

#330

A USER INTERFACE IS
LIKE A JOKE. IF YOU
HAVE TO EXPLAIN IT,
IT'S NOT THAT GOOD.

STARTUPVITAMINS

And, if you have to explain it,
you cannot get away with lies by calling them
“***alternative facts***”

E.g. Saying something like:

“theworldsworstwebsiteever.com is actually the world’s best website.”

would be an [#AlternativeFact](#).

Fact: “Alternative Facts” were known to the world before January 21, 2017 as [a lie](#).

Assignment 1

- Originally due Thursday, Sept. 21
- Now due on Saturday, Sept. 23 (11:30pm)

Recap

- Sign into Top Hat!

Usability

Raghav V. Sampangi, Ph.D.

Instructor, Faculty of Computer Science, Dalhousie University

raghav@cs.dal.ca

Three things for today

- The importance of Usability
- Planning for usability
- Understanding usability
 - Principles
 - Components
 - Rules

The importance of Usability

Usability is important, because...

It facilitates...

- New ways of interacting with information
 - E.g. applications, devices, etc.
- Ease of use, navigation is crucial for the success of any application or device
 - E.g. light switches in room 429/430
(not at all usable!)



Usability is important, because...

Users tend to lose interest if...

- Website or app is too difficult to use or navigate
- Design and/or content of a website is too cluttered
 - E.g. www.dal.ca
(most university websites)
- It is difficult to find what they are looking for
 - E.g. it is often easier to search for information on Google, than on Dal.ca
- Too time-consuming to complete a task
 - E.g. checkout, sign up/register, etc.



Let's define Usability

“The degree to which something is able or fit to be used”

- Oxford English Dictionary

A multi-part, multi-disciplinary process that defines the parameters of a project (i.e. scope of work)

- Focused on the user and user satisfaction
- Includes planning
- Has the potential to reduce development and training costs
- Often results in increased ROI

More on Usability in a bit.

First, we'll talk about planning for usability.

Planning for usability

Planning for Usability

Planning (to make something usable) can take weeks or months.

It involves:

- Research and discovery
- Content inventory
 - i.e. Asset inventory
- Site mapping
- Wireframing
- Usability diagrams
- Prototyping
- Concept design

Planning for Usability: *Research and discovery*

- Understand the following:
purpose, strengths & weaknesses, and competition
 - **Client interview**
 - Identify influencing internal and external, positive and negative factors
 - **Competitive analysis**
 - Identify gaps in the market
 - **Customer interviews**
 - Identify customer needs and market perception
 - Results in a **Creative Brief**
 - **A document that *ideally* guides the project**
 - Includes:
project overview, background, target user insights, competitive landscape, testing requirements, tech specs, functionality, timeline, budget

Planning for Usability: *Content inventory*

- A list of ***things*** required for the project
- Considers the **project's assets**
 - i.e. logos, copy, images, art works, code libraries
- Includes **content**
 - i.e. text, documents
- **File organization and naming**
 - Critical for developers
 - E.g. file name, file type, file size, directory organization

Planning for Usability: Content inventory

Content Inventory.xlsx - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Team Design

Paste Font Alignment Number Styles Cells Editing

A15 Departments

Content Inventory <http://demo.intranetfactory.net>

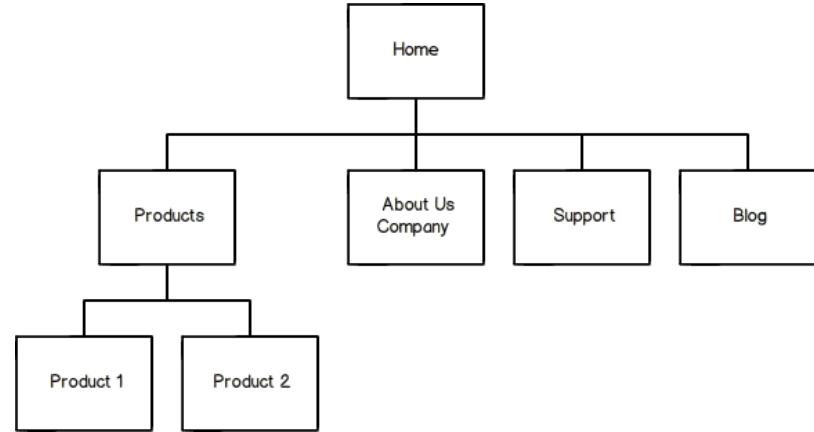
Title	Location	Template	Type	Last Modif.	Item:	Description
Home			Site	3/14/2011		
Activity	Home	WebPageLibrary	DocumentLibrary	3/7/2011	45	
Categories	Home	GenericList	GenericList	3/7/2011	25	
FAQ	Home	GenericList	GenericList	3/7/2011	25	Use FAQs to tra
Implementation Guide	Home	GanttTasks	GenericList	3/7/2011	63	Recommended ,
Links & Bookmarks	Home	Links	GenericList	3/7/2011	4	
Spotlight	Home	GenericList	GenericList	3/7/2011	25	
Style Library	Home	DocumentLibrary	DocumentLibrary	5/26/2010		Use the style lib
Survey	Home	Survey	Survey	1/12/2011	5	
Tasks	Home	Tasks	GenericList	6/5/2010	1	Task list for wor
Departments	Home		Site	3/14/2011		
HR	Home > Departments		Site	3/14/2011		
Announcements	Home > Departments > HR	Announcements	GenericList	3/7/2011	25	
Calendar	Home > Departments > HR	Events	GenericList	3/7/2011	25	
Categories	Home > Departments > HR	GenericList	GenericList	3/7/2011	25	
FAQ	Home > Departments > HR	GenericList	GenericList	3/7/2011	25	Use FAQs to tra
Links & Bookmarks	Home > Departments > HR	Links	GenericList	3/7/2011	6	
Blog	Home > Departments > HR		Site	3/14/2011		
Categories	Home > Departments > HR > Blog	Categories	GenericList	6/2/2010	3	Use the Categor
Comments	Home > Departments > HR > Blog	Comments	GenericList	6/2/2010		The Comments
Links	Home > Departments > HR > Blog	Links	GenericList	6/2/2010	1	Use the Links lis
Photos	Home > Departments > HR > Blog	PictureLibrary	DocumentLibrary	6/2/2010		Share a picture
Posts	Home > Departments > HR > Blog	Posts	GenericList	6/2/2010	1	Use the Posts lis
Contacts	Home > Departments > HR		Site	3/14/2011		

Planning for Usability: *Site mapping*

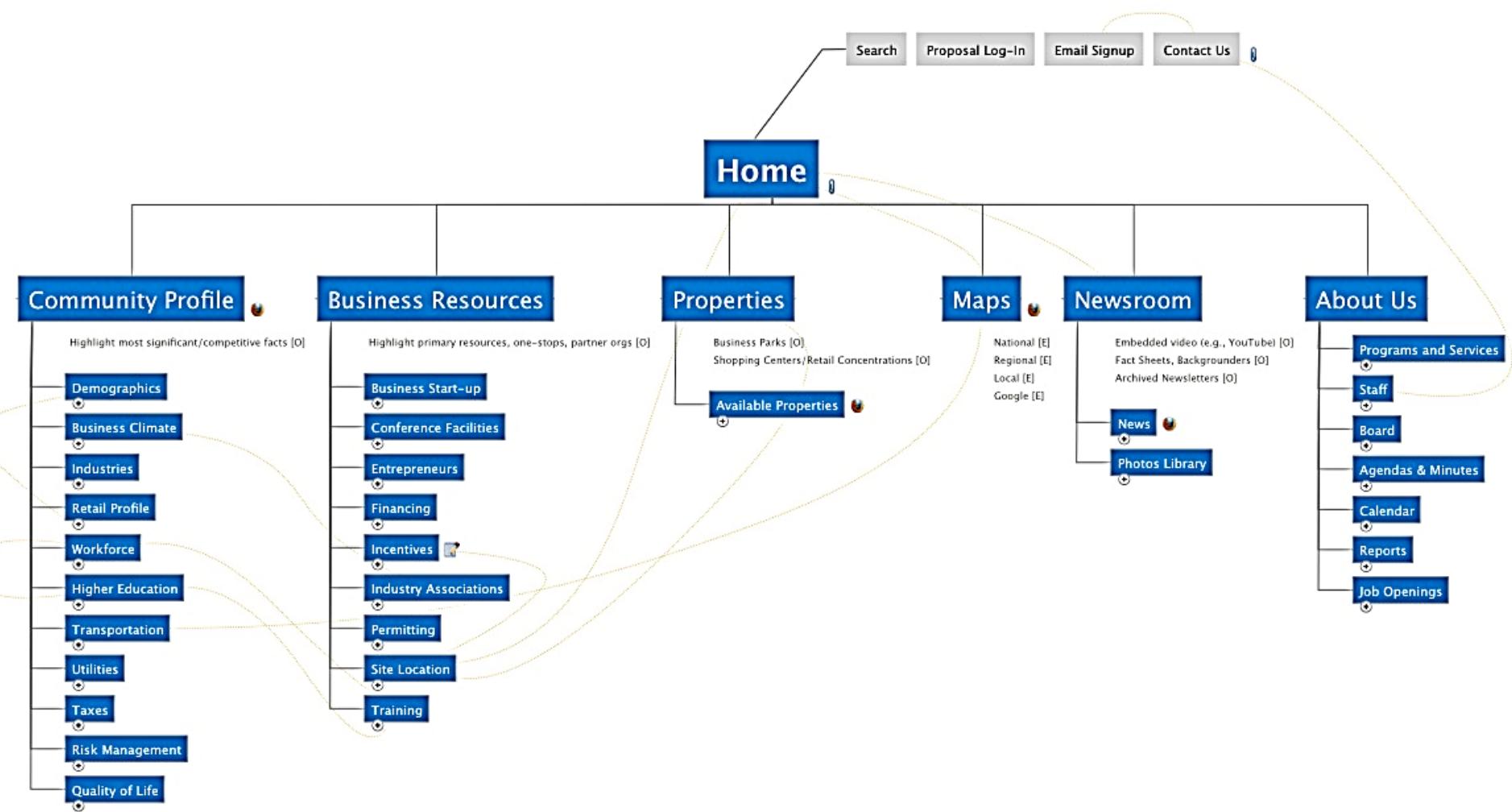
- “A *clickable, graphic- or text-based display of a Web site's hierarchy*”
– usability.gov

- A part of the **Information Architecture** phase

- Defines the **schematics** of a website
 - i.e. shows pages and linked relationships
- **Identifies navigational needs**
 - E.g. most important pages, pages that need to be linked-to from every page, landing pages, etc.



Planning for Usability: Site mapping



Planning for Usability: *Wireframing*

- What is a wireframe?

Planning for Usability: *Wireframing*

- What is a wireframe?
 - It is a **blueprint** of a web page

Site Logo (home link)

Accessibility Careers Media Centre FAQs Venue Hire Contact Us

Home Book Now Films Cinemas Offers Fun Stuff

Rolling Promo

Promo 1 Promo 2 Promo 3 Promo 4 Promo 5

Film Reviews

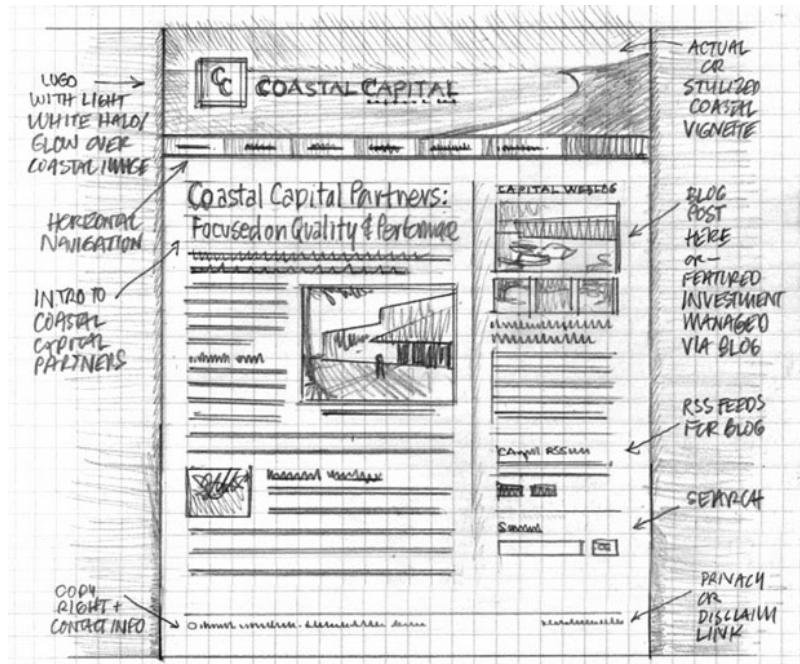
Now showing Coming Soon

Film Title (cert)
Description

Find Cinema

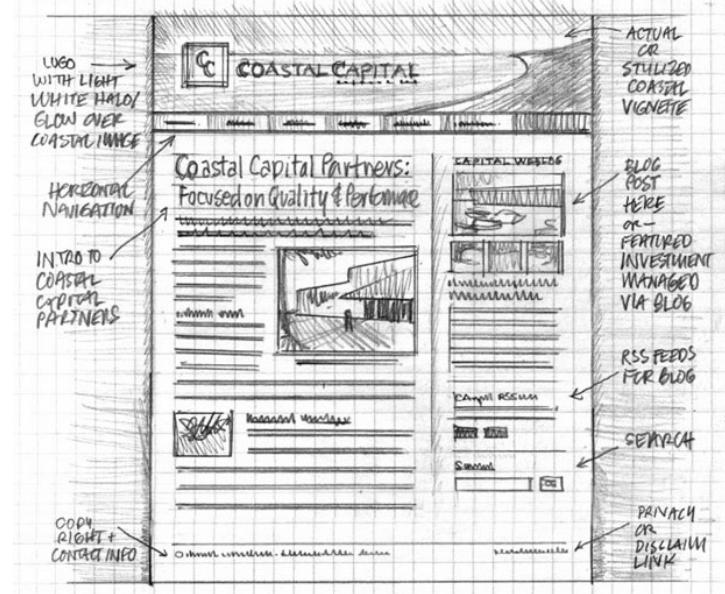
Select Cinema
or
Enter town or postcode
 Remember my local cinema
Book Now!

User Goal 1



Planning for Usability: *Wireframing*

- What is a wireframe?
 - It is a **blueprint** of a web page
- Meant to show the information hierarchy of a web page
- Shows elements of a web page and their relative weight of importance



Planning for Usability: *Usability diagrams*

- A crucial element of ***user experience (UX) design***
- Also known as ***user flow diagrams*** or ***use cases***
- A combination of wireframes and sitemaps
- Meant to plan out a specific action a user might make on the website, and the process of how this action occurs

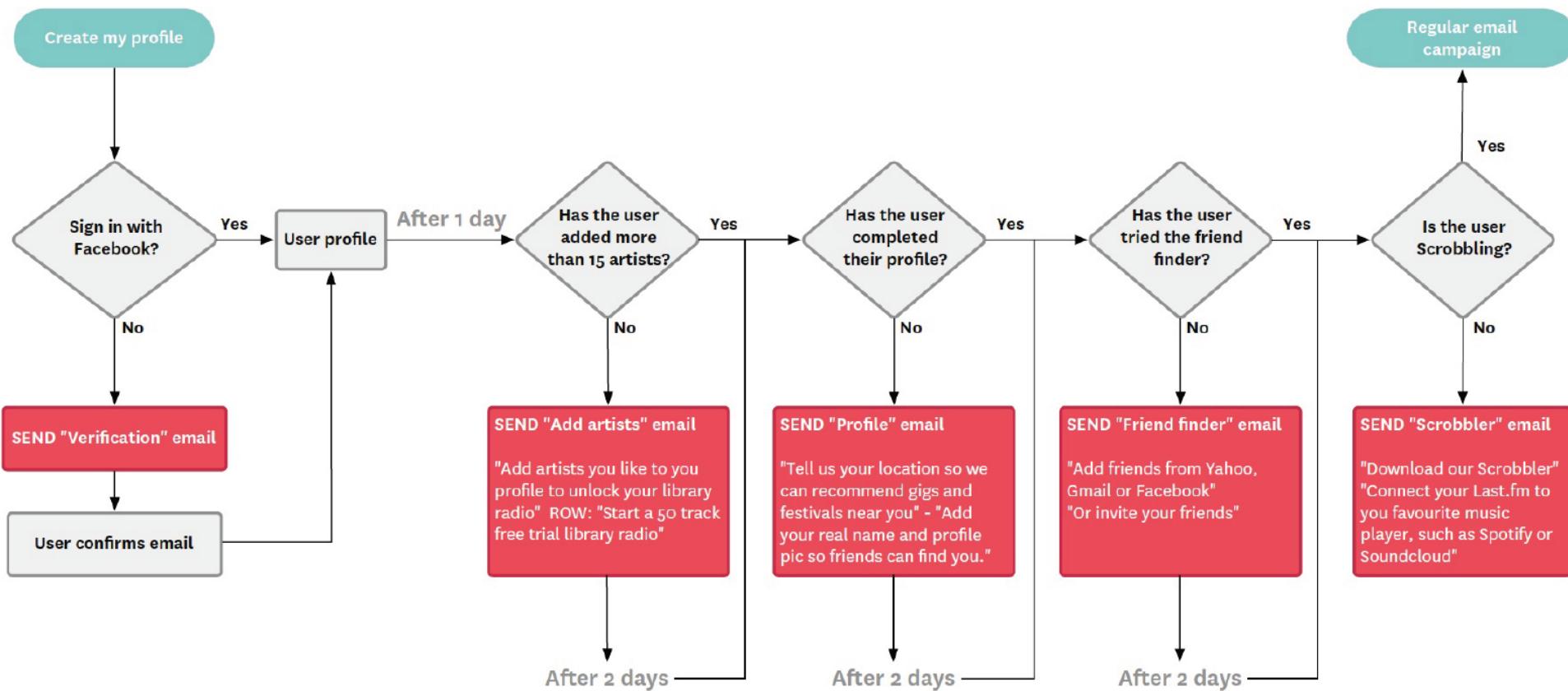
Planning for Usability: *Usability diagrams*

- A crucial element of ***user experience (UX) design***
- Also known as ***user flow diagrams*** or ***use cases***
- A combination of wireframes and sitemaps
- Meant to plan out a specific action a user might make on the website, and the process of how this action occurs
- E.g. if the user wants to register on a website, the usability diagram would show:
 - a home page,
 - a registration page (linked from the home page),
 - an error page (shown if user didn't complete all fields),
 - a thank you page (showing registration completion), and
 - potentially, a confirmation email wireframe

Planning for Usability: *Usability diagrams*

Last.fm New starter – sign-up email – wireflow

Feb 2012



Another way to generate usability flows is to
annotate site maps!

Planning for Usability: *Prototyping*

- Working models of the website functionality
- Helps developers work out final details and provide proof of concept
- Usually do not have any *design* elements (such as colour schemes, etc.); Just the desired functionality.
- Provide opportunities for evaluation and refinement
- A working prototype is then “skinned” by a designer



Planning for Usability: *Concept design*

- A rough draft of the final design
- Provides an idea of the look-and-feel of a website
- Provides a design direction
 - E.g. *Moodboards* are useful methods of creating an abstract composition
- E.g. The Dal Brand Guide & Tool Kit

<https://www.dal.ca/dept/communicationsandmarketing/brand.html>

Project Title: N-Bone

Version: KFv1

Designer Notes:

This design is intended to be crisp and lively with a variety of blues and greens to warm orange tones. The blues and grays are popular choices for interfaces and the greens are generally associated with feelings of health and well-being. The brighter colors would be used mainly as header text colors, for icons or to accentuate specific elements of the site.

This design scheme would rely on vibrant photography as well as some iconic, illustrated elements to reinforce ideas and to compliment the photographic elements.

Simple sans-serif web safe fonts would be used to keep the body of the copy clean and easy to read while more decorative and elaborate typefaces might be used for special headings and featured elements.

Other Elements / Sample Styles






Sample Color Palette

#DBC5AE #EE7033 #69C2CF #A5E0F5 #A2DF98 #B8F2CA #F4F2F2

Sample Patterns & Textures



Sample Photography & Illustrations



Sample Typography

This is a Header Sample
Font: Century Gothic

This Is A Sub Header Sample
Font: Arial Narrow

This Is An Alternate Header Sample
Font: Lucida Grande Bold

Page content text sample. *Lorum ipsum dolor sit amet, consectetur adipiscing elit. Suspendisse in massa id augue sodales tincidunt. Curabitur vitae enim aliquet tellus pulvinar suscipit. Vivamus ut erat laoreet pede luctus iaculis. In egestas orci nec diam. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos hymenaeos. Quisque quis neque. Phasellus adipiscing rhoncus magna. Sed nisi elit, pretium ut, ultricies ac, fermentum id, purus. Aenean pretium libero ac quam. Ut risus metus, dictum nec, imperdiet vitae, malesuada at, ligula.*

Font: Lucida Grande

- TOP HAT

Understanding usability

- Principles
- Components
- Rules

What is Usability?

“The degree to which something is able or fit to be used”

- Oxford English Dictionary

It is directly related to the experience of the use (i.e. **user experience**)

- Based on the expectations and abilities of the target user group
- The measure of the ease of use of a site
 - i.e. ensuring something works well
- Various aspects need to be considered when referring to usability
 - Important usability principles
 - Usability components

Important usability principles

The 7 ± 2 Principle

- Humans can only retain 5 to 9 things at a time in their short-term memory
 - Keep this in mind when designing elements such as navigation menus
 - What happens if you have a reaaaalllyy long navigation menu?

Important usability principles

The 2 Second Rule

- Users should not wait more than 2 seconds for certain system responses
 - E.g. logging in, confirmation of registration
 - What does it tell you if you only see a “loading” sign on the page, or worse, just an empty page with a “page loading animation” (either in the status bar or in the browser tab as in Chrome)?

Important usability principles

The 3-Click Rule

- Users should not take more than 3 clicks to find information
 - This rule is associated with ***learnability*** and ***memorability***
 - How many clicks do you need to find some information on Dal.ca?
 - E.g. Timetable?
 - E.g. Exam dates?
 - E.g. Logo?

For the above examples, try looking for these information on the website directly, and not by searching through Google :)

Usability components

Quesenberry's (2001) five E's

- **Effective:** *how completely and accurately is the work (or, experience) completed by a user?*
- **Efficient:** *How quickly can this work be completed?*
- **Engaging:** *How well does the interface draw the user into the interaction? How pleasant and satisfying is it to use?*
- **Error Tolerant:** *How well can the product prevent errors, and can help users recover from errors that occur?*
- **Easy to learn:** *How well does the product support both initial orientation and continuous learning throughout the complete lifetime of use?*

Usability components

Example:

- Consider web application development
- In what aspects of a website can we apply Quesenbery's usability elements?

Quesenbery's five E's

Effective

Efficient

Engaging

Error Tolerant

Easy to learn

Usability components

Example:

- Consider web application development
- In what aspects of a website can we apply Quesenbery's usability elements?
 - ***Navigation***
 - E.g. navigation menus, breadcrumbs, text links
 - ***Site search***
 - E.g. search bar, search results
 - ***Submission***
 - E.g. instructions
 - ***Error pages***
 - E.g. 404 pages

Quesenbery's five E's

Effective

Efficient

Engaging

Error Tolerant

Easy to learn

Usability Rules

- Do not make users think
- Your message should be clear and to the point
 - *Omit words that do not add to your message*
- Design elements should make a user's required interactions obvious

< OBVIOUS	Requires Thought	>
<p>Jobs! <i>Click</i></p>  <p>Jobs</p>	<p>Hmm. <i>[Milliseconds of thought]</i></p> <p>Jobs. <i>Click</i></p>  <p>Employment Opportunities</p>	<p>Hmm. Could be Jobs. But it sounds like more than that. Should I click or keep looking?</p>  <p>Job-o-Rama</p>

Usability Rules

- Design a web page to help a user scan its content

What we design for...

read

read

read

read

[Pause for reflection]

Finally, click on a carefully chosen link

The Reality ...

Look around feverishly for anything that

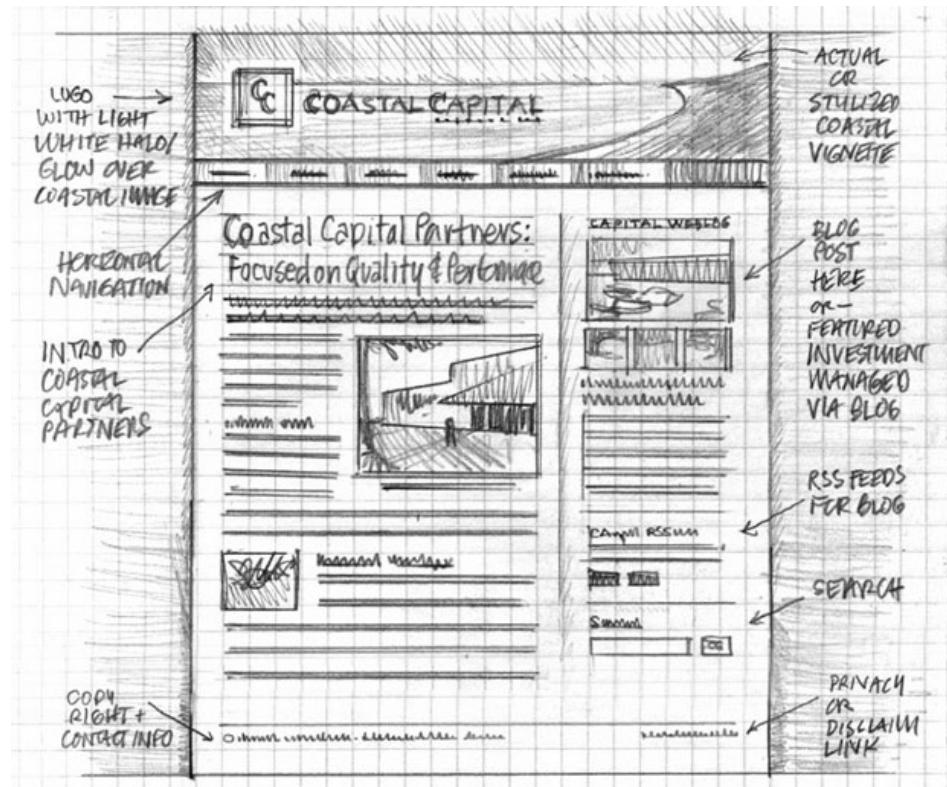
- a) is interesting, or vaguely resembles what you're looking for and
- b) is clickable.

As soon as you find a halfway-decent match, click.

If it doesn't pan out, click the Back button and try again.

Usability Rules

- Use *clear visual hierarchy*
 - Logically related content should be visually related
 - “Clickable” objects should be obvious
 - Some frameworks define CSS styles for these *clickable* elements very well
 - Pages should be broken up into clearly defined areas/sections



Usability Rules

- Give users choices that guide them
- **Do not** complicate the process of completing a task



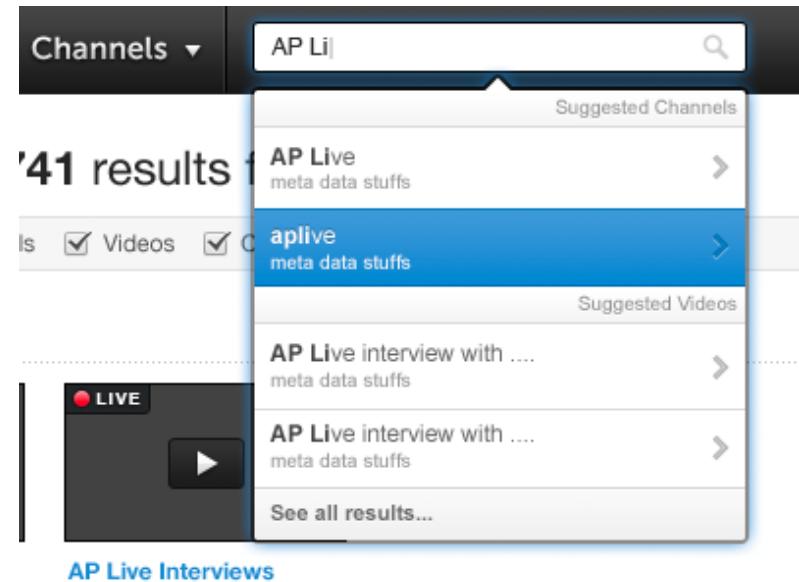
Usability Rules

- Page names and navigation menus influence the use of an application
 - Navigation bars are meant to help, not confuse

The screenshot shows the official website of the Government of Canada. At the top, there is a navigation bar with links for Jobs, Immigration, Travel, Business, Benefits, Health, Taxes, and More services. To the right of the navigation bar is a search bar labeled "Search Canada.ca" and a "Français" link. Below the navigation bar, there is a large blue speech bubble icon containing a smiling face. To the left of the speech bubble, there is a photograph of four people (three women and one man) holding smartphones. On the far left, there is a sidebar with links for Job Bank, Find a job, Training, Hire and manage employees, Starting a business, Workplace standards, Pensions and retirement, Employment insurance, and Jobs – More. A banner at the bottom of the page says "On January 25, Let's Talk".

Usability Rules

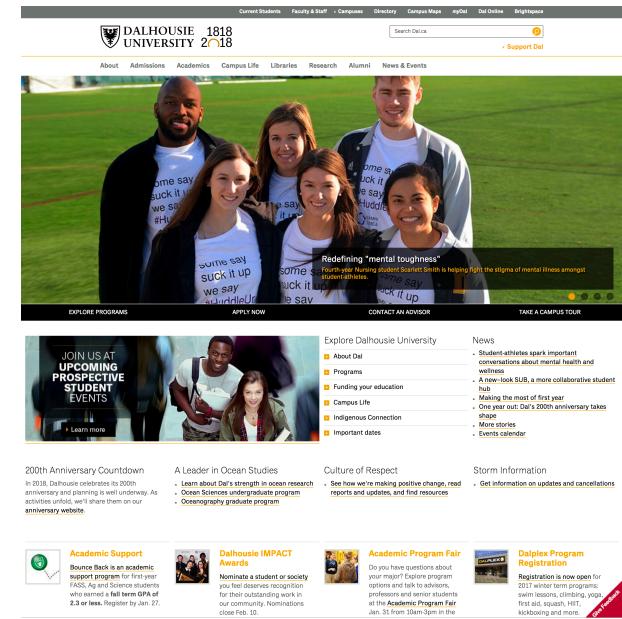
- Pull-down menus, drop-down menus...
 - Save real estate on the screen – sure, that's a good thing
 - They are efficient
 - They also have **issues**:
 - **You have to seek them out** (e.g. click on the pull-down to see the list)
 - **Hard to scan** (e.g. standard pull-down menus can be cumbersome to style)
 - **Twitchy!** (hard to read, because the list appears and goes away quickly)
- Drop-down menus can be useful if you are using it with search (e.g. auto-completion suggestions)



Usability Rules

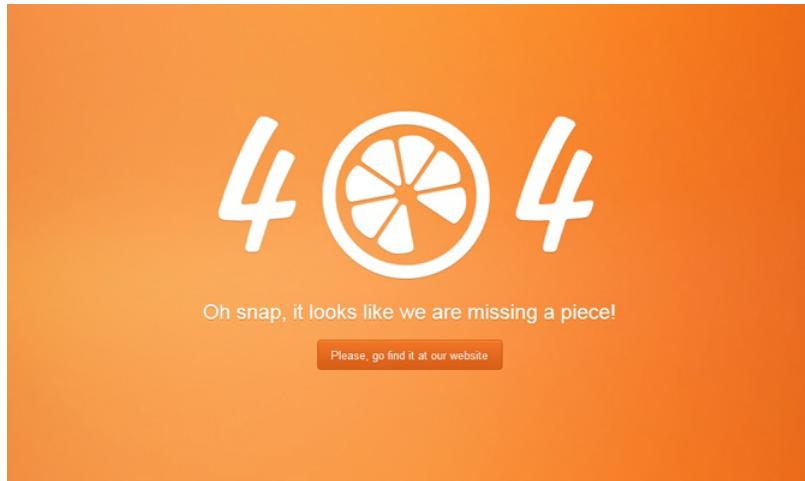
Home pages

- Meant to convey the “big picture”
- Meant to provide answers to question such as:
 - What is the site about?
 - What information/product/service can be obtained through this site?
 - Why should the user visit this site instead of another?
 - How can the user get around the site?
- Useful approaches for a home page:
 - Use taglines
 - **Do not write your mission statement on your home page**
 - It belongs in the “about” or some other page



Usability Rules

- Don't punish the user for getting lost
 - See if you can turn it into an opportunity



DALHOUSIE 1818
UNIVERSITY 2018

About Admissions Academics Campus Life Libraries Research Alumni News & Events

OOPS! PAGE NOT FOUND!

We can't find what you're looking for.

Search dal.ca or myDal (login required) for the information you're looking for.

You can also fill out the following form to request information. Please include your email address so we can respond to you.

Tell us what's missing from Dal.ca.

Want a response?
Please include your email address so we can send you the information you're looking for.

Email address (please include to receive a reply)

Authentication *

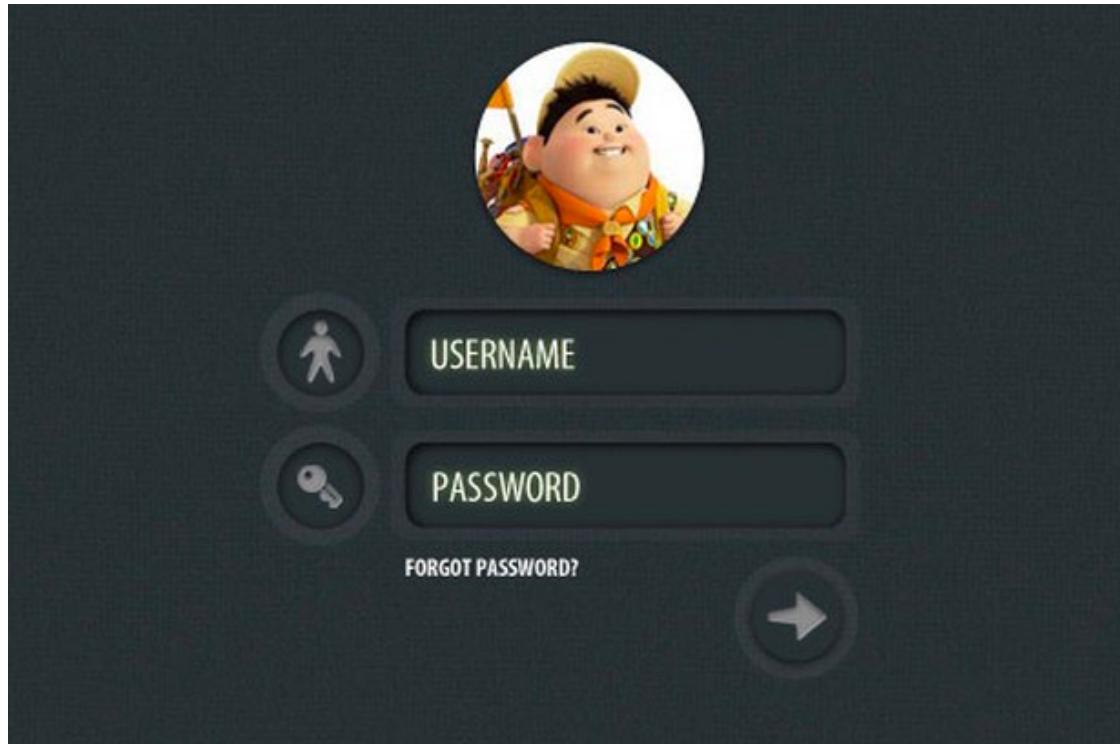
I'm not a robot

reCAPTCHA
Privacy - Terms

Send Feedback

Usability Rules

- Let the user know what you need
 - **Do not ask for information that you don't really need**

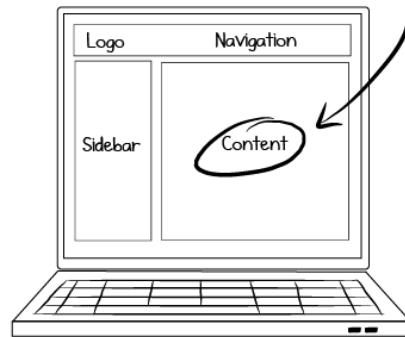


Usability Rules

- Don't do this. Just don't...

What a mobile website is **supposed** to do

Make this

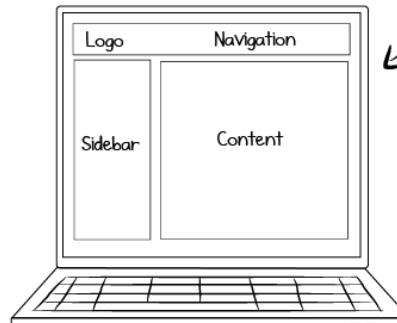


readable on this



What every major news outlet is doing:

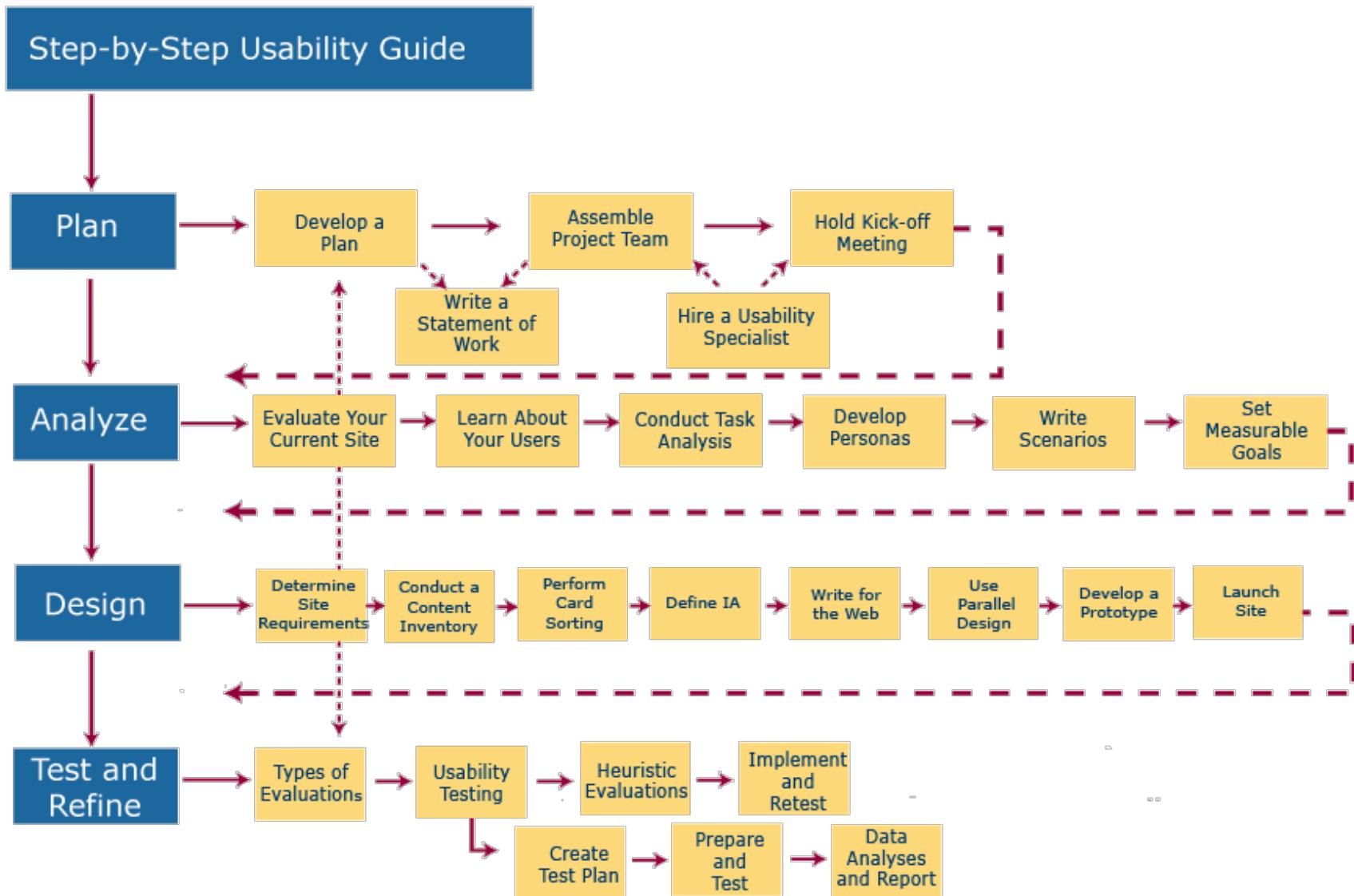
Turning this



Into this



Step-by-Step Usability Guide



Useful resources

Resources

www.usability.gov

www.interaction-design.org

Krug, S. *Don't Make Me Think!: A Common Sense Approach to Web Usability*, 2nd Ed. New Riders, Berkeley, CA, 2005.

Miller, B. *Above the Fold: Understanding the Principles of Successful Web Site Design*. How Books, 2011.