

Please fill in the rows. Sit in the middle.



Make a friend - one on each side of you 😊

User Interaction Models

Prof. Lydia Chilton
COMS 4170
31 January 2022



TA sections are **all** assigned on Slack

- Make your TA is your first point of contact.
 - Homework question? Post on slack or **Ask your TA.**
 - Participation question? **Ask your TA.**
 - Can I go over my homework? **Ask your TA.**
 - I messed up X on my homework. Can I turn it in again? **Task your TA.**
-
- If you aren't assigned to a TA section, email me.
 - Sorry, you cannot switch TA sections.

Participation Accounting – for everybody

- Add to the top of your HW2 Main (Due Tuesday@11:59pm)
- *“1/31 Participation: I said old information designs were more symmetrical than new designs”*
- Or
- *“1/31 – no participation”* (or just omit entirely)

Margaret Liu



- MSCS student
- Took Professor Smith's UI design class last fall
- Studied Computer Science and Studio Art at Vassar College
- Interested in human computer interaction, designing user interfaces
- Love traveling, playing golf, designing, and watching TV...
- I'm very excited to meet everyone!

Megha



- MSCS student
- Took UI Design with Prof. Smith and Advanced Web Design with Prof. Lydia last semester, loved both courses!
- Anime fan and currently waiting for the next episode of Demon Slayer
- Super excited to meet you all during lectures & OH

Sandy



- MSCS Student
- Took UI Design with Prof Smith and Adv Web Design Studio with Lydia- Loved both classes and developed cool products with William(also a TA)!
- Barnard '21, majored in CS and Psych
- Currently working with Prof. Feiner on a climate change inspired AR project
- Favorite design podcasts: UI Breakfast, New Layer
- Art enthusiast: favorite artists are Frida Kahlo and Berthe Morisot(coming from an almost art history minor:))
- Favorite sports: Soccer and F1
- Can't wait to meet and support you all!

Lord



- Senior in SEAS majoring in CS
- Previously TA'd for Brian Smith's UI Design :) and took UI Design & Advanced Web Design Studio with Lydia (...amazing)
- Software Engineering & Product Management experience
- Recent Binges: Emily in Paris, Cowboy Bebop, Attack on Titan, Power (all really good)
- Really into streetwear, hip hop, anime, museums
- From Washington Heights, New York
- Super excited for this semester!

Esme



- Junior majoring in CS and Econ-Stats at Barnard
- From Beijing, China
- Product Management and Entrepreneurship experience; econometrics research
- Took UIDesign in Fall 2020 and became very interested in UIUX and HCI
- Things I do in my free time: skiing and cooking
- Very excited to work with everyone :)

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Interfaces display information in a way that helps users accomplish a goal.

```
i:Exit --PrevPg <Space>NextPg v-View Attachm. d-Del r-Reply j-Next ?-Help
624 Aug 03 T Martinez ( 37) Loans with tiny points are here now
625 0 Jul 01 R. Jackson ( 123) Loans with tiny rates are here now
626 Aug 05 Benjamin E. Mag ( 50) Long time no hear
627 May 17 Krista Aaron ( 44) long time no see....
628 0 Jun 03 Josiah House ( 35) Looking for a hot date tonight, tomorrow, or next week?
629 Jul 03 Brigitte I. Hay ( 63) Looking for a N.ew H.ome?
630 May 17 Joe Burns ( 58) Looking for you
631 Jun 01 Save in a poor ( 145) Low Rate Consolidation Mortgage Loan
632 + Jul 02 Igiel@virtualig ( 2) LowCost SoftWare OnCD
-- Mutt: Mail/junk/spam [Msgs:950 Old:142 Old] -- (subject/date) (6%)
Date: Mon, 17 May 2004 03:40:09 +0100
From: Krista Aaron <Christinefeminine@highstream.com>
Subject: long time no see....

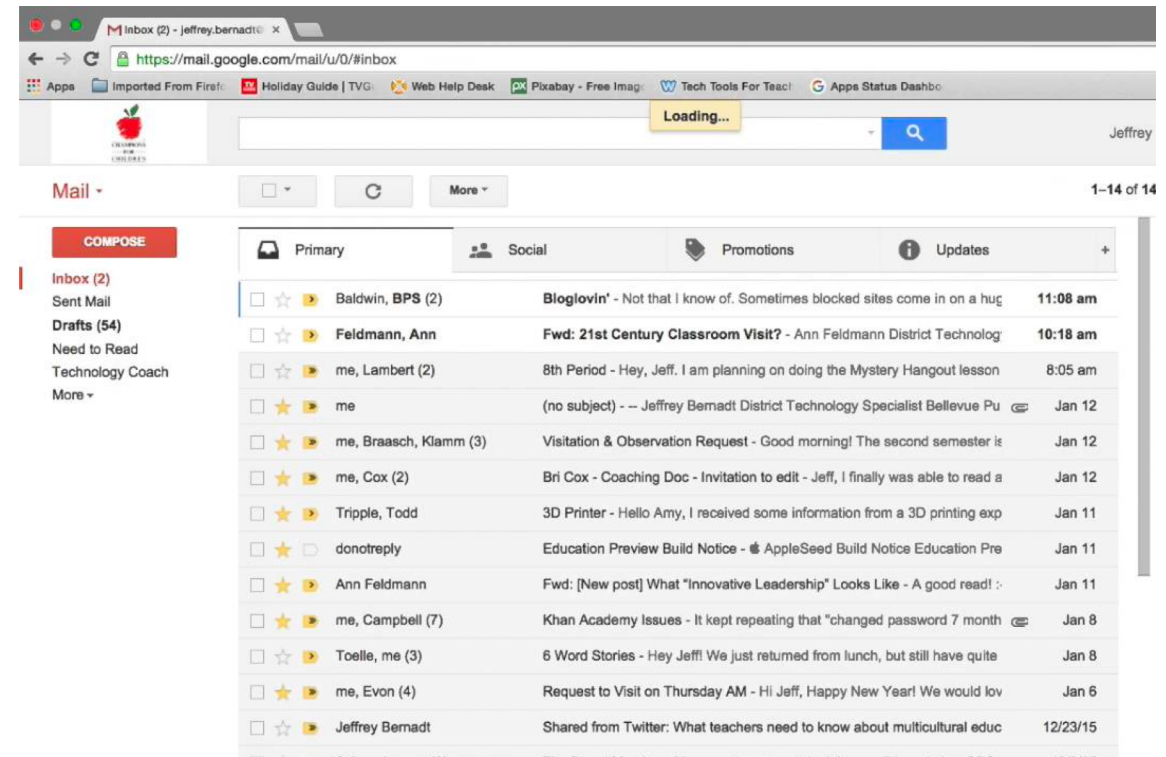
[-- Autoview using /usr/bin/elinks -force-html -dump '/tmp/mutt.html' --]
My name is Jen and I'm new to this dating thing. I've checked out your profile
you put up and it's interesting. => I just want to get to know you a little
better if you don't mind, come check my profile out at:

www.livejen.com/chat.html

I also got a webcam so we can make it interesting, anyways hope you get back to
me.
bye :)

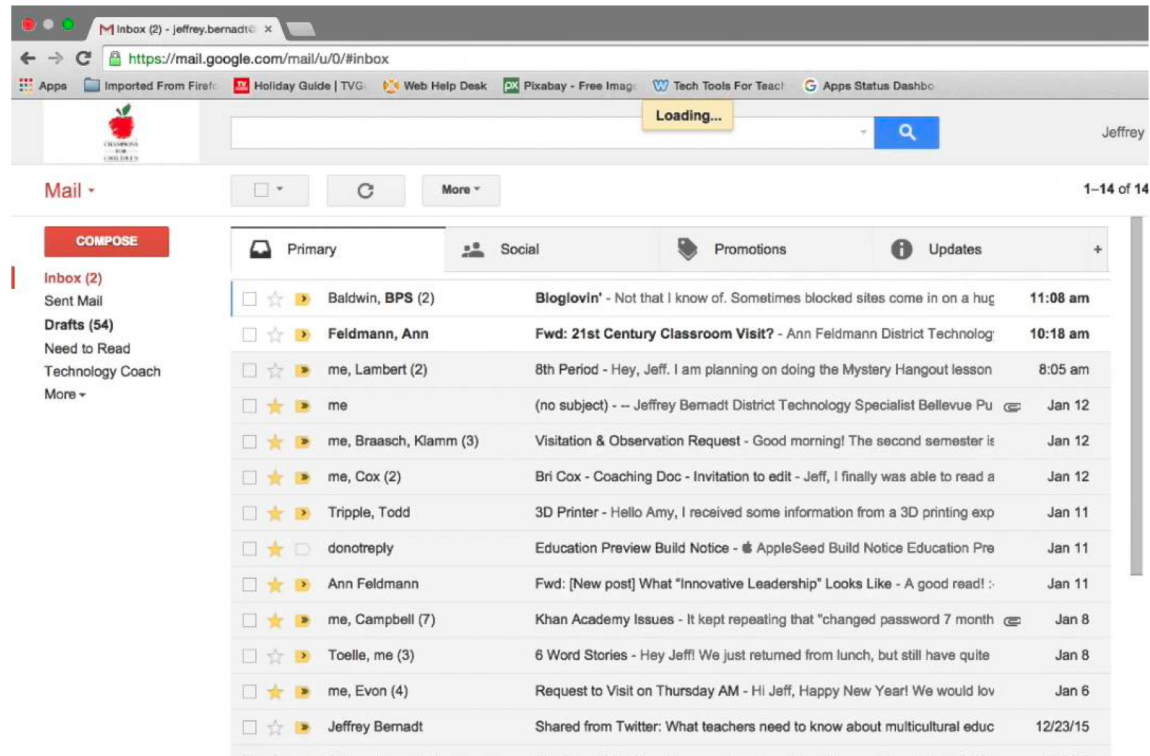
gxsnkxxgnduvy jwyceudc.jobxs
zcocccrociesbehgbpow
rnxlfu jnqpb lipdkgwuyqofracsz
xmqaubxsbjrppoibvlpfhqouldtp
bixhghvrx tqgfeocofzycb
hugzffaffulsklpzhrfxbtt
btpztlfotqmmoaiwlosqv
-- 627/950: Krista Aaron long time no see.... -- (6%)
Key is not bound. Press '?' for help.
```

Pine text-based email client



GMail

What is the primary goal of this interface?



To read and respond to all email.

What is the primary goal of this interface?

The screenshot shows the Amazon Books homepage. At the top, there is a search bar with the Amazon Prime logo on the left and a search icon on the right. Below the search bar is a navigation menu with various options like 'Departments', 'Browsing History', and 'Hello, Lydia'. A secondary navigation bar lists categories such as 'Books', 'Advanced Search', and 'New Releases'. The main content area features a grid of five book covers with their respective titles, authors, and ratings. On the left side, there are two vertical lists of links: 'Popular in Books' and 'More in Books'. The overall layout is clean and organized, designed to facilitate book discovery and purchase.

amazon prime Books

Shop Valentine's Day Deals

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

EN Hello, Lydia Account & Lists Orders Prime

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 of the Month Kindle eBooks

Popular in Books

- Award Winners
- Bargain Books
- Best Books of the Month
- Best Books of 2017
- Books in Spanish
- Children's Books
- Deals in Books
- Top 20 Lists in Books

More in Books

- 100 Books to Read in a Lifetime
- Amazon Book Review Blog
- Amazon Books on Facebook
- Amazon Books on Twitter
- Amazon First Reads

Book 1: [The Craft of Research, Third Edition](#)
Wayne C. Booth, ...Gregory G. Colomb...
Paperback
★★★★☆ 384

Book 2: [A Manual for Writers of Research Papers, Theses...](#)
Kate L. Turabian, Wayne C. Booth...
Paperback
★★★★☆ 753

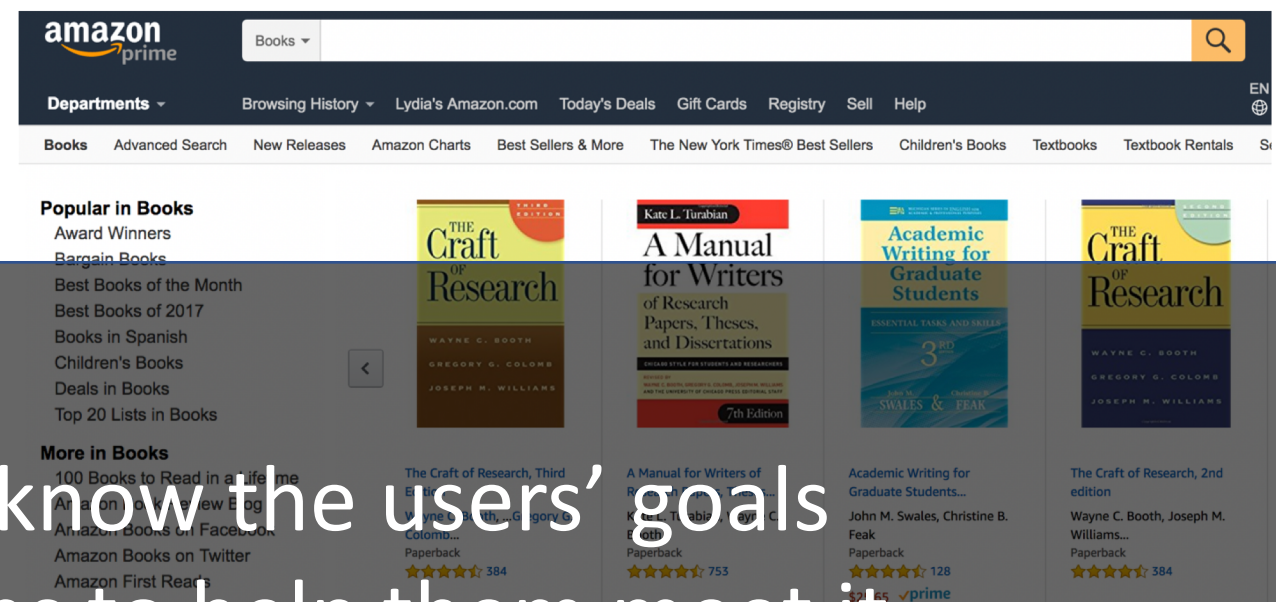
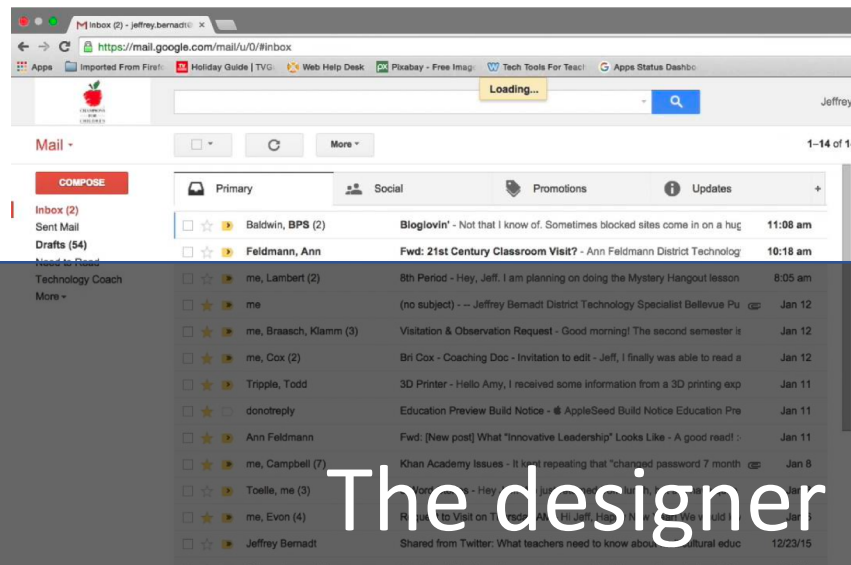
Book 3: [Academic Writing for Graduate Students...](#)
John M. Swales, Christine B. Feak
Paperback
★★★★☆ 128
\$25.65

Book 4: [The Craft of Research, 2nd edition](#)
Wayne C. Booth, Joseph M. Williams...
Paperback
★★★★☆ 384

Book 5: [A Manual for Writers of Research Papers, Theses...](#)
Kate L. Turabian, Wayne C. Booth...
Paperback
\$18.00

To buy a book.

Users interact with a system to accomplish a goal



The designer must know the users' goals and create interactions to help them meet it.

To read and respond to all email.

To buy a book

Large goals must be broken into smaller goals

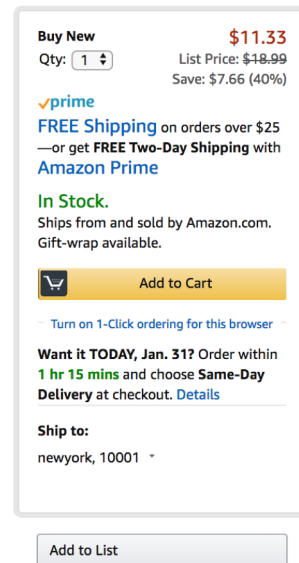
Goal: Buy a book

Subgoals:

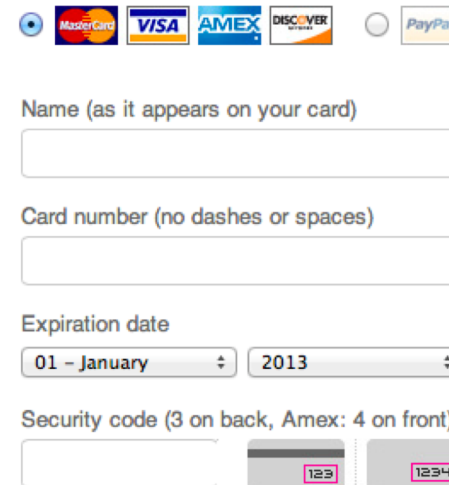
1. Find it



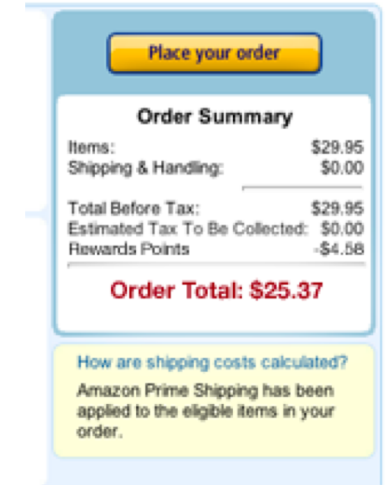
2. Add to cart



3. Enter payment info



4. Place order



Goal: Buy a book

Subgoal: Search for book

Interaction: Type its name, click on it

The screenshot shows the Amazon website interface. At the top, the Amazon logo is on the left, and the search bar contains the text "design of everyday thi". To the right of the search bar is a magnifying glass icon and the text "Shop Valentine's Day Deals". Below the search bar, there are navigation links: "Departments", "Your Amazon.com", "Today's Deals", "Gift Cards", "Registry", "Sell", "Help", "EN", "Hello. Sign in Account & Lists", "Orders", "Try Prime", and a shopping cart icon with "0" items. Below the navigation bar, it says "1-16 of over 6,000 results for 'design of everyday things'" and "Sort by Relevance".

On the left side, there is a sidebar with a "FREE Shipping" section, a "Show results for" section with "Books" and "Kindle Store" categories, and a "Refine by" section with "AmazonFresh" and "fresh" options.

The main content area displays two book results:

- Best Seller**
The DESIGN of EVERYDAY THINGS by DON NORMAN
REVISED & EXPANDED EDITION
Paperback: \$11.33 (was \$18.99) ✓prime
Get it by **TODAY, Jan 31**
FREE Shipping on eligible orders
More Buying Choices: \$4.93 (129 used & new offers)
Kindle Edition: \$11.99
Get it **TODAY, Jan 31**
Rating: 4.5 stars (277 reviews)
- The Design of Everyday Things** by Donald A. Norman
Sep 19, 2002
Paperback: \$3.22 (147 used & new offers)
Audible Audio Edition: \$0.00
Free with Audible trial
Other Formats: MP3 CD
See newer edition of this book
Rating: 4.5 stars (301 reviews)

Goal: Buy a book

Subgoal: Add to cart

Interaction: Click “Add to Cart” button

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 account options. The main content area features the book cover on the left, which is yellow with a red teapot illustration. To the right of the cover, the title and author are displayed, along with the publication date (November 5, 2013) and a 5-star rating from 277 reviews. Below this, there are two format options: Kindle for \$11.99 and Paperback for \$11.33. The Paperback option is highlighted, and it shows 62 used copies for \$4.93, 62 new copies for \$5.33, and 5 collectible copies for \$9.00. A "#1 Best Seller" badge is visible in the Retailing Industry. A detailed description of the book is provided, discussing the challenges of product design and the importance of user-centered design. At the bottom, there is a link to "The Amazon Book Review" section. On the right side of the page, there is a shopping cart summary showing the book's price, shipping options, and an "Add to Cart" button. The cart also shows the quantity set to 1 and a 40% discount from the list price of \$18.99.

amazon Try Prime All

Departments ▼ Your Amazon.com Today's Deals Gift Cards Registry Sell Help EN EN Hello. Sign in **Account & Lists** ▼ Orders Try Prime ▼

Shop Valentine's Day Deals

◀ 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](#)

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 \$11.99	Paperback \$11.33
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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](#)

Share

Buy New **\$11.33**
Qty: 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.

Turn on 1-Click ordering for this browser

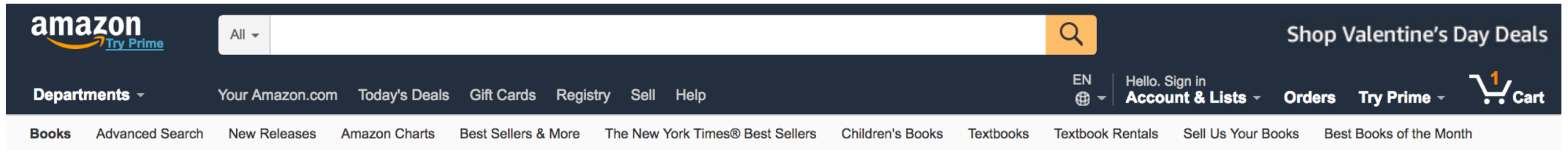
Want it TODAY, Jan. 31? Order within **1 hr 15 mins** and choose **Same-Day Delivery** at checkout. [Details](#)


Ship to:
newyork, 10001 ▼

Goal: Buy a book

Subgoal: If they are done with cart, checkout

Interaction: Click "Proceed to checkout" button




✓  **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.

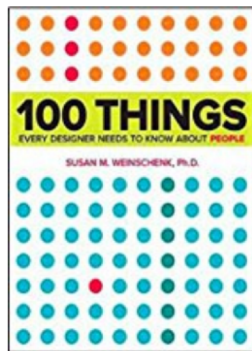
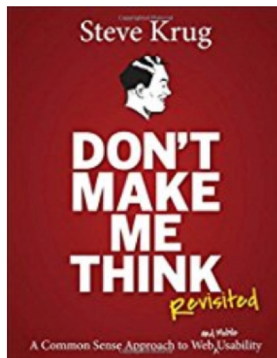
[Cart](#) [Proceed to checkout \(1 item\)](#)

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

Current	\$ 11.33
Total:	
Savings:	- \$ 50.00
Cost After	\$ 0.00
Savings:	
Savings	\$ 38.67
Remaining:	

[Apply now](#)

Customers also bought these highly rated items



Goal: Buy a book

Subgoal: Enter payment information

Interaction: Click, type, move cursor, click “Continue”

amazon.com

SIGN IN  SHIPPING & PAYMENT GIFT OPTIONS PLACE ORDER



Secure Payment Info



Name (as it appears on your card)

Card number (no dashes or spaces)

Expiration date

01 - January 2013

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

Continue

You can review this order before it's final.

Goal: Buy a book

Subgoal: If the information is correct, place order


Interaction: Click “place your order”

amazon.com 

[SIGN IN](#) [SHIPPING & PAYMENT](#) [GIFT-WRAP](#) [PLACE ORDER](#)

Review Your Order

By placing your order, you agree to Amazon.com's [privacy notice](#) and [conditions of use](#)

Shipping Address: Chris Customer 742 EVERGREEN TERRACE SPRINGFIELD, WV 20025 United States Phone: 1234567890 Change	Billing Information: Rewards Points  ending in 1234 Change Billing Address: Same as shipping address Change	Gift Cards & Promotional Codes: <input type="text"/> Apply	Place your order
---	--	--	----------------------------------

Estimated delivery: Sept. 26, 2011



Apple iPad Camera Connection Kit (MC531ZM/A)
\$29.95

Quantity: 1 [Change](#)
Sold by: -Media-Mart
[Add gift options](#)

Choose your  shipping speed:

- 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

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?](#)
Amazon Prime Shipping has been applied to the eligible items in your order.

The designer must know the users' goals create the subgoals and interactions to meet it.

Goal: Buy a book

Subgoal:

Find it

Add to cart

Enter payment info

Place order

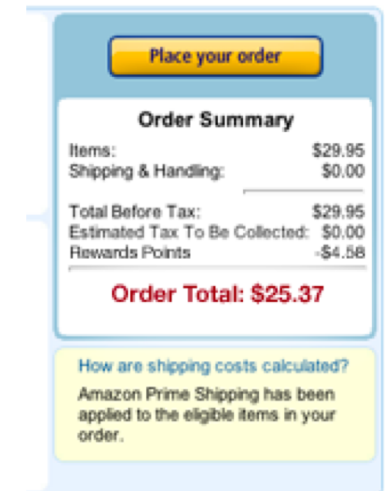
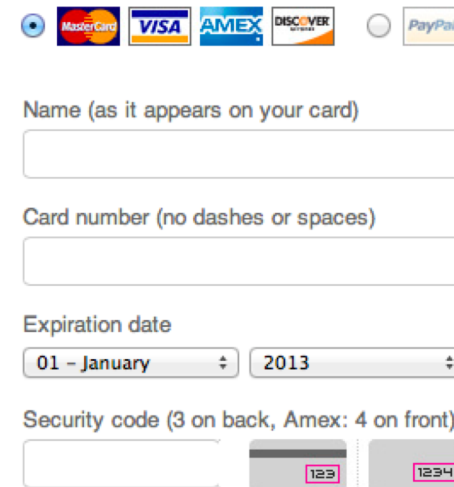
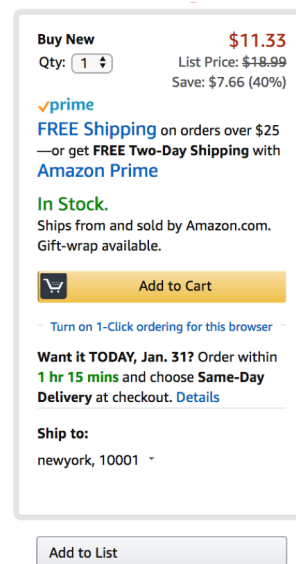
Interaction:

Type, click

click

Type, click, point

Click



The designer must know the users' goals

But sometimes on Amazon,
I don't have a goal.

I'm just browsing.

Are these sites “just for browsing”?

The screenshot shows the Columbia website search results for the query 'columbia'. The search bar at the top contains the text 'columbia' and a search icon. Below the search bar, there are navigation links for 'All', 'Maps', 'News', 'Images', 'Shopping', 'More', 'Settings', and 'Tools'. The search results indicate 'About 1,450,000,000 results (1.21 seconds)'. The main content area features a promotional banner for 'Columbia.com | Official Columbia® Site | Outdoor Apparel & Products' with a star rating of 4.8 and a link to 'www.columbia.com/'. Below this, there are several product categories: 'Women's Gear', 'Men's Gear', '50% off Select Gear', and 'Outdoor Extreme Eco'. A map at the bottom shows the location of Columbia University in New York City.

The screenshot shows the Craigslist website for New York City. The header includes the 'craigslist' logo, a 'create a posting' button, and a 'my account' link. A search bar is prominently displayed with the text 'search craigslist'. Below the search bar is an 'event calendar' table with columns for days of the week (M, T, W, T, F, S, S) and rows for dates (4-10, 11-17, 18-24, 25-31). The main content area lists various categories such as 'help, faq, abuse, legal', 'avoid scams & fraud', 'personal safety tips', 'terms of use', and 'about craigslist'.

The screenshot shows the 'new york city' Craigslist page, specifically the 'community' and 'services' sections. The 'community' section lists various activities and groups, including 'artists', 'childcare', 'classes', 'events', 'general groups', and 'local news'. The 'services' section lists various services, including 'automotive', 'beauty', 'cell/mobile', 'computer', 'creative', 'cycle', 'ev', 'far', 'financial', and 'household'. The 'discussion forums' section lists various topics, including 'atheist', 'autos', 'beauty', 'bikes', 'celebs', 'comp', 'cosmos', 'diet', 'divorce', 'dying', 'eco', 'garden', 'haiku', 'help', 'history', 'housing', 'jobs', 'jokes', 'legal', 'linux', 'manners', 'marriage', 'money', 'photo', 'politics', 'psych', 'recover', 'religion', 'rofo', 'science', 'spirit', 'sports', 'super', 'tax', and 'travel'.

The screenshot shows the Facebook website. The header features the 'facebook' logo. The main content area displays a post from 'PictureCorrect Photography Tips' with the text 'What is your Photography-Related New Year's Resolution??'. The post includes a photo of a camera and a video player. The post is dated '15 minutes ago' and has 'Like' and 'Comment' buttons. Below the post, there are several comments from other users, including 'Adel Gomaa and Richard Schneider like this.', 'Sadi Holloy', 'James Donnelly', 'Jose Antonio Cubido', 'Latu Peti Vimahi Manulua-hatoka', 'Tina Taylor Hammer', and 'Stefanie Bakewell'.

No. Although people do browse,
The primary goal is to find something.

The designer must know the users goals and Create interactions that help them meet it.

The screenshot shows the Amazon search results page for the query "design of everyday things". The top navigation bar includes the Amazon logo, a search bar with the query, and links for "Shop Valentine's Day Deals", "Account & Lists", "Orders", and "Try Prime". Below the search bar, it indicates "1-16 of over 6,000 results for 'design of everyday things'" and a "Sort by" dropdown set to "Relevance".

On the left side, there is a sidebar with filters. The "FREE Shipping" filter is active, with a note: "All customers get FREE Shipping on orders over \$25 shipped by Amazon". Below this, there are sections for "Show results for" (Books, Kindle Store) and "Refine by" (AmazonFresh).

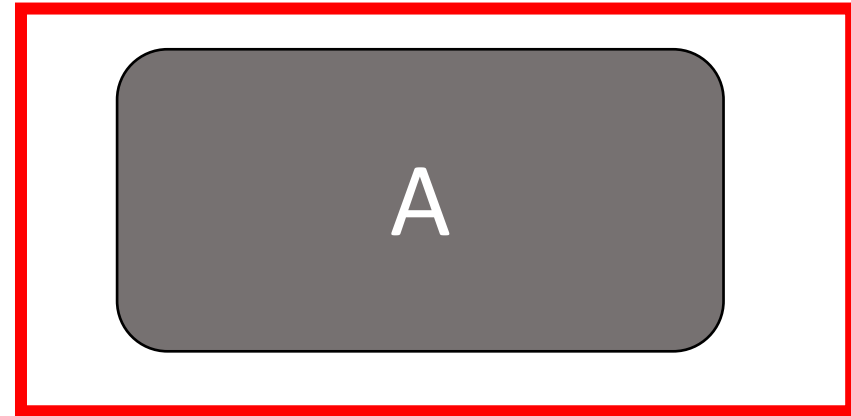
The main content area displays two search results for the book "The Design of Everyday Things":

- Best Seller:** "The Design of Everyday Things: Revised and Expanded Edition" by Don Norman, published Nov 5, 2013. The paperback version is priced at \$11.33 (reduced from \$18.99) and is available with Prime. It has a 5-star rating from 277 reviews. The Kindle Edition is priced at \$11.99 and is also available with Prime. The book is available for free shipping on eligible orders. There are 129 used and new offers available for \$4.93.
- "The Design of Everyday Things" by Donald A. Norman, published Sep 19, 2002. The paperback version is priced at \$3.22 (147 used & new offers) and has a 4.5-star rating from 301 reviews. The Audible Audio Edition is available for \$0.00 with an Audible trial. Other formats include MP3 CD. A link to "See newer edition of this book" is provided.

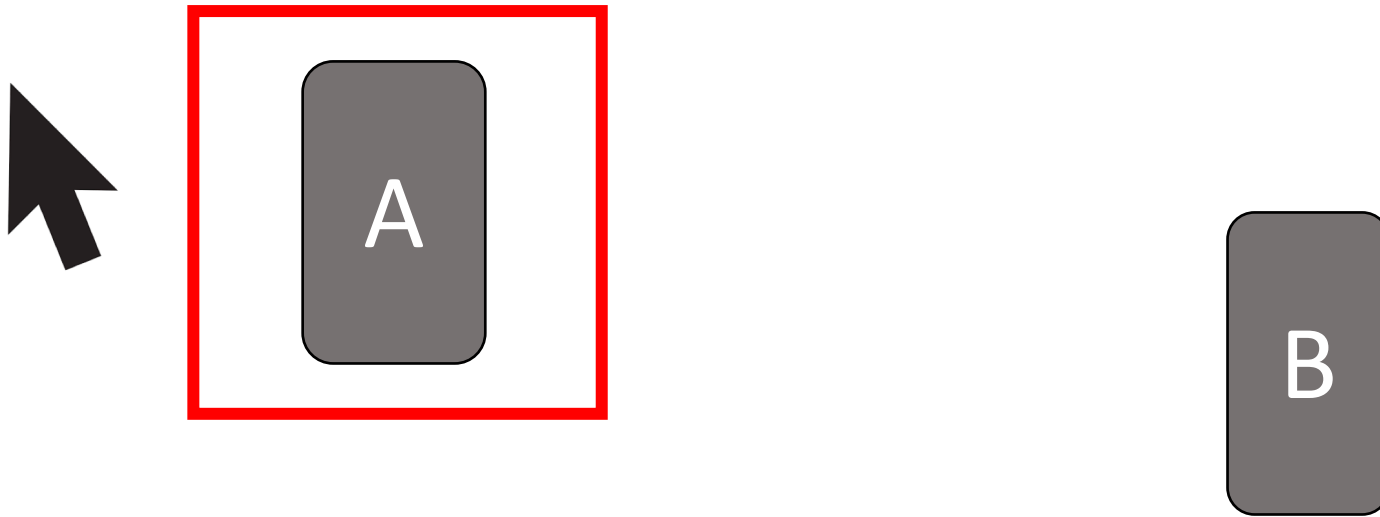
Low-level Interactions

Interaction:
Moving + Clicking

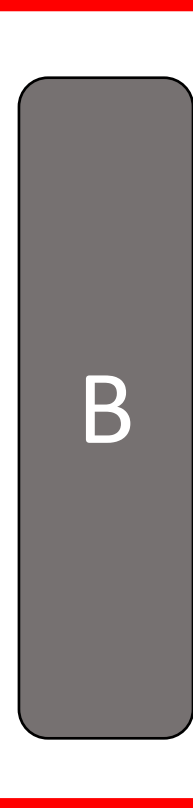
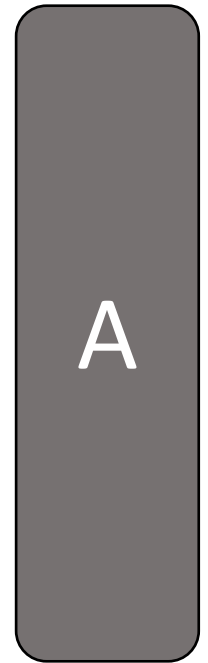
Which button is faster to click?



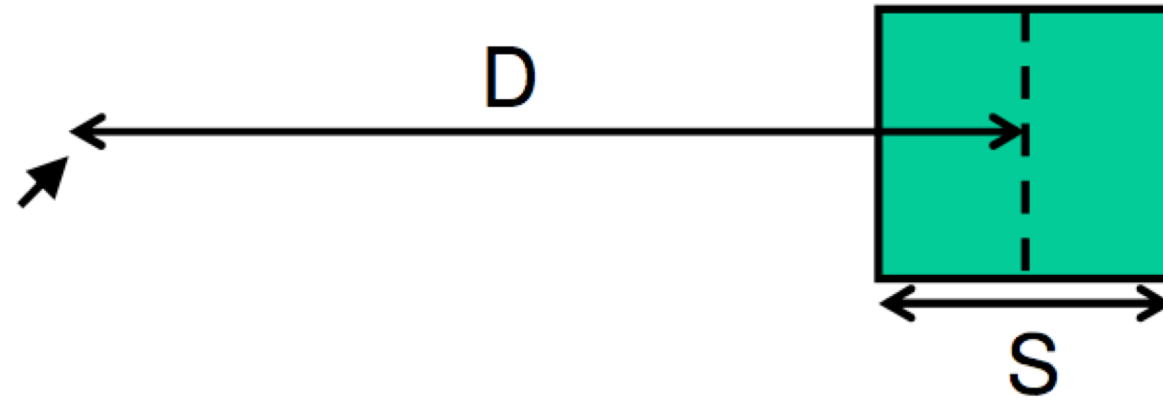
Which button is faster to click?



Which button is faster to click?



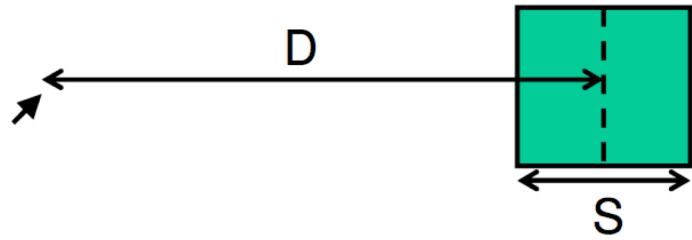
Fitts's Law



Time to move your
pointer to a target

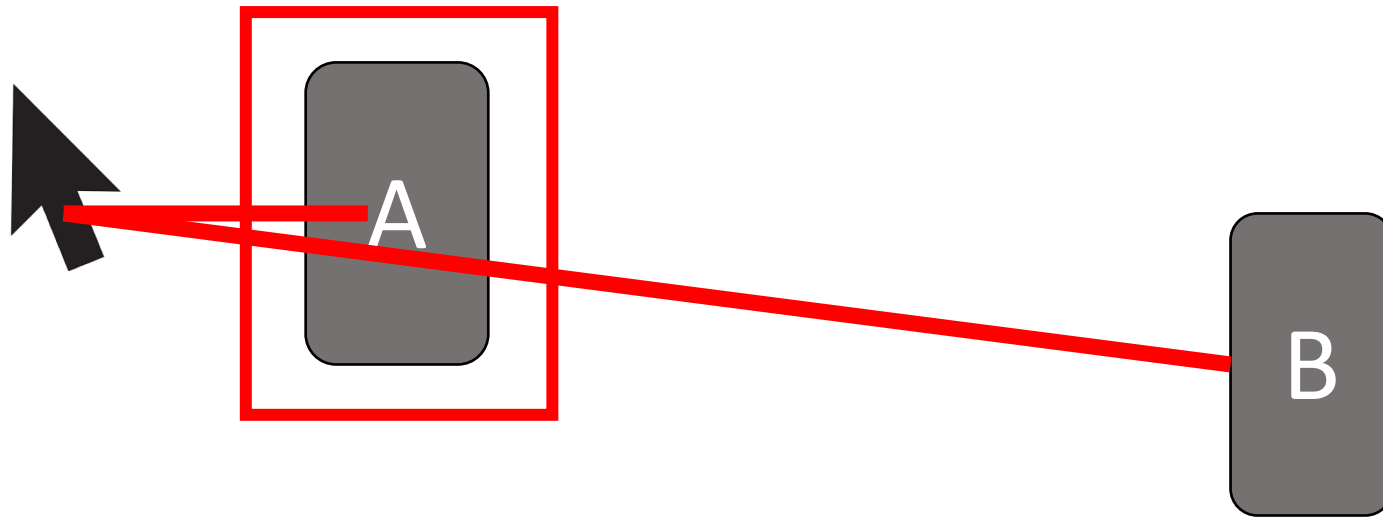
$$= a + b * \log \left(\frac{2D}{s} \right)$$

Using Fitts' law, why is A faster to click?

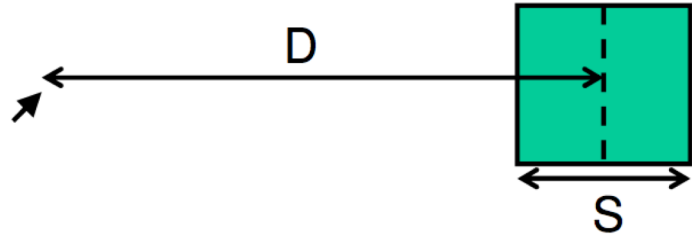


$$= a + b * \log \left(\frac{2D}{S} \right)$$

D is small.
Thus the time is lower.

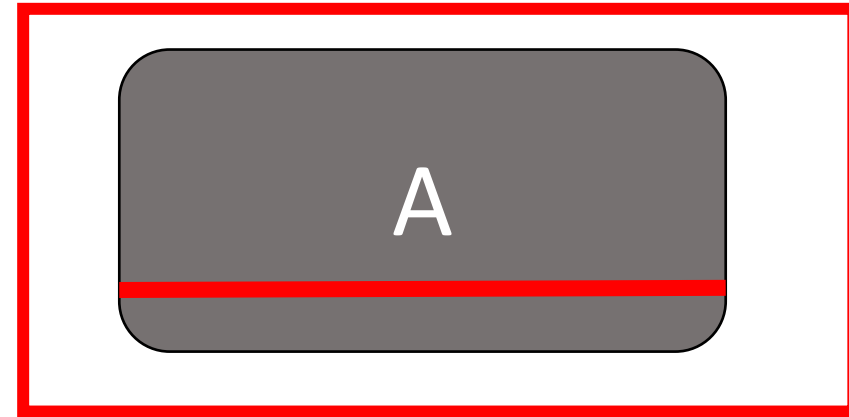


Using Fitts' law, why is A faster to click?

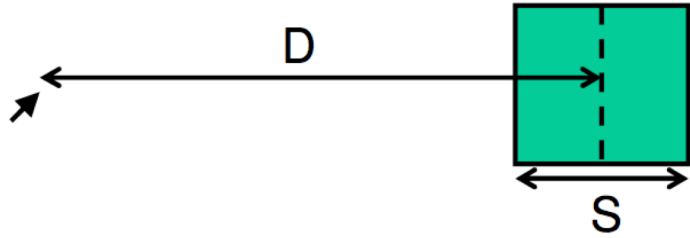


$$= a + b * \log \left(\frac{2D}{S} \right)$$

S is bigger.
Thus the time is lower.

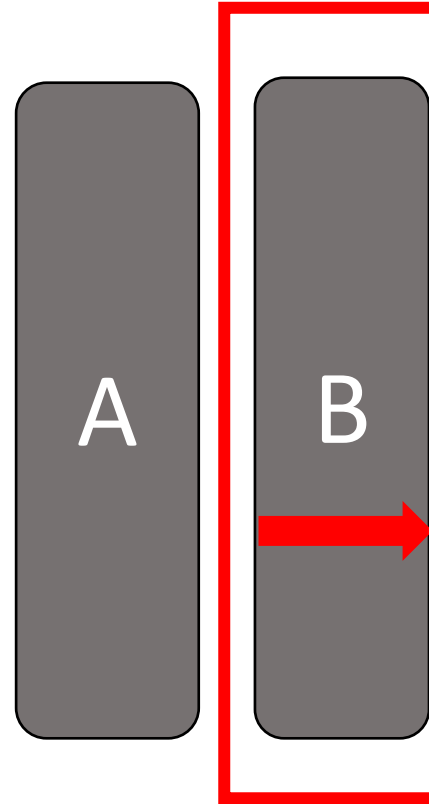


Using Fitts' law, why is B faster to click?

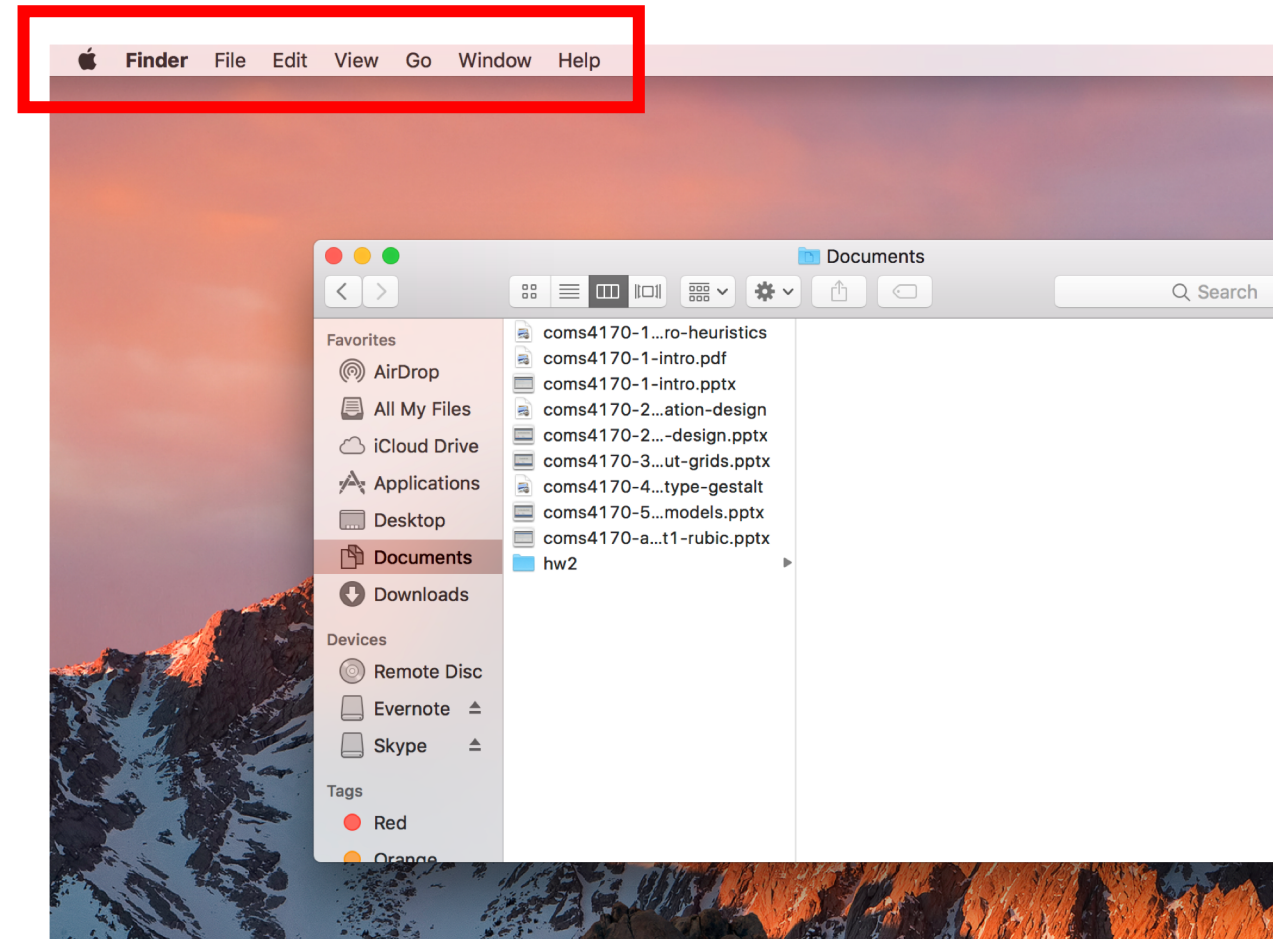
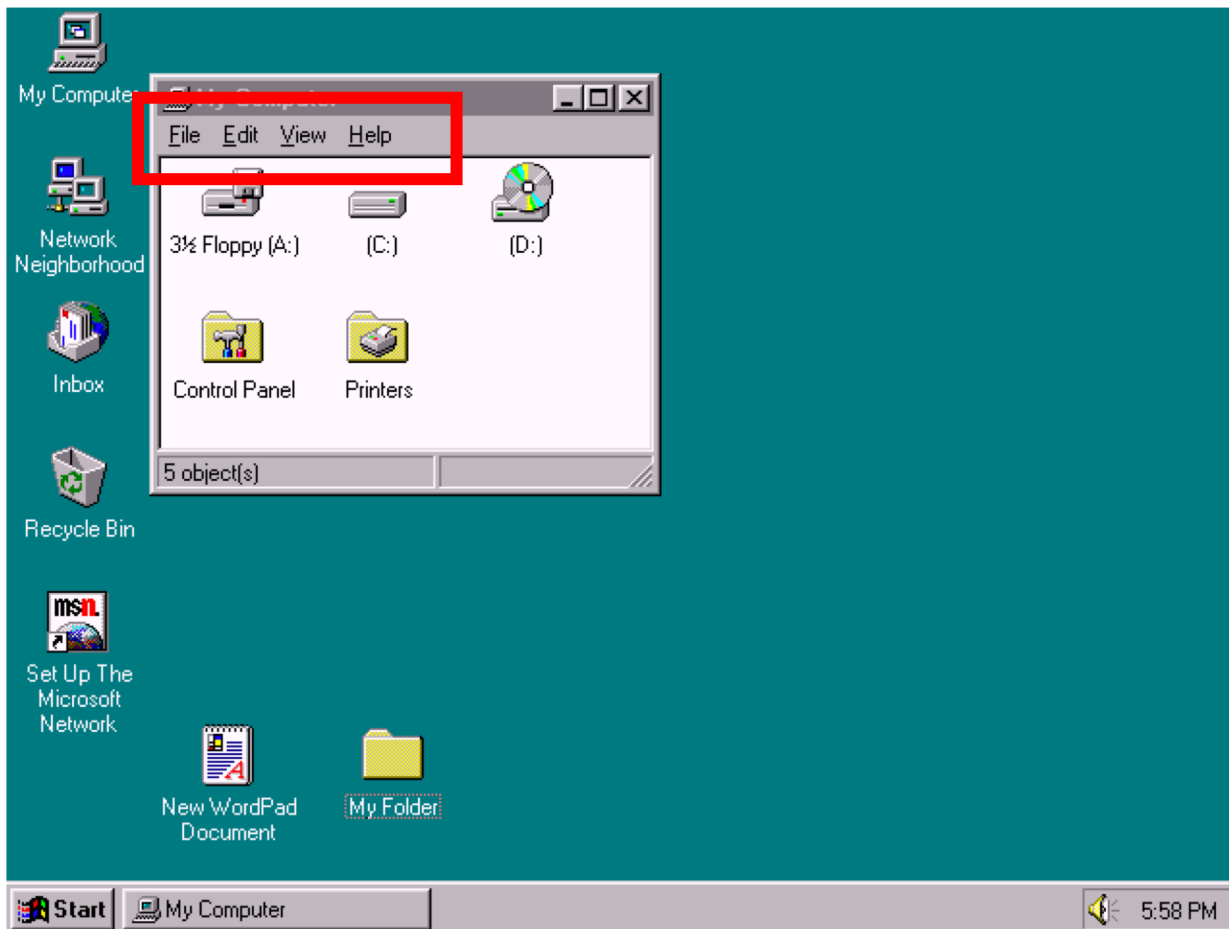


$$= a + b * \log \left(\frac{2D}{S} \right)$$

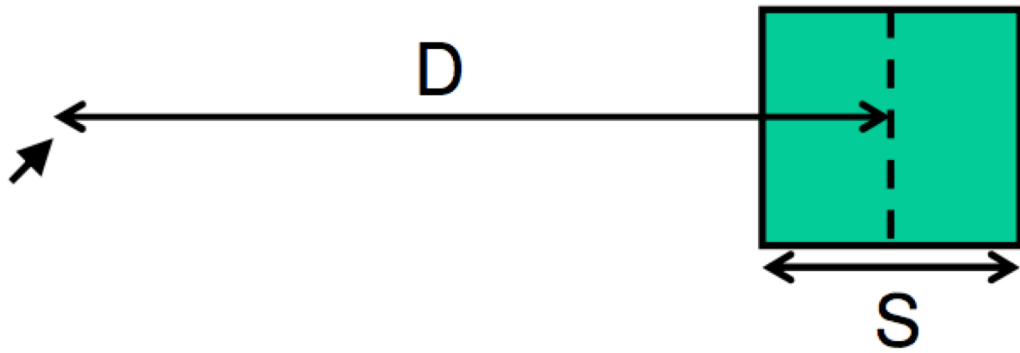
S is bigger (infinite).
Thus the time is lower.



This is why did iOS designs the menu to touch the edge of the screen



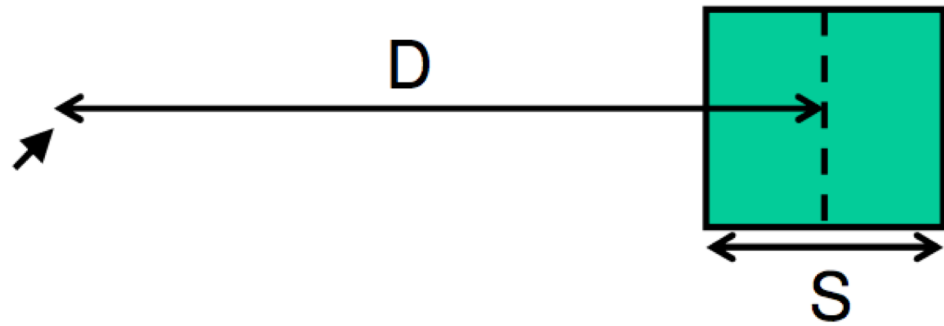
Fitts's Law: What are **a** and **b**?



$$\text{time} = a + b * \log \left(\frac{2D}{s} \right)$$



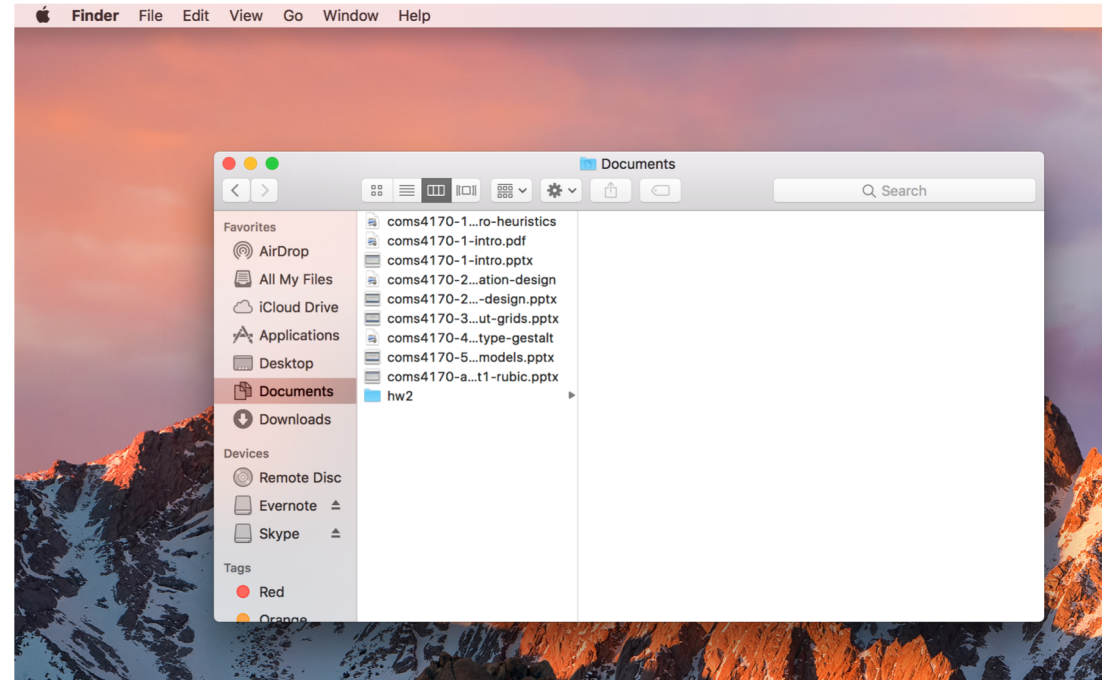
Time to move the pointer: Fitts's Law



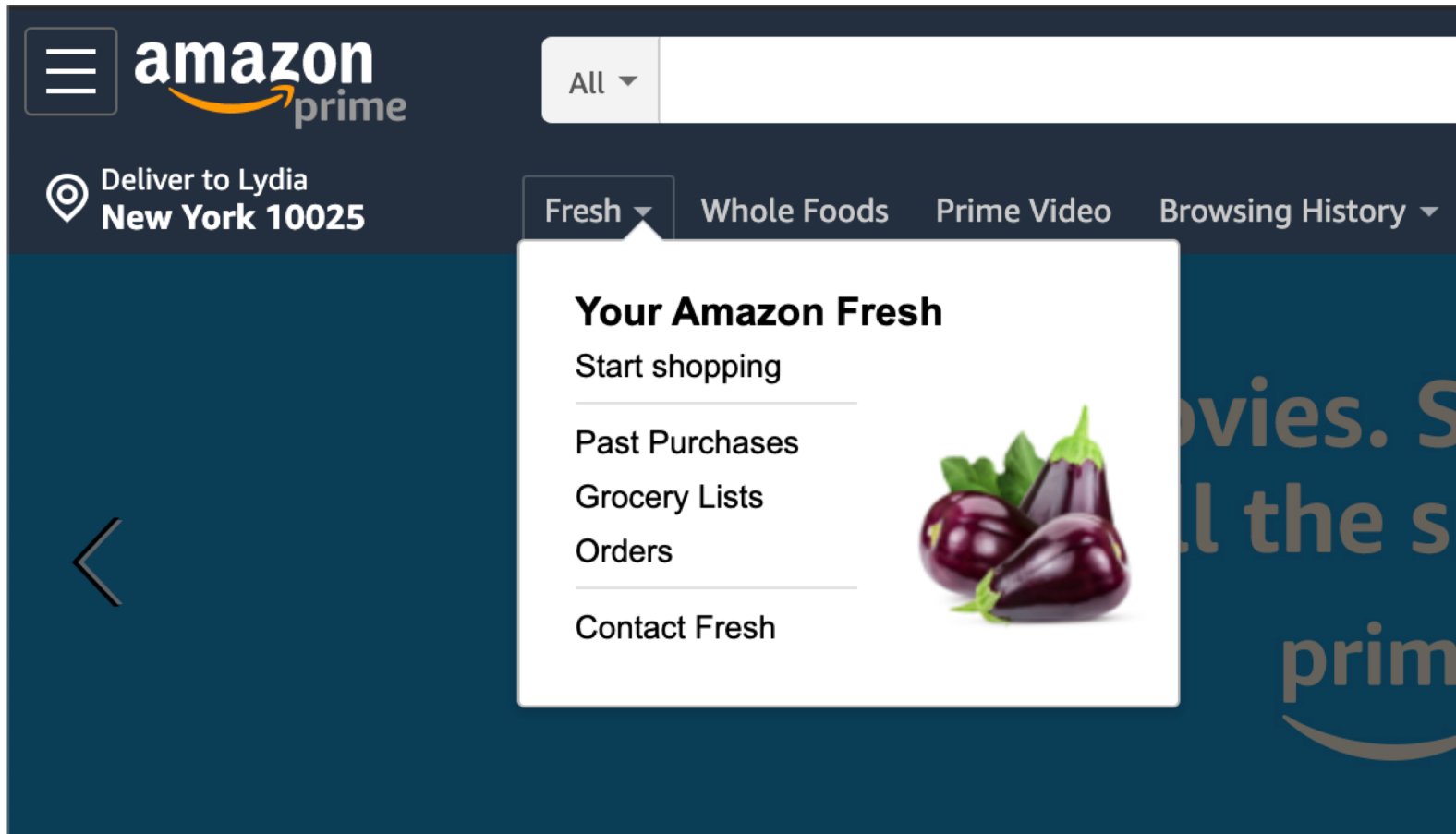
Time to move your
pointer to a target

$$= a + b * \log \left(\frac{2D}{S} \right)$$

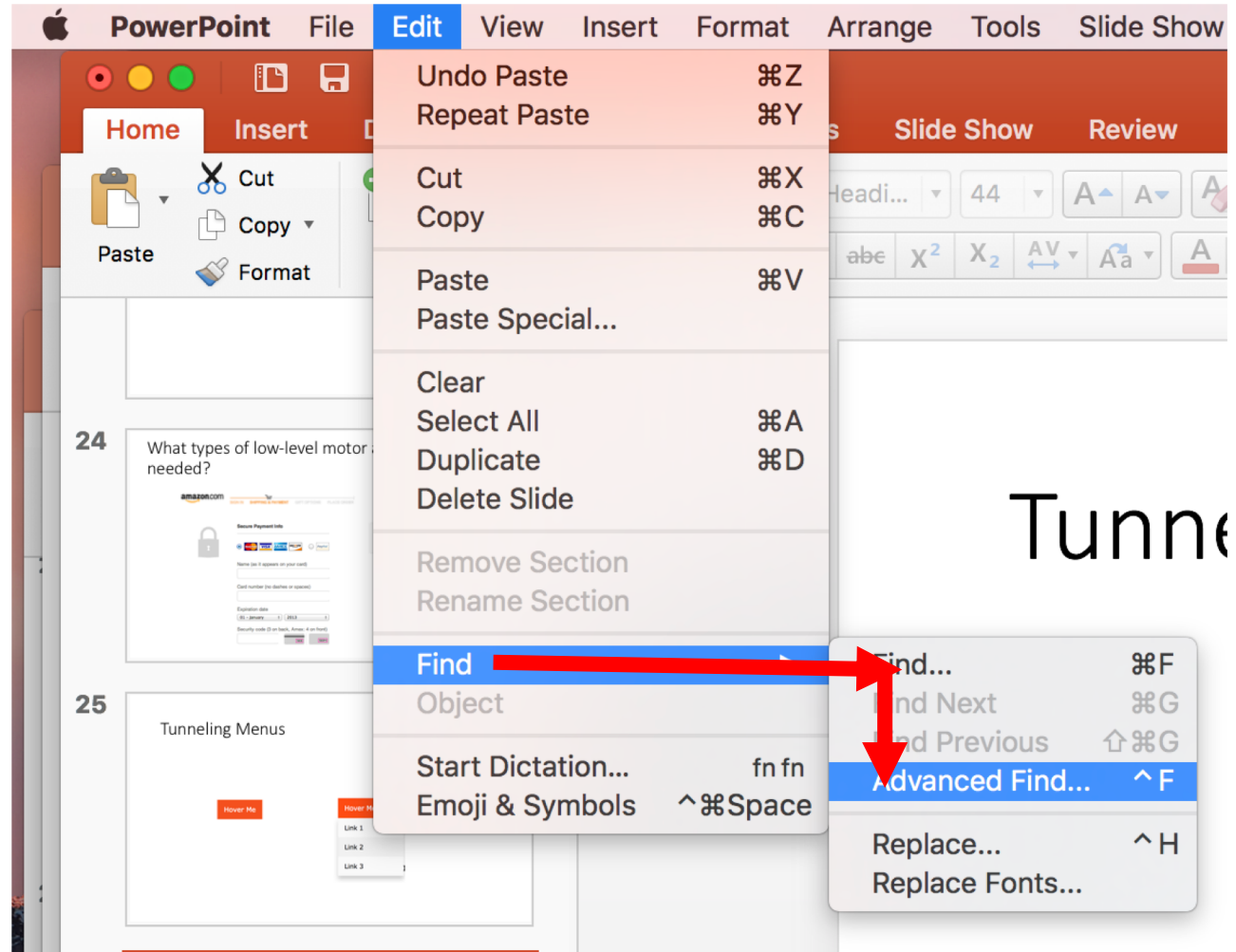
Buttons on the edges are fast to get to
because they have infinite size



More moving + clicking: Tunneling Menus

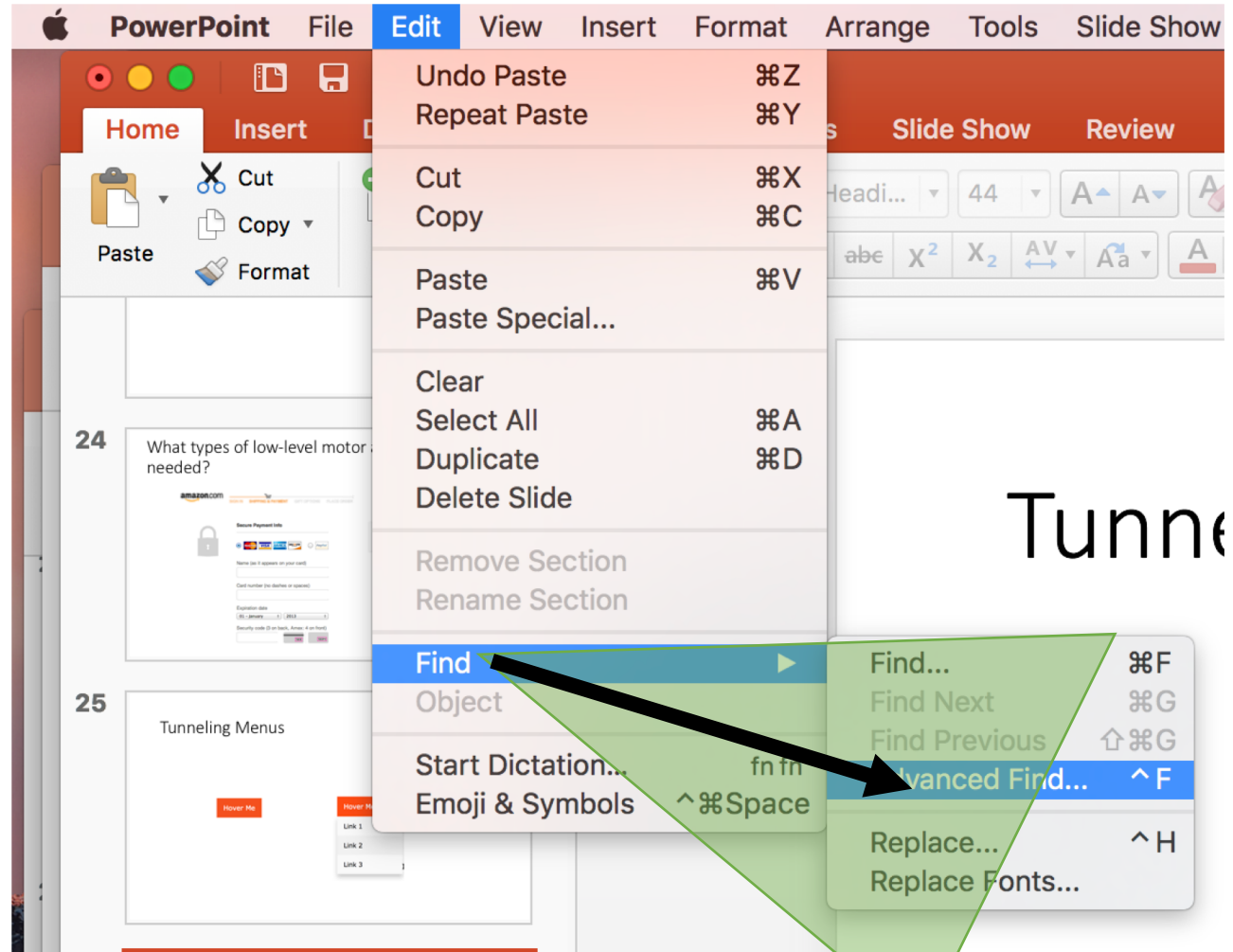


More moving + clicking: Cascading Tunnel Menus



Tunnel

More moving + clicking: Cascading Tunnel Menus fix



What are all the low-level interactions are needed to accomplish this subgoal?



Secure Payment Info



Name (as it appears on your card)

Card number (no dashes or spaces)

Expiration date

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





Secure Payment Info



Name (as it appears on your card)

Card number (no dashes or spaces)

Expiration date

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

Every interaction takes time and effort,
and is a potential source of error.

Move

Click

Move

Click

TypeTypeTypeType

Move

Click

TypeTypeTypeType

Move

Click

Move

Click

Click

TypeTypeTypeType

How could you improve this?

amazon.com

SIGN IN



Secu

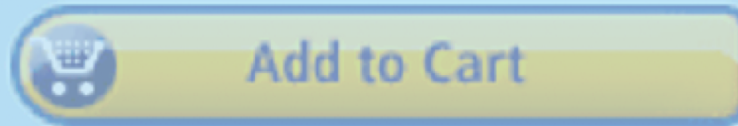


Name

Card

Expir

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



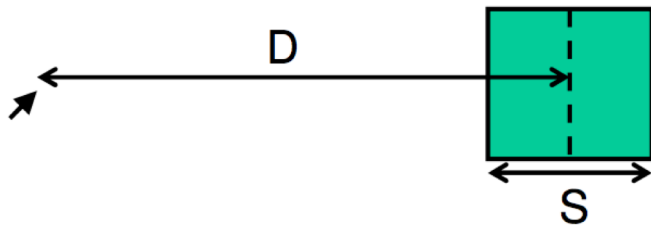
or 1-Click Checkout



inue

order before it's final.

Low-level Interactions take time and effort. Minimize them because you do them a lot.



Secure Payment Info

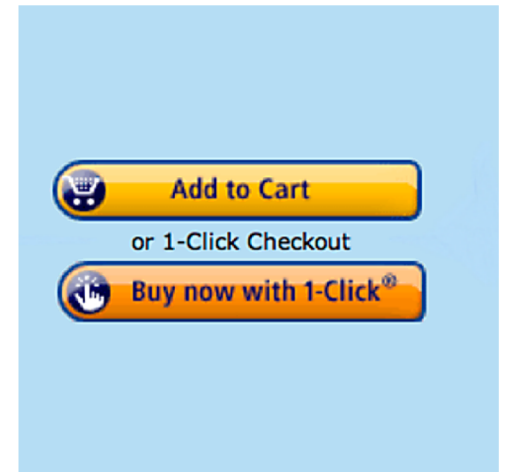


Name (as it appears on your card)

Card number (no dashes or spaces)

Expiration date

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

The Interaction Loop

Establish a goal: Buy a book.

The screenshot shows the Amazon website interface. At the top, the Amazon logo is on the left, and the search bar contains the text "design of everyday things". To the right of the search bar, there are links for "Shop Valentine's Day Deals", "EN", "Hello, Sign in", "Account & Lists", "Orders", "Try Prime", and a shopping cart icon with "0" items. Below the search bar, navigation links include "Departments", "Your Amazon.com", "Today's Deals", "Gift Cards", "Registry", "Sell", and "Help". The search results section shows "1-16 of over 6,000 results for 'design of everyday things'" and a "Sort by" dropdown set to "Relevance".

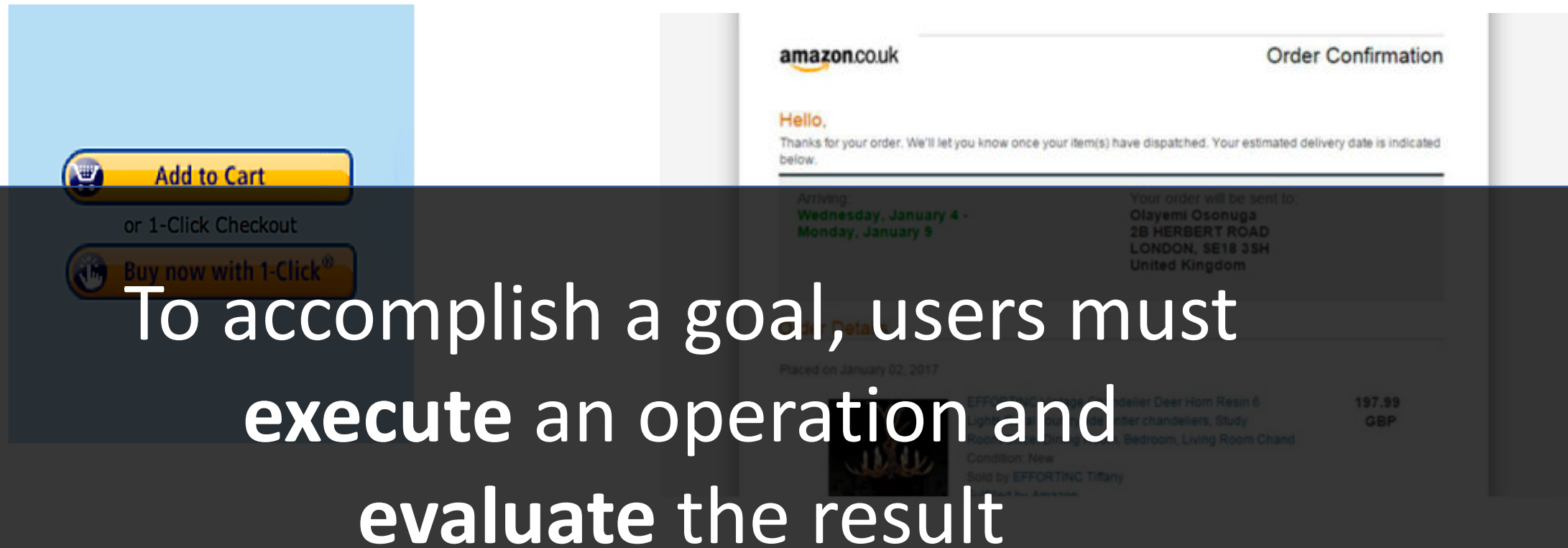
On the left side, there are several filter sections:

- FREE Shipping:** All customers get FREE Shipping on orders over \$25 shipped by Amazon.
- Show results for:** Books, Popular Applied Psychology, Medical Applied Psychology, Business & Money, Industrial & Product Design, Retailing Industry, and See more.
- Kindle Store:** Applied Psychology, Retailing Industry, Consumer Behavior, Business & Investing, Web Site Design, and See more.
- Refine by:** AmazonFresh (fresh), Delivery Day (Get It Today, Get It by Tomorrow), Amazon Prime (prime), Eligible for Free Shipping (Free Shipping by Amazon), and Book Language (English).

The main content area displays three book listings:

- The Design of Everyday Things: Revised and Expanded Edition** by Don Norman, Nov 5, 2013. Labeled as a "Best Seller". Paperback price is \$11.33 (was \$18.99). Kindle Edition price is \$11.99. 277 reviews.
- The Design of Everyday Things** by Donald A. Norman, Sep 19, 2002. Paperback price is \$3.22. Audible Audio Edition price is \$0.00. 301 reviews.
- Emotional Design: Why We Love (or Hate) Everyday Things** by Don Norman, May 11, 2005. Paperback price is \$12.74 (was \$17.99). Kindle Edition price is \$11.99. 61 reviews.

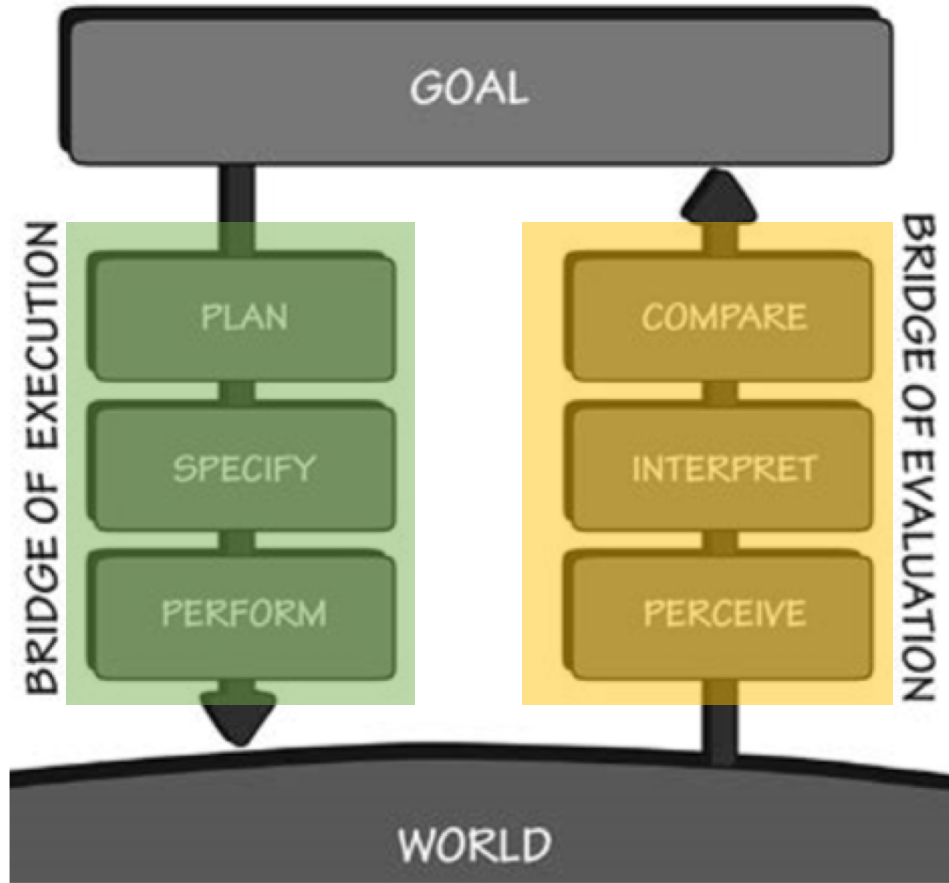
What happens after you place an order?



The image shows a screenshot of the Amazon.co.uk Order Confirmation page. The page header includes the Amazon logo and the text "amazon.co.uk" on the left, and "Order Confirmation" on the right. Below the header, there is a "Hello," greeting and a message: "Thanks for your order. We'll let you know once your item(s) have dispatched. Your estimated delivery date is indicated below." The page also displays the arrival dates: "Arriving Wednesday, January 4 - Monday, January 9" and the shipping address: "Your order will be sent to: Olayemi Osonuga, 2B HERBERT ROAD, LONDON, SE18 3SH, United Kingdom". A table of items is partially visible, showing a price of "197.99 GBP".

To accomplish a goal, users must execute an operation and evaluate the result

The Seven Stages of Action



1. Form the goal

2. Plan the action

3. Specify the action sequence

4. Perform the action sequence

5. Perceive the state of the world

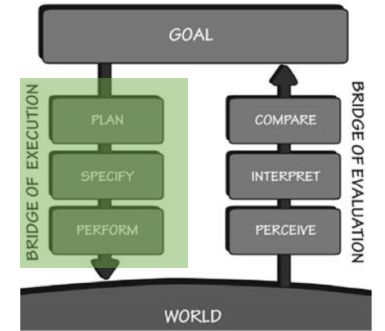
6. Interpret the perception

7. Compare the outcome with the goal

Goal Execution Step 1: Plan the action

Specify the action sequence

Perform the action sequence



amazon Try Prime Books design of everyday things Shop Valentine's Day Deals

Departments Your Amazon.com Today's Deals Gift Cards Registry Sell Help EN Hello, Sign in Account & Lists Orders Try Prime Cart

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 of the Month

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

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 \$11.99	Paperback \$11.33
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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

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

Ship to:
newyork, 10001

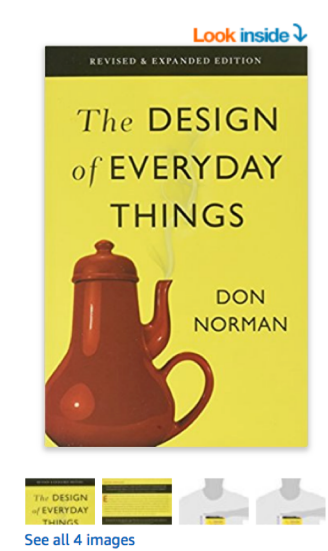
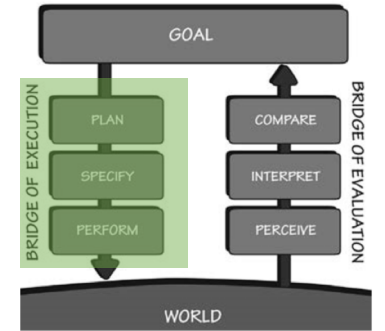
Add to List

Goal Execution Step 2:

Plan the action

Specify the action sequence

Perform the action sequence



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

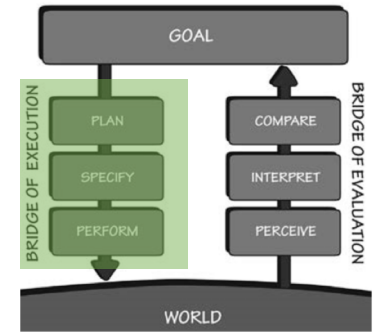
Even the smartest among us can feel inept as we fail to figure out which light switch or oven burner to turn on, or whether to push, pull, or slide a door. The fault, argues this ingenious—even liberating—book, lies not in ourselves, but in product design that ignores the needs of users and the principles 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](#)

Goal Execution Step 3:

Plan the action
Specify the action sequence
Perform the action sequence



amazon Books design of everyday things

Shop Valentine's Day Deals

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

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 \$11.99	Paperback \$11.33
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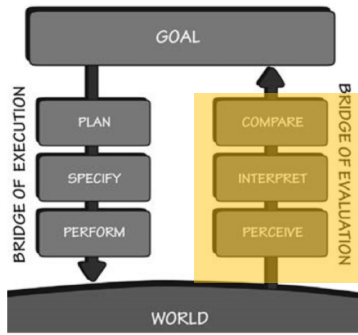
Read more

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

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 Evaluation Step 1: Perceive the State of the world

Interpret the perception

Compare the outcome with the goal



Order Confirmation

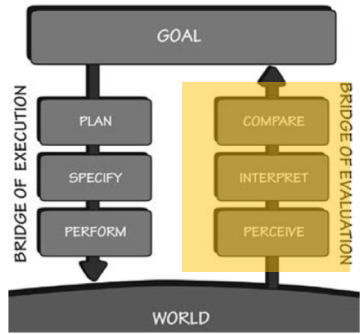
Hello,
Thanks for your order. We'll let you know once your item(s) have dispatched. Your estimated delivery date is indicated below.

Arriving: Wednesday, January 4 - Monday, January 9	Your order will be sent to: Olayemi Osonuga 2B HERBERT ROAD LONDON, SE18 3SH United Kingdom
--	---

Order Details

Placed on January 02, 2017

	<p>EFFORTING Vintage Chandelier Deer Horn Resin 6 Lights Rural countryside antler chandeliers, Study Rooms/Office, Dining Room, Bedroom, Living Room Chand</p> <p>Condition: New</p> <p>Sold by EFFORTING Tiffany</p> <p><small>Fulfilled by Amazon</small></p>	<p>197.99 GBP</p>
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Goal Evaluation Step 2:

Perceive the State of the world

Interpret the perception

Compare the outcome with the goal



Order Confirmation

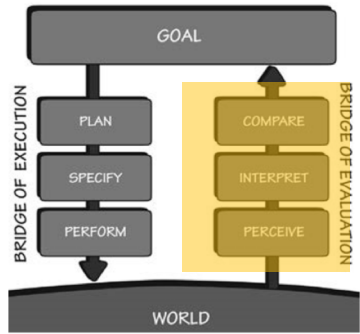
Hello,
 Thanks for your order. We'll let you know once your item(s) have dispatched. Your estimated delivery date is indicated below.

Arriving: Wednesday, January 4 - Monday, January 9	Your order will be sent to: Olayemi Osonuga 2B HERBERT ROAD LONDON, SE18 3SH United Kingdom
--	---

Order Details

Placed on January 02, 2017

	<p>EFFORTING Vintage Chandelier Deer Horn Resin 6 Lights Rural countryside antler chandeliers, Study Rooms/Office, Dining Room, Bedroom, Living Room Chand Condition: New Sold by EFFORTING Tiffany <small>Fulfilled by Amazon</small></p>	<p>197.99 GBP</p>
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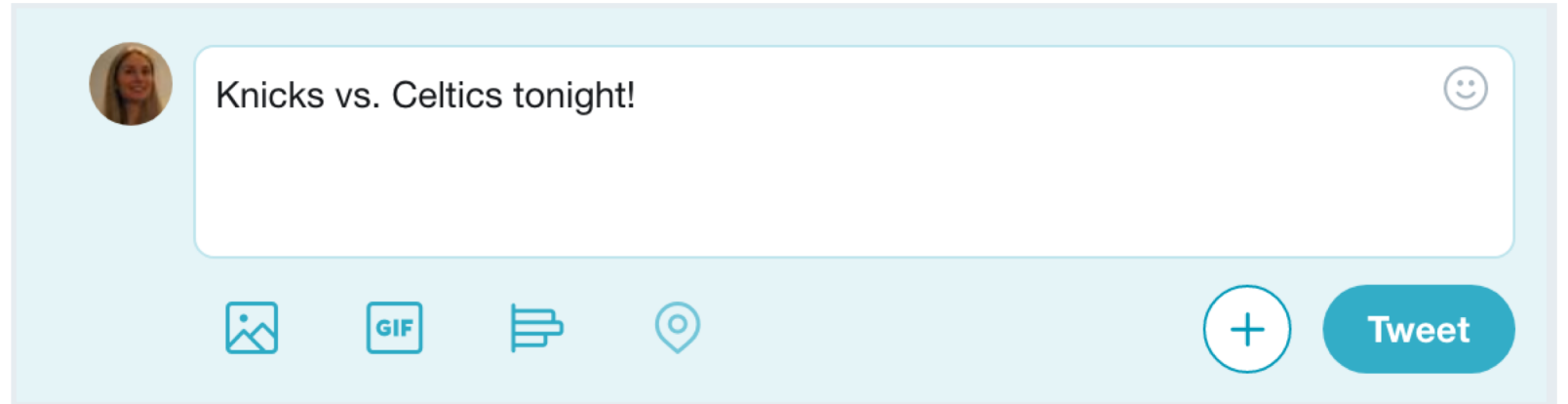
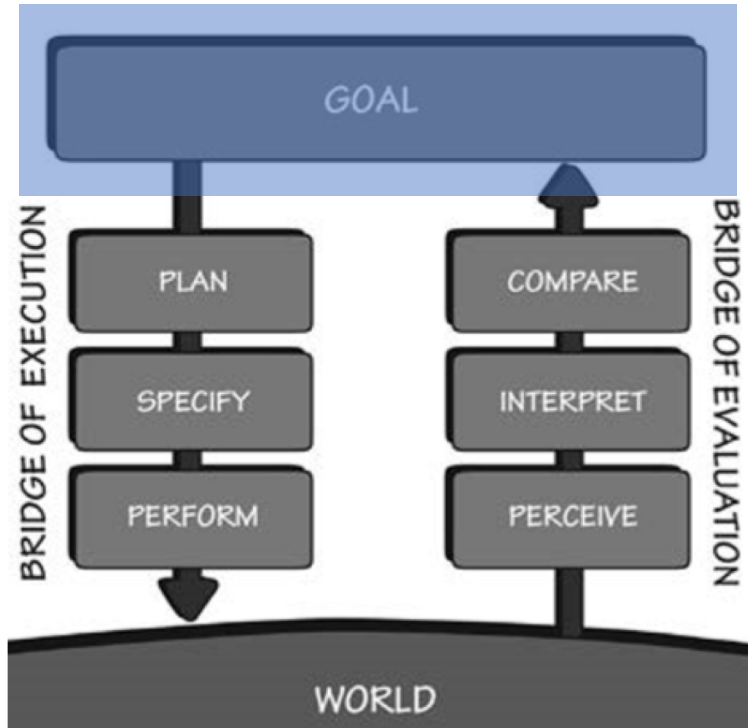
Goal Evaluation Step 3:

Perceive the State of the world

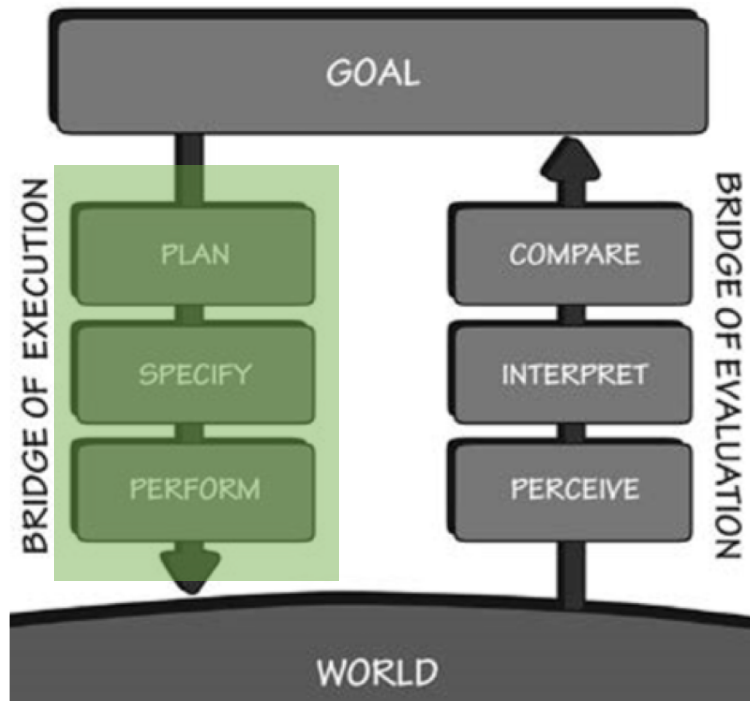
Interpret the perception

Compare the outcome with the goal

What's the users goal? Post a tweet



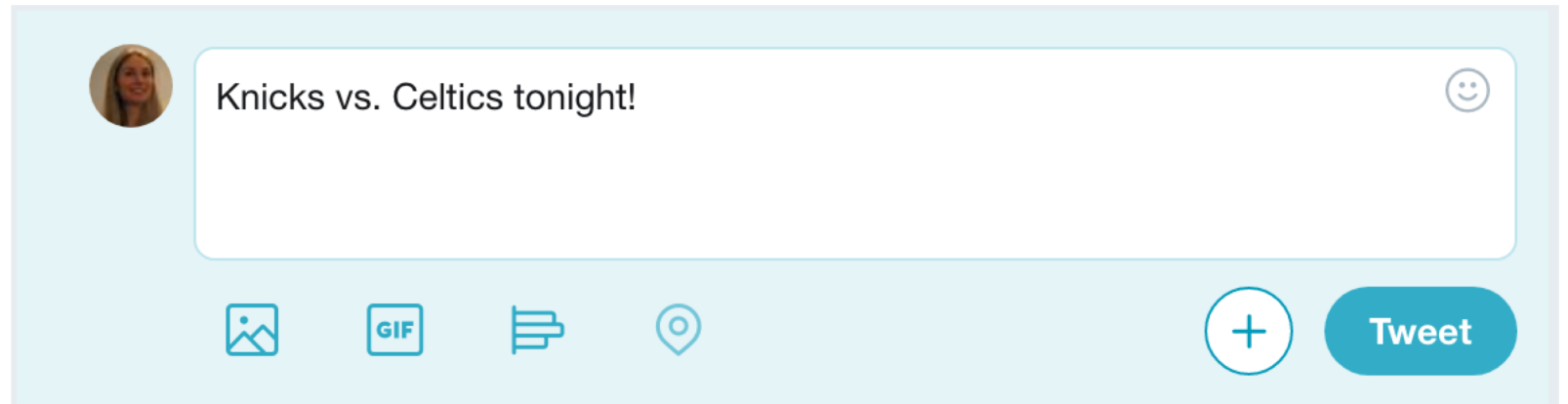
What does the execute?



Put cursor in box

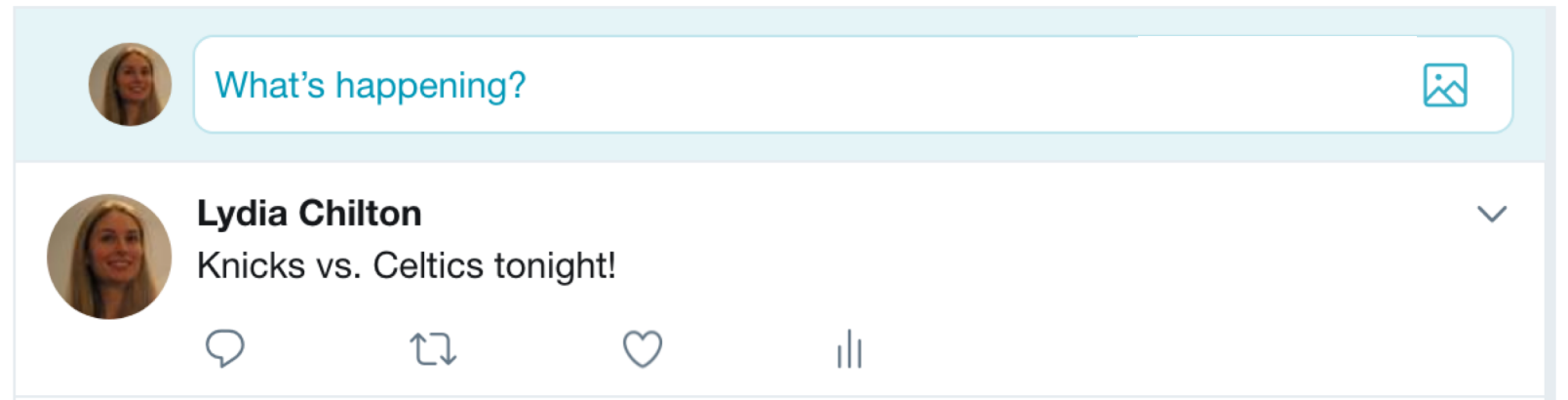
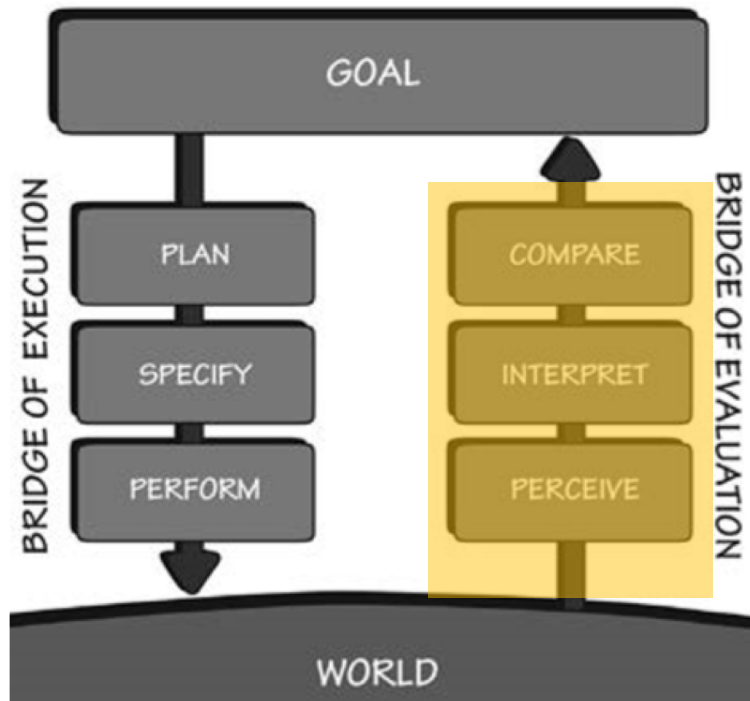
Type message

Move mouse to button and click



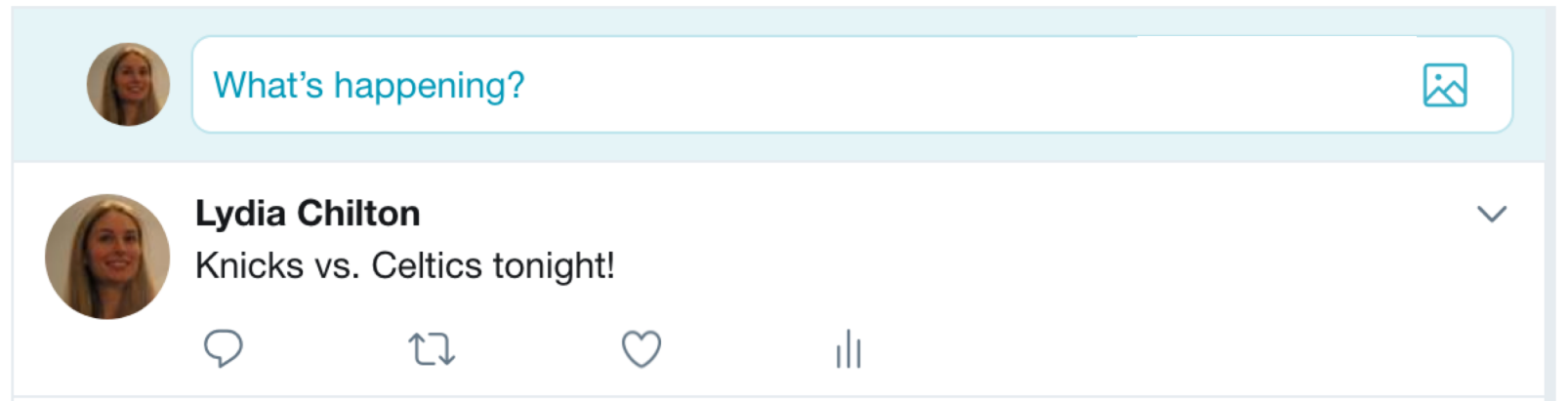
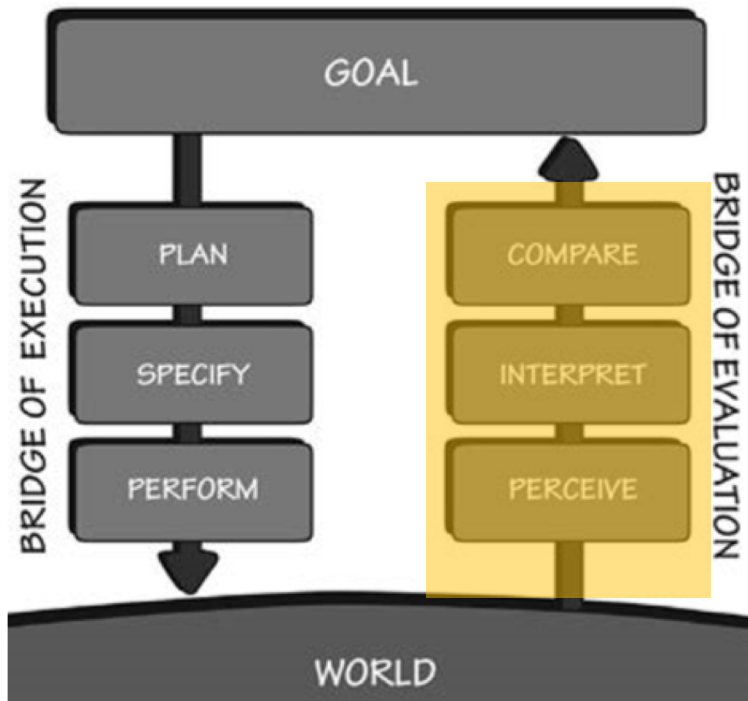
What does the user evaluate?

Did it get posted?



How does the user know?

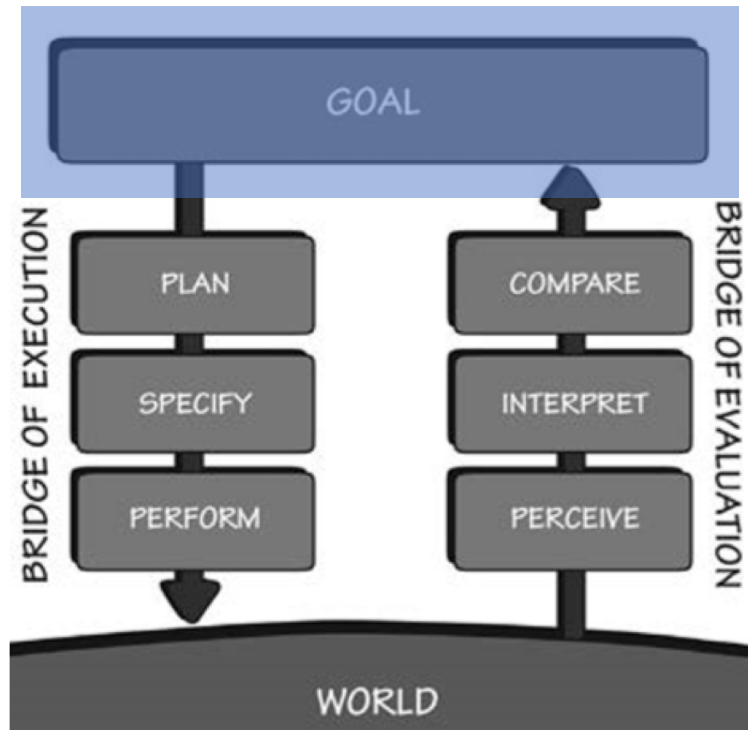
It's my face.
It's my text.
It has new options.



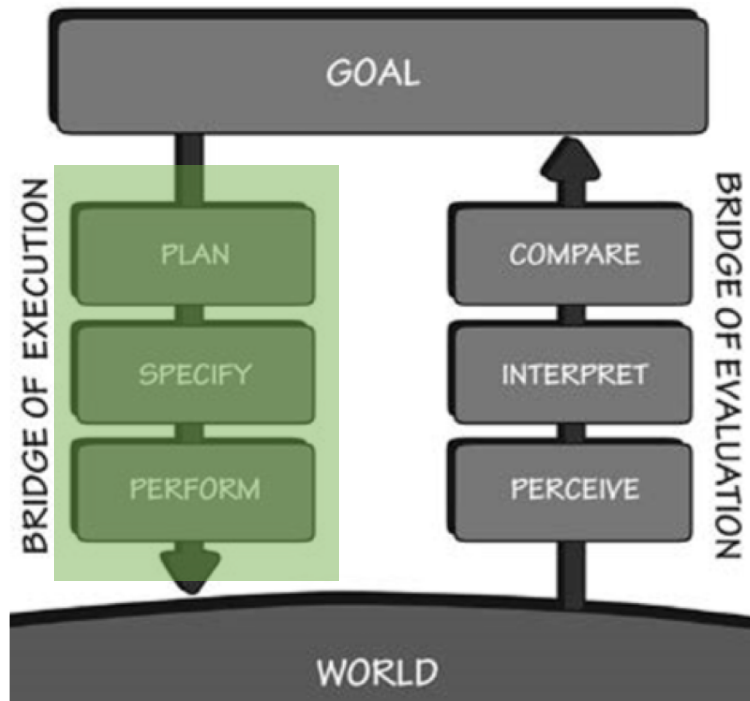
Goal: Perfect DDR score.

What's the users subgoal?

Step on the correct arrow at the correct time.



Execution 1: How does the user plan the action?

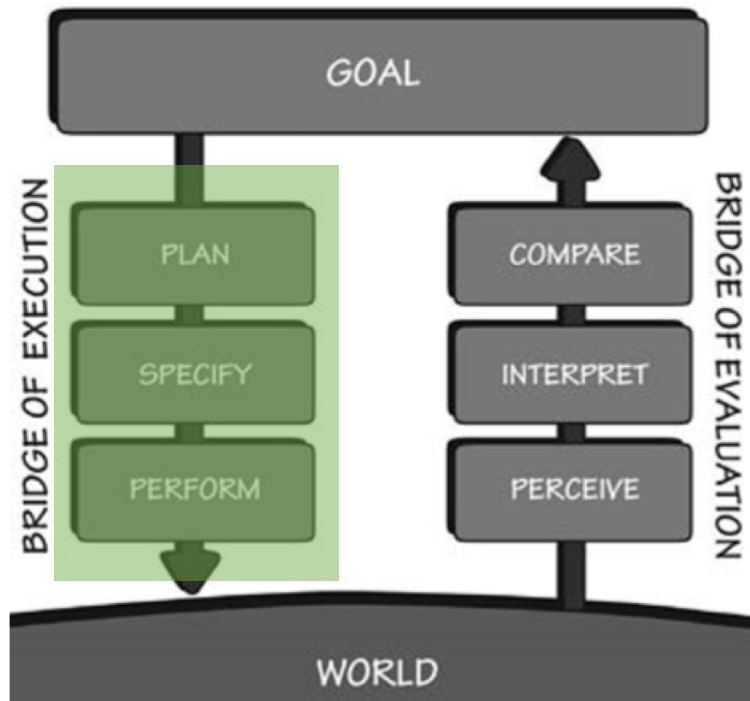


Look at the screen to see the
correct arrow/timing

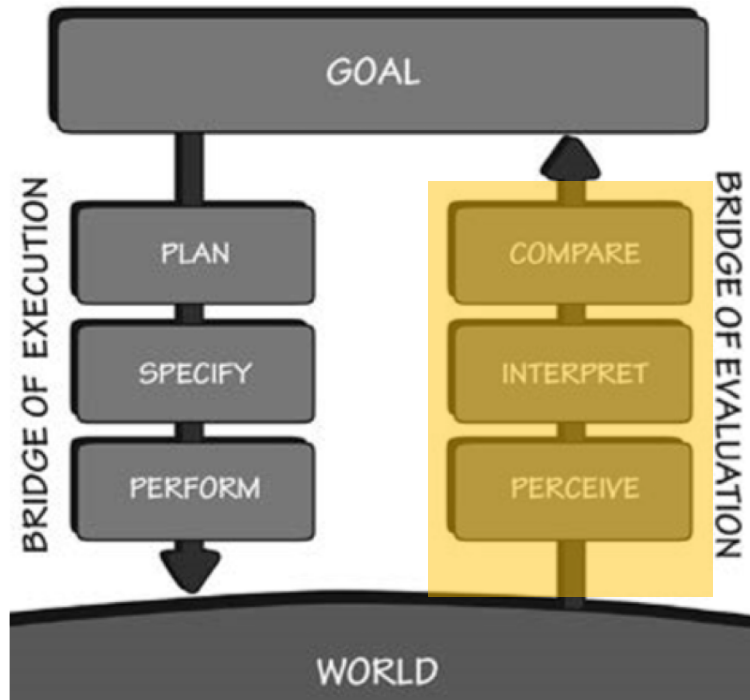


Execution 2&3: How does the user execute the action?

Lift your foot, move over arrow,
Place it at the right time



Evaluation: How does the user evaluate the action?

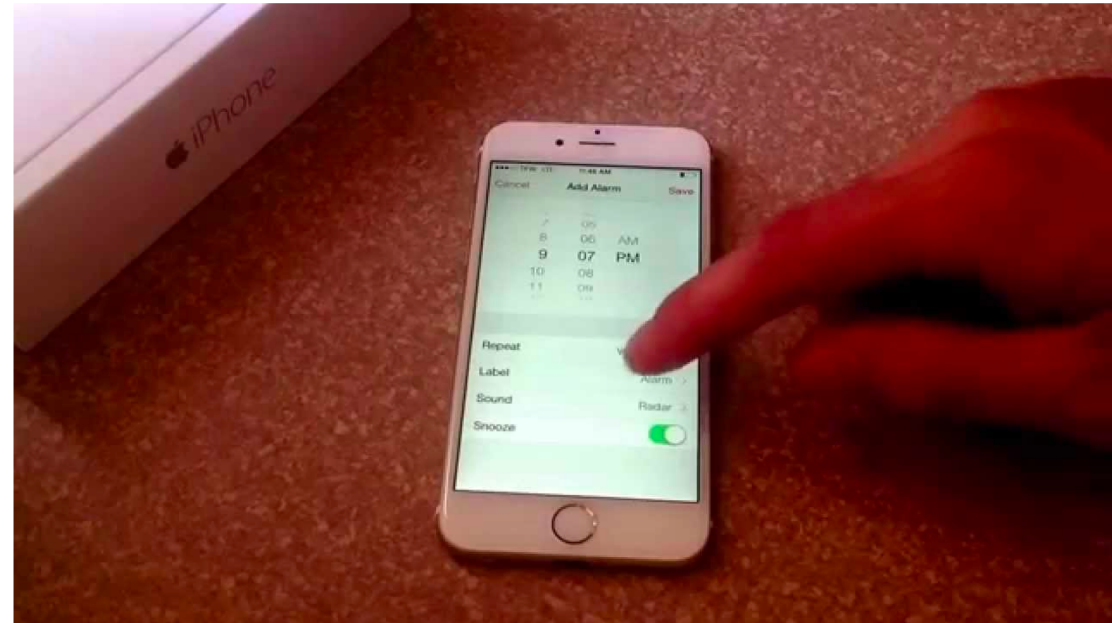
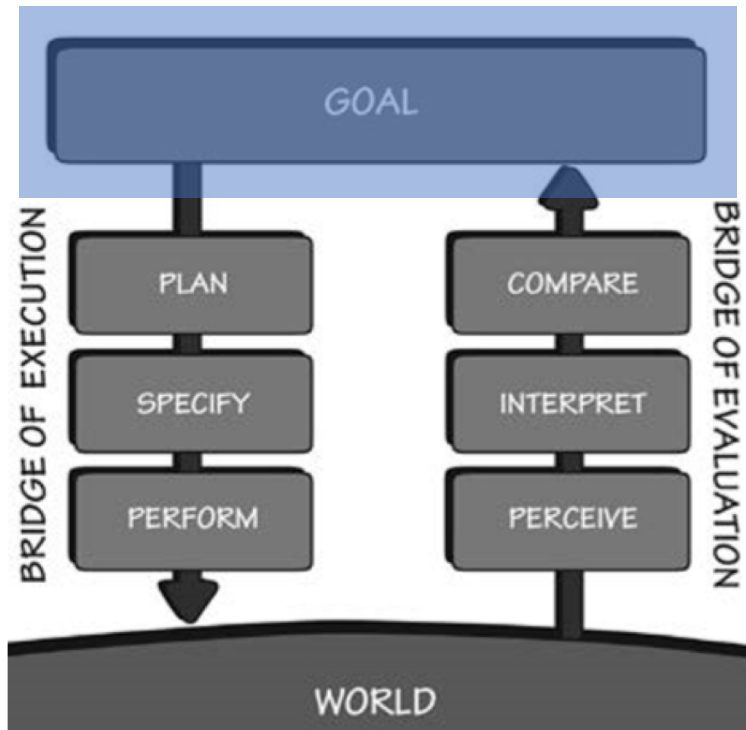


You can see the arrow flash
It tells you a grade



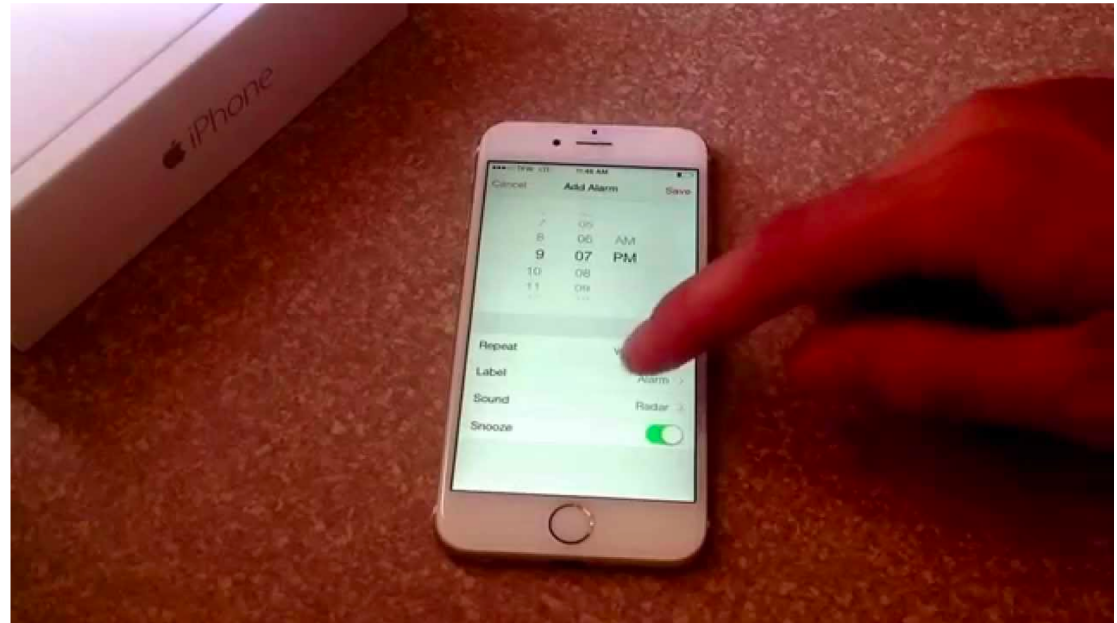
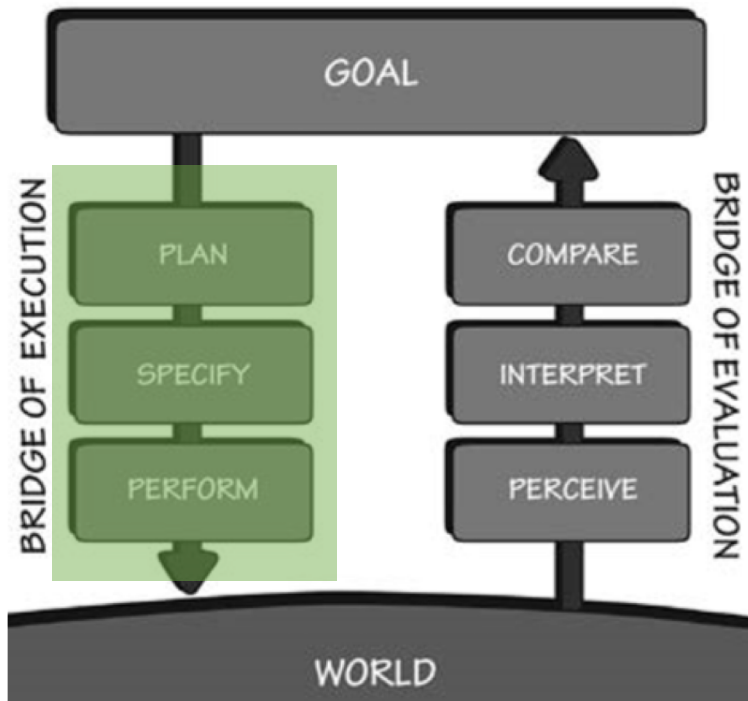
What's the users goal?

To set the alarm for 9:07am



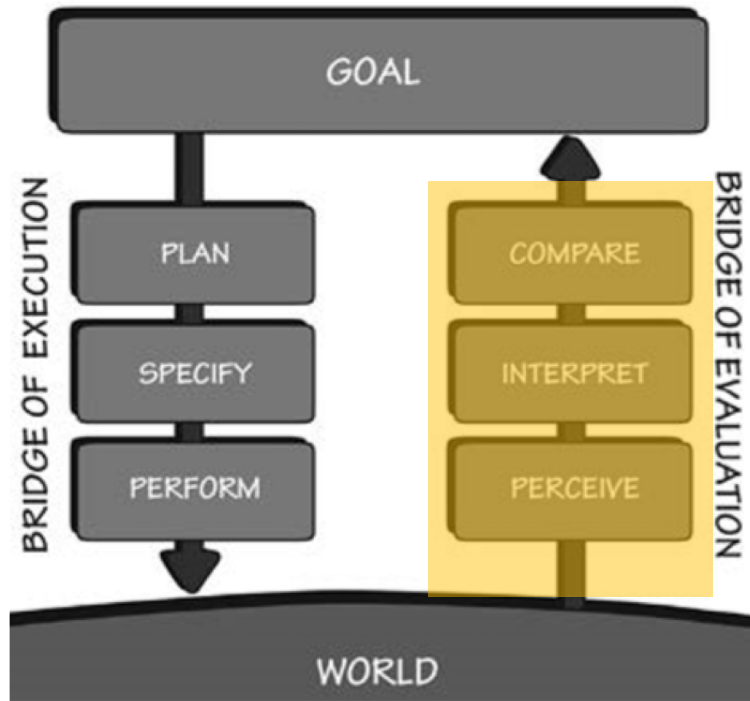
Execution?

Move the wheel to the time
Switch it to “on”



Evaluation?

Turns to an alarm screen

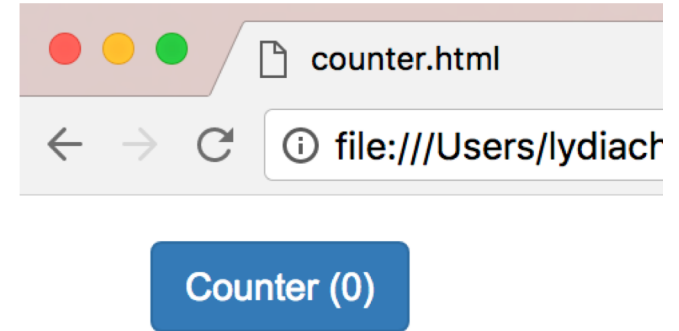


Next time:

Programming interactions in JavaScript?

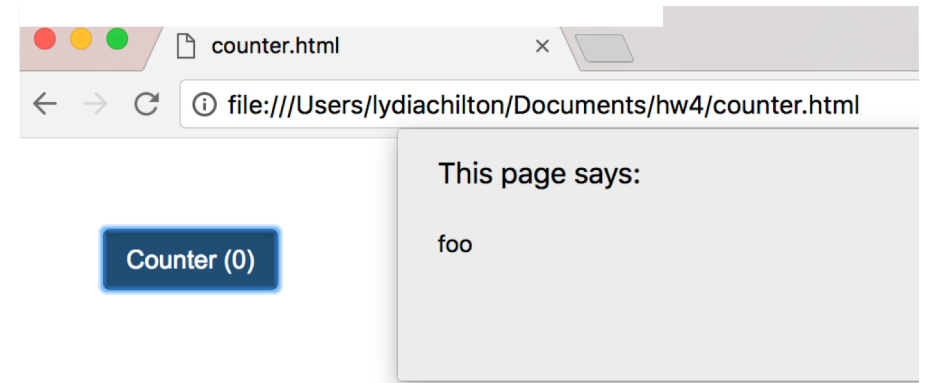
HTML

```
30  
31 <body>  
32  
33   <button id="counter" class="btn btn-primary">Counter (0)</button>  
34  
35 </body>  
36
```



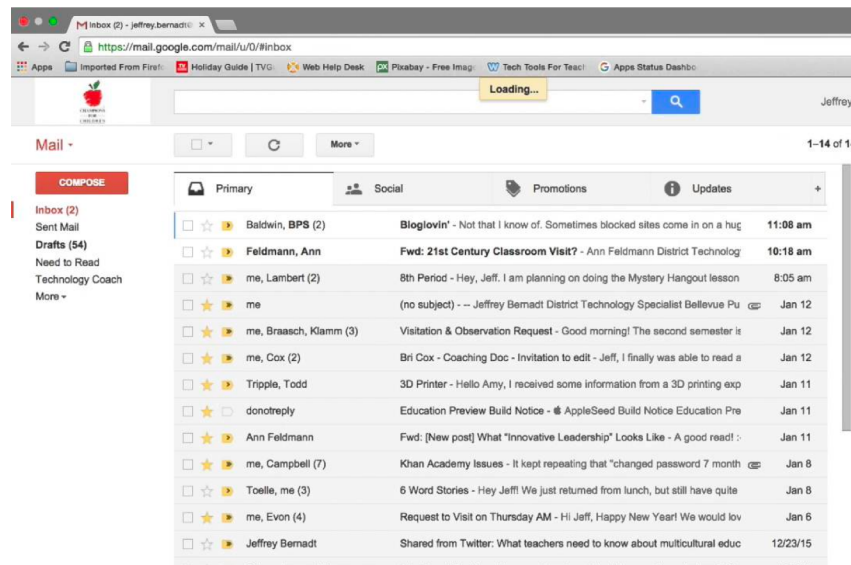
JavaScript

```
25  
26 $(document).ready(function(){  
27   $("#counter").click(function(){  
28     alert("foo")  
29   })  
30 })  
31
```

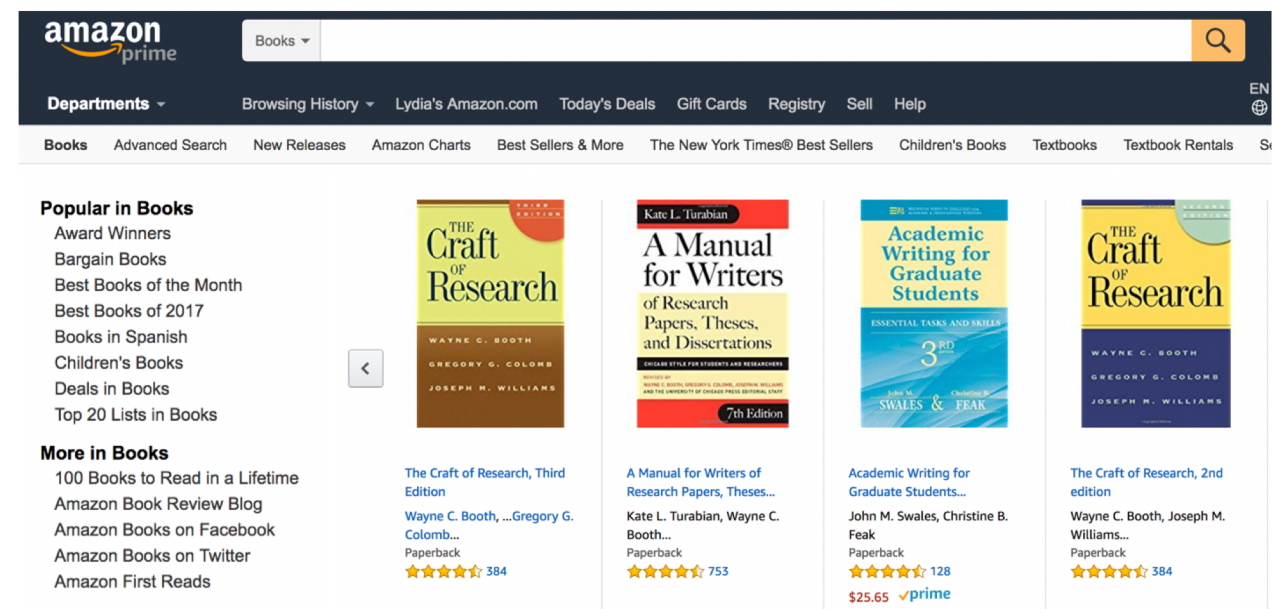


Summary

Users interact with a system to accomplish a goal



To read and respond to all email.



To buy a book

The designer must create the subgoals and interactions to help them accomplish it.

Goal: Buy a book

Subgoal:

Find it

Add to cart

Enter payment info

Place order

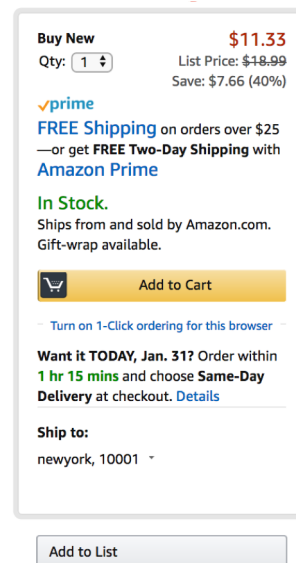
Interaction:

Type, click

click

Type, click, point

Click

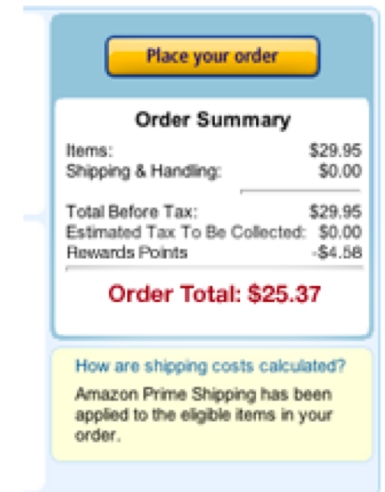


Name (as it appears on your card)

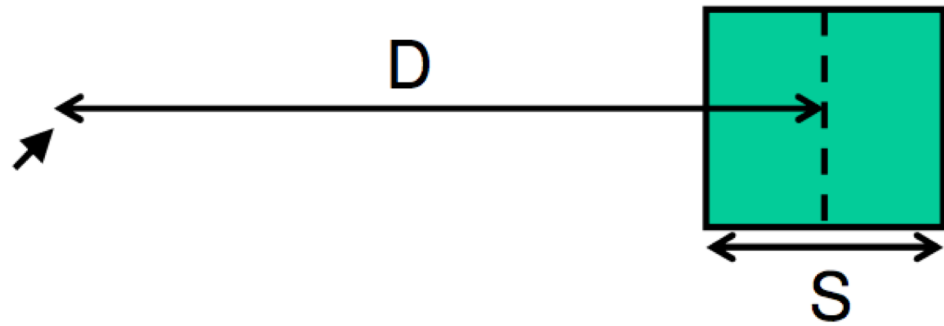
Card number (no dashes or spaces)

Expiration date

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

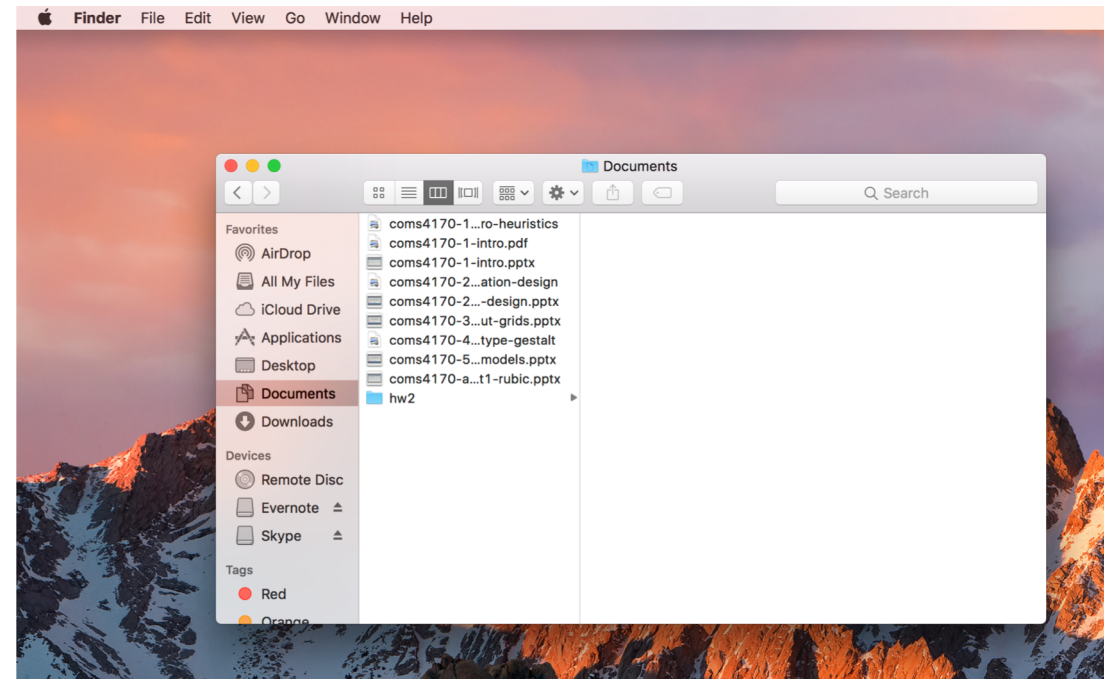
Time to move to a target : Fitts's Law



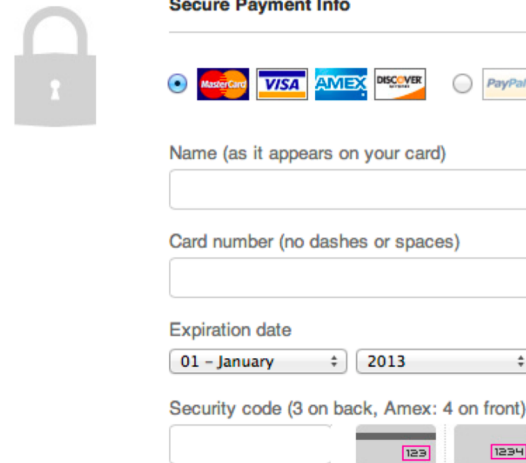
Time to move your
pointer to a target

$$= a + b * \log \left(\frac{2D}{S} \right)$$

Buttons on the edges are fast
to get to because they have
infinite size

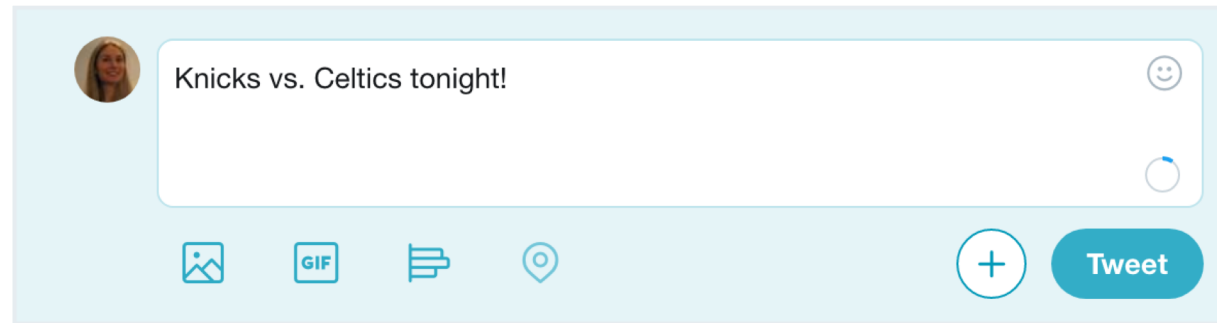
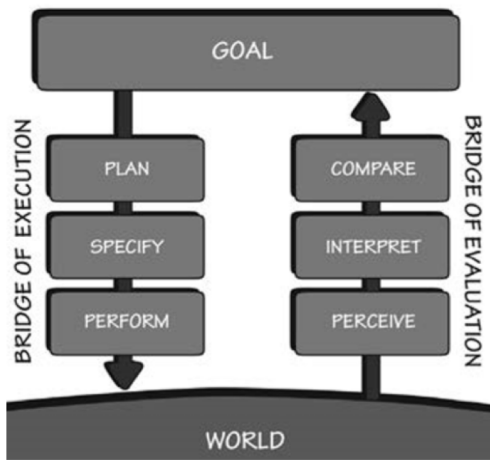


Low-level interactions take time and effort.
Minimize them because you do them a lot.



Move
Click
Move Click
TypeTypeTypeType
Move Click
TypeTypeTypeType
Move Tunnel Click
Move Tunnel Click
TypeTypeTypeType

Know the users' goals and design interactions as: **execution and evaluation**

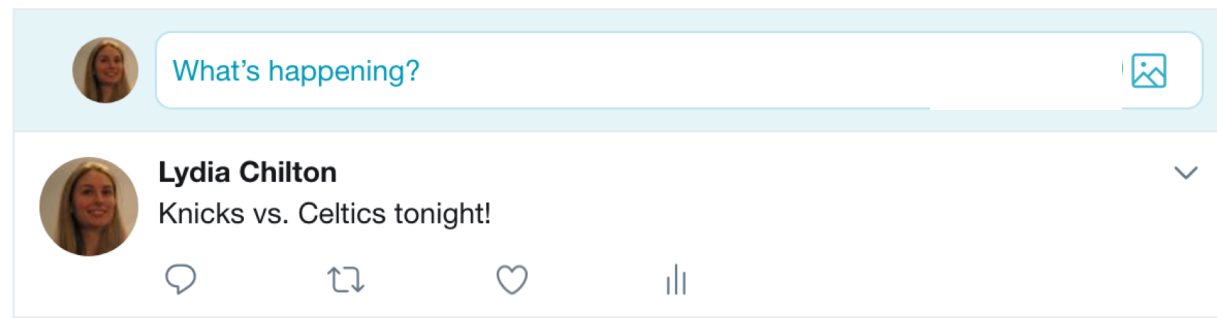


Execution

Plan the action

Specify the action sequence

Perform the action sequence



Evaluation

Perceive the state of the world

Interpret the perception

Compare the outcome with the goal