C> Technology Supporting Relationships	Sharing and Privacy	Mining Social Media Data	Teams 🍷	Panel: Bursting Your (Filter) Bubble: Strategies for Promoting Diverse Exposure
16:00-16:30	Break				
16:30-18:00	Games	Collaboration and Sharing in Scientific Work 🍷	Making the World a Better Place 🍷🍷	Group and Team Issues in the Health Domain	Trust, Credibility, and Rumors: International Perspectives
18:00-20:30	Reception: Interactive Posters, Videos, & Demonstrations				

Tuesday, February 26					
	Track 1	Track 2	Track 3	Track 4	Track 5
9:00-10:30	Crowdsourcing	Local is Where It's At	Working Together	Computer-Mediated Communication 🍷	Understanding People's Practices in Social Networks
10:30-11:00	Break				
11:00-11:30	Wikipedia Supported	Ideology, Politics, and Power	Not Lost in Translation	Social Media	Collaboration in Creative

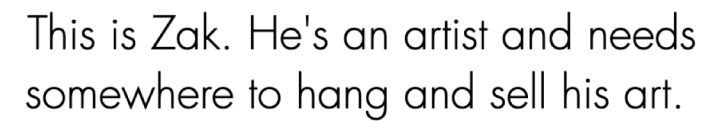
You cannot make impact with technology alone.

You have to meet people,
learn their needs,
and help them achieve their goals.

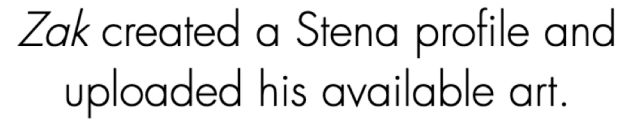
Example of an impact project from Adv Web Design Studio Fall 2018



TEAM



TEAM



In just a few days, Stena drafted a contract, printed hang tags and installed Zak's pieces in Susie's cafe.

A cartoon illustration of a man with glasses and messy hair, wearing a pink shirt and pants, holding a large framed picture of a bowl of food. The man has a surprised or nervous expression. The picture he is holding shows a bowl filled with various food items, including what looks like dumplings or buns, and some vegetables. The drawing style is simple and sketchy.

STENA

[FOR ARTISTS](#)[FOR SPACES](#)[ARTIST SIGN UP](#)[LOGIN](#)[TEAM](#)

Learn more.



If you're like Zak and have art you want to display and sell. Click here to learn more about becoming a Stena Artist.

[For Artists](#)

If you're like Susie and have some spare wall space. Click here for more information about becoming a Stena Space.

[For Spaces](#)



— **DEAR MAMA** —
specialty coffee bar

EAT. DRINK. EXPERIENCE ART.



What is Stena?

- A platform that connections local artists with brick-and-mortar business spaces – “turning spare space into gallery space.”
- We find matches between spaces that want to display art and artists who want to display their work.
- We make connections between the two groups, install th arts, and list the pieces for sale on our platform.
- Value add for artists: increased exposure
- Value add for business: cultural capital, proceeds from sales.
- Main focus in coffee shops for now.

Stakeholders

- Artists – easy!
- Businesses – a littler harder
- (Viewers / buyers) - ???
 - Data and analytics

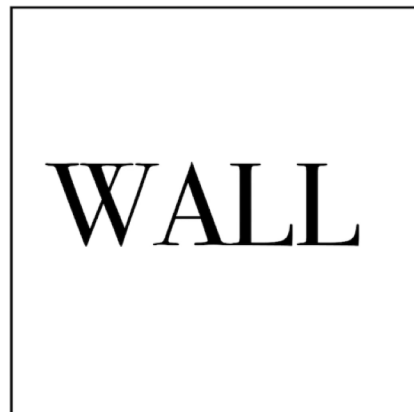
Where can you see the art?

Kahve (Hell's Kitchen: 667 10th Ave)

Dear Mama Coffee (East Harlem – 308 East 109th St.)

Both featuring work by Brooklyn-based artist
Anton Vitkovskiy

Follow us on Instagram - @stenaapp



Find pre-bundled **sets of local art**
to put on the **walls** of your coffee shop.

Search for sets of art by keyword (ex. realism; abstract).

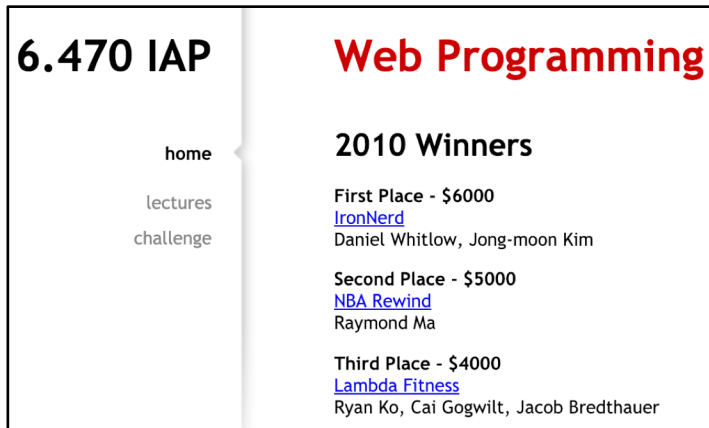
All media

Search

What have you done that helped people
achieve their goals?

Big or small – preferably small.
Little things matter!

What have I done to help people achieve their goals?



Students at MIT really wanted to learn web programming, but the faculty thought it was “beneath them” to teach it.

I started a web programming class at MIT.
Even though I did not know any web programming.

When I got to Columbia, the faculty complained about being isolate because we’re in 4 different buildings, and didn’t interact with each other enough in lightweight social ways.

But even on my floor, people kept their doors closed.
I put door stoppers on all the faculty doors.



What have you done that helped people
achieve their goals?

Big or small – preferably small.
Little things matter!

Assignment 1:

Computer Prototype of a marketplace website

Due Friday Sept 13th at 1pm on Courseworks

This is a portfolio project.
It's a warm-up of the technology

- **Front-end**

- HTML
- JavaScript
- JQuery
- Bootstrap (if you must)

- **Back-end**

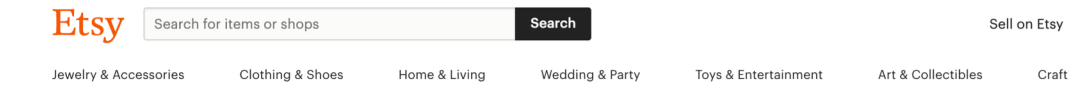
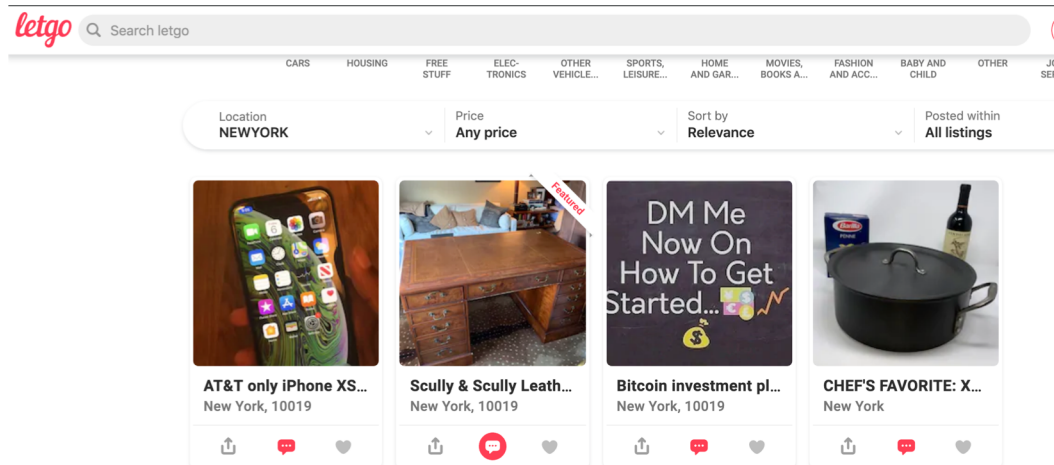
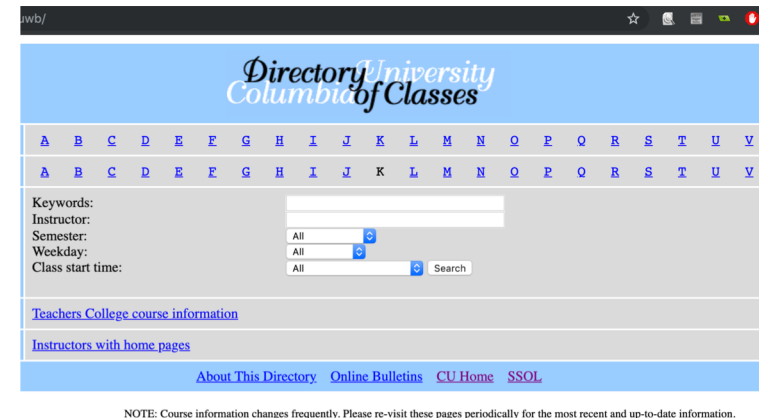
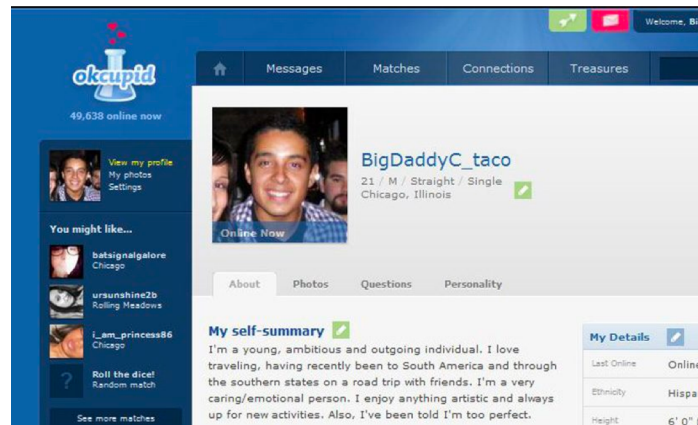
- Flask
- JSON “database” – no real databases. Data does not have to persist. It's a computer prototype to test the ideas.

But what marketplace will you build?

Brainstorm:

What are existing Marketplace applications?

What goal do they help people achieve?



If it's handcrafted, vintage, custom, or unique, it's on Etsy.



What are groups that that you interact with on campus?



General		Academics		People		Press
Theory	Graphics & User Interfaces	NLP & Speech	Security & Privacy	Computational Biology	Software Systems	Computer Engineering

Faculty

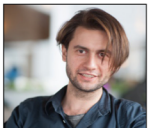
Faculty
Faculty Emeritus and Former Professors



Allen, Peter Kirby
Professor

- Office: 619 CEPSR
- Phone: 212-939-7093
- Email: allen@cs.columbia.edu

Interests: Robotics, Vision, 3-D modeling



Andoni, Alexandr
Associate Professor

- Office: 420 Mudd
- Phone: 212-853-0685
- Email: andoni@cs.columbia.edu

Interests: Algorithmic foundations of massive data,



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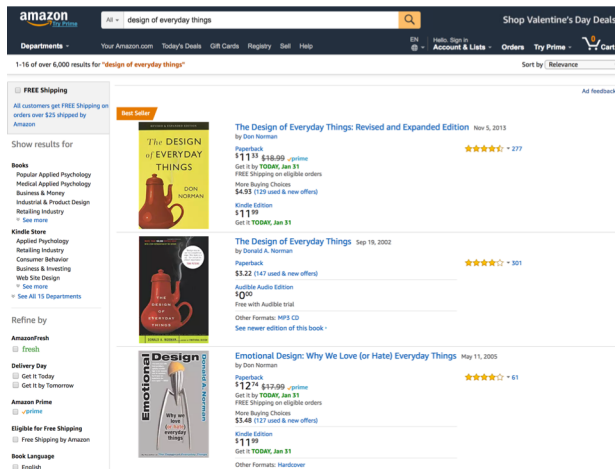
Sign Up!

User Interface Design Review

Prof. Lydia Chilton
COMS 4170

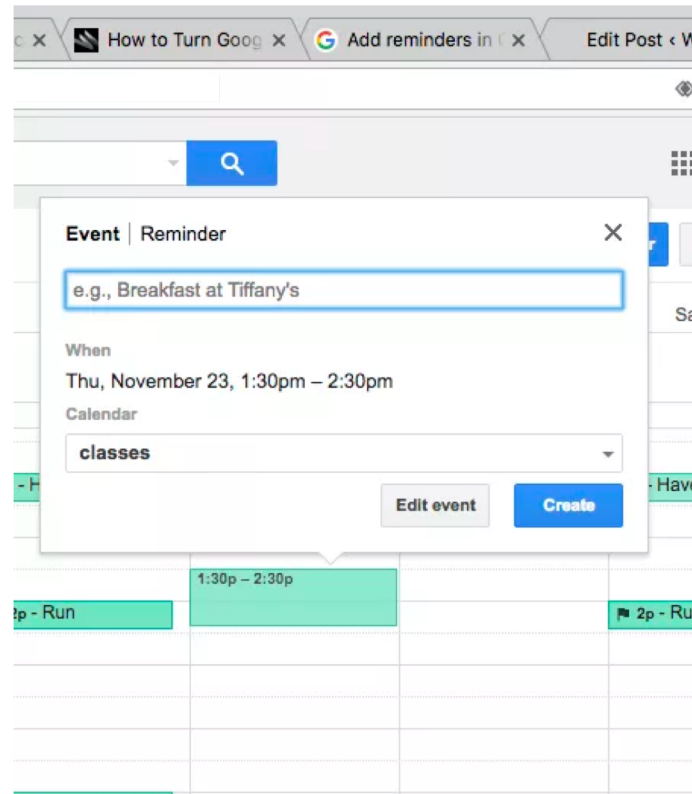
Users interact with a system to accomplish a goal

Amazon



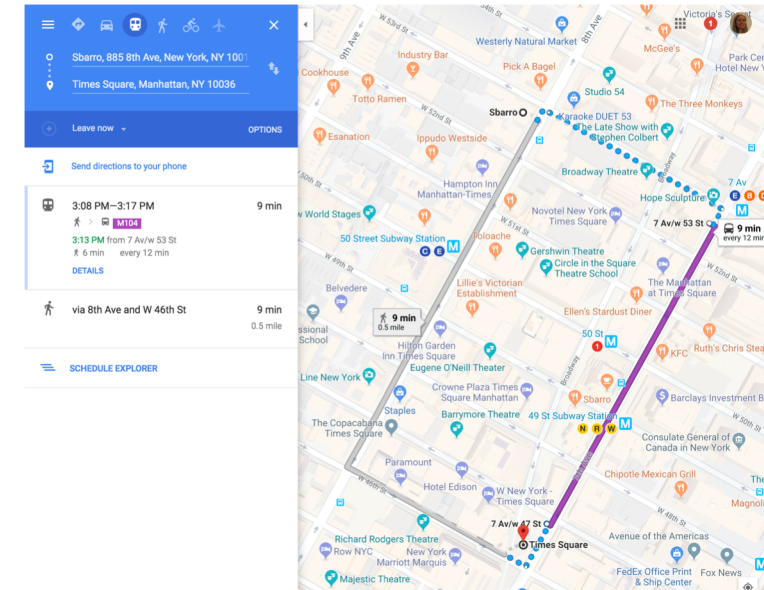
Buy a book

Google Calendar



Get to events on time

Google Maps



Get to a place

User goals must be concrete.

Grand but not actionable

“combat social inequality”

“bring the world closer
together”

“scale and democratize
education”

User goals must be concrete.

Grand but not actionable

“combat social inequality”

“bring the world closer together”

“scale and democratize education”

Humble but actionable

“register 100 voters in Selma, Alabama”

“let Harvard students see what dorm their friends are in”

“teach my 12-year old cousin Nadia how to multiply fractions”

User Interfaces should be designed to help users accomplish a goal.

Guide users' attention



Provide clear actions and feedback.



Allow users to navigate through the system in ways that follow from their goal.



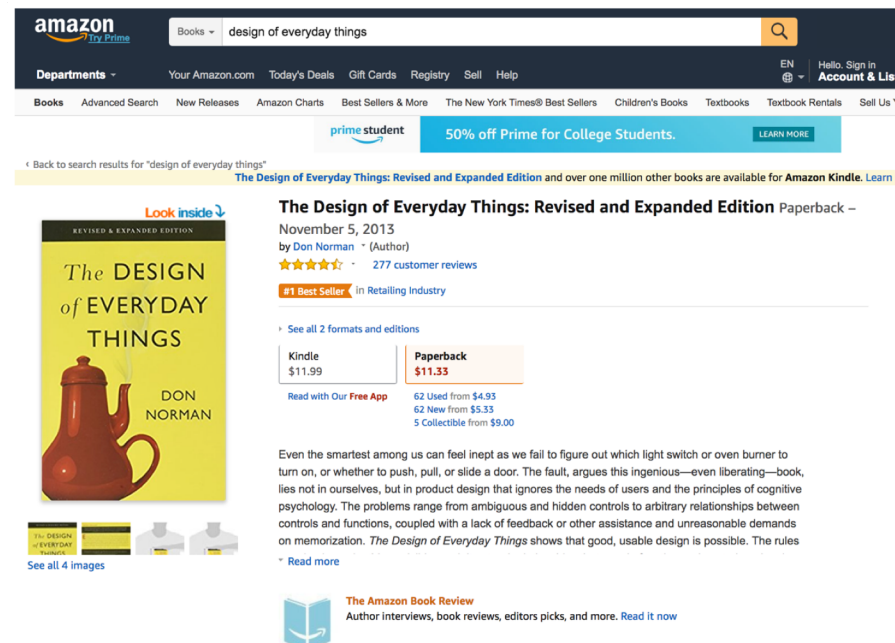
Interfaces structure tasks into workflows to help people stay focused on the goal.

The collage illustrates the Amazon.com interface workflow for purchasing a book. It includes:

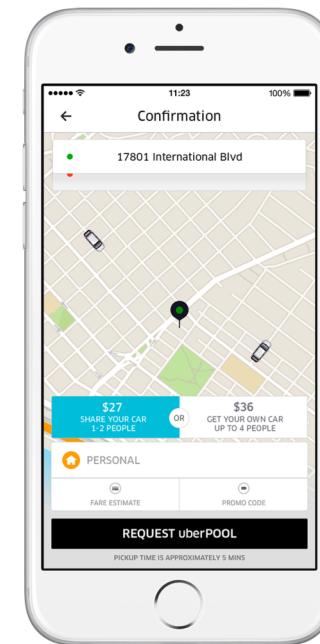
- Search Results:** A search for "design of everyday things" showing 1-16 of over 1,000 results. The top result is "The Design of Everyday Things: Revised and Expanded Edition" by Don Norman.
- Product Details:** A detailed view of "The Design of Everyday Things" showing the cover, price (\$11.99), and a "Look inside" feature.
- Shopping Cart:** A cart showing the book added, with a subtotal of \$11.99 and a note about adding eligible items for free shipping.
- Checkout Process:** A multi-step checkout process including:
 - Secure Payment Info:** A form for Name, Card number, Expiration date, and Security code.
 - Review Your Order:** A summary of the order, including shipping address, billing address, estimated delivery date (Sept. 26, 2011), and shipping options (FREE Standard Shipping or FREE Two-Day Shipping).
 - Order Summary:** A final summary showing the total before tax (\$29.95), estimated tax (\$0.00), and the final order total (\$29.95).

We are designing applications that help people achieve fairly complex goals.

Buy a book



Hail a cab to JFK



Can we put it all the information on one big page?

But for complex tasks, there is too much information to fit in one screen.

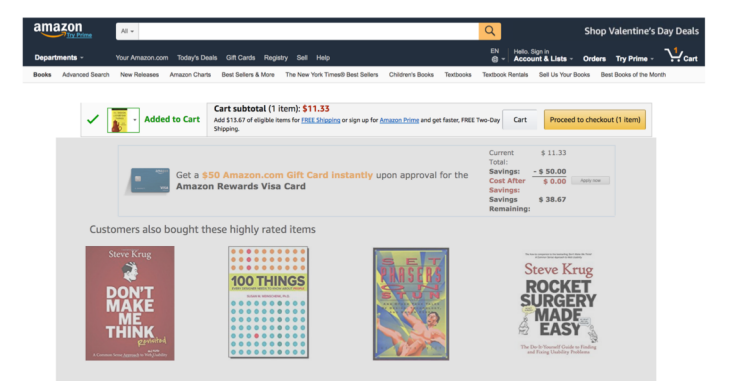
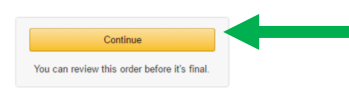
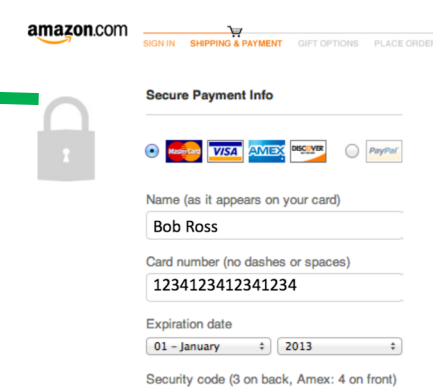
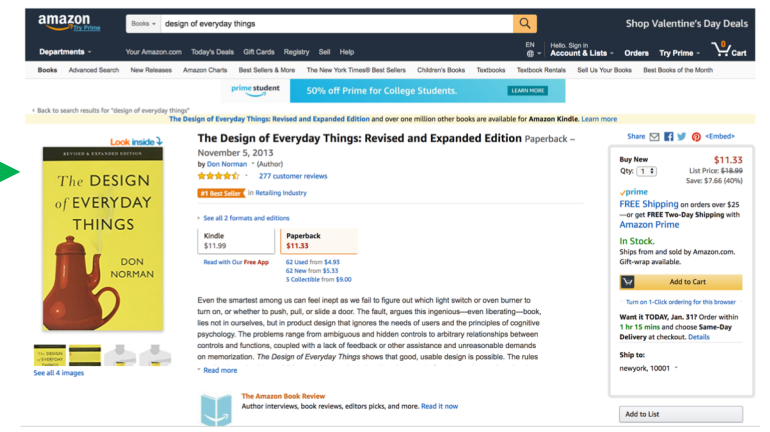
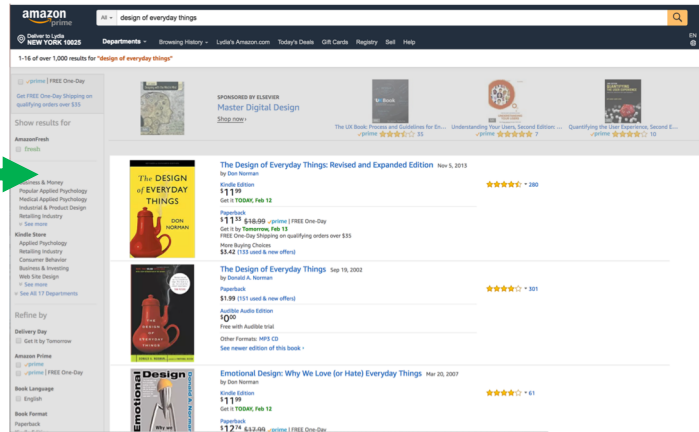
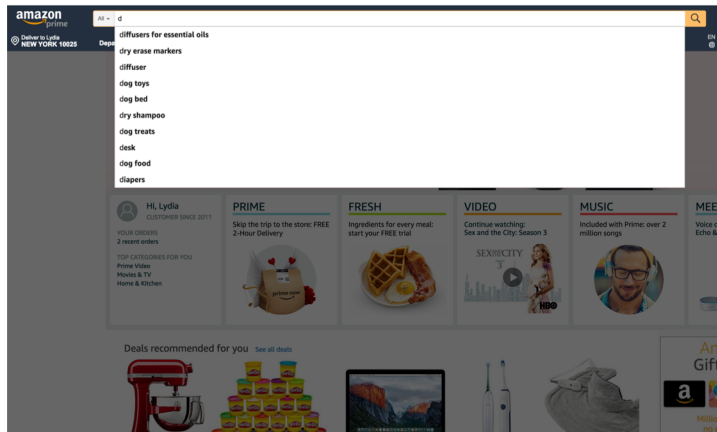
Buying a book on Amazon:

- Search for the book
- Select the edition
- See the reviews
- Look at the index
- How many pages does it have?
- Put it in your cart
- Shop around for other things
- Select a payment method

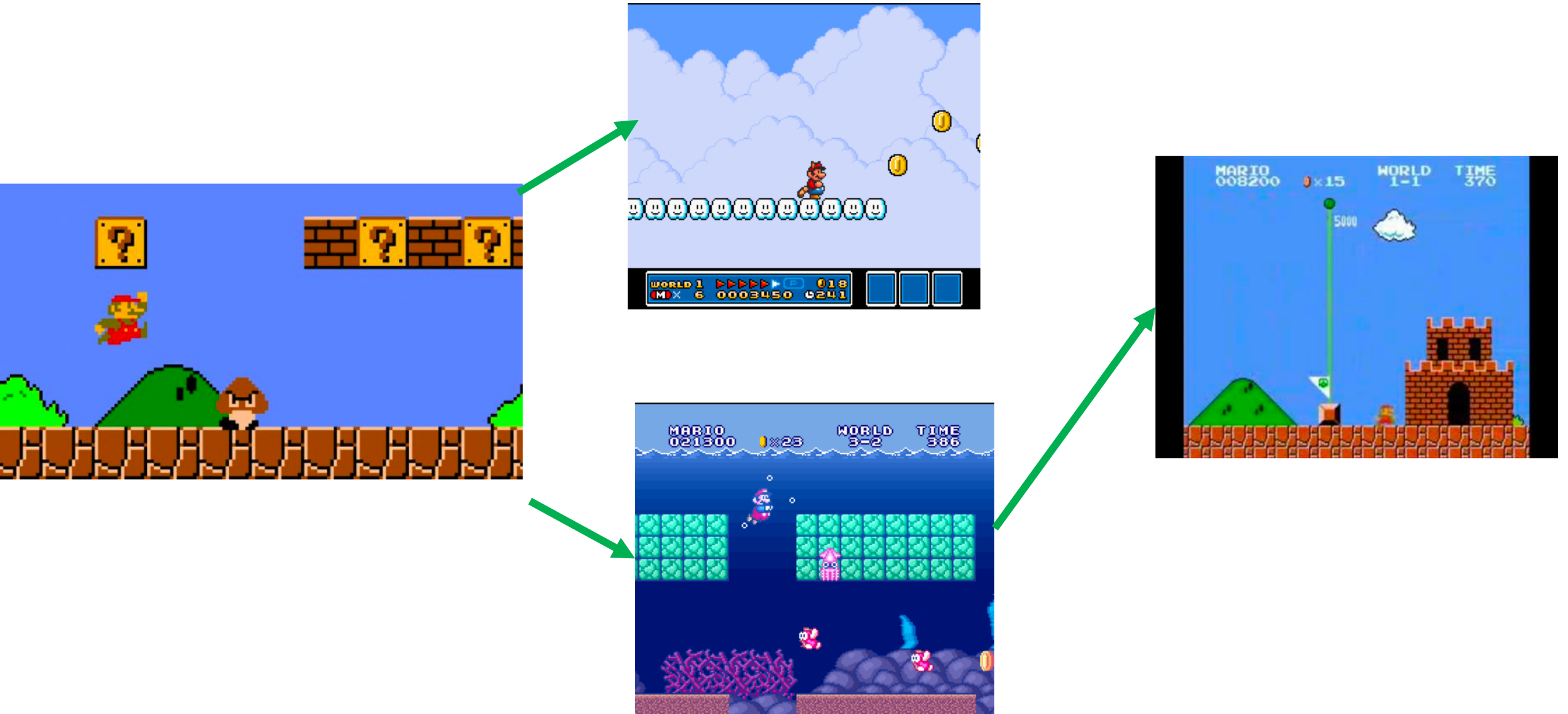
How should we break it up?

- Enter payment method information
- Enter shipping information
- Go back and put something else in the cart
- Change to rush delivery
- Remove something from the cart

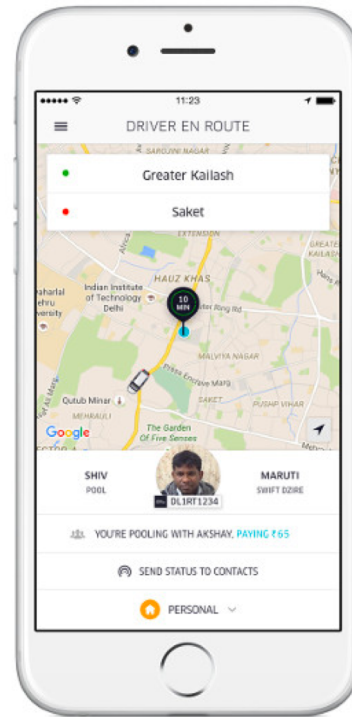
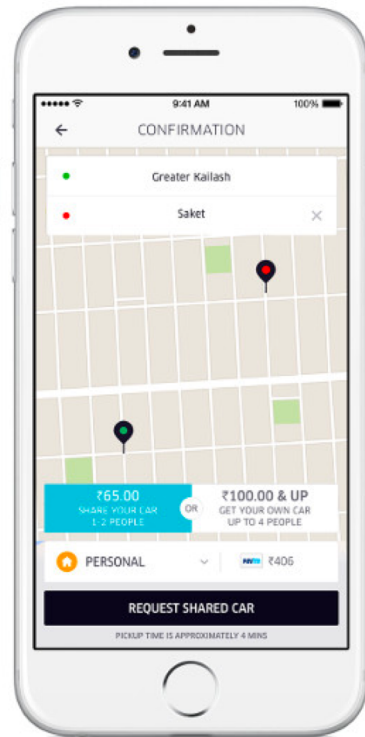
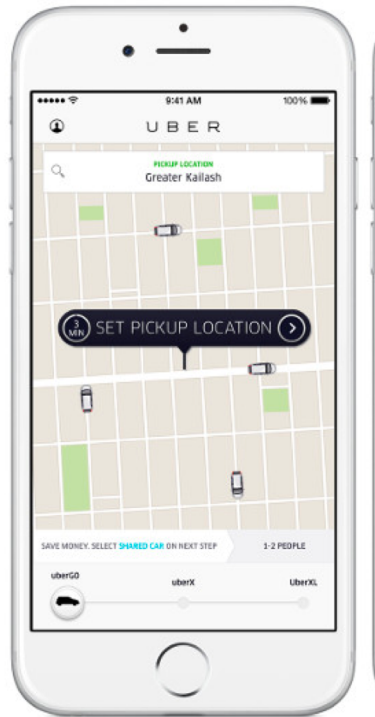
For complex goals, break the task into states, options, and transitions to new states.



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



Workflows break the task into states and transitions to new states.



Examples of

States, Options and Transitions

Goal: Find “The Design of Everyday Things”

What **state** am I in?

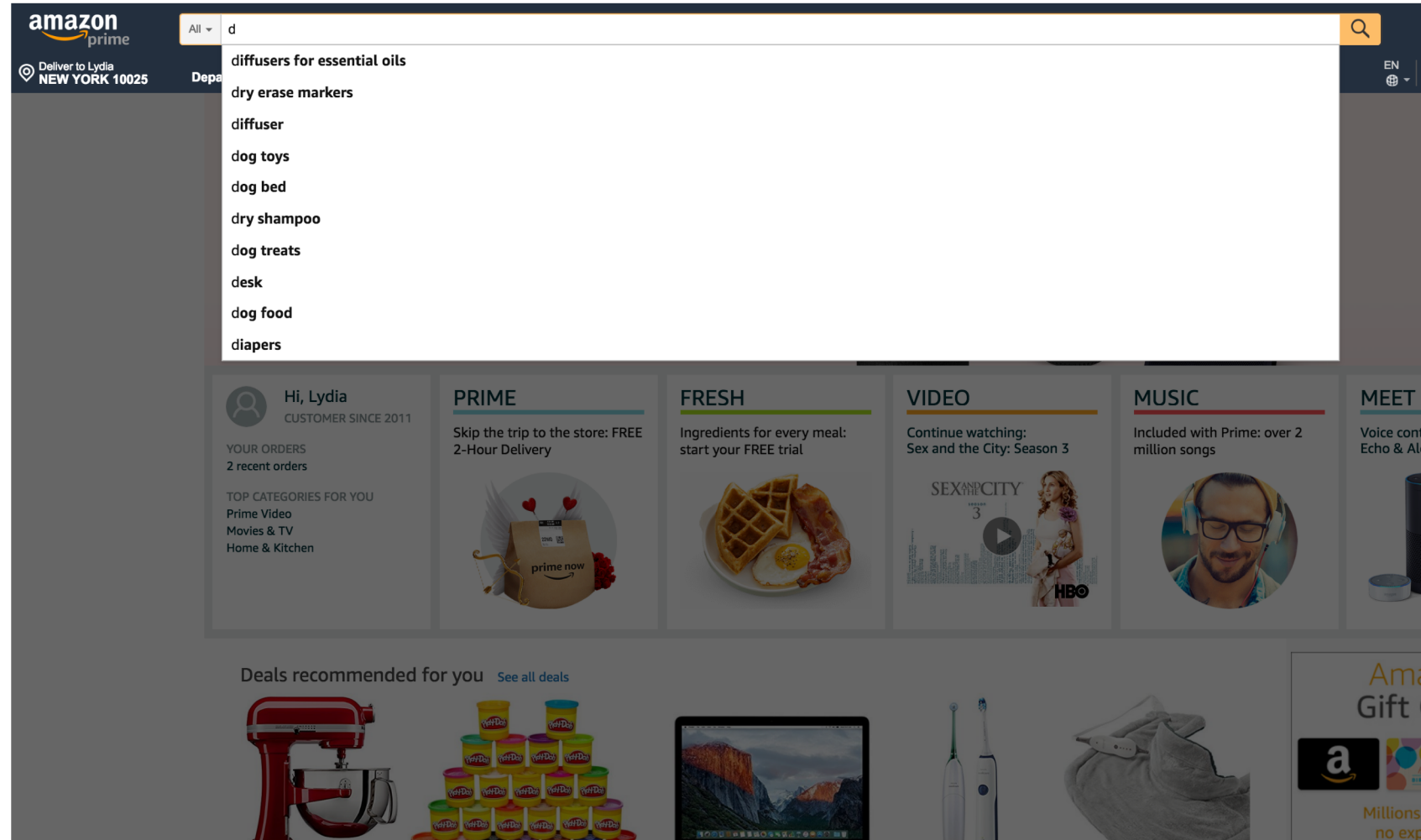
Product Search

What **options** do I have?

All the products

How do I **transition**?

Select an product name



Goal: find “The Design of Everyday Things”

What **state** am I in?

Product search results

What **options** do I have?

All the products –
different editions

How do I **transition**?

Select an product name

The screenshot shows the Amazon website interface. At the top, the search bar contains 'design of everyday things'. Below the search bar, the results are displayed. On the left, there is a sidebar with filters for 'prime', 'AmazonFresh', 'Books', 'Kindle Store', and 'Refine by'. The main content area shows three search results for 'The Design of Everyday Things' by Don Norman. The first result is the 'Revised and Expanded Edition' from Nov 5, 2013, available in Kindle Edition (\$11.99) and Paperback (\$11.33). The second result is the original edition from Sep 19, 2002, available in Paperback (\$1.99) and Audible Audio Edition (\$0.00). The third result is 'Emotional Design: Why We Love (or Hate) Everyday Things' from Mar 20, 2007, available in Kindle Edition (\$11.99) and Paperback (\$12.74). Each result includes a star rating and the number of reviews.

amazon prime
Deliver to Lydia NEW YORK 10025
Departments Browsing History Lydia's Amazon.com Today's Deals Gift Cards Registry Sell Help

1-16 of over 1,000 results for "design of everyday things"

prime | FREE One-Day
Get FREE One-Day Shipping on qualifying orders over \$35

Show results for

AmazonFresh
fresh

Books
Business & Money
Popular Applied Psychology
Medical Applied Psychology
Industrial & Product Design
Retailing Industry
See more

Kindle Store
Applied Psychology
Retailing Industry
Consumer Behavior
Business & Investing
Web Site Design
See more
See All 17 Departments

Refine by

Delivery Day
Get It by Tomorrow

Amazon Prime
prime | FREE One-Day

Book Language
English

Book Format
Paperback

SPONSORED BY ELSEVIER
Master Digital Design
Shop now

The UX Book: Process and Guidelines for En...
prime ★★★★★ 35

Understanding Your Users, Second Edition: ...
prime ★★★★★ 7

Quantifying...

The DESIGN of EVERYDAY THINGS
DON NORMAN

The Design of Everyday Things: Revised and Expanded Edition Nov 5, 2013
by Don Norman
Kindle Edition
\$11.99
Get it TODAY, Feb 12

Paperback
\$11.33 \$18.99 prime | FREE One-Day
Get it by Tomorrow, Feb 13
FREE One-Day Shipping on qualifying orders over \$35
More Buying Choices
\$3.42 (133 used & new offers)

★★★★★ 280

THE DESIGN OF EVERYDAY THINGS
DONALD A. NORMAN

The Design of Everyday Things Sep 19, 2002
by Donald A. Norman
Paperback
\$1.99 (151 used & new offers)

Audible Audio Edition
\$0.00
Free with Audible trial

Other Formats: MP3 CD
See newer edition of this book

★★★★★ 301

Emotional Design: Why We Love (or Hate) Everyday Things Mar 20, 2007
by Don Norman
Kindle Edition
\$11.99
Get it TODAY, Feb 12

Paperback
\$12.74 \$17.99 prime | FREE One-Day

★★★★★ 61

Goal: Decide if I'll buy "The Design of Everyday Things"

What **state** am I in?

Product info page

What **options** do I have?

Kindle/paper back,
Look in book, reviews
Add to cart

How do I **transition**?

Add to cart OR
Go back

The screenshot shows the Amazon product page for the book "The Design of Everyday Things: Revised and Expanded Edition" by Don Norman. The page layout includes a top navigation bar with the Amazon logo, search bar, and links to various departments. Below the navigation bar, there's a promotional banner for Prime Student. The main content area features the book's cover, which is yellow with a red teapot illustration. To the right of the cover, the book's title, author, and publication date are listed. Below this, there's a section for customer reviews and a "Look inside" link. The bottom section of the page displays the book's price in different formats (Kindle, Paperback) and a "Read more" link. On the right side, there's a sidebar with a "Buy New" section showing the price (\$11.33) and a "FREE Shipping" offer. At the bottom right, there's an "Add to Cart" button and a link to "Add to List".

amazon
Books design of everyday things

Departments Your Amazon.com Today's Deals Gift Cards Registry Sell Help

prime student 50% off Prime for College Students. LEARN MORE

Back to search results for "design of everyday things"

The Design of Everyday Things: Revised and Expanded Edition and over one million other books are available for Amazon Kindle. Learn more

Look inside

REVISED & EXPANDED EDITION

The DESIGN of EVERYDAY THINGS

DON NORMAN

The Design of Everyday Things: Revised and Expanded Edition Paperback – November 5, 2013
by Don Norman (Author)
★★★★☆ 277 customer reviews
#1 Best Seller in Retailing Industry

See all 2 formats and editions

Kindle	Paperback
\$11.99	\$11.33
Read with Our Free App	62 Used from \$4.93 62 New from \$5.33 5 Collectible from \$9.00

Even the smartest among us can feel inept as we fail to figure out which light switch or oven burner to turn on, or whether to push, pull, or slide a door. The fault, argues this ingenious—even liberating—book, lies not in ourselves, but in product design that ignores the needs of users and the principles of cognitive psychology. The problems range from ambiguous and hidden controls to arbitrary relationships between controls and functions, coupled with a lack of feedback or other assistance and unreasonable demands on memorization. *The Design of Everyday Things* shows that good, usable design is possible. The rules

Read more

The Amazon Book Review
Author interviews, book reviews, editors picks, and more. Read it now

Buy New \$11.33
Qty: 1 List Price: \$18.99
Save: \$7.66 (40%)

prime
FREE Shipping on orders over \$25
—or get FREE Two-Day Shipping with Amazon Prime

In Stock.
Ships from and sold by Amazon.com.
Gift-wrap available.

Add to Cart

Turn on 1-Click ordering for this browser

Want it TODAY, Jan. 31? Order within 1 hr 15 mins and choose Same-Day Delivery at checkout. Details

Ship to:
newyork, 10001

Add to List

Goal: Decide if I'm done.

What **state** am I in?

“Add to cart” feedback

What **options** do I have?

Check out

See cart

Keep shopping

How do I **transition**?

Click one of the options.

The screenshot shows the Amazon.com checkout page. At the top, the Amazon logo and navigation links are visible. The main content area displays a confirmation message: "Added to Cart" with a green checkmark and a small image of the book "Don't Make Me Think". Below this, the cart subtotal is shown as \$11.33. A promotional banner for the Amazon Rewards Visa Card offers a \$50 instant gift card upon approval. To the right, a summary of the current total (\$11.33) and savings (\$50.00) is shown, resulting in a cost after savings of \$0.00. Below the banner, a section titled "Customers also bought these highly rated items" displays four book covers: "Don't Make Me Think" by Steve Krug, "100 Things" by Susan M. Weinschenk, "Set Phasers to Work" by David Hux, and "Rocket Surgery Made Easy" by Steve Krug.

amazon Try Prime

All

Departments Your Amazon.com Today's Deals Gift Cards Registry Sell Help

Books Advanced Search New Releases Amazon Charts Best Sellers & More The New York Times® Best Sellers Children's Books Textbooks Textbook Rentals Sell Us Your Books Best Books

EN Hello. Sign in **Account & Lists** **Orders** **Try**

Shop Vale

✓ **Added to Cart**

Cart subtotal (1 item): \$11.33
Add \$13.67 of eligible items for [FREE Shipping](#) or sign up for [Amazon Prime](#) and get faster, FREE Two-Day Shipping.

Cart **Proceed to checkout (1 item)**

Get a **\$50 Amazon.com Gift Card instantly** upon approval for the **Amazon Rewards Visa Card**

Current Total: \$ 11.33
Savings: - \$ 50.00
Cost After Savings: \$ 0.00 [Apply now](#)
Savings Remaining: \$ 38.67

Customers also bought these highly rated items

Goal: Pay for it.

What **state** am I in?

Enter payment

What **options** do I have?

Which payment methods

How do I **transition**?

Press Continue

amazon.com

SIGN IN  SHIPPING & PAYMENT GIFT OPTIONS PLACE ORDER



Secure Payment Info



Name (as it appears on your card)

Bob Ross

Card number (no dashes or spaces)

1234123412341234

Expiration date

01 - January

2013

Security code (3 on back, Amex: 4 on front)

1234

123

1234

Continue

You can review this order before it's final.

Goal: Buy it.

What **state** am I in?

Review and place order

What **options** do I have?

Shipping options,
Change payment options

How do I **transition**?

Press “Place your order”

The screenshot shows the Amazon.com 'Review Your Order' page. At the top, the Amazon logo is followed by navigation links: SIGN IN, SHIPPING & PAYMENT, GIFT-WRAP, and PLACE ORDER. Below the logo, the heading 'Review Your Order' is displayed, followed by a disclaimer: 'By placing your order, you agree to Amazon.com's [privacy notice](#) and [conditions of use](#)'.

The page is divided into several sections:

- Shipping Address:** Chris Customer, 742 EVERGREEN TERRACE, SPRINGFIELD, WV 20025, United States, Phone: 1234567890. A 'Change' link is provided.
- Billing Information:** Rewards Points, ending in 1234. A 'Change' link is provided.
- Billing Address:** Same as shipping address. A 'Change' link is provided.
- Gift Cards & Promotional Codes:** A text input field and an 'Apply' button.
- Estimated delivery:** Sept. 26, 2011.
- Product:** Apple iPad Camera Connection Kit (MC531ZM/A), \$29.95. It is marked as a Prime item. Quantity: 1. A 'Change' link is provided. Sold by: -Media-Mart. A 'Add gift options' link is provided.
- Choose your Prime shipping speed:** Three options are listed:
 - ☐ FREE Standard Shipping (3-5 business days)
 - ☒ FREE Two-Day Shipping —get it Monday, September 26
 - ☐ \$3.99/item One-Day Shipping —get it Saturday, September 24
- Order Summary:** A table showing the breakdown of the order:

Order Summary	
Items:	\$29.95
Shipping & Handling:	\$0.00
<hr/>	
Total Before Tax:	\$29.95
Estimated Tax To Be Collected:	\$0.00
Rewards Points	-\$4.58
<hr/>	
Order Total:	\$25.37
- How are shipping costs calculated?** A note stating: 'Amazon Prime Shipping has been applied to the eligible items in your order.'

A large yellow 'Place your order' button is located at the top right of the order summary section.

After I buy, what state do I transition to?

amazon prime

Deliver to Lydia
NEW YORK 10025

All ▾

Departments ▾ Browsing History ▾ Lydia's Amazon.com Today's Deals Gift Cards Registry Sell Help

EN

Deals recommended for you [See all deals](#)



\$229.99
Ends in 13:41:22



\$6.14 - \$49.69
Ends in 13:41:22



\$999.99
Ends in 13:36:23



\$47.99
\$79.99
Ends in 13:41:22



\$32.00
\$49.99
Ends in 13:41:22

Amazon
Gift Cards

Millions of items,
no expiration.

> Shop now

[Ad feedback](#)

Your Dash Buttons

[Manage buttons](#)

[Learn more](#)

TAP HERE for info

TAP HERE to buy



New for you [See more](#)



Budget
women's
apparel

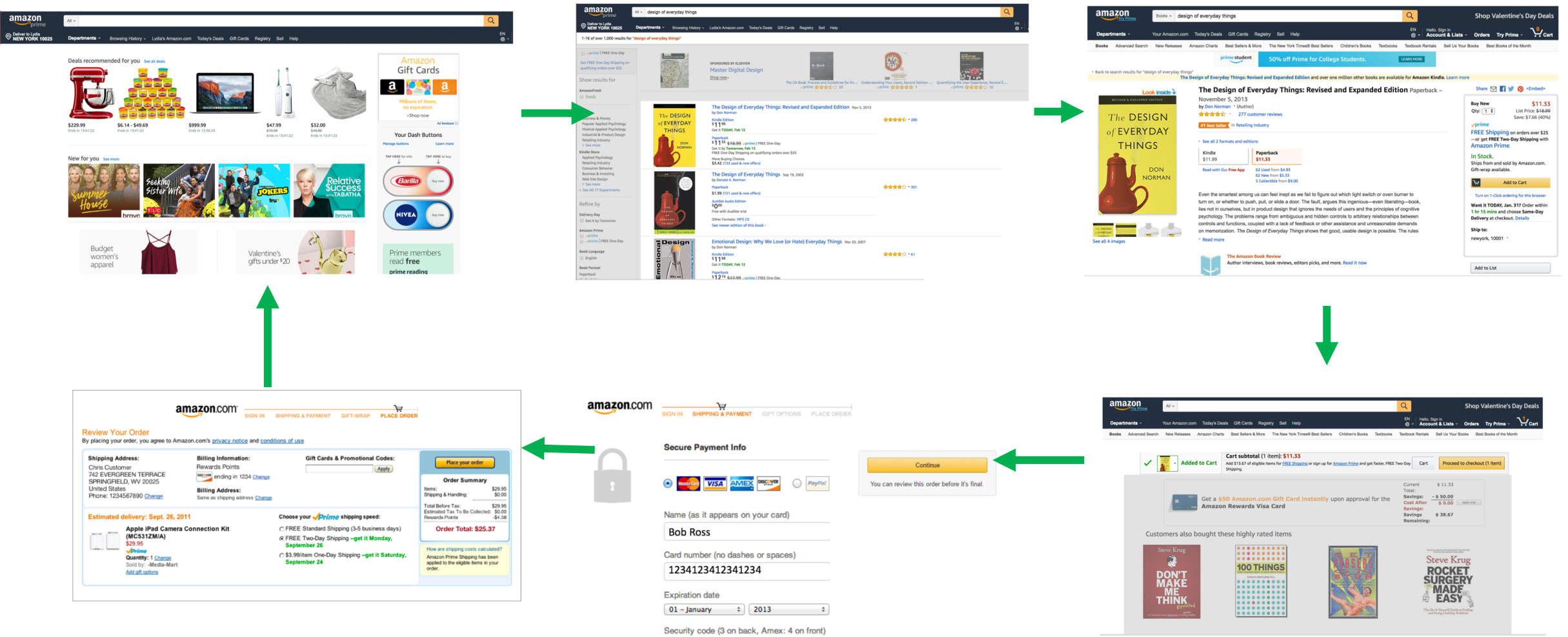


Valentine's
gifts under \$20



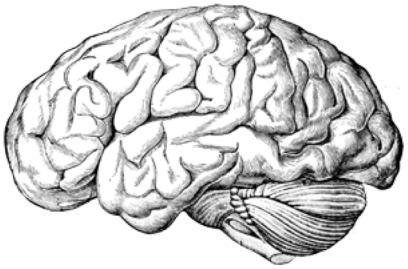
Prime members
read **free**
prime reading

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



Iterative Design Process

How do get from idea to product?



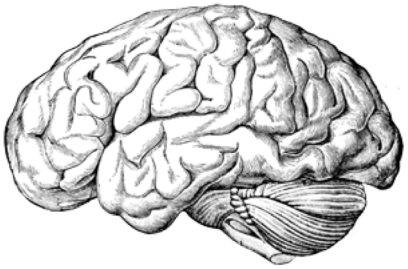
Idea



Product

How do get from idea to product?

What I **expect**:

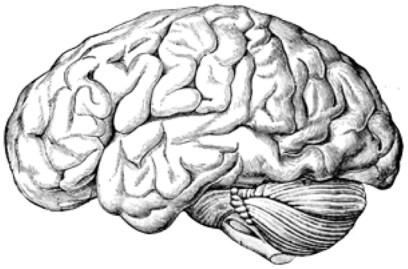


Idea



Product

How do get from idea to product?
What it's like:



Idea

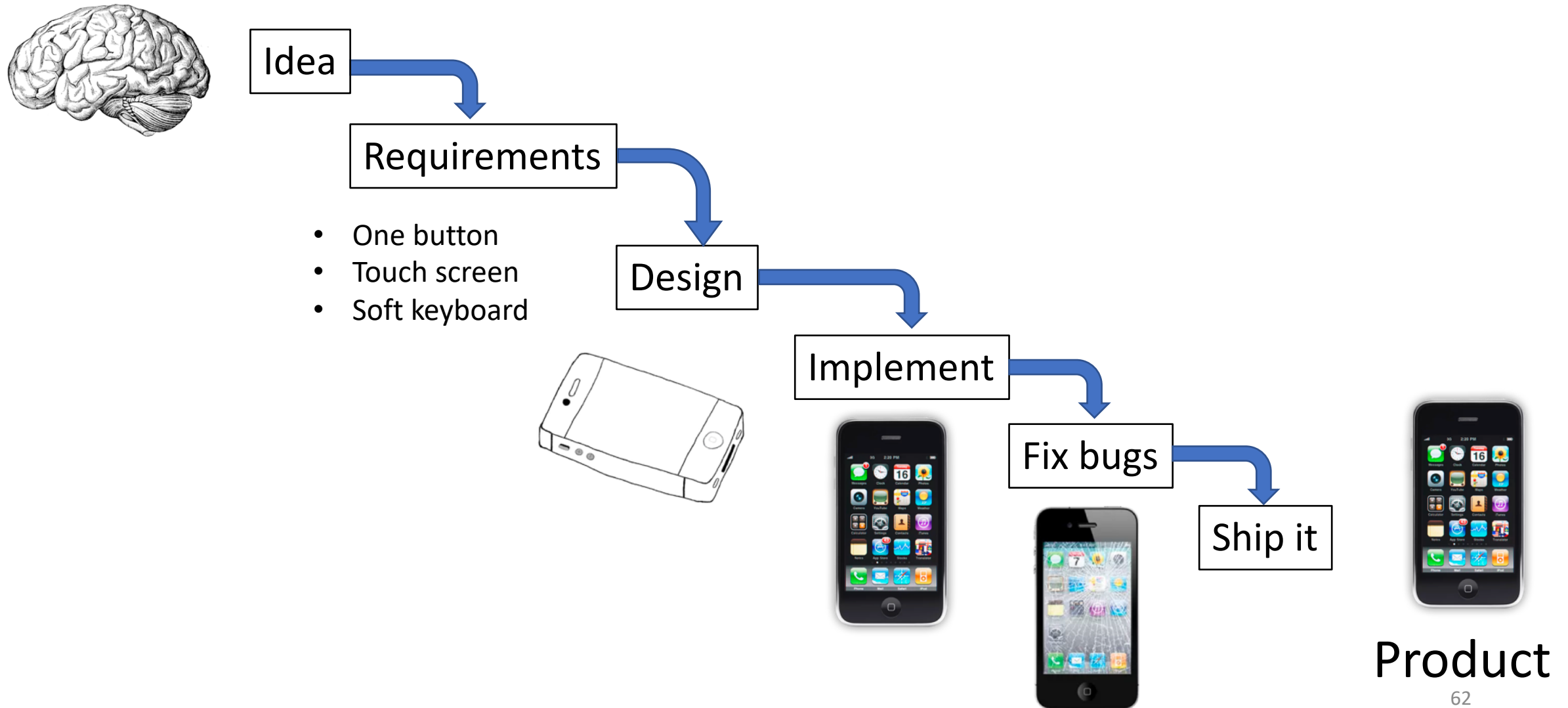


Product

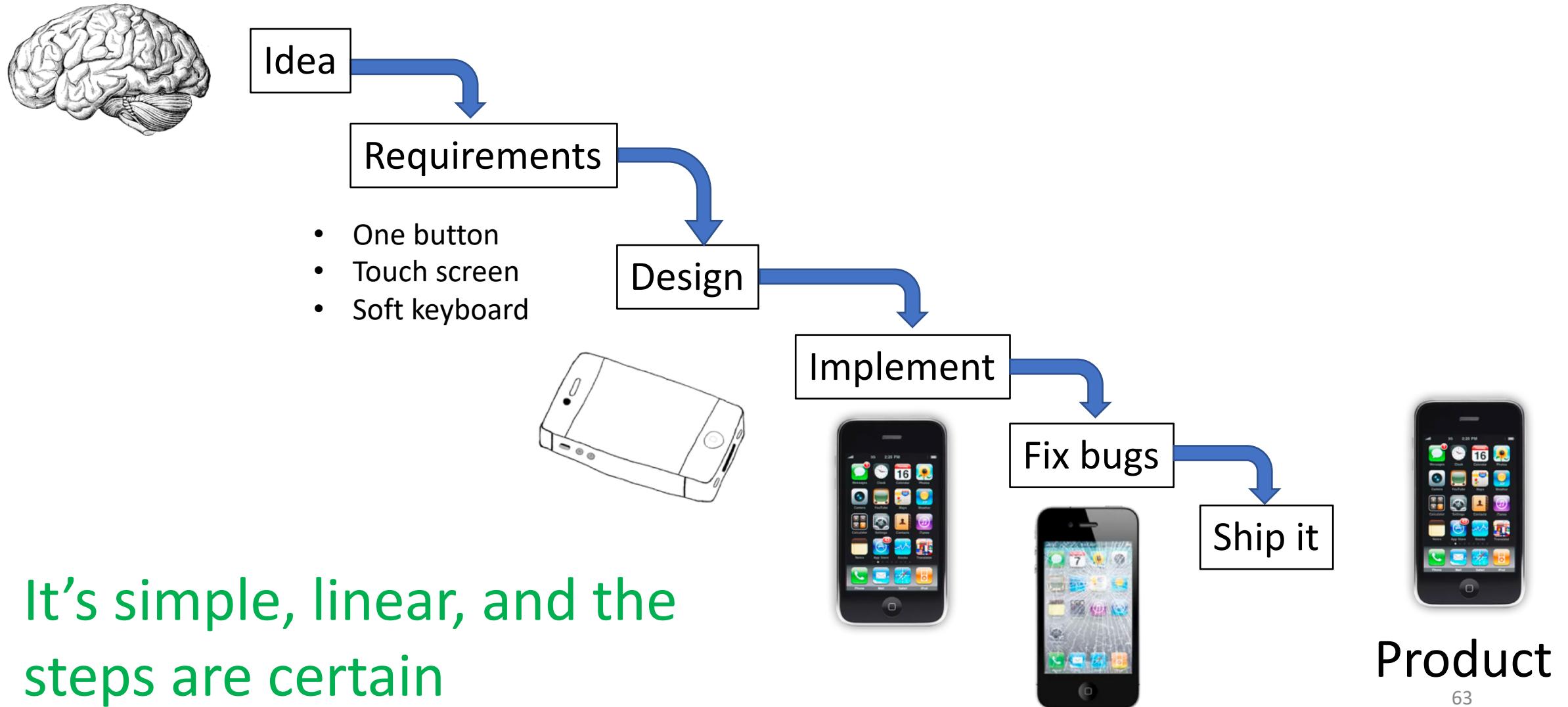
Two Design Processes

The waterfall model, and iterative design

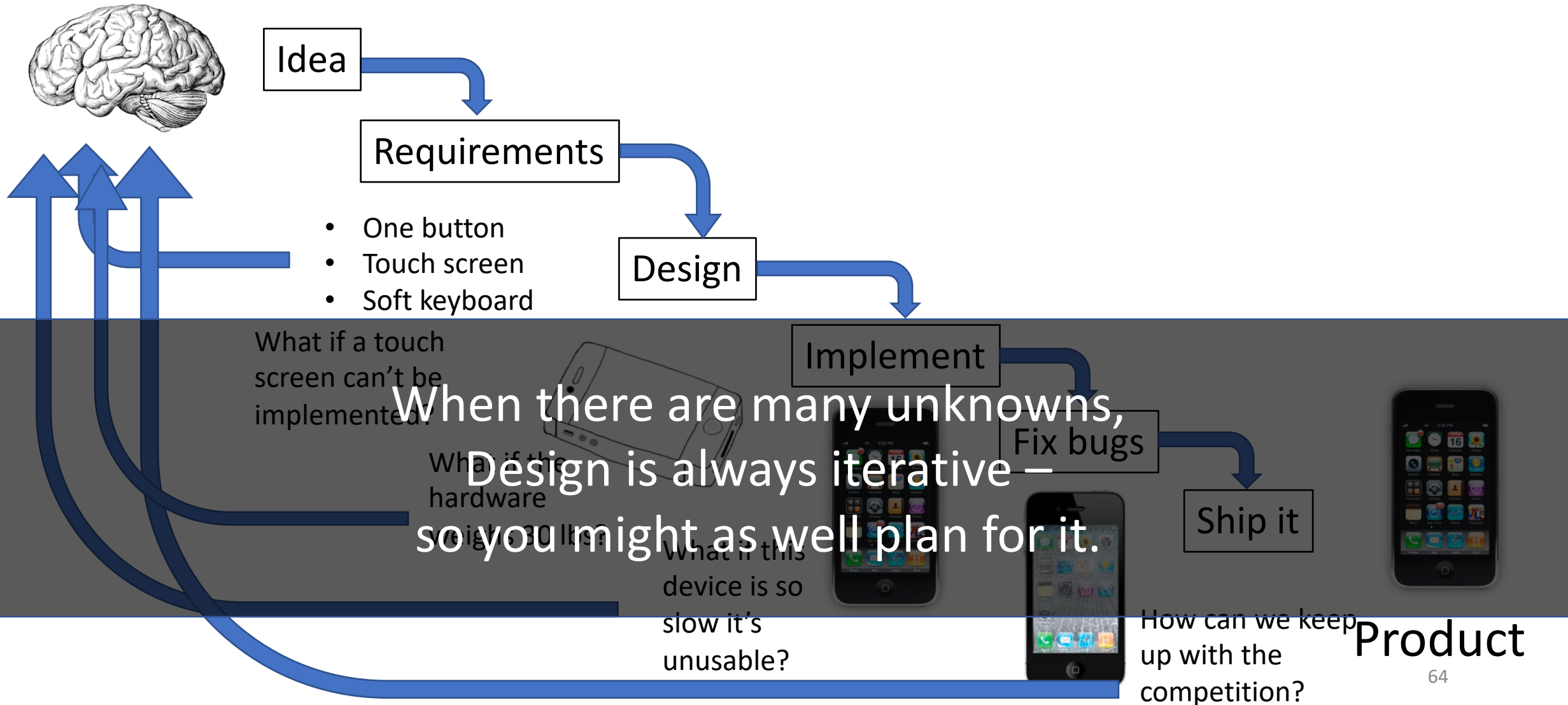
The Waterfall Model



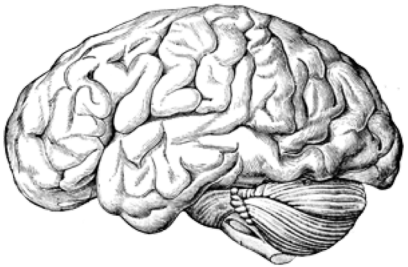
The Waterfall Model: What's good about it?



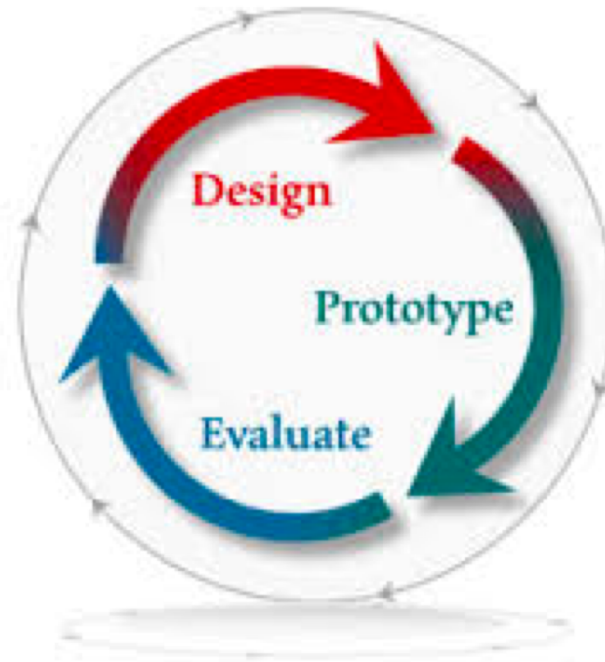
The Waterfall Model: What could go wrong?



Iterative Design

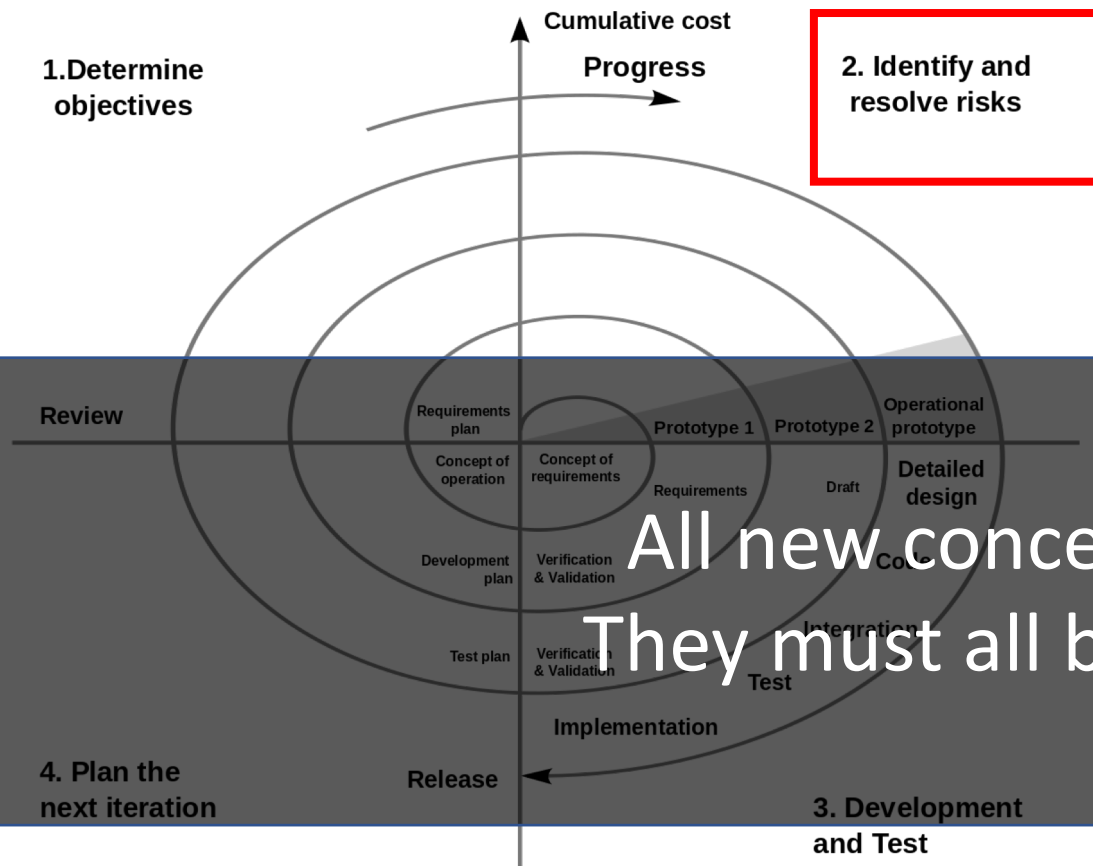


Idea



Product

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



Every iteration should experiment with the next biggest risk.

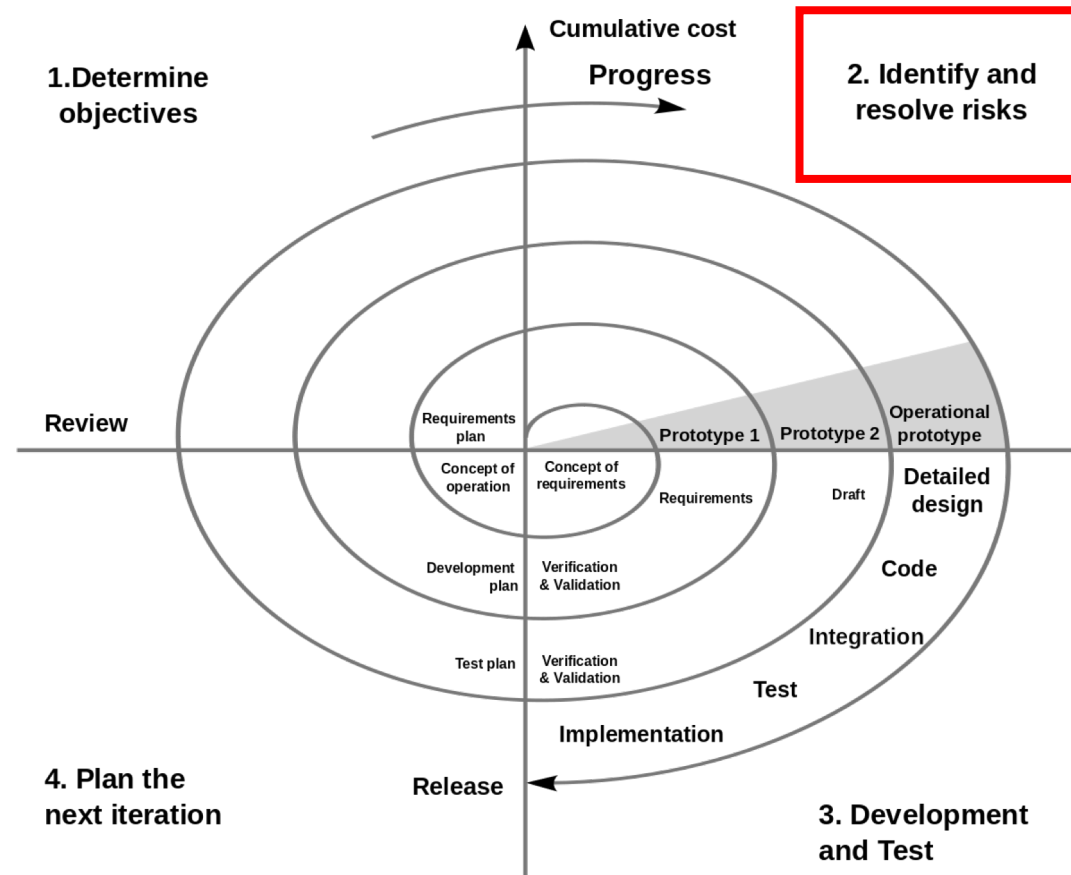
How to achieve the perfect gradient on app icons?

Does touch work?

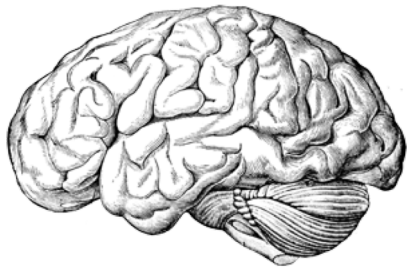
**All new concepts are risks.
They must all be prototyped.**



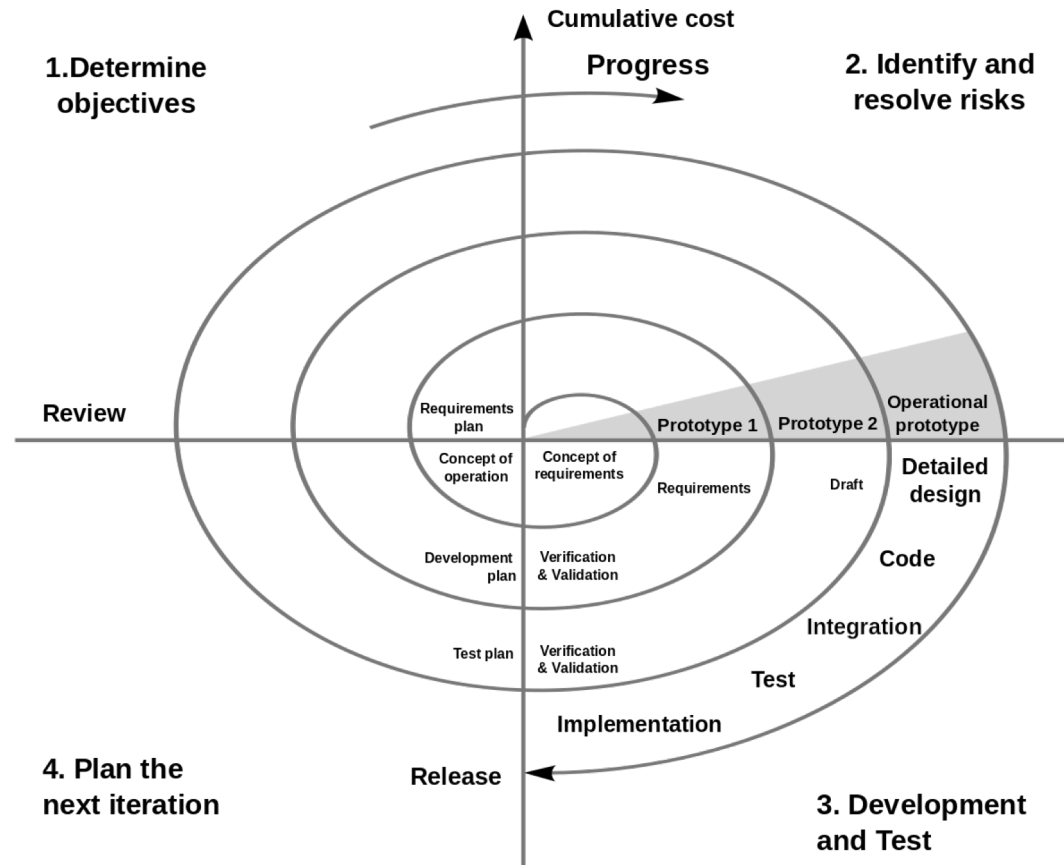
Iterative Design is good because it minimizes risk



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



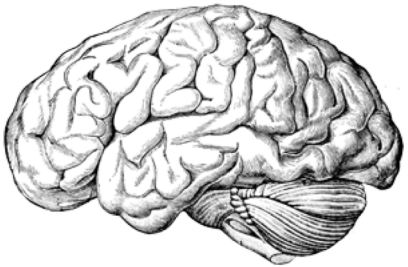
Idea



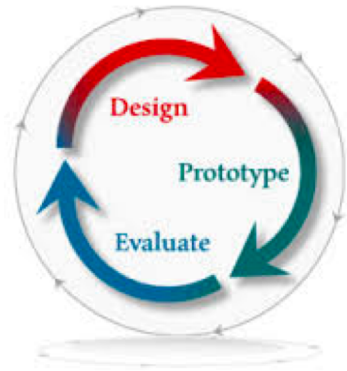
Product

The steps aren't certain from the start.

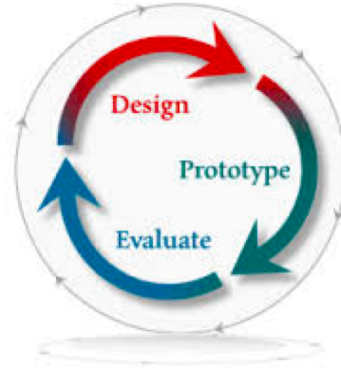
To minimize risk on novel designs, Use iteration on each risky aspect of the design



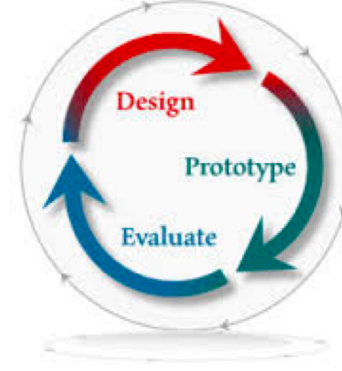
Idea



Touch screen



Soft keyboard

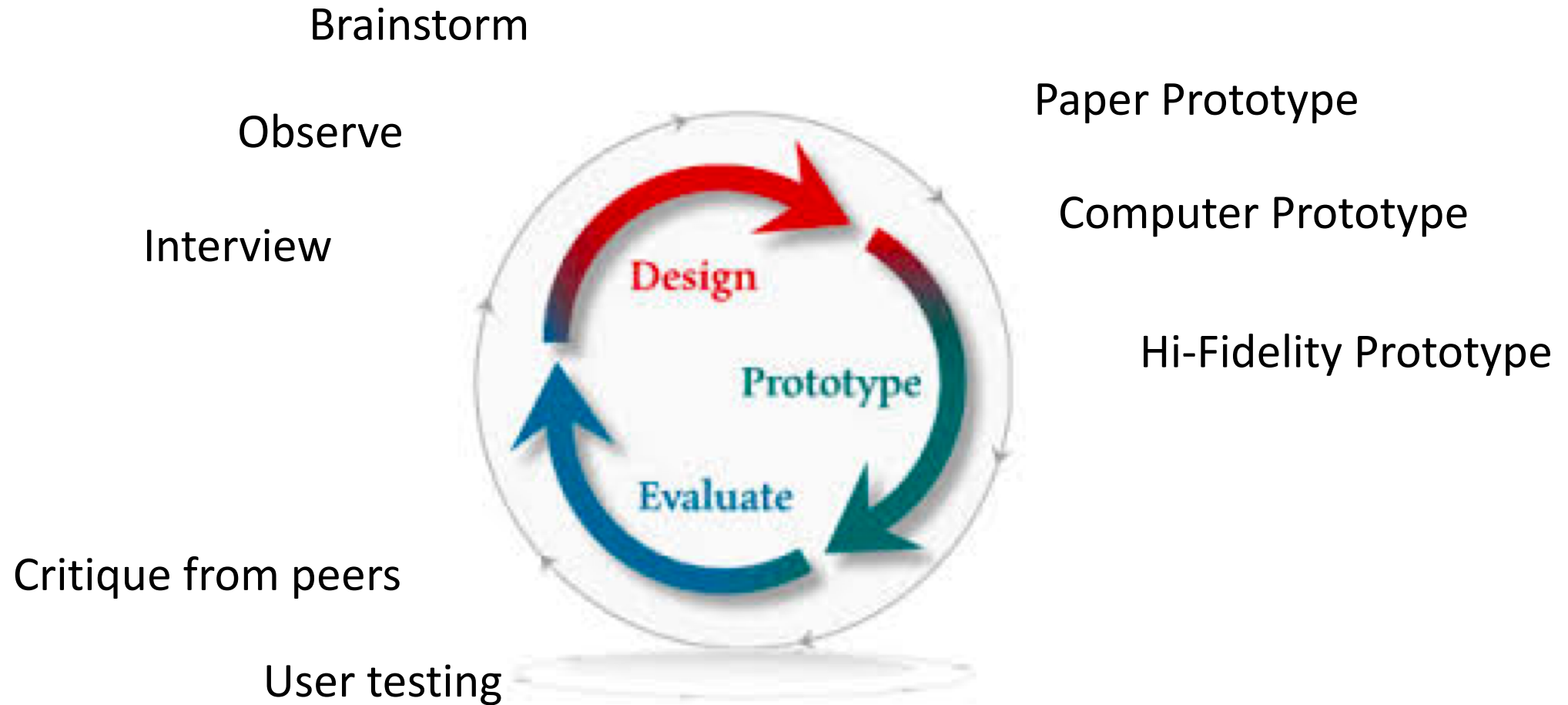


One button



Product

The “tools” of iterative design

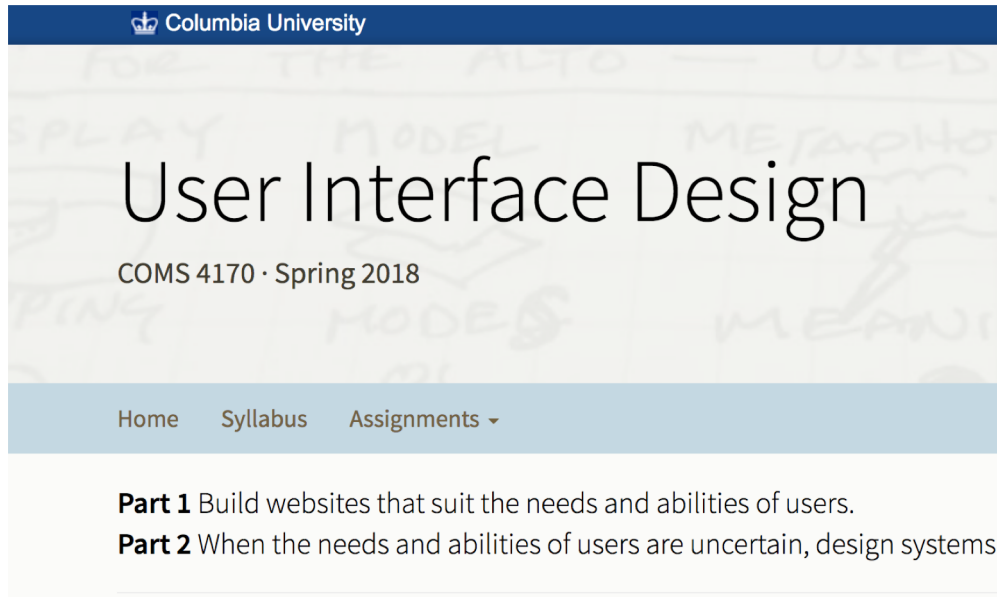


Who would like to start a
company in the next 5 years?

What's stopping you?

From Idea to Impact:
The conversations that started Stena

Summary

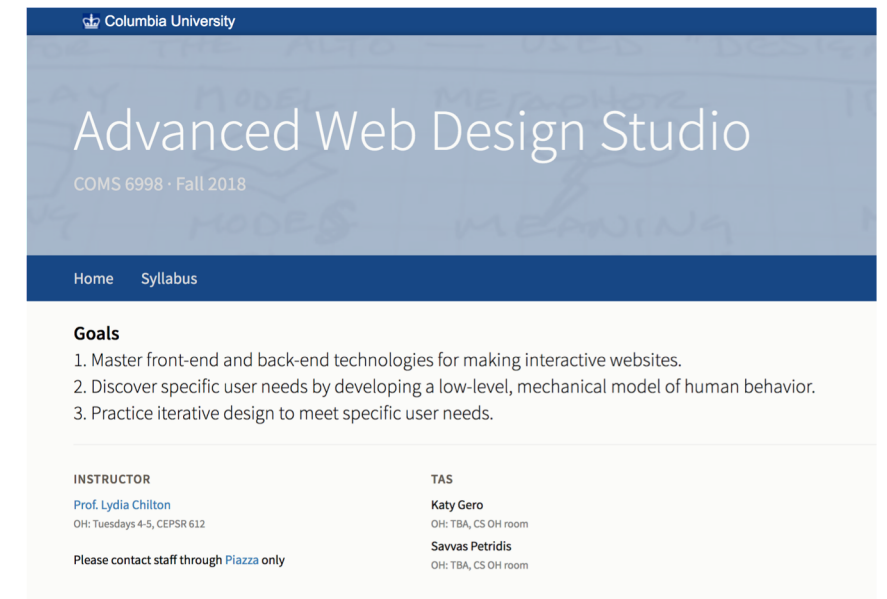


You already know the technology:
HTML, JavaScript, Bootstrap, jQuery
Server-side programming (Flask)

The Iterative Design process
Principles of Usable Design

Build an application that helps peoples reach their goals.

- Practice iterative design
- Getting feedback
- Learn how to identify needs



This is a studio class.
We practice web dev and learn from experience.

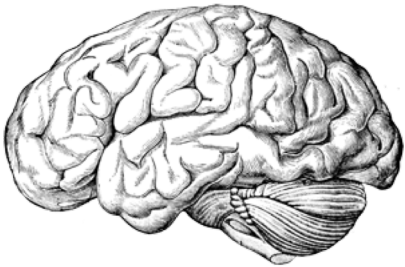
Like this:



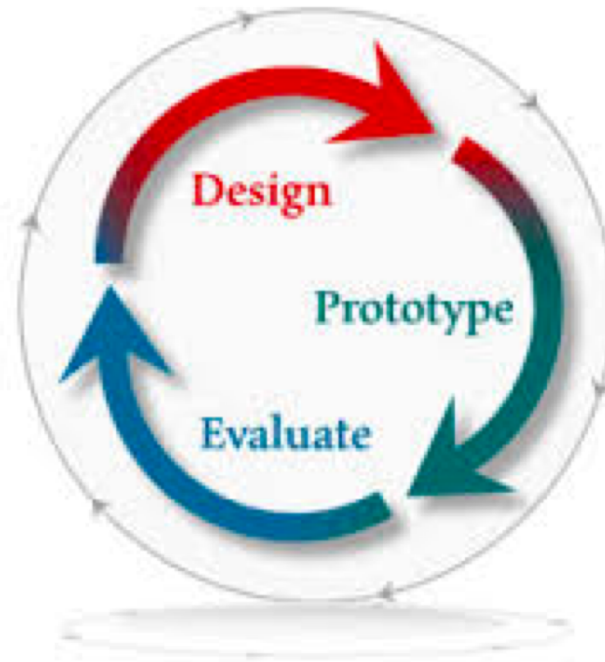
Not this:



Iterative Design: From idea to impact.



Idea



Product

Assignment 1: Due Friday at 1pm

Think of a group of people who need a market to change goods or services.

Implement a Computer Prototype of a Marketplace app.

- Submit a short write up of what your market you choose, and what needs it would help providers and consumers achieve.
- Provide a narrated video of of both user using you app in a realistic way.
- For now, the need doesn't have to be grounded in concrete evidence, but it does need to at least sound plausible.
- The goal is to practice the design principles of defining personas, meeting needs, but it does not need to have actual impact. (We'll build up to that!)

A brainstorm of 10 groups on campus (or in the local environment) that we could start exploring the needs of

And bring your code running on a computer to class, to get in-person feedback.

To get your participation points today!

Reply on Piazza to the post: “Participation Sept 6.”

With the name of at least one group
you know on campus.