

# Design Patterns

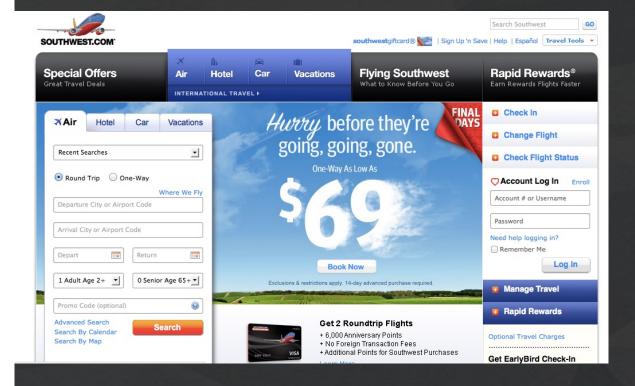
### 刘哲明

Prof. James A. Landay Computer Science Department Stanford University

Autumn 2023 November 27, 2023

# Hall of Fame or Shame?

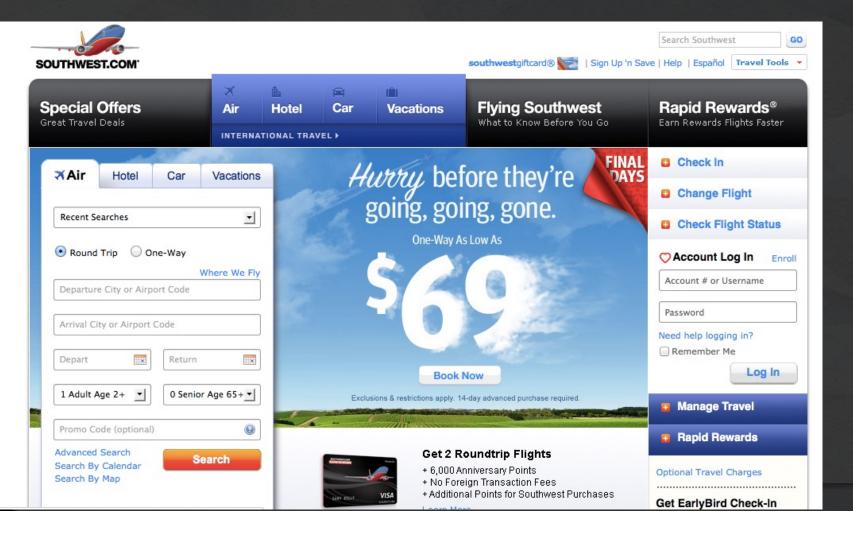




Southwest.com

# Hall of Fame or Shame?





## Hall of Shame!

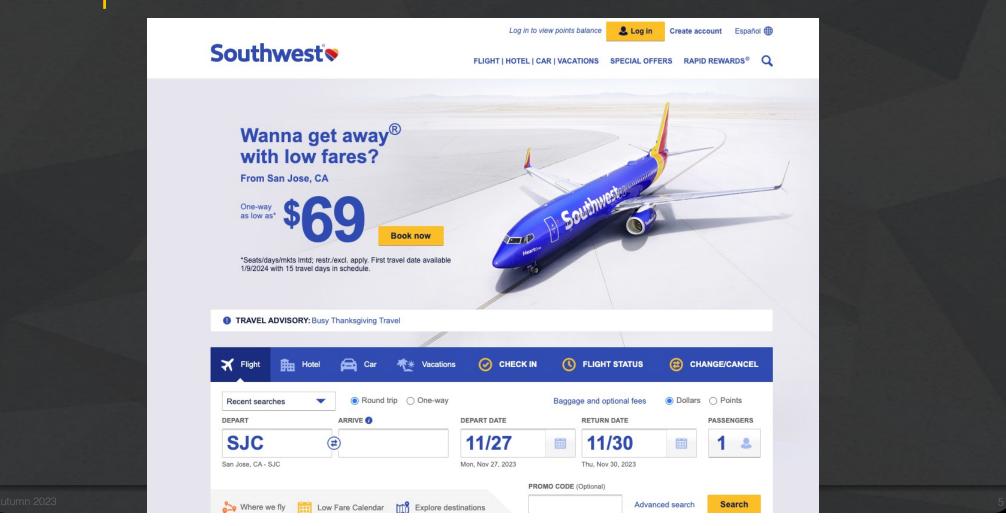




Southwest.com

- hard to notice key functions on far right
- ads dominating the screen

# Improved southwest.com



# Hall of Fame or Shame?



# Wiimote

By Nintendo





# Hall of Fame/Shame!



Great at opening up gaming to a wider audience but...

the main thing that differentiated the product (movement in gaming)

resulted in it being thrown at windows/TVs

- slippery plastic hard to hold. Later designs added rubber case & strap
- lack of a joystick was initial problem resulting in a second controller





# Design Patterns

### 刘哲明

Prof. James A. Landay Computer Science Department Stanford University

Autumn 2023 November 27, 2023

# Outline

- Detailed Design Example
- Web Design Patterns
- Patterns in the Design Exploration Phase
- Dark Patterns

Clothing & Shoes

Q

Sign in

### Find things you'll love. Support independent sellers. Only on Etsy.



Jewelry & Accessories





Wall decor



Gift Ideas



Outdoor & garden



Self-care



Craft kits

#### Popular gifts right now



Valentines Day Gift for Him,Personalized Wallet,Mens...

★★★★ (20,991)

\$19.99 \$49.98 (60% off)



Vitamin Me Daily Dose of Love: Cute Gift for Him, Anniversary...

★★★★ (3,893)

**\$22.49** \$24.99 (10% off)

FREE shipping



Heart Keychain Set - Made with Authentic LEGO® Bricks....

★★★★ (4,218)

\$8.38 \$16.76 (50% off)

FREE shipping



Romantic Personalized Record -Birthday Gift for Her -...

★★★★★ (1,942)

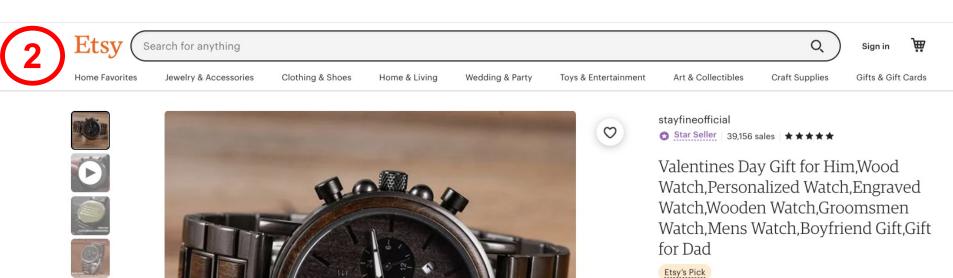
\$22.99 \$45.99 (50% off)



Valentines Day Gift for Him,Wood Watch,Personalized...

\*\*\*\* (11,338)

\$49.99 \$124.98 (60% off)





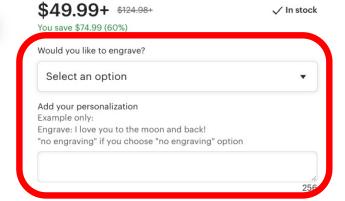






11,338 reviews ★★★★

Buyers are raving! Multiple people gave 5-star reviews to this shop in the past 7 days.



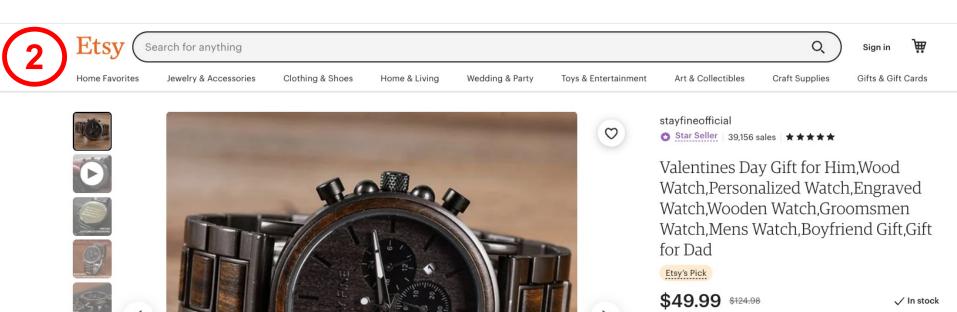




Other people want this. Over 20 people have this in their carts right now.



Star Seller. This seller has a history of 5-star reviews, shipping on time, and replying quickly when they got any

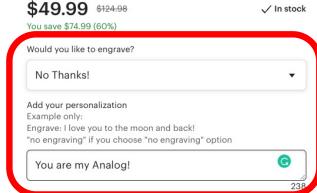






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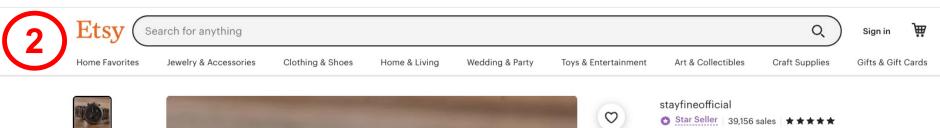


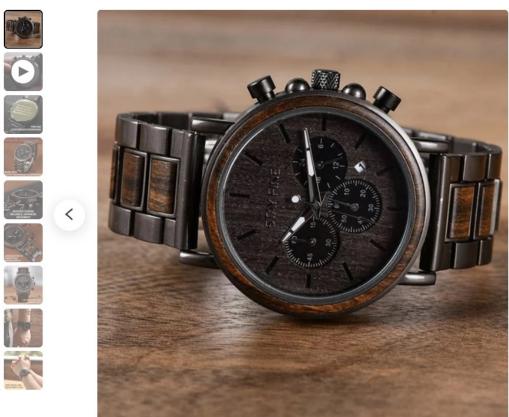


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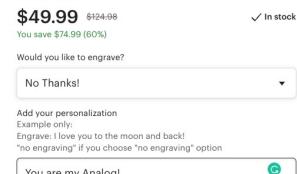
Star Seller. This seller has a history of 5-star reviews, shipping on time, and replying quickly when they got any





Valentines Day Gift for Him, Wood Watch, Personalized Watch, Engraved Watch, Wooden Watch, Groomsmen Watch, Mens Watch, Boyfriend Gift, Gift for Dad

Etsy's Pick



You are my Analog!

238

Add to cart



Other people want this. Over 20 people have this in their carts right now.



Star Seller. This seller has a history of 5-star reviews, shipping on time, and replying quickly when they got any

11,338 reviews ★★★★

Buyers are raving! Multiple people gave 5-star reviews to this shop in the past 7 days.





Search for anything





Home Favorites

Jewelry & Accessories

Clothing & Shoes

Home & Living

Wedding & Party

Toys & Entertainment

Art & Collectibles

Craft Supplies

Gifts & Gift Cards

Keep shopping

#### 1 item in your cart



#### stayfineofficial



Valentines Day Gift for Him, Wood Watch, Personalized Watch, Engraved Watch, Wooden Watch, Groomsmen Watch, Mens Watch, Boyfriend Gift, Gift for Dad Would you like to engrave?: No Thanks! [\$49.99]

Personalization: You are my Analog!

Save for later

Edit

Remove

☐ This order is a gift Prices will not be shown on packing slip

Add a note to stayfineofficial (optional)

Contact shop

\$49.99 \$124.98

Over 20 people have this in their cart

Sale: 60% off

Apply shop coupon codes

Estimated delivery: Mar 7-9 from United States How you'll pay















Item(s) total \$124.98

Shop discount -\$74.99

Subtotal

Get shipping cost

Proceed to checkout



Apply Etsy coupon code

The Uplift Fund supports nonprofits that provide resources to creative entrepreneurs in communities that need it most. You can donate your change at Checkout. Learn more



\$49.99

Etsy offsets carbon emissions from every delivery



Etsy (

Home Favorites

Search for anything

Jewelry & Accessories



Wedding & Party

Toys & Entertainment

Art & Collectibles

Craft Supplies

Gifts & Gift Cards

Sign in

#### 1 item in your cart



#### stayfineofficial



Valentines Day Gift for Him,V Watch,Personalized Watch,E Watch,Wooden Watch,Groon Watch,Boyfriend Gift,Gift for Would you like to engrave?: No Tha Edit

Personalization: You are my Analog

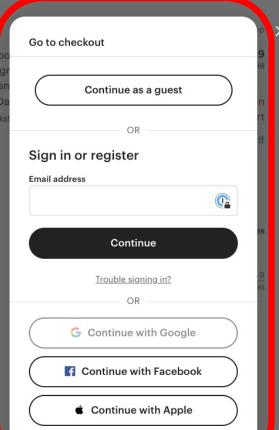
Save for later

Remove

Clothing & Shoes

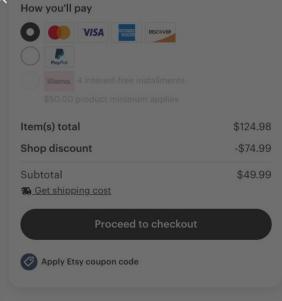
☐ This order is a gift

Add a mate to storyfine official (autional)



By clicking Continue or Continue with Google, Facebook, or Apple, you agree to Etsy's <u>Terms of</u>

#### Keep shopping



The Uplift Fund supports nonprofits that provide resources to creative entrepreneurs in communities that need it most. You can donate your change at Checkout. <u>Learn more</u>





### Etsy

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Search for anything

Jewelry & Accessories

Clothing & Shoes

Home & Living

Wedding & Party

Toys & Entertainment

Art & Collectibles

Craft Supplies

Gifts & Gift Cards

Sign in

#### 1 item in your cart



#### stayfineofficial



Valentines Day Gift for Him, Volume Watch, Personalized Watch, E. Watch, Wooden Watch, Groom Watch, Boyfriend Gift, Gift for Would you like to engrave?: No That Edit

Personalization: You are my Analog

Save for later

Remove

This order is a gift

Add a note to stayfineofficial (optional)

#### Go to checkout



landay@gmail.com Not your email? Go back.

#### Sign in

For your security, we ask for a security code for new device sign ins. You should be receiving a six digit security code at landay@gmail.com. It may take a few minutes.

If you still cannot find the code, please check any spam or trash folders for the code.

#### Security Code



✓ Stay signed in

Sign in

Resend security code

#### Keep shopping

#### How you'll pay



A interest free installments

\$50.00 product minimum applica

Item(s) total

\$124.98

Shop discount

-\$74.99 \$49.99

Subtotal

Get shipping cost

#### Proceed to checkout

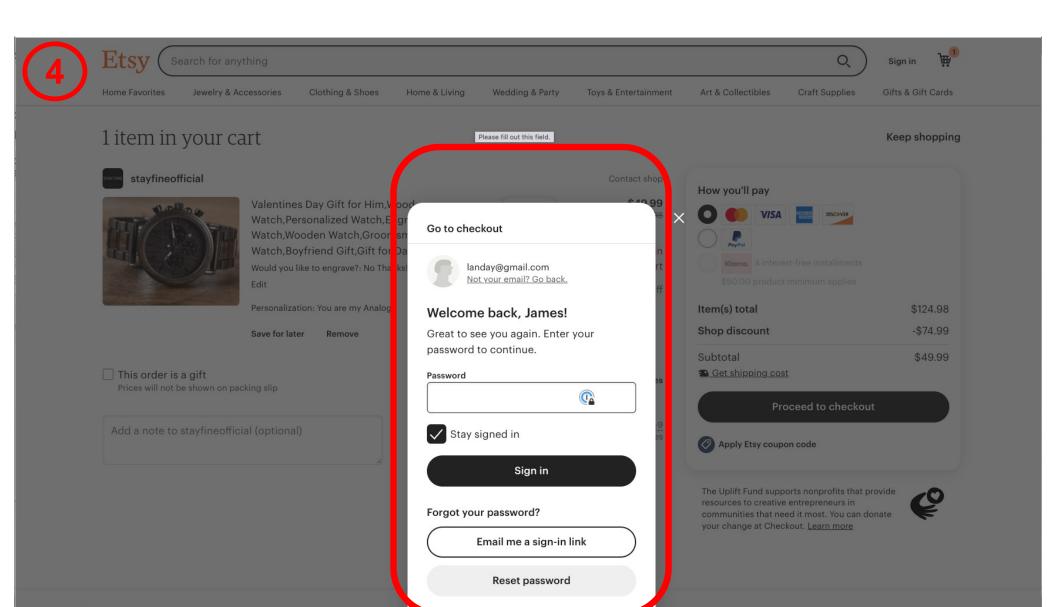


Apply Etsy coupon code

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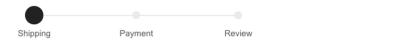


Inited States | English (IIS) | \$ (IISD)

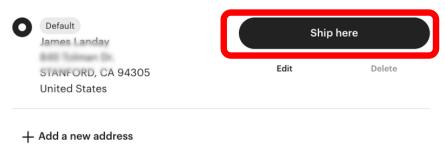




### Etsy



### Choose a shipping address



© 2022 Etsy, Inc. <u>Terms of Use</u> <u>Privacy</u> <u>Interest-based ads</u> <u>Help Center</u>

Merchant is Etsy, Inc. (USA) or Etsy Ireland UC (Ireland), depending on the currency in which the Seller transacts. See <a href="Etsy Payments Terms of Use">Etsy Payments Terms of Use</a>.

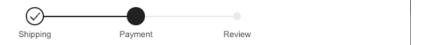
If you donate to the Uplift Fund, your Merchant for the donation amount will be Brooklyn Community Fund. <a href="See Round Up Feature Terms and Conditions">See Round Up Feature Terms and Conditions</a>.

Etsy, Inc., USA 117 Adams Street Brooklyn, NY 11201

Etsy Ireland UC 66/67 Great Strand Street Dublin 1

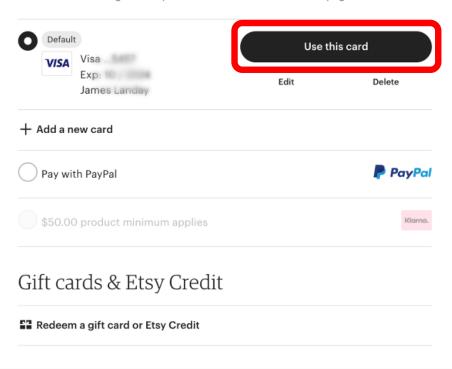


#### Etsy & Secure checkout



### Choose a payment method

You will not be charged until you review this order on the next page.



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Merchant is Etsy, Inc. (USA) or Etsy Ireland UC (Ireland), depending on the currency in which the Seller transacts. See <a href="Etsy Payments Terms of Use">Etsy Payments Terms of Use</a>.

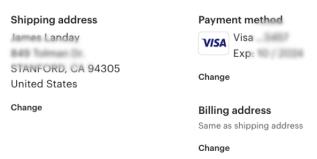
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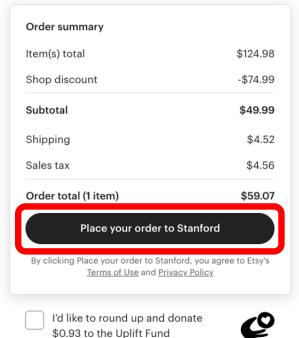


#### Etsy



### Double check your order details





\$0.93 to the Uplift Fund Learn more







Valentines Day Gift for Him, Wood Watch, Personalized



\$49.99 Choose a shipping method

# Basic Web Design

Let's take a closer look page by page

Jewelry & Accessories

Q

Sign in

### Find things you'll love. Support independent sellers. Only on Etsy.







Wall decor



Gift Ideas



Outdoor & garden



Self-care



Craft kits

#### Popular gifts right now



Valentines Day Gift for Him,Personalized Wallet,Mens...

★★★★ (20,991)

\$19.99 \$49.98 (60% off)



Vitamin Me Daily Dose of Love: Cute Gift for Him, Anniversary...

★★★★ (3,893)

**\$22.49** \$24.99 (10% off) FREE shipping



Heart Keychain Set - Made with Authentic LEGO® Bricks....

★★★★ (4,218)

\$8.38 \$16.76 (50% off)

FREE shipping



Romantic Personalized Record - Birthday Gift for Her -...

★★★★★ (1,942)

\$22.99 \$45.99 (50% off)



Valentines Day Gift for Him,Wood Watch,Personalized...

★★★★★ (11,338)

\$49.99 \$124.98 (60% off)

Jewelry & Accessories

### Find things you'll love. Support independent sellers. Only on Etsy.



Face masks

Wall

### What site is this?

- Logo in top-left corner denotes the site
- examples of SITE BRANDING (E1)

#### Popular gifts right now



Valentines Day Gift for Him,Personalized Wallet,Mens...

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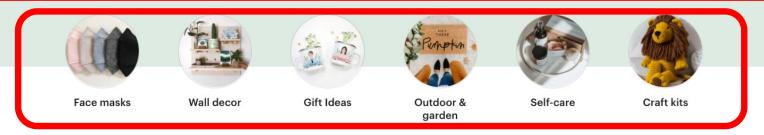
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#### Popular gifts right now



Valentines Day Gift for Him,Personalized Wallet,M ★★★★ (20,991) \$19.99 \$49.98 (60% off)

### What kind of site is this?

- Shopping cart icon
- Tab row categories/featured navigation
- UP-FRONT VALUE PROPOSITION (C2)
- example of Personal E-Commerce (A1)

## Find things you'll love. Support independent sellers. Only on Etsy.







Wall decor



Gift Ideas

Heart Keycl

Authentic L ★★★★★ (4)

\$8.38 <del>\$16.76</del>

FREE shipping



Outdoor & garden



Self-care



Craft kits

#### Popular gifts right now



Valentines Day Gift for Him,Personalized Wallet,Mens...

★★★★ (20,991)

\$19.99 \$49.98 (60% off)



Vitamin Me Daily Dose of Love: Cute Gift for Him, Anniversary...

\*\*\*\* (3,893)

\$22.49 \$24.99 (10% off)

**FREE** shipping

### What can I do here?

- Support sellers → buy
- Tab row / Search on top
- Click on popular gifts





### Find things you'll love. Support independent sellers. Only on Etsy.







Wall decor



Gift Ideas

\*\*\*\*

\$8.38 \$16.

FREE shippin



Outdoor & garden



Self-care



Craft kits

#### Popular gifts right now



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Heart Keychain Set - Made with Authentic LEGO® Bricks,...



Romantic Personalized Record -Birthday Gift for Her -...



Valentines Day Gift for Him,Wood Watch,Personalized...

 Most important info visible without scrolling

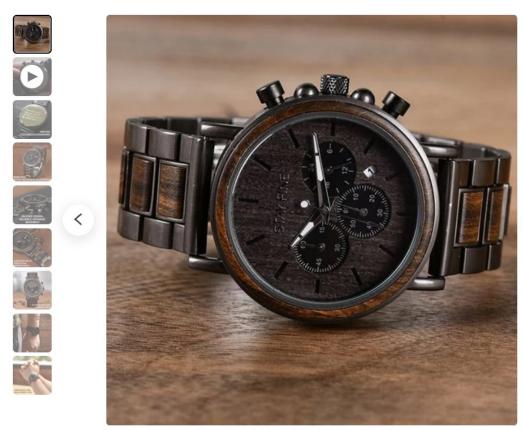
ABOVE THE FOLD (I2)

Editors' Picks

#### Wall Art and Decor

Shop these unique finds →



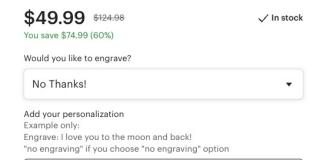


stayfineofficial Star Seller | 39,156 sales | ★★★★★

Valentines Day Gift for Him, Wood Watch, Personalized Watch, Engraved Watch, Wooden Watch, Groomsmen Watch, Mens Watch, Boyfriend Gift, Gift for Dad

Etsy's Pick

 $\Diamond$ 



You are my Analog!

G

#### Add to cart



Other people want this. Over 20 people have this in their carts right now.



Star Seller. This seller has a history of 5-star reviews, shipping on time, and replying quickly when they got any

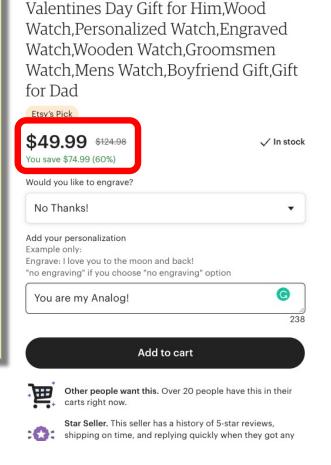
11,338 reviews ★★★★

Buyers are raving! Multiple people gave 5-star reviews to this shop in the past 7 days.



### What site am I at?

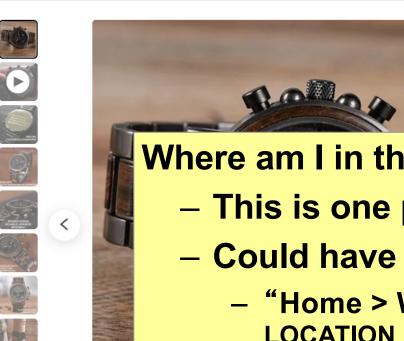
- Logo in upper-left reinforces brand, can click to go to home
- Same font, layout, color scheme also reinforces
- examples of SITE BRANDING (E1)
- price emphasizes I can buy
- i.e., PERSONAL E-COMMERCE (A1)



11,338 reviews ★★★★

Buyers are raving! Multiple people gave 5-star reviews to this shop in the past 7 days.







Watch, Wooden Watch, Groomsmen

### Where am I in the site?

- This is one place Etsy falls down
- Could have had
  - "Home > Watches" as **LOCATION BREADCRUMBS (K6)**
  - "Jewlery & Accessories" could be selected in TAB ROW (K3) & SEARCH ACTION MODULE (J1)

11.338 reviews ★★★★

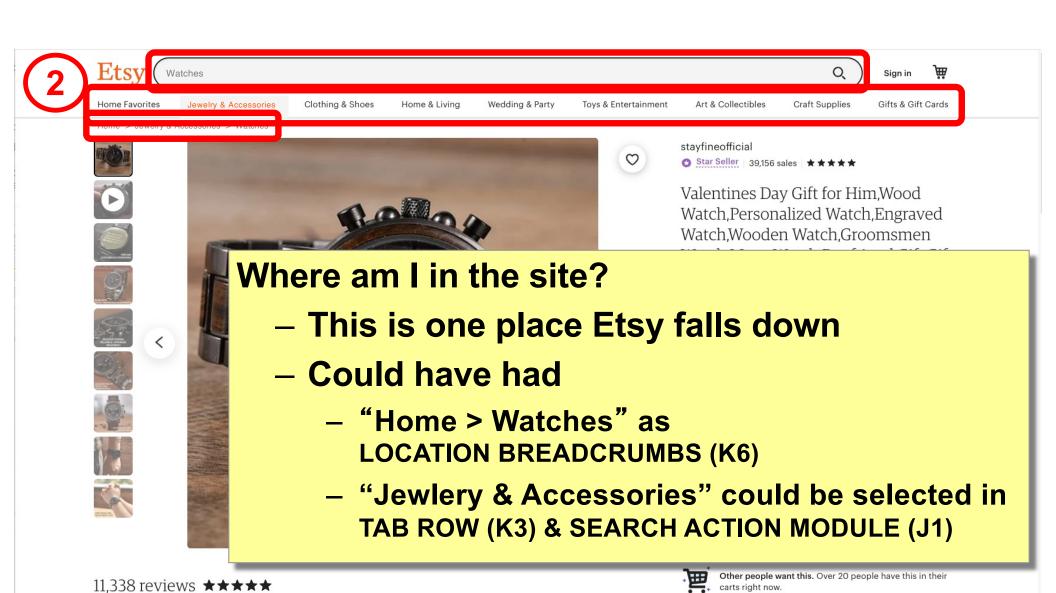
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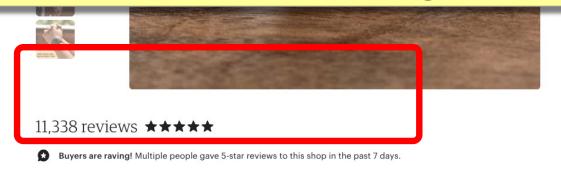
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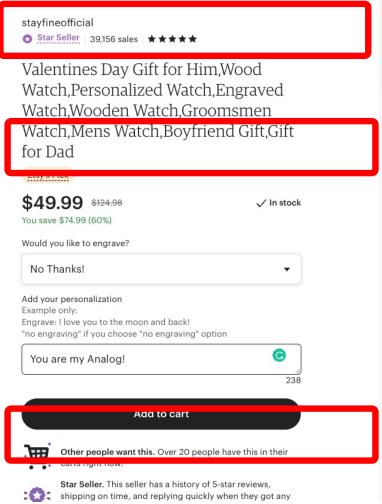
shipping on time, and replying quickly when they got any

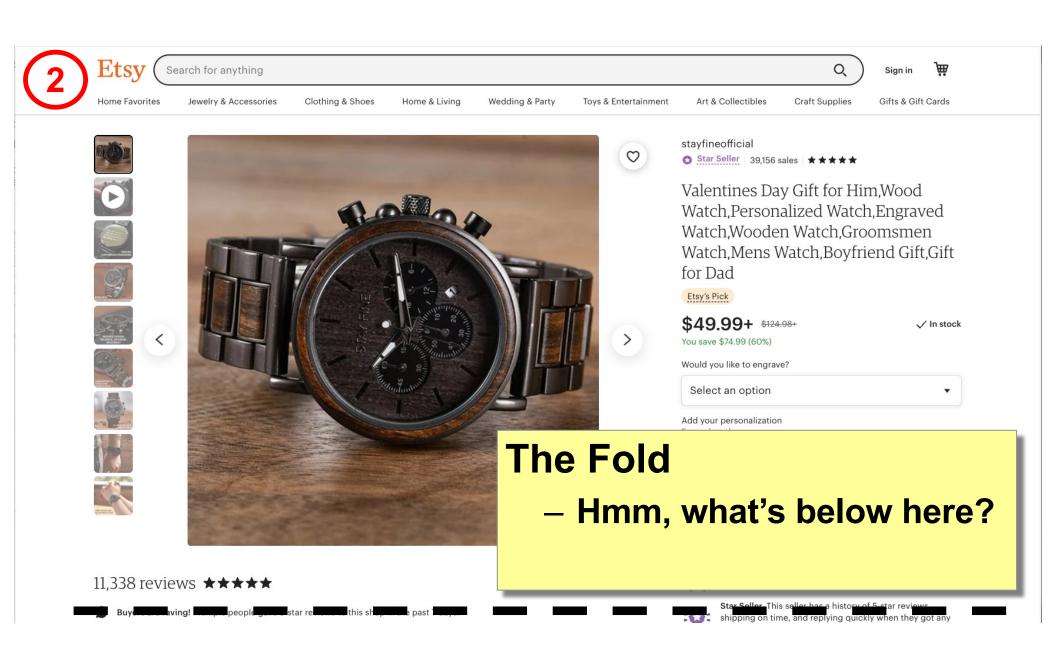


### Can I trust this seller?

- Who am I buying from?
- Are they reputable?
  - aside: what do stars mean?
- Do people like the product?
- What about shipping cost?





















#### 11,338 reviews ★★★★

Buyers are raving! Multiple people gave 5-star reviews to this shop in the past 7 days.

Reviews for this item 6,131 Reviews for this shop 11,338

Sort by: Recommended ▼



<u>Caitlyn</u> Feb 27, 2022

#### \*\*\*\*

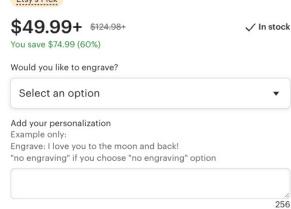
Would you like to engrave?: Yes + Extra Links Everything about this watch was even more beautiful in person!

Shipping was super fast and Paul even sent a message to make sure I was happy with my purchase!



#### Watch, Mens Watch, Boyfriend Gift, Gift for Dad

Etsy's Pick



#### Add to cart



Other people want this. Over 20 people have this in their carts right now.



Star Seller. This seller has a history of 5-star reviews, shipping on time, and replying quickly when they got any messages.



Arrives by Mar 7-9 if you order today.

Details

Handmade item

Can be personalized

Description

#### Helpful?



Alyssa Strausser Feb 22, 2022



Would you like to engrave?: Yes Please!

I ordered this for my boyfriend for Valentine's Day and I could not be happier! The quality was impeccable and the customer service was even better. I chose to get it engraved and after I submitted my order, I thought of something different to have engraved. The...

#### Helpful?



Meghan Welter Feb 23, 2022



Would you like to engrave?: Yes + Extra Links

I will definitely order from Paul again. And I highly recommend ordering from Paul! He was quick to respond when I had a moment of panic that I wrote the message I wanted engrave wrong, which I didn't, and he understood exactly what I meant and needed. M...

#### Helpful?



Emily Cromer Feb 22, 2022



Would you like to engrave?: Yes Please!

This watch is beautiful! It looks even better in person! This is the first thing I've ordered through Etsy, and it couldn't have been a better outcome!



Helpful?

#### Description

Complimentary adjustment tool for wood link.

-For very large wrist, if you need extra links, please select "+Extra links" option when you place the order, and we'll provide 4 extra links for you in the box.

ENGRAVED MESSAGE INSTRUCTIONS

Learn more about this item

#### Shipping and return policies

^

^

Estimated arrival

Mar 7-9

曲 Mar 7-9

Mar 2 Mar 3-4
Order placed Order ships

Delivered!

Cost to ship

Returns & exchanges

\$4.52

Accepted

Exceptions may apply

Etsy offsets carbon emissions from shipping and packaging on this purchase.

Deliver to United States, 94305 >

Ships from Redding, CA

View shop policies





Search for anything

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Sign in



Home Favorites

Jewelry & Accessories

Clothing & Shoes

Home & Living

Wedding & Party

Toys & Entertainment

Art & Collectibles

Craft Supplies

Gifts & Gift Cards

Keep shopping

#### 1 item in your cart



#### stayfineofficial



Valentines Day Gift for Him, Wood Watch, Personalized Watch, Engraved Watch, Wooden Watch, Groomsmen Watch, Mens Watch, Boyfriend Gift, Gift for Dad Would you like to engrave?: No Thanks! [\$49.99]

Edit

Personalization: You are my Analog!

Save for later

Remove

☐ This order is a gift Prices will not be shown on packing slip

Add a note to stayfineofficial (optional)

Contact shop

\$49.99 \$124.98

Over 20 people have this in their cart

Sale: 60% off

Apply shop coupon codes

Estimated delivery: Mar 7-9 from United States

How you'll pay















Item(s) total \$124.98 Shop discount -\$74.99

Subtotal \$49.99

Get shipping cost

Proceed to checkout



The Uplift Fund supports nonprofits that provide resources to creative entrepreneurs in communities that need it most. You can donate your change at Checkout. Learn more



Etsy offsets carbon emissions from every delivery





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Clothing & Shoes Home

Home & Living Wedding & Party

Party Toys & Entertainment

Art & Collectibles

Craft Supplies

Q

Gifts & Gift Cards

Keep shopping

Sign in

#### 1 item in your cart





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Personalization: You are my Analog!

Contact shop

\$49.99 \$124.98

Over 20 people have this in their cart

Sale: 60% off

How you'll pay



**Klama.** 4 interest-free installments

Item(s) total \$124.98

Shop discount -\$74.99

Subtotal \$49.99

Get shipping cost

#### Proceed to checkout



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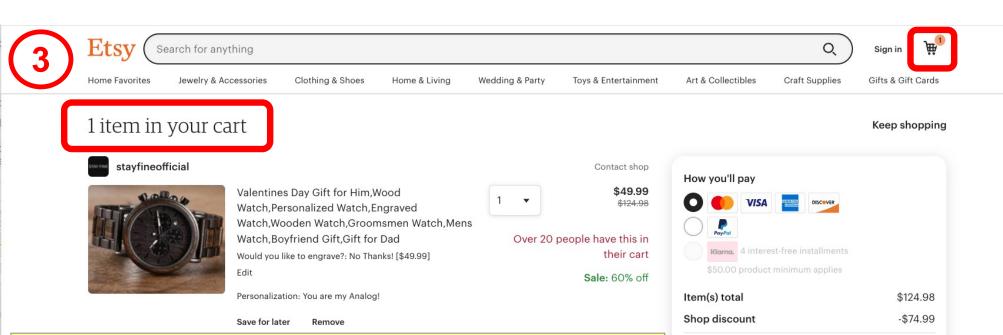


### What site am I at?

Logo in upper-left

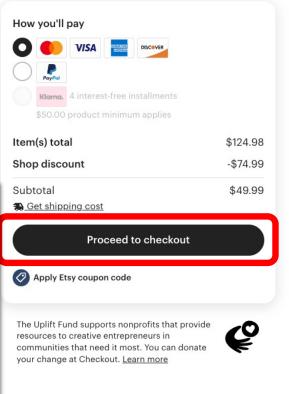
Edit

- Colors, layout, font
- examples of SITE BRANDING (E1)

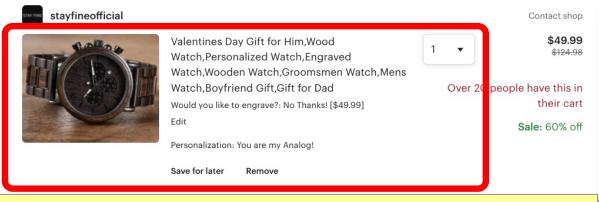


#### Where am I in the site?

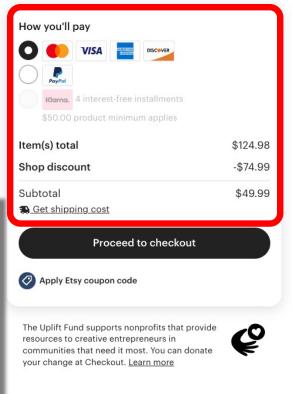
- Last button clicked was "Add to cart!"
- "in your cart" & "Proceed to Checkout" reinforce I'm on "the right page"
- shopping cart icon changed
- SHOPPING CART (F3)



#### 1 item in your cart Keep shopping



- What am I going to buy?
  - Easy to remove & save for later
- How much will it cost?
  - Could be better as need to click for shipping costs – surprise!
- SHOPPING CART (F3)







Home Favorites

Search for anything

Jewelry & Accessories

Clothing & Shoes Home & Living

Wedding & Party

Toys & Entertainment

Art & Collectibles

Craft Supplies

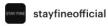
Q.

Gifts & Gift Cards

Keep shopping

Sign in

#### 1 item in your cart





Valentines Day Gift for Him, Wood Watch, Personalized Watch, Engraved Watch, Wooden Watch, Groomsmen Watch, Mens Watch, Boyfriend Gift, Gift for Dad

Would you like to engrave?: No Thanks! [\$49.99] Edit

Personalization: You are my Analog!

#### Contact shop

\$49.99

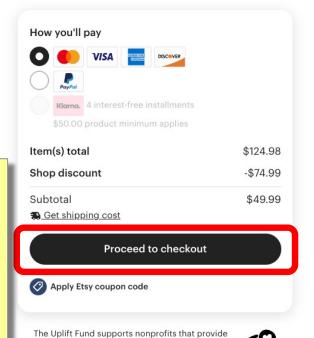
Over 20 people have this in their cart

Sale: 60% off

#### What can I do (they want me to do)?

- "Proceed to Checkout" **HIGH VISIBILITY ACTION BUTTON (K5)** 
  - visually distinct, looks clickable
  - large

Etsy offsets carbon emissions from every delivery

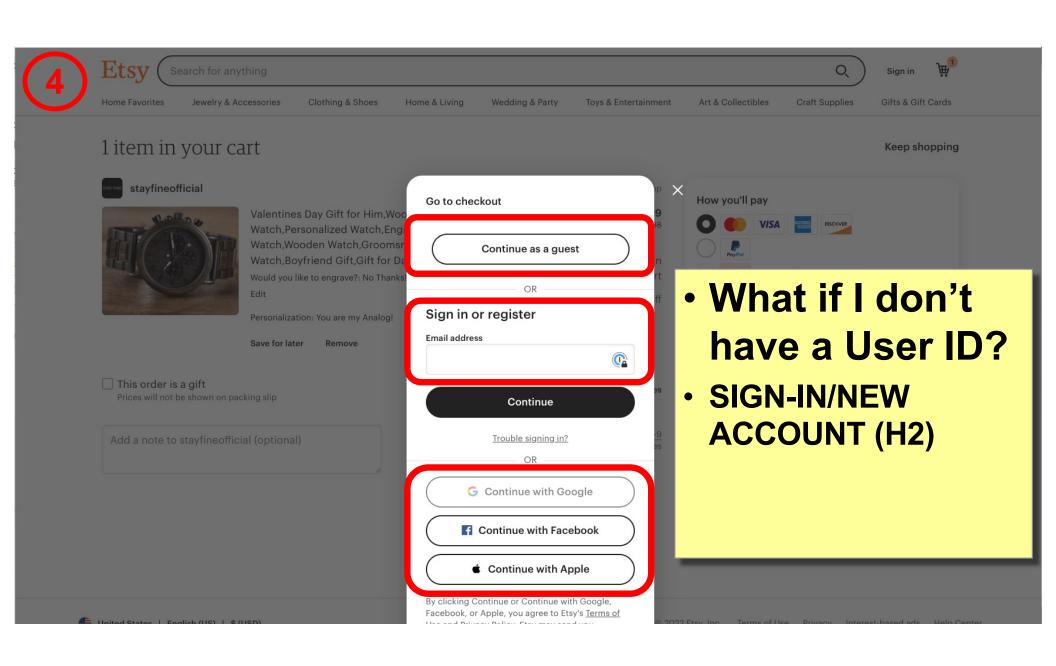


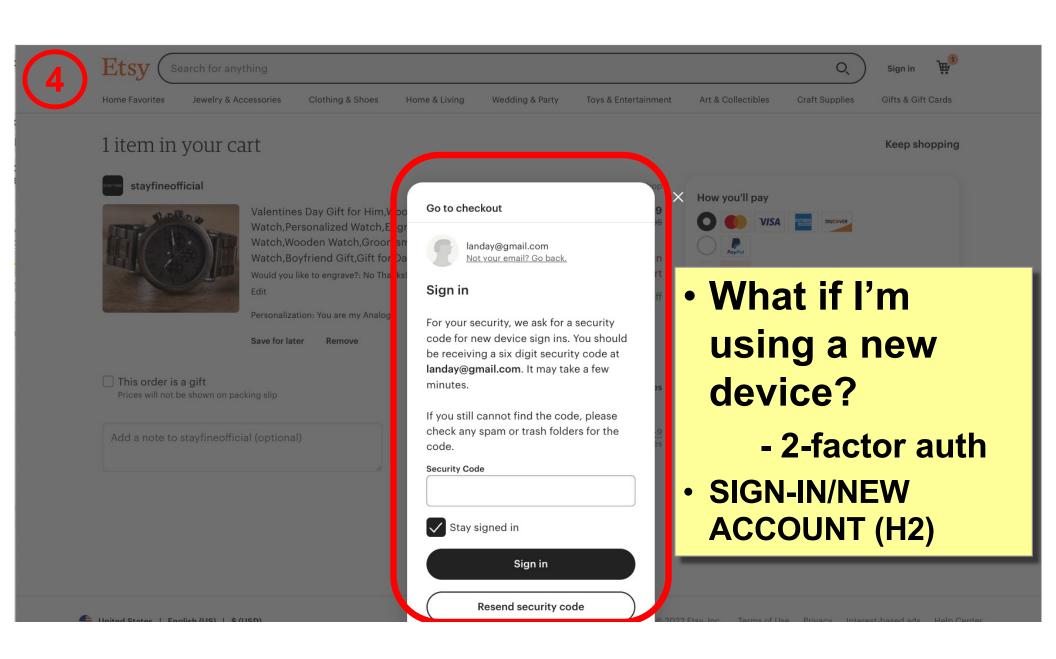
A 11-14-4 Chatan | Familiah (110) | 6 (1100)

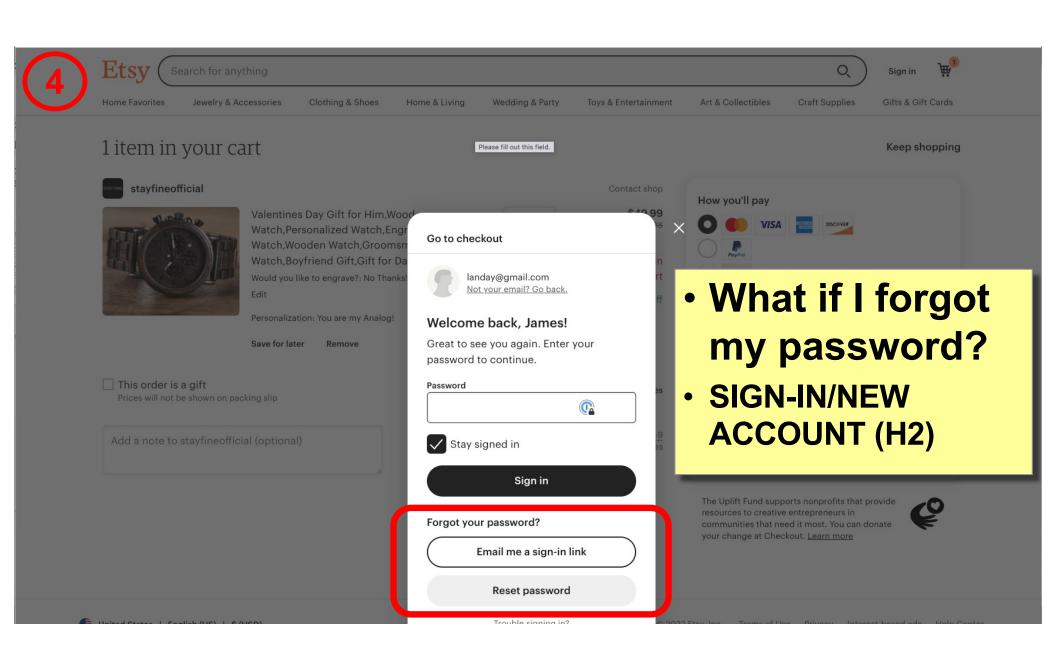
resources to creative entrepreneurs in

communities that need it most. You can donate your change at Checkout. Learn more

Torms of Has Drivesus Interest based ada Hala Cantar







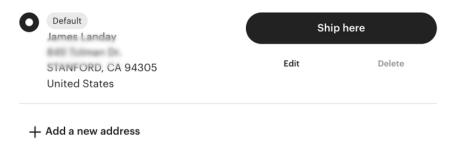


#### Etsy

Secure checkout



#### Choose a shipping address

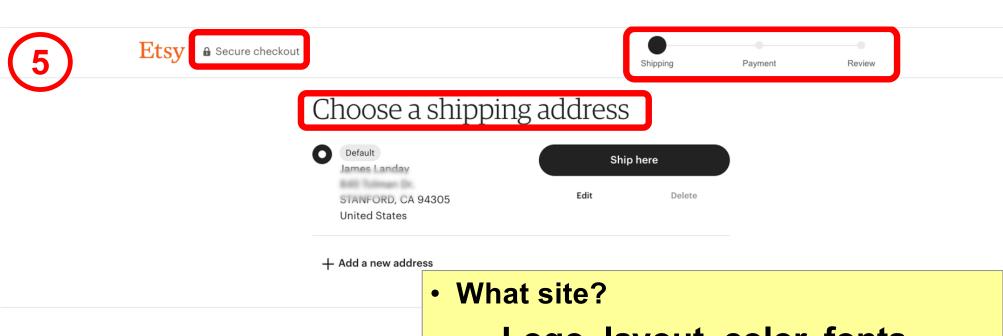


© 2022 Etsy, Inc. <u>Terms of Use</u> <u>Privacy</u> <u>Interest-based ads</u> <u>Help Center</u>

Merchant is Etsy, Inc. (USA) or Etsy Ireland UC (Ireland), depending on the currency in which the Seller transacts. See Etsy Payments Terms of Use. If you donate to the Uplift Fund, your Merchant for the donation amount will be Brooklyn Community Fund. See Round Up Feature Terms and Conditions.

Etsy, Inc., USA 117 Adams Street Brooklyn, NY 11201

Etsy Ireland UC 66/67 Great Strand Street Dublin 1



Merchant is Etsy, Inc. (USA) or Etsy Ireland UC (Ir If you donate to the Uplift Fund, your Merchant for t

Etsy, Inc., USA 117 Adams Stre

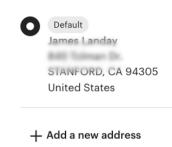
- Logo, layout, color, fonts
- Where in site?
  - Checkout, step 1 of 3
  - "Choose a shipping address"
  - QUICK-FLOW CHECKOUT (F1)



#### Etsy & Secure checkout



#### Choose a shipping address



Note what's different (?)

No tab rows

Ship here

No impulse buys

 Only navigation on page takes you to next step

This is a PROCESS FUNNEL (H1)

 Extraneous info & links removed to focus customers

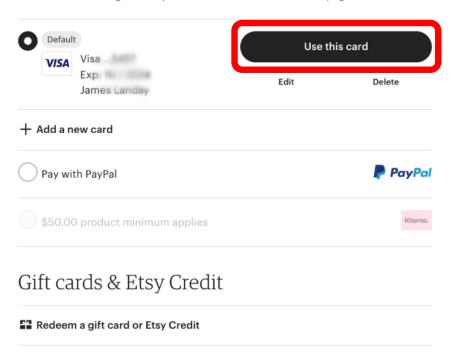
Merchant is Etsy, Inc. (USA) or Etsy Ireland UC (Ireland), dep If you donate to the Uplift Fund, your Merchant for the donation

Etsy, Inc., USA 117 Adams Street Brooklyn



#### Choose a payment method

You will not be charged until you review this order on the next page.



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Merchant is Etsy, Inc. (USA) or Etsy Ireland UC (Ireland), depending on the currency in which the Seller transacts. See <a href="Etsy Payments Terms of Use">Etsy Payments Terms of Use</a>.

If you donate to the Uplift Fund, your Merchant for the donation amount will be Brooklyn Community Fund. See Round Up Feature Terms and Conditions.



#### Etsy



#### Double check your order details

#### Shipping address

James Landay 849 Tolman Dr.

STANFORD, CA 94305 **United States** 

Change

Payment method

Change

Billing address

Same as shipping address

Change

Order summary

Item(s) total \$124.98

Shop discount -\$74.99

Subtotal \$49.99

Shipping \$4.52

Sales tax \$4.56

Order total (1 item) \$59.07

#### Place your order to Stanford

By clicking Place your order to Stanford, you agree to Etsy's Terms of Use and Privacy Policy

I'd like to round up and donate \$0.93 to the Uplift Fund Learn more







Valentines Day Gift for Him, Wood Watch, Personalized Watch, Engraved Watch, Wooden



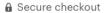
\$49.99 Choose a shipping method \$124.98



USPS First-Class Mail



#### Etsy





#### Double check your order details





#### Last step of process

- Step 3, "Review/Place Order"
- "Place your order" button
- **HIGH-VISIBILITY ACTION BUTTON (K5)**

Place your order to Stanford	
Order total (1 item)	\$59.07
Sales tax	\$4.56
Shipping	\$4.52
Subtotal	\$49.99
Shop discount	-\$74.99
Item(s) total	\$124.98

I'd like to round up and donate \$0.93 to the Uplift Fund Learn more







Valentines Day Gift for Him, Wood Watch, Personalized Watch, Engraved Watch, Wooden



\$49.99 Choose a shipping method \$124.98



USPS First-Class Mail

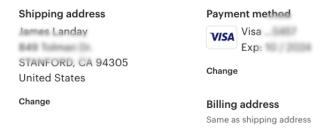


#### Etsv

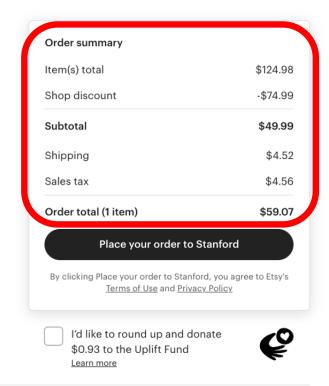


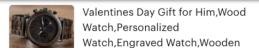


#### Double check your order details



- No nasty surprises
  - Can see order
  - Total price is same as shopping cart
  - ORDER SUMMARY (F7)







\$49.99 Choose a shipping method \$124.98



USPS First-Class Mail



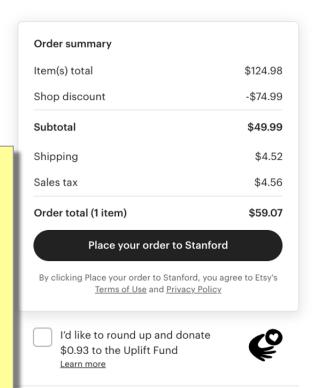
#### Etsv

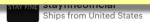


#### Double check your order details



- Easy to change shipping & billing
- All of these things are part of the design pattern
  - QUICK-FLOW CHECKOUT (F1)







Valentines Day Gift for Him, Wood Watch, Personalized Watch, Engraved Watch, Wooden



\$49.99 Choose a shipping method \$124.98



USPS First-Class Mail

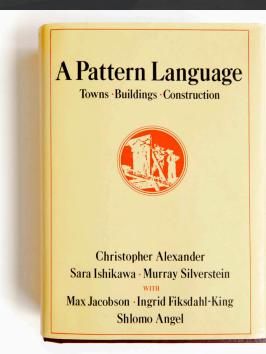
### Design = Solutions

- Design is about finding solutions
- Unfortunately, designers often reinvent
  - Hard to know how things were done before
  - Why things were done a certain way
  - How to reuse solutions

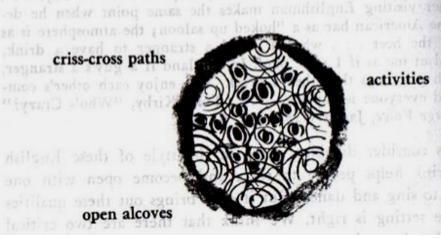
### Design Patterns

### Communicate common design problems & solutions

- First used in architecture [Alexander]
  - Ex. How to create a beer hall where people socialize?



Somewhere in the community at least one big place where a few hundred people can gather, with beer and wine, music, and perhaps a half-dozen activities, so that people are continuously criss-crossing from one to another.



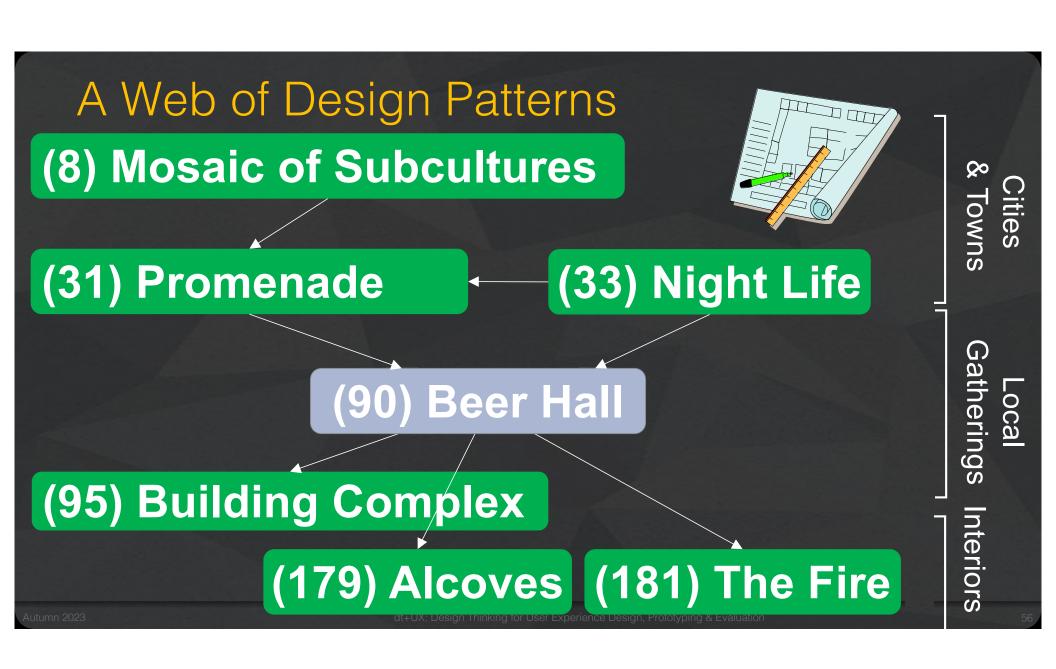
Somewhere in the community at least one big place where a few hundred people can gather, with beer and wine, music, and perhaps a half-dozen activities, so that people are continuously criss-crossing from one to another.

the same point when he de-



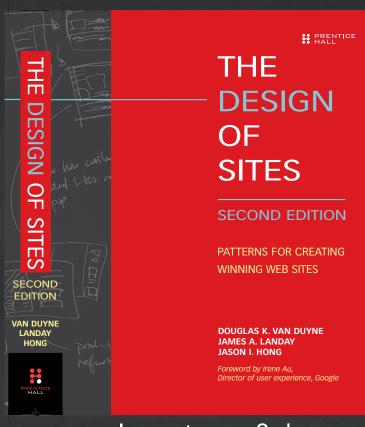
### Using Design Patterns

- Not too general and not too specific
  - use a solution "a million times over, without ever doing it the same way twice"
- Design patterns are a shared language
  - for "building and planning towns, neighborhoods, houses, gardens, & rooms."
  - Ex. Beer hall is part of a center for public life...
  - Ex. Beer hall needs spaces for groups to be alone...
     ALCOVES



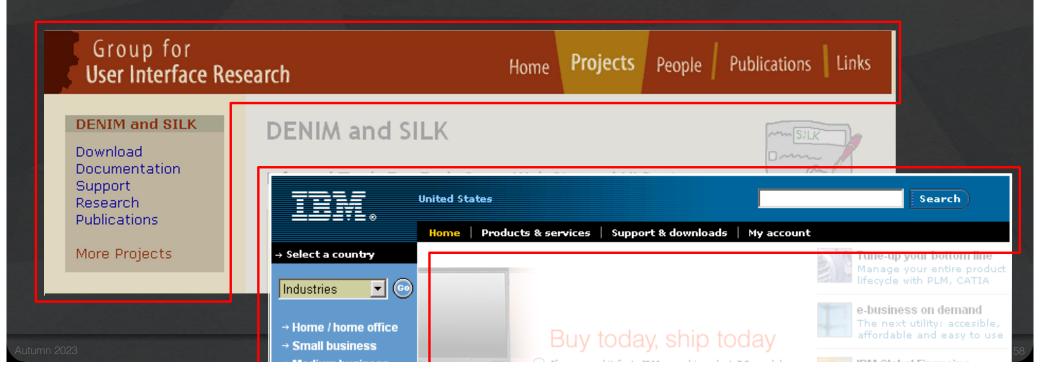
### Web Design Patterns

- Also used in UI design
- Communicate design problems
   & solutions
  - how to create navigation bars for finding relevant content...
  - how to create a shopping cart that supports check out...
  - how to make e-commerce sites where people return & buy...



### NAVIGATION BAR (K2)

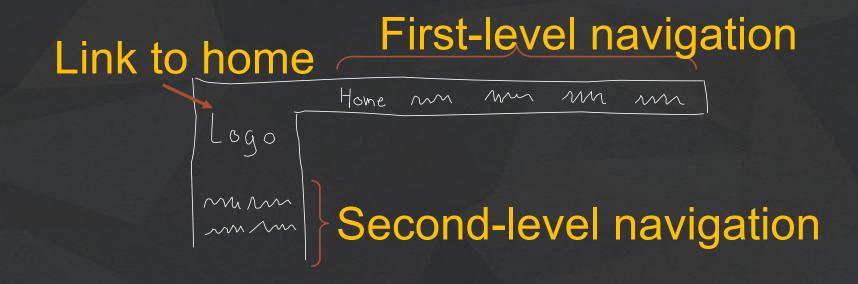
Problem: Customers need a structured, organized way of finding the most important parts of your Web site



### NAVIGATION BAR (K2)

### Solution diagram

- captures essence on how to solve problem



### Pattern Groups

## Our patterns organized by group

- Site genres
- Navigational framework
- Home page
- Content management
- Trust and credibility
- F Basic ecommerce

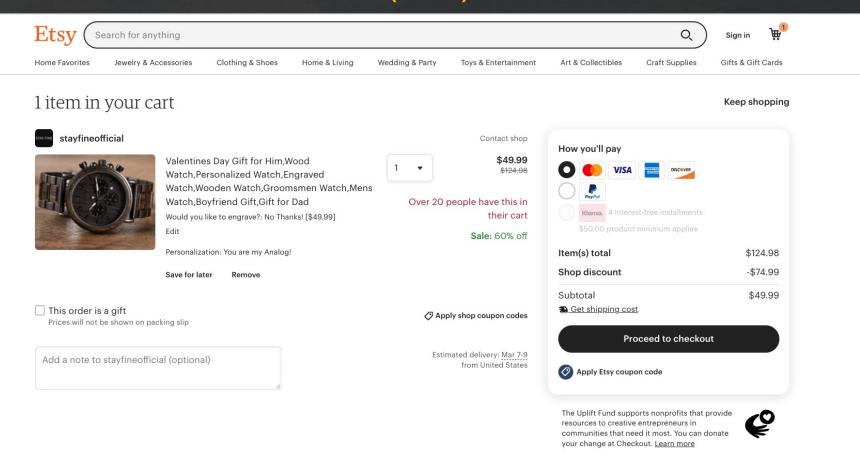
- Advanced ecommerce
- Completing tasks
- Page layouts
- Search
- Representation of the contraction of the contrac
- Speed
- The mobile web

### PROCESS FUNNEL (H1)

Problem: Need a way to help people complete highly specific stepwise tasks

- Ex. Create a new account
- Ex. Fill out survey forms
- Ex. Check out

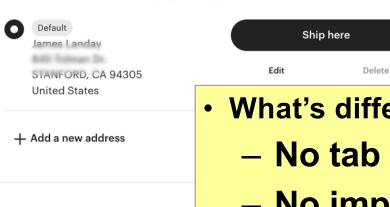
### PROCESS FUNNEL (H1)







#### Choose a shipping address



Merchant is Etsy, Inc. (USA) or Etsy Ireland UC (Ireland), depending of If you donate to the Uplift Fund, your Merchant for the donation amount

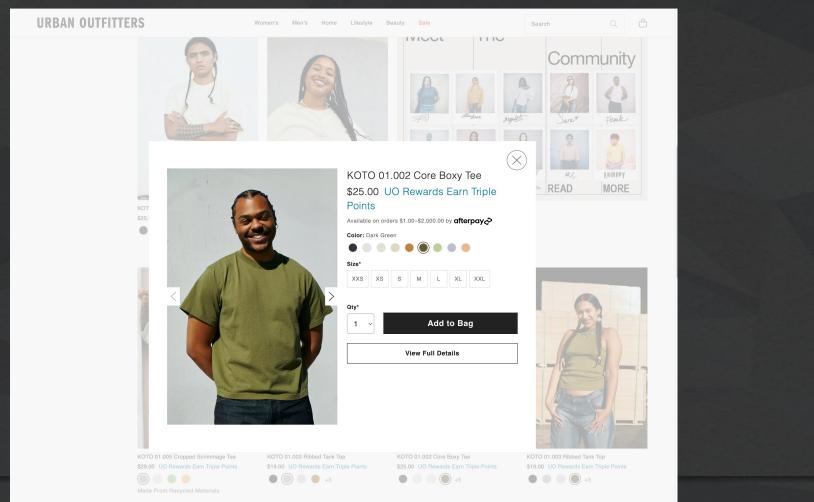
Etsy, Inc., USA 117 Adams Street Brooklyn, NY 1120

- What's different?
  - No tab rows
  - No impulse buys
  - Only navigation on page takes you to next step
- What's the same?
  - Logo, layout, color, fonts

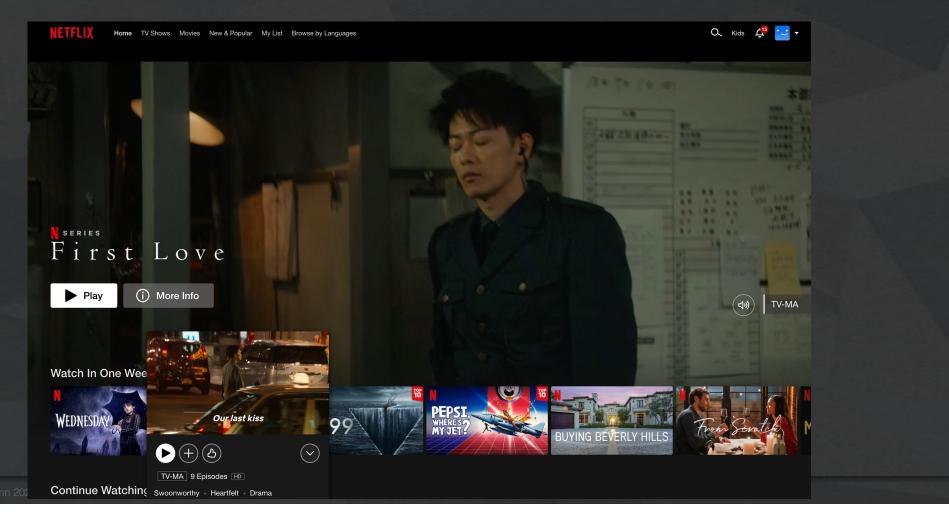
## PROCESS FUNNEL (H1)

Problem: What if users need extra help?

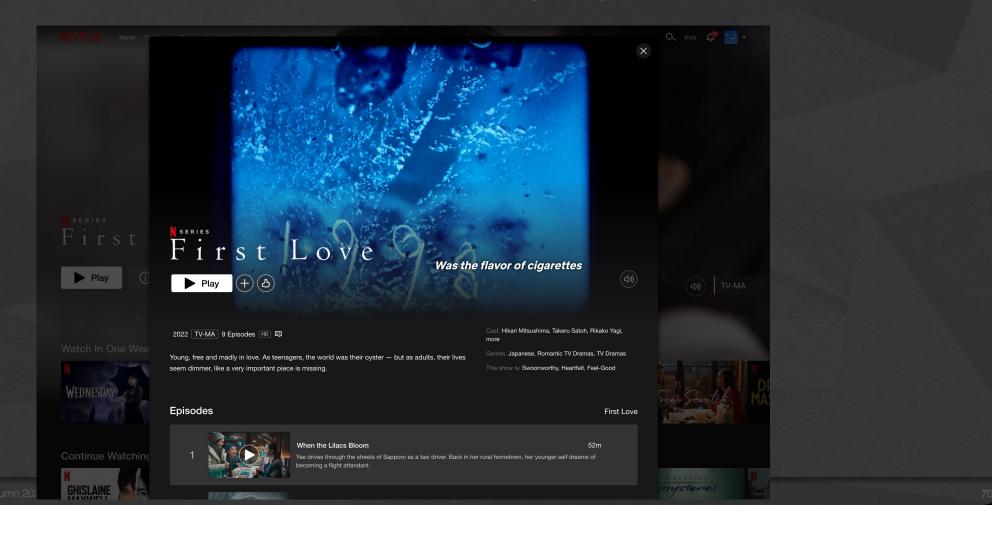
# FLOATING WINDOWS (H6)



# FLOATING WINDOWS (H6)

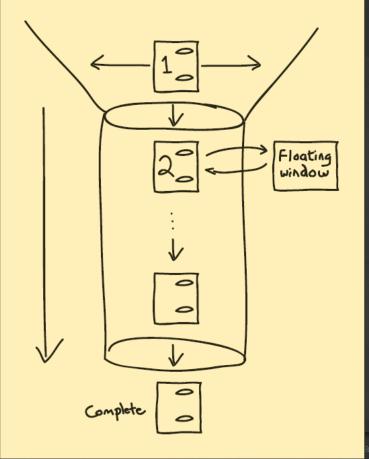


# FLOATING WINDOWS (H6)



# PROCESS FUNNEL (H1)

Solution Diagram



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aluatior

7 1

# PROCESS FUNNEL (H1)

Related Patterns

(A1) E-Commerce

(A10) Web Apps

(H1) Process Funnel

(K2) Navigation Pars

(K3) Tab Rxws

(K4) Action Buttons

(H8) Context-Sensitive Help

(A11) Intranets

(I2) Above the Fold

(K5) High-Viz Action Buttons

(K12) Preventing Errors

### Patterns Support Creativity

- Patterns come from successful examples
  - sites that are so successful that lots of users are familiar with their paradigms (e.g., Google, Amazon, Yahoo, Facebook, Instagram...)
  - interaction techniques/metaphors that work well across many sites (e.g., shopping carts)
- Not too general & not too specific
  - you need to specialize to your needs
- Patterns let you focus on the hard, unique problems to your design situation
  - every real design will have many of these

# Patterns Offer the Best of Principles, Guidelines & Templates

- Patterns help get details right, without over-constraining the solution
  - unlike principles, patterns not too general, so can see how to apply to your situation
  - unlike guidelines, patterns discuss tradeoffs, show good examples & tie to other patterns
  - unlike style guides, patterns not too specific, so can still be specialized
  - unlike page templates, patterns illustrate flows among different pages
- Patterns can serve as documentation for teams
- Often used along with or as part of design systems

### Administrivia

- Project Questions?
- Project Fair Questions?

### Grading on the Heuristic Eval Assignments

### Assignment #7 Heuristic Evaluation (individual)

```
A7 HE (individual): -: 2% ✓--: 4% ✓-: 7% ✓: 42% ✓+: 45% ✓++: 1%
```

A7 HE (individual) Avg: 91%

### Assignment #9 Heuristic Evaluation (group)

```
A9 HE (group): -: 0% ✓--: 0% ✓-:8% ✓: 35% ✓+: 58% ✓++: 0%
```

A9 HE (group) Avg: 93%

## TEAM BREAK

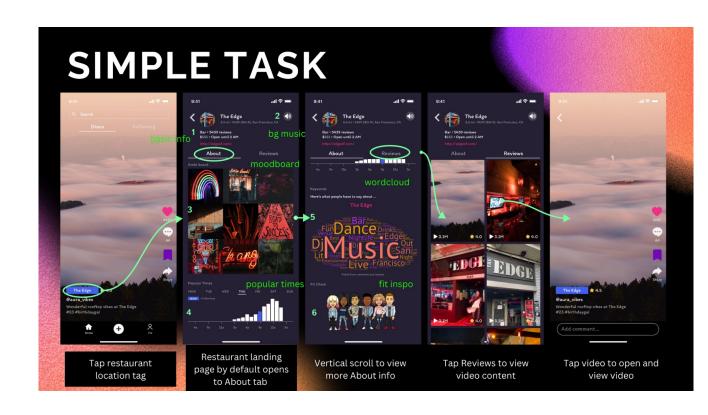
#### WORK ON FINAL DELIVERABLES

- 1. PROTOTYPE
- 2. POSTERS
- 3. PITCH SLIDES
- 4. DEMO VIDEO
- 5. REPORT

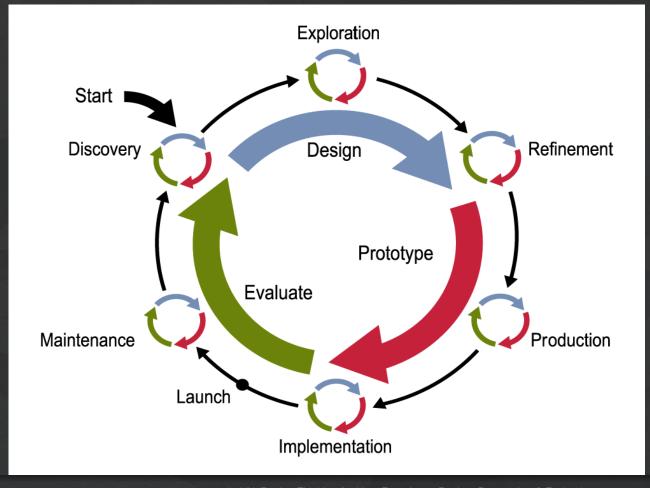
#### **A6 Highlights**

#### **Ambi**

- Dynamic and scrollable!
- Lots of different media utilized to capture the ambience
- Intuitive UI cleverly uses common UI patterns that adapt to their solution
- Pretty good use of whitespace.



### Design Process



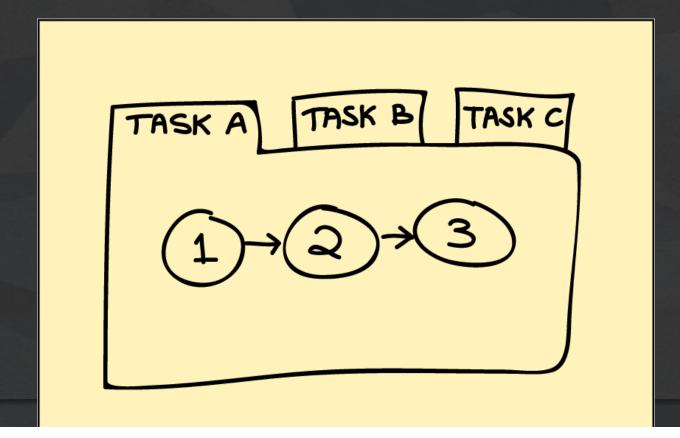
#### Patterns in Exploration Phase

- Exploration-level patterns to design overall structure
  - different choices will give radically different designs
- For example, how to organize information
  - HIERARCHICAL ORGANIZATION (B3)
  - TASK-BASED ORGANIZATION (B4)
  - ALPHABETICAL ORGANIZATION (B5)

- . . .

### Patterns in Exploration Phase

TASK-BASED ORGANIZATION (B4): Link the completion of one group of tasks to the beginning of the next related task(s)

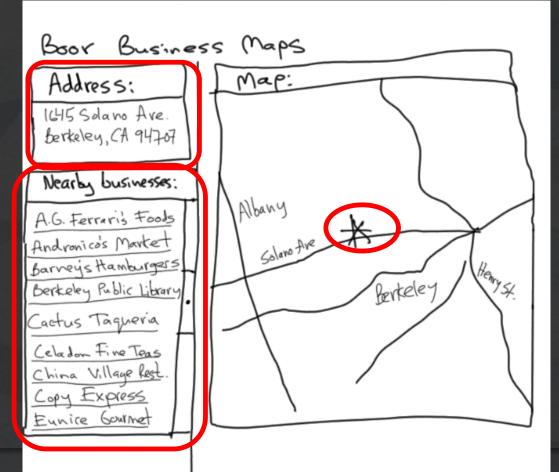


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#### Design Exploration Example

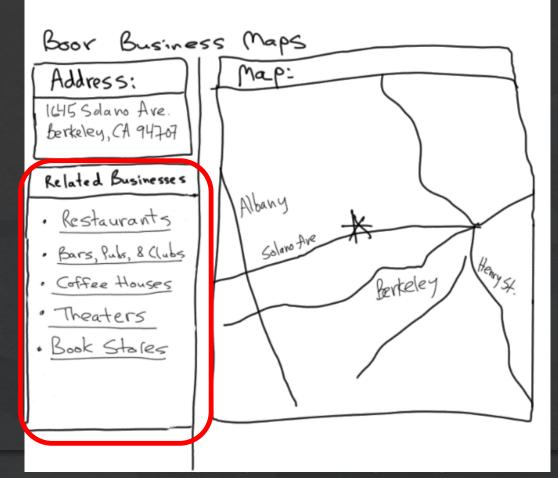
- John given the task of designing a new subsite for showing maps to businesses
  - listings found by typing in address
  - key feature: show nearby businesses
- John comes up with two design sketches
  - Design #1 uses ALPHABETICAL ORGANIZATION (B5) for list of all nearby businesses
  - Design #2 uses TASK-BASED ORGANIZATION (B4) for list of related nearby businesses

# Design #1 ALPHABETICAL ORGANIZATION (B5)



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# Design #2 TASK-BASED ORGANIZATION (B4)



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- Low-fidelity Usability Test
  - sketches the rest of the key screens on paper
  - brings in 5 participants to his office
  - asks each to carry out 3 tasks while colleague Sam "plays computer"
  - John observes how they perform

#### Tasks

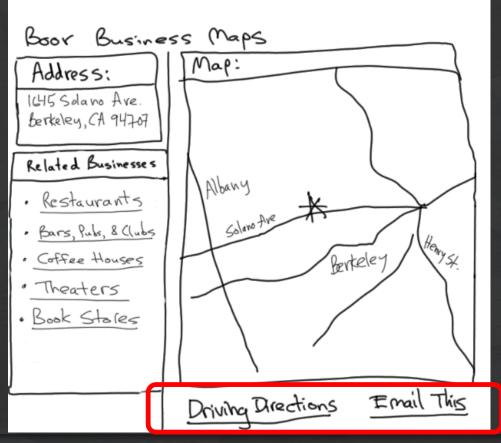
- look up 1645 Solano Ave., Berkeley CA
- look up 1700 California Ave, San Francisco CA & find Tadich Grill
- look up 2307 Birch St., Palo Alto CA & find a Sushi restaurant nearby

- Results with Design #1 (Alphabetical)
  - Task 1: look up 1645 Solano Ave
    - no difficulties encountered warm-up task!
  - Task 2: look up 1700 California & find Tadich Grill
    - several users didn't notice that the list of nearby businesses was scrollable (due to paper affordances?)
    - those that scrolled took awhile to find in list of over 500
  - Task 3: look up 2307 Birch St. & find nearby Sushi restaurant
    - 3 users only picked restaurants that had "restaurant" in the name & thus couldn't find "Daigo"

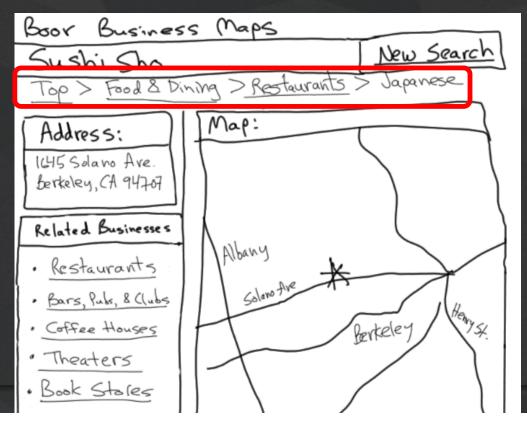
- Results with Design #2 (Task-based)
  - Task 1: look up 1645 Solano Ave
    - no difficulties encountered warm-up task!
  - Task 2: look up 1700 California & find Tadich Grill
    - 1 user took awhile to figure out that Tadich Grill was a restaurant & to click on the "Restaurants" link
    - all others found it in 2 clicks (Restaurants->Tadich Grill)
  - Task 3: look up 2307 Birch St & find nearby Sushi restaurant
    - 3 found "Daigo" in 2 clicks
    - 2 others asked for a listing of Japanese restaurants

- General comments
  - 2 users said they often want to email/text maps to friends who they will be meeting (task-based)
  - 3 users wanted driving directions (task-based)
- → TASK-BASED ORGANIZATION (B4) worked better, but still had some minor problems

### Design #2 – Revision 1 Adding More Related Tasks

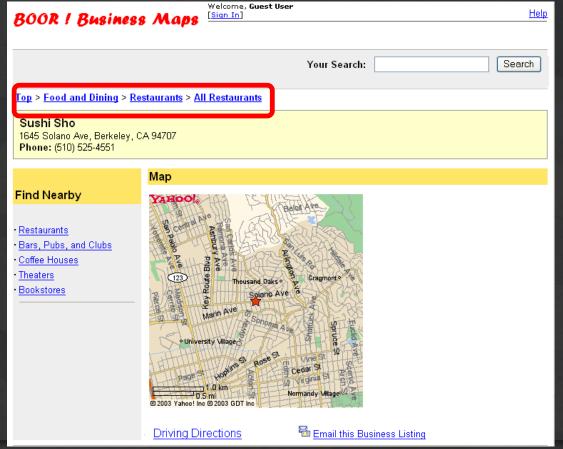


# Design #2 – Revision 2 Adding HIERARCHICAL ORGANIZATION (B3) & LOCATION BREADCRUMBS (K6)

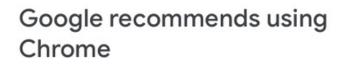


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# Design #2 – Revision 3 Hi-Fi Prototype Adding SEARCH ACTION MODULE (J1)



### Anything wrong here?



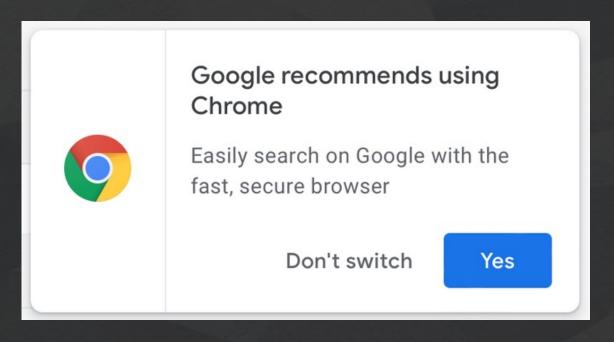


Easily search on Google with the fast, secure browser

Don't switch

Yes

#### Anything wrong here?



- Makes the default to switch to their browser overly easy
- https://twitter.com/m ciarlo/status/154936 7530032185345

### Anything wrong here?

#### Please enter your details to reserve your item(s) Title: Mr. First name \*: First name Last name \*: Last name Email \*: Email Phone number \*: Phone number ☐ Please do not send me details of products and offers from Currys.co.uk Please send me details of products and offers from third party organisations recommended by Currys.co.uk

Reserve items

### Dark Patterns (AKA Deceptive Patterns)

#### Please enter your details to reserve your item(s) Title: Mr. First name \*: First name Last name \*: Last name Email \*: Email Phone number \*: Phone number Please do not send me details of products and offers from Currys.co.uk Please send me details of products and offers from third party organisations recommended by Currys.co.uk Reserve items

- Trick questions
  - meaning of checkboxes
     alternates so 1<sup>st</sup> is "opt out" but 2<sup>nd</sup> is "opt in"
- Many other types of dark patterns
  - confirmshaming
  - bait & switch
  - hidden costs
  - friend spam...
- https://www.darkpatterns.org/ or https://deceptive.design



https://bit.ly/CS147-2023au-exit-ticket-9-926

#### Summary

- Lots of issues involved in designing compelling, usable interfaces (web or mobile)
- Design patterns are one way of capturing good design knowledge
  - generative (help you create new designs)
  - consider trade-offs
  - concrete examples of successful uses
  - a networked language that works together

# Further Reading Books on Web Design

- The Design of Sites. Doug Van Duyne, James Landay, Jason Hong. Addison-Wesley. 2nd edition. 2007. [at this point out of date]
- Information Architecture for the Web and Beyond.
   Louis Rosenfeld, Peter Morville, Jorge Arango.
   O'Reilly. 4th edition. 2015
- Don't Make Me Think!, Revisited. Steven Krug. Que.
   3rd edition. 2014.

# Further Reading Websites on Web Design

- digital.gov, for building accessible websites & more
- User Interface Engineering, at <a href="http://www.uie.com">http://www.uie.com</a>
- Mark Hurst's creativegood.com
- Jakob Nielsen's <a href="https://www.nngroup.com">www.nngroup.com</a>
- What are your favorite web design blogs?

#### **Next Time**

- Lecture
  - Special career panel with 5 former CS147 CAs who are:
    - Product Designers, Product Managers, Software Engineers, & UX Researchers
  - lots of time for Team Work on Project
- Studio
  - A8 mid-way presentations & Team Work on Project
- Next week (required attendance this is your final exam!)
  - Project Expo (70+ guests have RSVPd so far!)