dt +UX DESIGN THINKING FOR USER EXPERIENCE DESIGN + PROTOTYPING + EVALUATION

Design Patterns

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Autumn 2019
November 20, 2019

1

TEAM BREAK (20 MINUTES)

WORK ON MIDWAY MILESTONE PRESENTATIONS

2

Hall of Fame or Shame?

Direct translations

- software telephony solution where users dial a number by clicking on a simulated keypad
- airline web site that simulates a ticket counter

Southwest Airlines Home Gate

3

Hall of Shame!

Direct translations

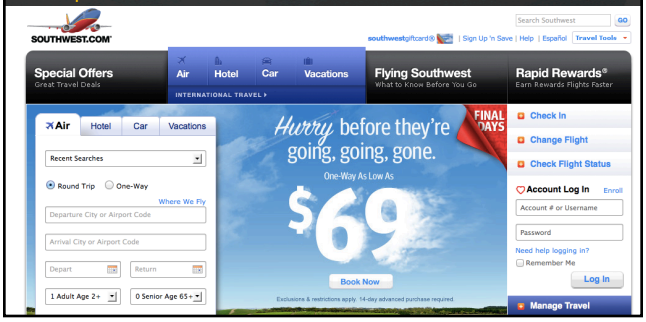
- software telephony solution where users dial a number by clicking on a simulated keypad
- airline web site that simulates a ticket counter

Misused Metaphors!

Southwest Airlines Home Gate

4

Improved southwest.com



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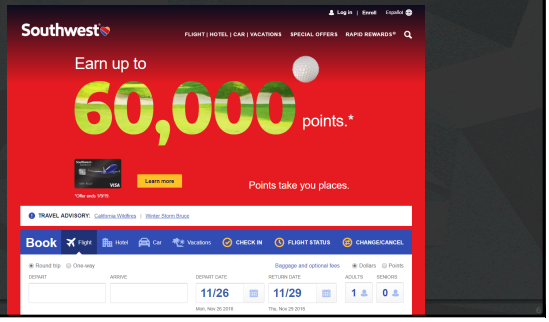
Improved southwest.com



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Hall of Fame or Shame?

Wiimote
By Nintendo

7

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

8

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9

Administrivia

- Final assignments online by tonight
  - Poster & Pitch Slide
- Project Questions?
- Project Fair Questions?

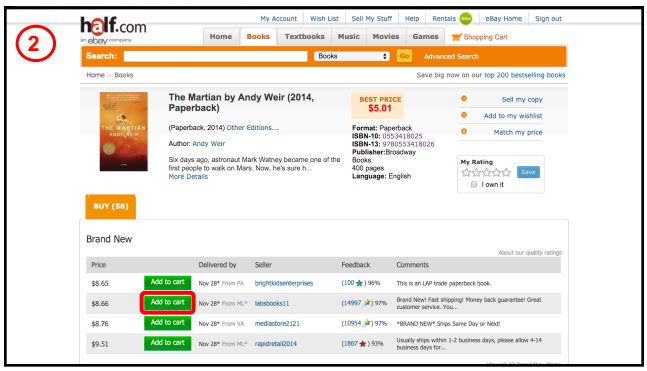
10

Outline

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

11

12



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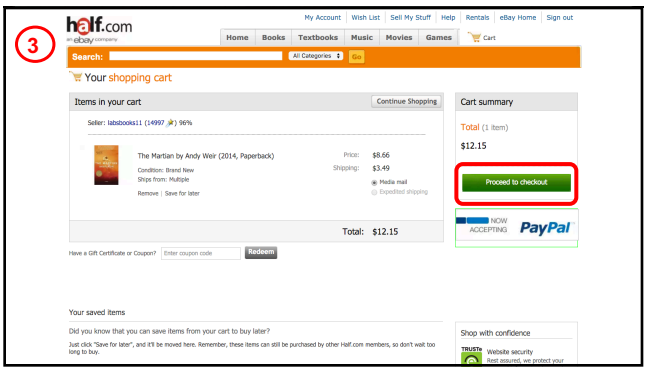

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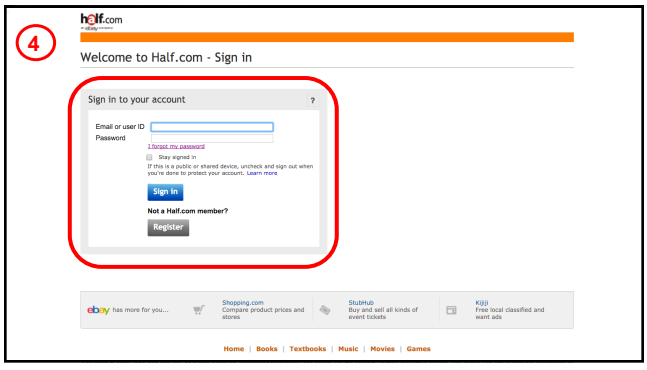

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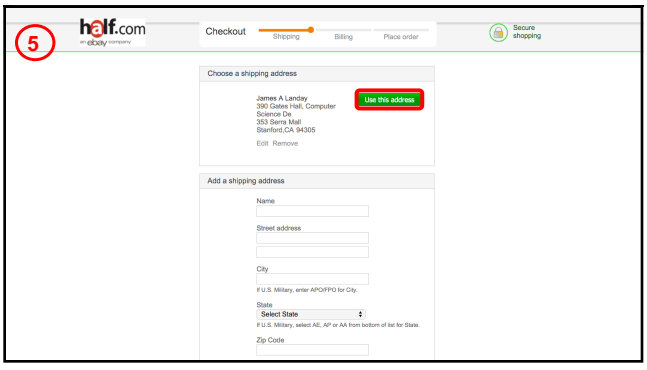

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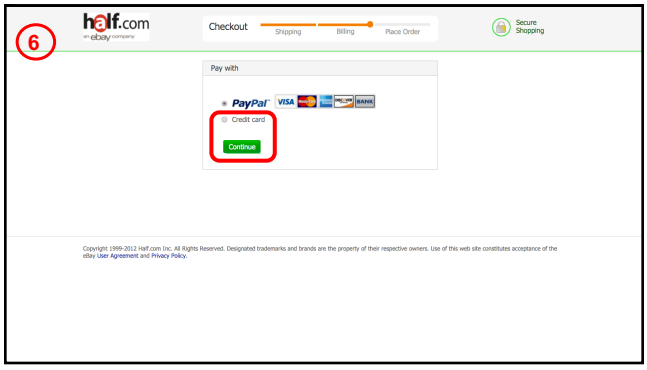

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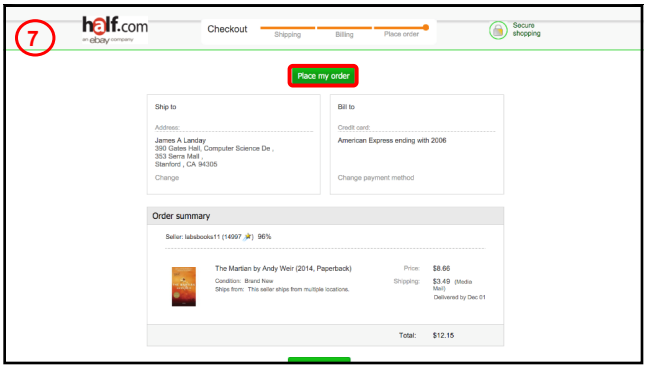

18

Basic Web Design

- Let's take a closer look page by page

19

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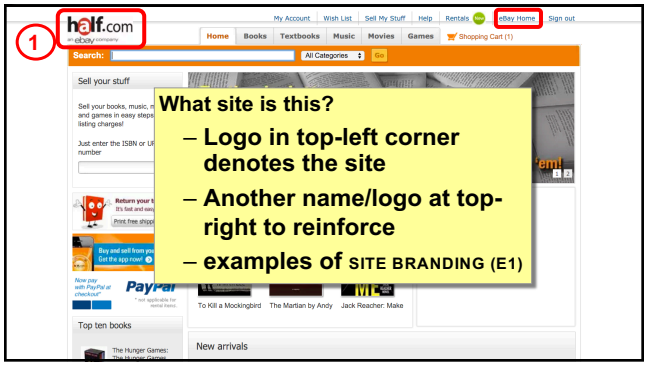

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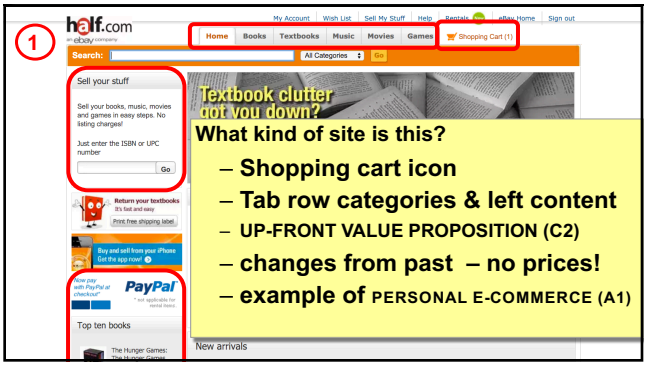

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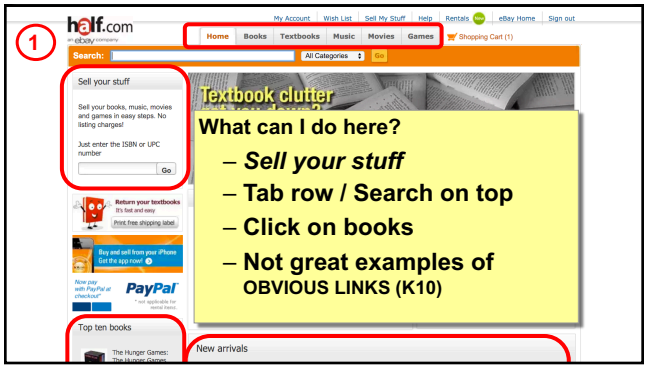

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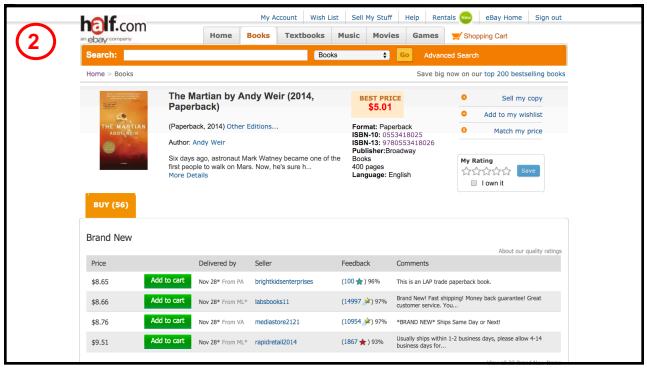

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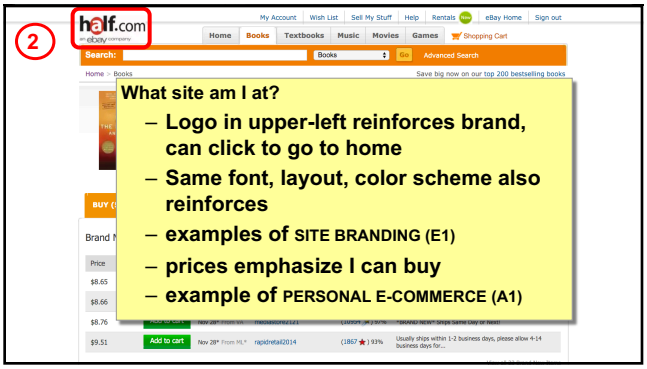

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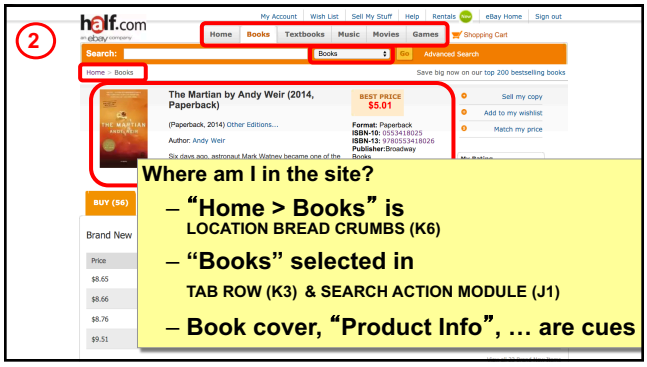

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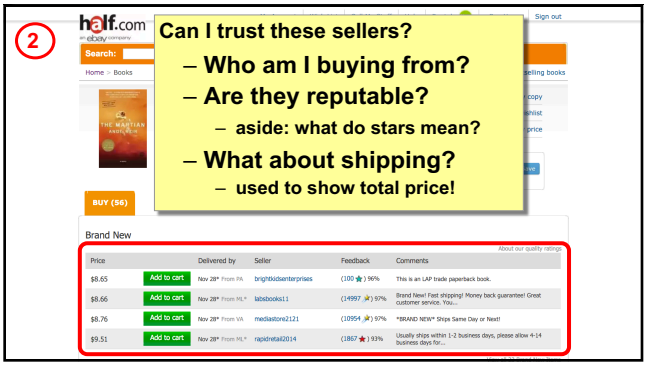

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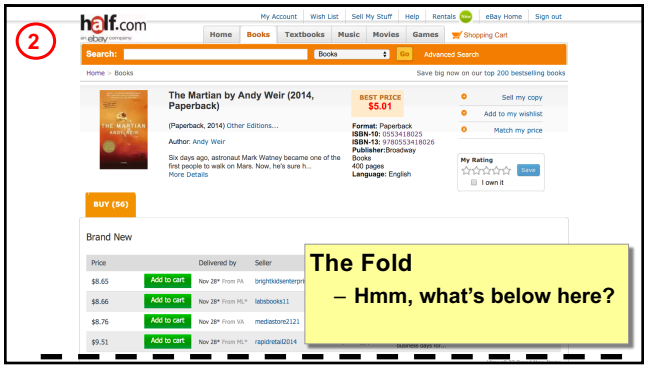

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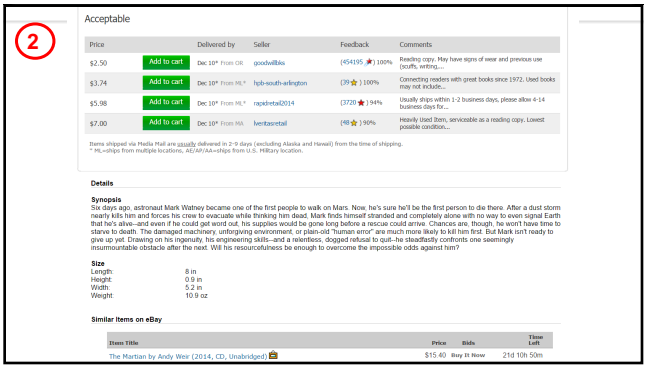

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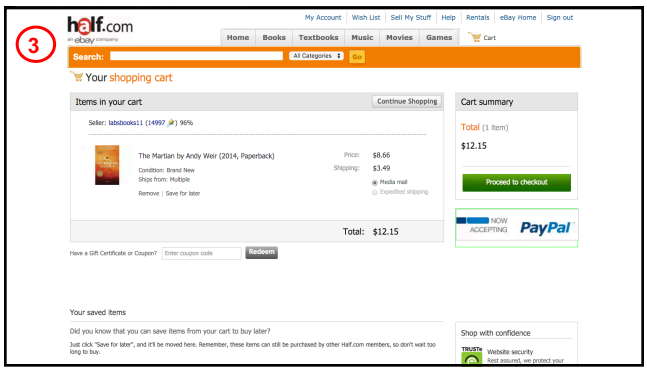

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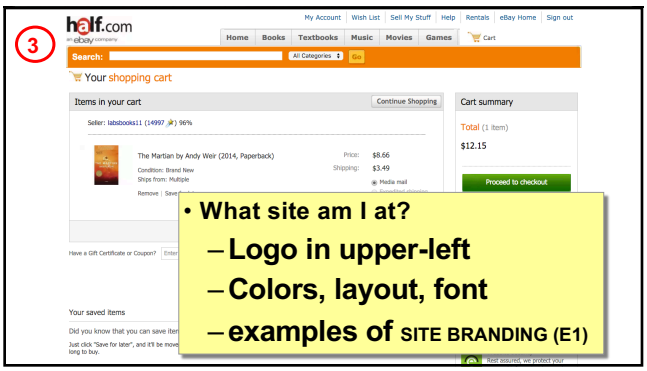

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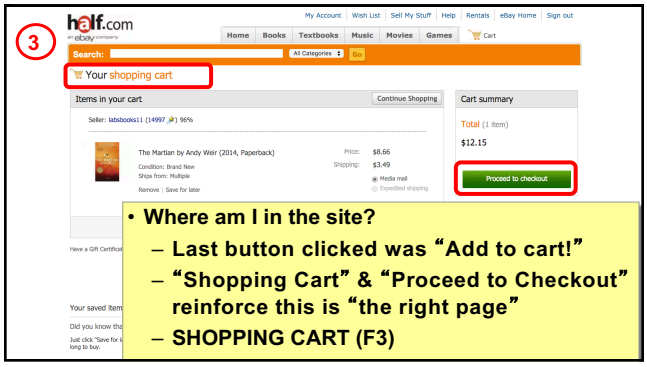

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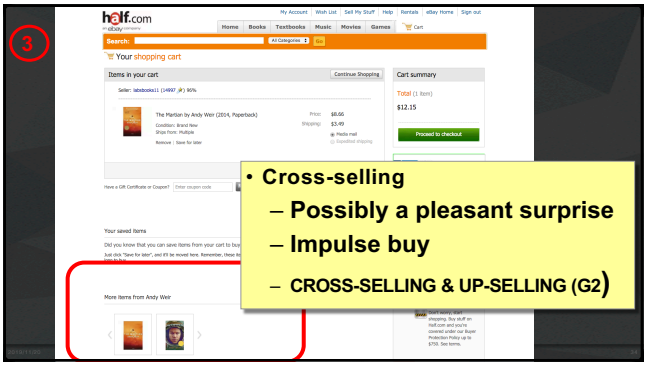

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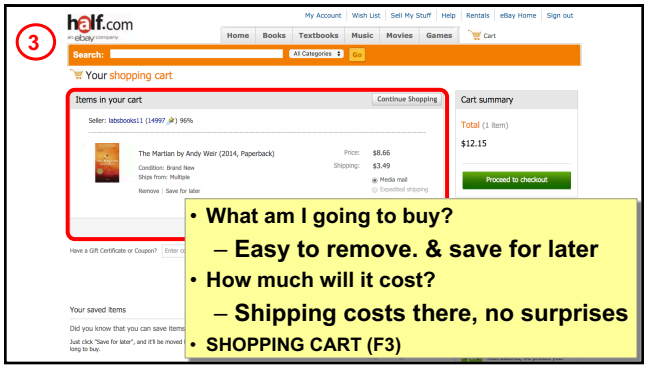

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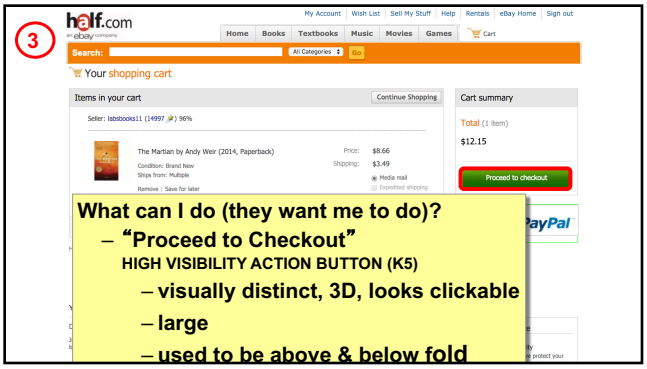

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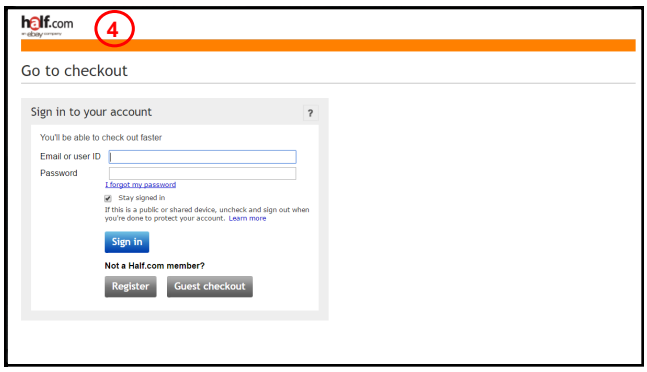

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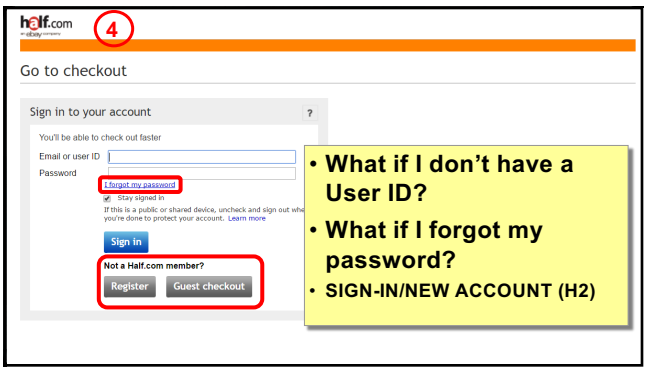

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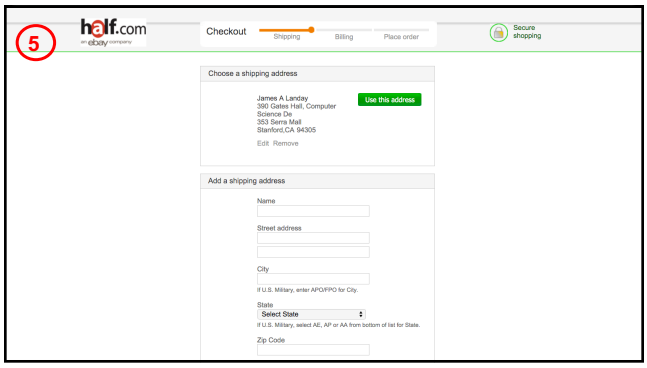

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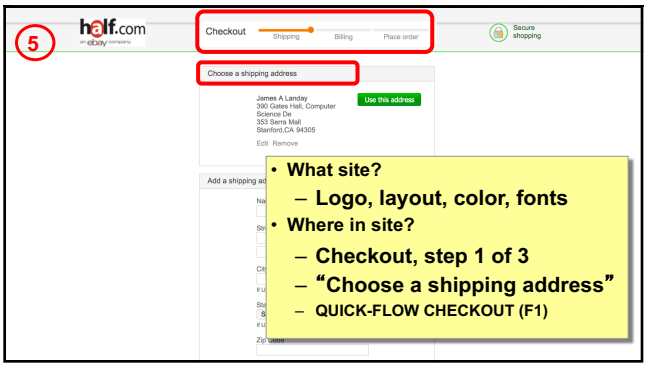

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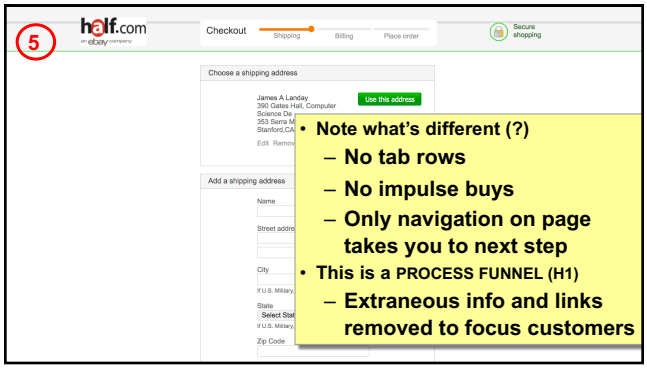

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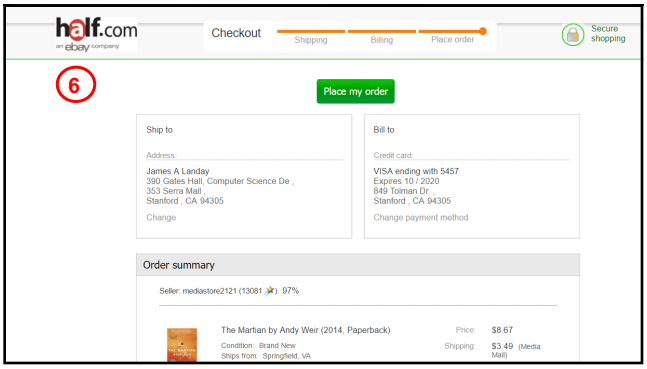

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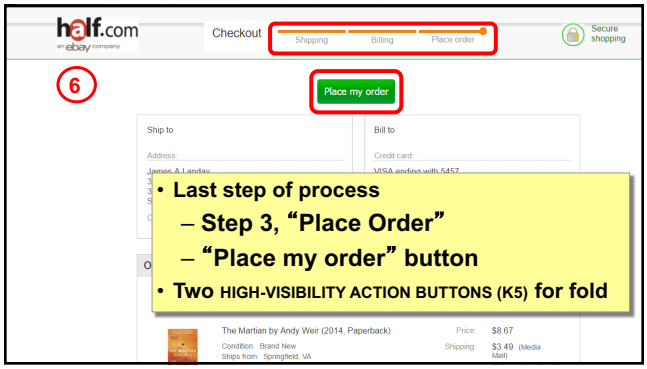

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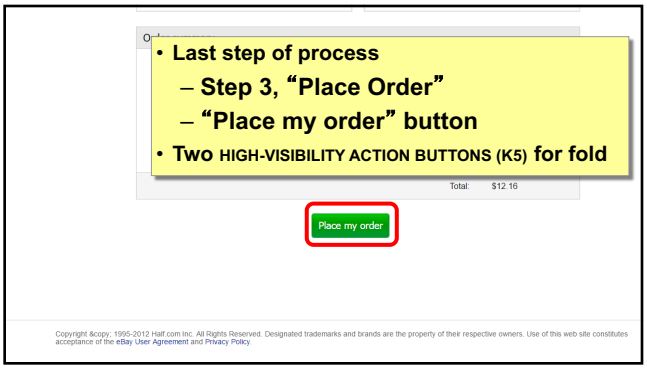

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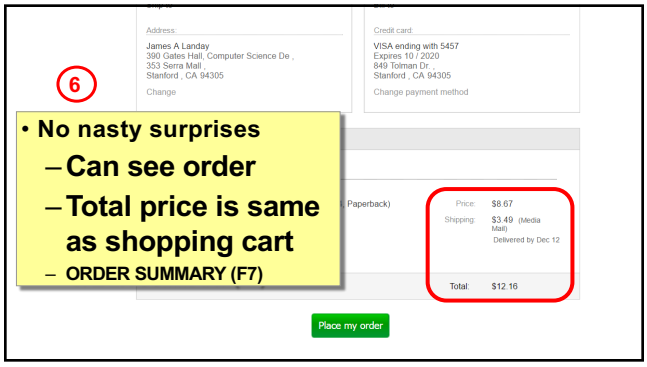

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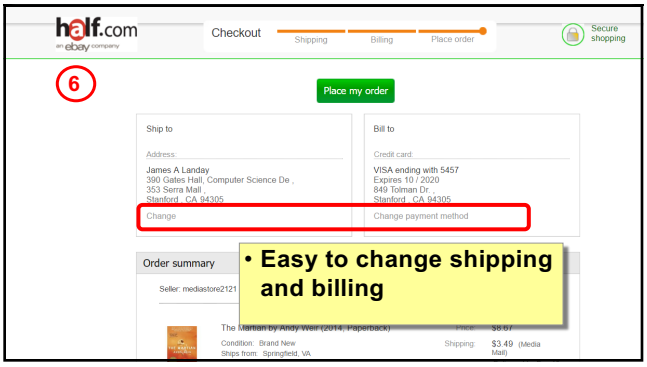

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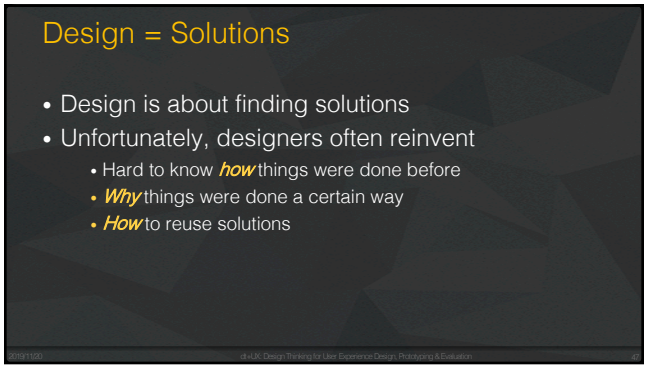

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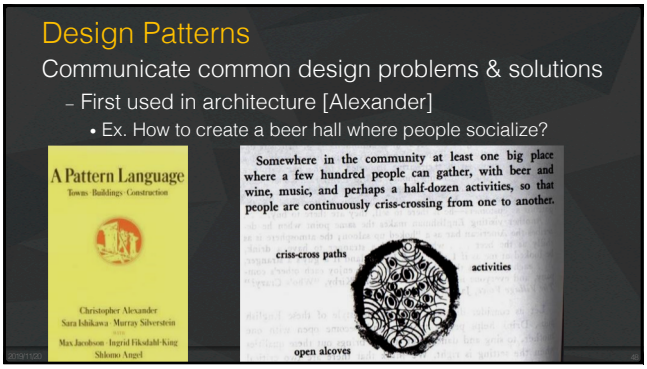


48

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.

49

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

50

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

51

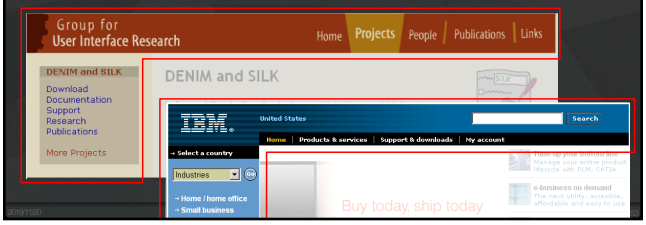
Web Design Patterns

- 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…

52

NAVIGATION BAR (K2)

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



53

NAVIGATION BAR (K2)

Solution diagram

- captures essence on how to solve problem

54

Pattern Groups

Our patterns organized by group

- A Site genres
- B Navigational framework
- C Home page
- D Content management
- E Trust and credibility
- F Basic ecommerce
- G Advanced ecommerce
- H Completing tasks
- I Page layouts
- J Search
- K Page-level navigation
- L Speed
- M The mobile web

55

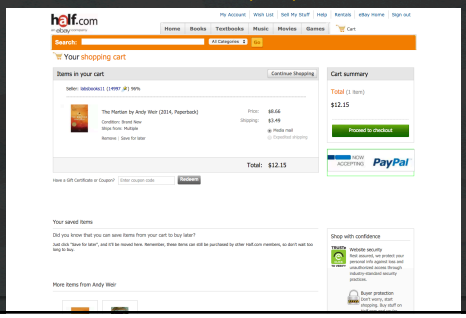
PROCESS FUNNEL (H1)

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

56

PROCESS FUNNEL (H1)



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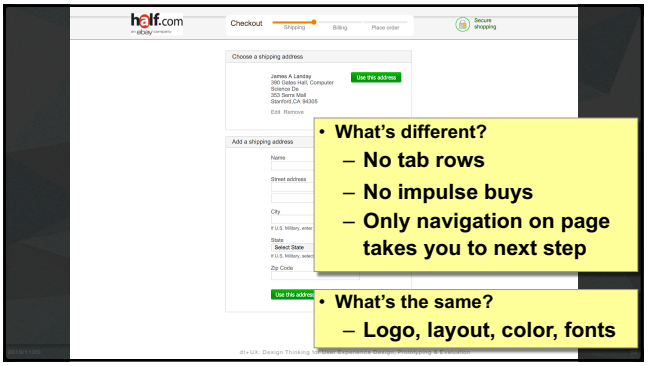

58

PROCESS FUNNEL (H1)

Problem: What if users need extra help?

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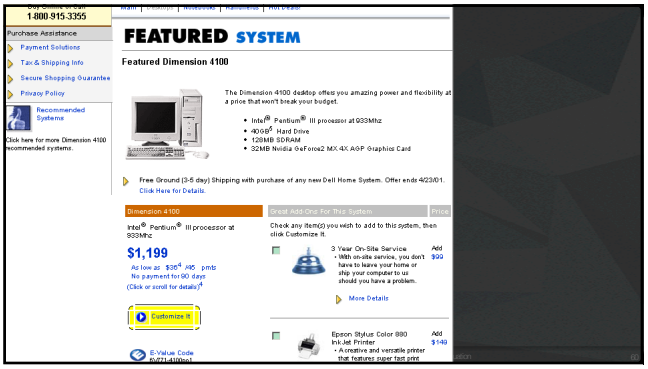

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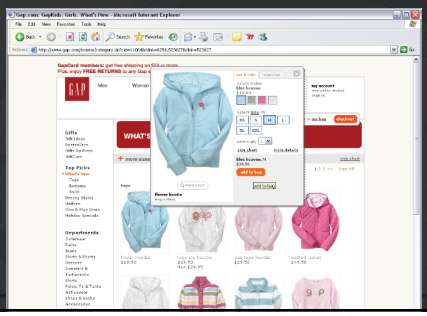
61

FLOATING WINDOWS (H6)

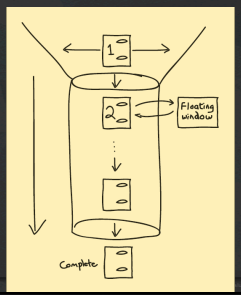
62

FLOATING WINDOWS (H6)



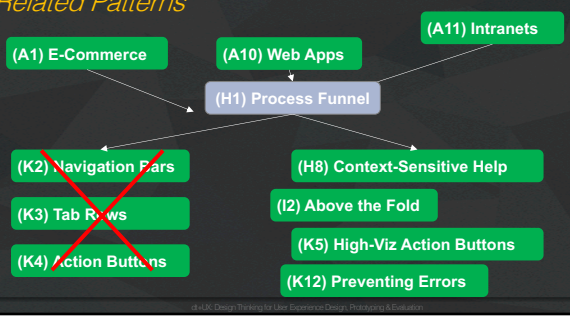
63

PROCESS FUNNEL (H1)
Solution Diagram



64

PROCESS FUNNEL (H1)
Related Patterns



65

Patterns Support Creativity

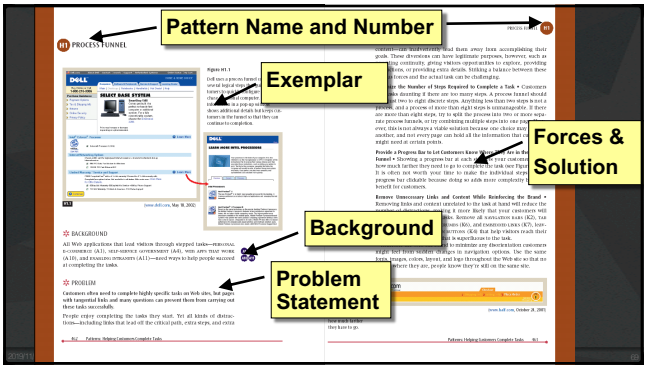
- Patterns come from successful examples
  - sites that are so successful that lots of users are familiar with their paradigms (e.g., Google, Amazon, Yahoo, Facebook…)
  - interaction techniques/metaphors that work well across many sites (e.g., shopping carts)
- Not too general & not too specific
  - 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

66

Format of Web Design Patterns

- Pattern Name and Number
- Exemplar
- Background
- Problem
- Forces
- Solution
- Solution Diagram
- Related Patterns

68



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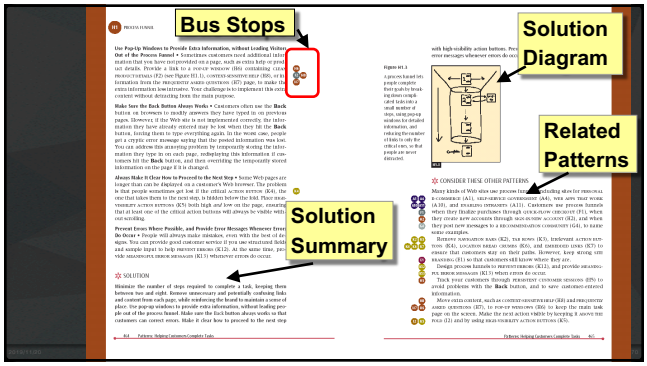
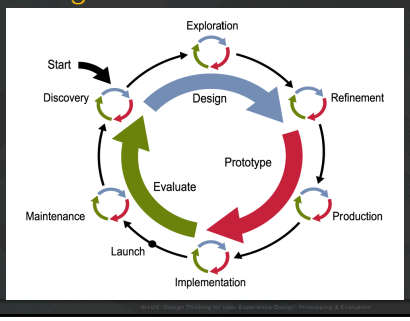


70

Web Design Process



71

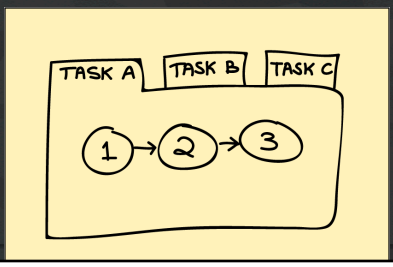
Patterns in Exploration Phase

- Use 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)
  - …

72

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)



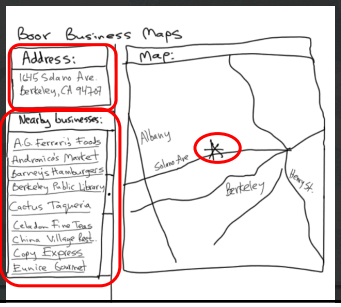
73

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

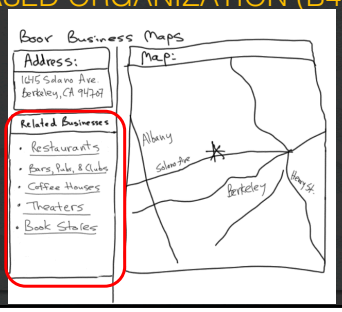
74

Design #1
ALPHABETICAL ORGANIZATION (B5)



75

Design #2
TASK-BASED ORGANIZATION (B4)



76

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 John's 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 2106 N 55th St, Seattle WA & find a Sushi restaurant nearby

77

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 2106 55th St & find nearby Sushi restaurant
    - 3 users only picked restaurants that had "restaurant" in the name & thus couldn't find "Kisaku"

78

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 2106 55th St & find nearby Sushi restaurant
    - 3 found "Kisaku" in 2 clicks
    - 2 others asked for a listing of Japanese restaurants

79

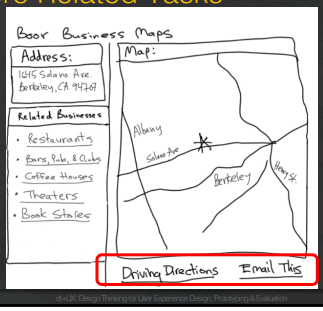
Evaluating Which Design to Choose

- General comments
  - 2 users said they often want to email/SMS 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

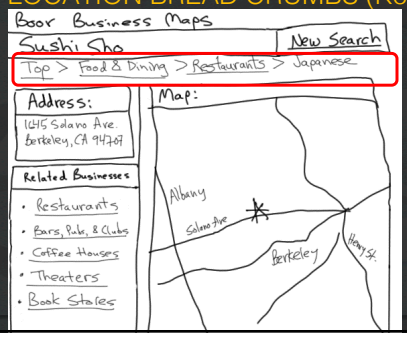
80

Design #2 – Revision 1
Adding More Related Tasks



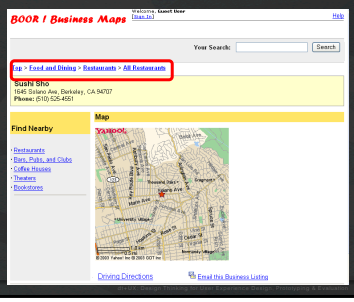
81

LOCATION BREAD CRUMBS (K6)



82

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



83

Summary

- Lots of issues involved in designing compelling, usable web sites
- 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

84

Further Reading
Books on Web Design

- *The Design of Sites*. Doug Van Duyne, James Landay, Jason Hong. Addison-Wesley. 2nd edition. 2007.
- *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.

85

Further Reading
Websites on Web Design

- UsableWeb.com, links to other usability sites
- Usability.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

86

Next Time

- Mon
  - Smart Interfaces for Global Grand Challenges
  - Team Work on Project
- Wed
  - Guest Lecture: "Building Hardware/Software Interaction Models - A Case Study", Joe Belfiore, Microsoft
  - Team Work on Project

87