Design Patterns

刘哲明
Prof. James A. Landay
Computer Science Department
Stanford University

Autumn 2022
November 28, 2022
Hall of Fame or Shame?

Southwest.com

Special Offers
Great Travel Deals

Air Hotel Car Vacations

Flying Southwest
What to Know Before You Go

Rapid Rewards®
Earn Rewards Flights Faster

Check In
Change Flight
Check Flight Status

Account Log In
Account # or Username
Password
Need help logging in?
Remember Me

Log In

Manage Travel
Rapid Rewards

Get 2 Roundtrip Flights
- 6,000 Anniversary Points
- No Foreign Transaction Fee
- Additional Points for Southwest Purchases

Get Early Bird Check-In
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
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
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Autumn 2022
November 28, 2022
Outline

• Detailed Design Example
• Web Design Patterns
• Patterns in the Design Exploration Phase
• Dark Patterns
Valentines Day Gift for Him, Wood Watch, Personalized Watch, Engraved Watch, Wooden Watch, Groomsman Watch, Mens Watch, Boyfriend Gift, Gift for Dad

Stayfineofficial
Star Seller 39156 sales ★★★★★

$49.99+
You save $24.99 (36%)

Would you like to engrave?
Select an option

Add your personalization
Example only:
Engrave: I love you to the moon and back!
“no engraving” if you choose “no engraving” option

Add to cart

11,338 reviews ★★★★★
Buyers are raving! Multiple people gave 5-star reviews to this shop in the past 7 days.
Valentines Day Gift for Him, Wood Watch, Personalized Watch, Engraved Watch, Wooden Watch, Groomsman Watch, Mens Watch, Boyfriend Gift, Gift for Dad

stayfineofficial
Star Seller | 38,156 sales ★★★★★

$49.99 $124.99
You save $74.99 (60%)

Would you like to engrave?

- No Thanks!

Add your personalization
Example only:
Engrave: I love you to the moon and back!
"no engraving" if you choose "no engraving" option

You are my Analog!

Add to cart

11,338 reviews ★★★★★
Buyers are raving! Multiple people gave 5-star reviews to this shop in the past 7 days.
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
Welcome back, James!
Great to see you again. Enter your password to continue.

Password

Stay signed in

Email me a sign-in link

Reset password
Double check your order details

Shipping address
James Landay
840 Tamarac St.
STANFORD, CA 94305
United States

Change

Payment method
Visa

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
Basic Web Design

• Let’s take a closer look page by page
What site is this?
– Logo in top-left corner denotes the site
– examples of SITE BRANDING (E1)
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)
What can I do here?

- **Support sellers** → buy
- Tab row / Search on top
- Click on popular gifts
- Most important info visible without scrolling
- ABOVE THE FOLD (I2)
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)
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)
Where am I in the site?

- This is one place Etsy falls down
- Could have had
  - “Home > Watches” as LOCATION BREADCRUMBS (K6)
  - “Jewelry & Accessories” could be selected in TAB ROW (K3) & SEARCH ACTION MODULE (J1)
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.
The Fold
– Hmm, what’s below here?
Autumn 2022
dt+UX: Design Thinking for User Experience Design, Prototyping & Evaluation

Watch, Mens Watch, Boyfriend Gift, Gift for Dad

$49.99+  ($49.99+)
You save $74.99 (60%)

Would you like to engrave?

Select an option

Add your personalization

Example only:

Engrave: I love you to the moon and back!
“no engraving” if you choose “no engraving” option

Add to cart

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

Casidy, 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!

Details

Handmade item

Can be personalized

Description

Can be engraved by request to add a personal touch.
Helpful?

Alvya Strauss.  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 Weller.  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!
Valentines Day Gift for Him, Wood Watch, Personalized Watch, Engraved Watch, Wooden Watch, Groomsman 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

Over 20 people have this in their cart

Sale: 60% off

Item(s) total: $124.98
Shop discount: $74.99
Subtotal: $49.99

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
• What site am I at?
  – Logo in upper-left
  – 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)
• 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)
What can I do (they want me to do)?

- “Proceed to Checkout”
- HIGH VISIBILITY ACTION BUTTON (K5)
  - visually distinct, looks clickable
  - large
• What if I don’t have a User ID?
• SIGN-IN/NEW ACCOUNT (H2)
• What if I'm using a new device?
  - 2-factor auth
• SIGN-IN/NEW ACCOUNT (H2)
• What if I forgot my password?
• SIGN-IN/NEW ACCOUNT (H2)
Choose a shipping address

- Default
  James Landay
  STANFORD, CA 94305
  United States

Add a new address

Ship here

Edit
Delete
• What site?
  – Logo, layout, color, fonts

• Where in site?
  – Checkout, step 1 of 3
  – “Choose a shipping address”
  – QUICK-FLOW CHECKOUT (F1)
• Note what’s different (?)
  – No tab rows
  – 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
Choose a payment method

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

Default

Visa

Exp. 
James Landay

Use this card

Add a new card

Pay with PayPal

$50.00 product minimum applies

Gift cards & Etsy Credit

Redeem a gift card or Etsy Credit

© 2022 Etsy, Inc.
Double check your order details

Shipping address
James Landay
845 talysen Dr.
STANFORD, CA 94305
United States
Change

Payment method
Visa
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

Choose a shipping method

- USPS First-Class Mail $4.52

stayfinoofficial
Ships from United States

Valentines Day Gift for Him,Wood Watch,Personalized Watch,Engraved Watch,Wooden
$49.99
1
$49.99
$124.96
• Last step of process
  – Step 3, “Review/Place Order”
  – “Place your order” button
• HIGH-VISIBILITY ACTION BUTTON (K5)
• No nasty surprises
  – Can see order
  – Total price is same as shopping cart
  – ORDER SUMMARY (F7)
• Easy to change shipping & billing
• All of these things are part of the design pattern – QUICK-FLOW CHECKOUT (F1)
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.
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
A Web of Design Patterns

(8) Mosaic of Subcultures

(31) Promenade  (33) Night Life

(90) Beer Hall

(95) Building Complex

(179) Alcoves  (181) The Fire

Cities & Towns

Local Gatherings

Interiors
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…
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
- Basic ecommerce
- Advanced ecommerce
- Completing tasks
- Page layouts
- Search
- Page-level navigation
- 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)
• 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?
FEATURED SYSTEM

Featured Dimension 4100

The Dimension 4100 desktop offers you amazing power and flexibility at a price that won't break your budget.

- Intel® Pentium® III processor at 933Mhz
- 40GB Hard Drive
- 128MB SDRAM
- 32MB Nvidia GeForce2 MX 4X AGP Graphics Card

Free Ground (3-5 day) Shipping with purchase of any new Dell Home System. Offer ends 4/23/01.

Click Here for Details.

Dimension 4100

Intel® Pentium® III processor at 933Mhz

$1,199

As low as $36/45 pmts
No payment for 90 days
(Click or scroll for details)

Great Add-Ons For This System

Price

Check any item(s) you wish to add to this system, then click Customize It.

- 3 Year On-Site Service
  • With on-site service, you don’t have to leave your home or ship your computer to us should you have a problem.
  Add $99

Epson Stylus Color 880 InkJet Printer
  • A creative and versatile printer that features super fast print
  Add $149

E-Value Code
6V771-4100po1

Customize It

More Details
FLOATING WINDOWS (H6)

NEW RECOMMENDATIONS

Fans of Gladiator's original theatrical release will appreciate this extended version of the epic Ridley Scott film, packed with 17 extra minutes of action footage and gripping dialogue. Featuring a strong supporting cast and an Oscar-winning performance from actor Russell Crowe as the dauntless Roman general Maximus, this big-budget Best Picture winner became an instant classic -- and helped elevate its leading man to icon status.

Starring: Russell Crowe, Joaquin Phoenix
Director: Ridley Scott
Genre: Action & Adventure
MPAA: R

Recommended based on 1 rating
FLOATING WINDOWS (H6)
FLOATING WINDOWS (H6)
FLOATING WINDOWS (H6)
PROCESS FUNNEL (H1)
Solution Diagram
PROCESS FUNNEL (H1)

Related Patterns

(A1) E-Commerce

(A10) Web Apps

(A11) Intranets

(K2) Navigation Bars

(K3) Tab Rows

(K4) Action Buttons

(H1) Process Funnel

(H8) Context-Sensitive Help

(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…)
  - 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 Last Assignment

Assignment #6 Medium-fi Prototype

A6 Prototype:  
-: 4% ✓ --: 0% ✓ -: 16% ✓ : 36% ✓ +: 44% +: 0%
A6 Individual Presentation:  
-: 4% ✓ --: 4% ✓ -: 28% ✓ : 44% ✓ +: 20% +: 0%

A6 Prototype Average: 91%
A6 Individual Presentation Average: 89%
TEAM BREAK

WORK ON FINAL DELIVERABLES
1. PROTOTYPE
2. POSTERS
3. PITCH SLIDES
4. DEMO VIDEO
5. REPORT
A6 Highlights:

Struggle Bus

- Hand-drawn icons/animals
- Minimalist UI caters to user needs.
- Use of animations and scrolling
A6 Highlights:

Trove

- Very interactive and dynamic
- Error handling and preventing user errors
- Encoding values of safety
- Could easily give to an engineer for development
A6 Highlights:

**Synastry**

- Redesign to better meet values and usability goal.
- Novel UI to meet goal of combatting western bias in health while avoiding reinforcing existing biases.
Design Process

Diagram showing the Design Process:
- Start
- Discovery
- Design
- Exploration
- Refinement
- Prototype
- Evaluate
- Production
- Implementation
- Launch
- Maintenance
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)
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)
Design #2
TASK-BASED ORGANIZATION (B4)
Evaluating Which Design to Choose

• 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
Evaluating Which Design to Choose

- 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”
Evaluating Which Design to Choose

- 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
Evaluating Which Design to Choose

• 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)
Design #2 – Revision 3 Hi-Fi Prototype
Adding SEARCH ACTION MODULE (J1)
Anything wrong here?

Please enter your details to reserve your item(s)

Title:  

First name *:  

Last name *:  

Email *:  

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

- Trick questions
  - meaning of checkboxes alternates so 1\textsuperscript{st} is “opt out” but 2\textsuperscript{nd} is “opt in”
- Many other types of dark patterns
  - confirmshaming
  - bait & switch
  - hidden costs
  - friend spam…
- https://www.darkpatterns.org/
- Take Comm 130D/230D for more on this topic!
Exit Ticket

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
Further Reading
Websites on Web Design

- digital.gov, for building accessible websites & more
- User Interface Engineering, at http://www.uie.com
- Mark Hurst’s creativegood.com
- Jakob Nielsen’s www.nngroup.com

- What are your favorite web design blogs?
Next Time

- Lecture
  - guest lecture with Irene Au, Operating Partner at Khosla Ventures
  - lots of time for Team Work on Project

- Studio
  - A8 presentations & Team Work on Project

- Next week
  - Project Expo (160+ guests have RSVPd so far!)