

I214 Inspection Methods

February 28, 2013

Inspection methods

“Experts” not users

“Inspection” not use

Inspection methods

Heuristics

Cognitive walkthroughs

Competitive analysis

HEURISTICS

Definition

Rules of thumb

“providing aid or direction in the solution of a problem *but otherwise unjustified or incapable of justification*” – Webster’s 3rd

Uses of heuristics

Competitive evaluation

Design specifications

Continual evaluation

Summarize lessons learned for future design guidance

How to do it

1. Develop/identify 10–15 heuristics

weight them by importance

2. Assign 3–5 evaluators

Experts (mix of design and domain experts)

3. Make a set of representative tasks

4. Perform tasks

5. Apply heuristics

Individually at first

Group compilation

6. Prioritize what to fix

Severity

Weighting

7. Make recommendations for improvement (optional)

Sources of heuristics

Nielsen's

Accepted in your domain

Competitors

Models – your domain or other

Research (not necessarily YOURS)

Discussion

The process of developing and applying heuristics can help design/evaluation group(s) to define and agree on goals, priorities, evaluation criteria



Nielsen's heuristics

Visibility of system status

Match between system and the real world

User control and freedom

Consistency and standards

Error prevention

Recognition rather than recall

Flexibility and efficiency of use

Aesthetic and minimalist design

Help and documentation



What others do: design patterns

Selection

The user needs to choose an item from among several or otherwise specify information, such as a date range.

 [Bookmark this on Delicious](#)

Patterns in this Category

To:	yu
Cc:	Yusef Jones <yusef@somevt>
	Yusef Smith <yusefs@somep>
Subject:	yui blogger <yuiblogger@yah>
Verdana	10

Auto Complete

The user needs to enter an item into a text box which could be ambiguous or hard to remember and therefore has the potential to be mis-typed.

February 2007						
Su	Mo	Tu	We	Th	Fr	Sa
28	29	30	31	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	1	2	3

Calendar Picker

User wants to find or select a particular piece of information on a date or between a date range.

Navigation

The user needs to locate content and features necessary to accomplish a task.

 [Bookmark this on Delicious](#)

Patterns in this Category

Draft-pick compensation rules might bend | MLB
Jeff Passan February 16, 2009

Shaq is last rising Sun
Adrian Wojnarowski February 16, 2009

Shaqille O'Neal's entertainment can't mask the bungled firing of Terry Porter and lingering trade talks. [Read More](#)

[View Adrian Wojnarowski Archive](#)

Accordion

There are too many items to fit into a limited space without overwhelming the user.

Browse: [0-9](#) [A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#)

0-9

[102 Dalmatians \(2000\)](#)
[10 Items or Less \(2006\)](#)
[Twelve and Holding \(2006\)](#)

Alphanumeric Filter Links

The user needs the ability to look up information alphabetically within a large data set.

[Travel](#) > [Guides](#) > [North America](#) > [United States](#) > [New York City](#) > [Things to do](#)

Breadcrumbs

User needs to navigate potentially large quantities of information efficiently, without becoming lost.

HOME U.S. BUSINESS

Business Video U.S. Economy

POPULAR SEARCHES: [tiger woo](#)

Navigation Bar

Called 'nav bar' for short, this is any component in a page design that provides persistent navigation assistance.

1-5 of 32

First | < Prev | Next > | Last

Pagination

The user needs to view a subset of data that will not be easy to display within a single page.

Home U.S. Business World

Video Photos Opinion Local

Tabs

The user needs to navigate - possibly through one or more stacked panes - to reach content and features in a context offering a clear indication of their current location.

Adapt heuristics to domains

How people really use the iPhone

Email

Favorite

Download

More...

Eight rules of thumb for iPhone app development

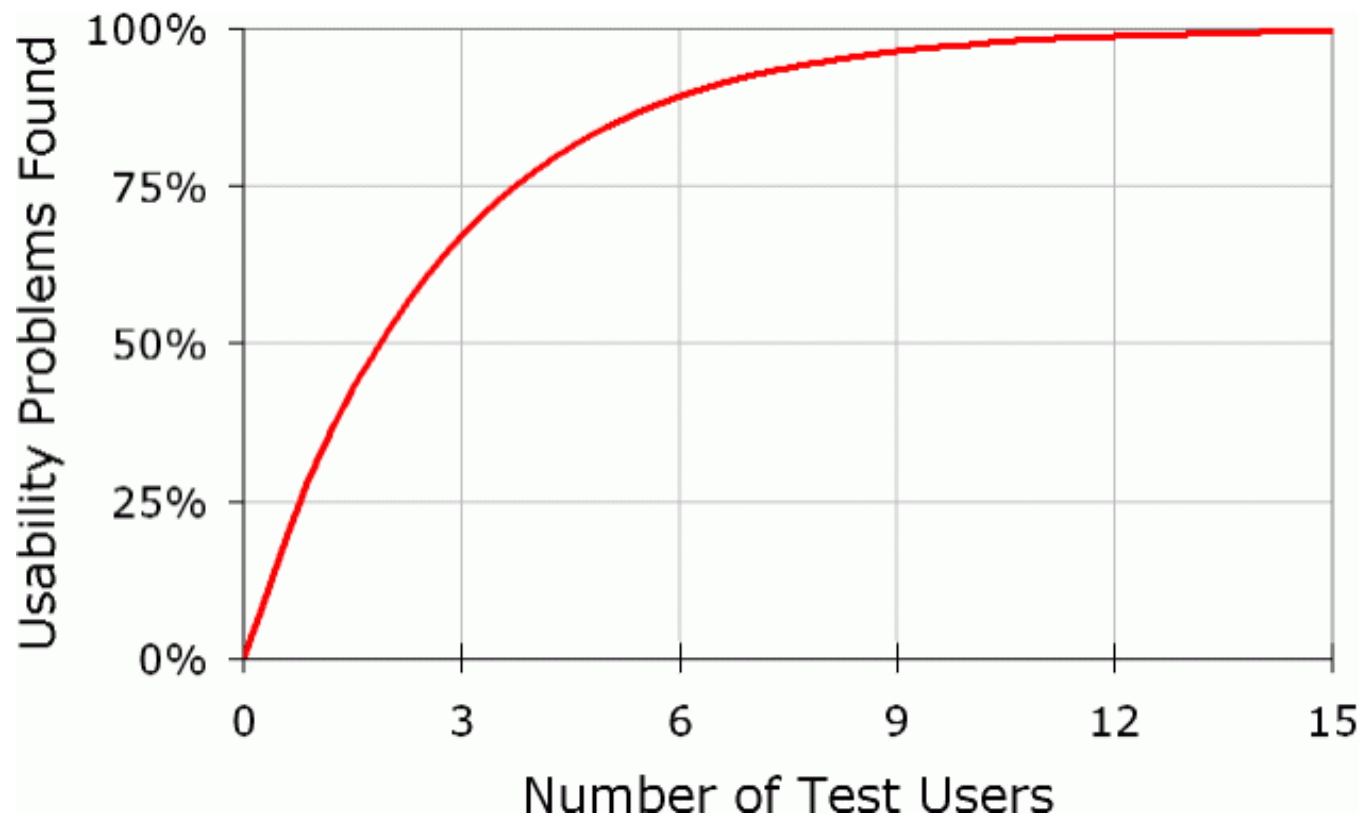
create
with context

- 1 Take advantage of learned behaviors
"Oh, this works just like the calendar"
- 2 Avoid interaction inconsistencies
"This is weird, cancel is usually over there"
- 3 Provide clear conceptual link across widgets
"This button must be related to that box, they're next to each other"
- 4 Put space between action widgets
"Oh man, I didn't mean to send that SMS!"
- 5 Plan for accidental overswiping
"I keep accidentally changing to a different screen"
- 6 Don't rely exclusively on multi-touch
"It's hard to do this while I'm holding something in the other hand"
- 7 Provide visual feedback for taps
"Did I hit that button? I'm not sure."
- 8 Provide interaction affordances
"It's obvious that you're supposed to swipe left-and-right."

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<http://www.slideshare.net/createwithcontext/how-people-really-use-the-iphone-presentation>

of evaluators? Nielsen's basis



Applying heuristics: use a checklist

Heuristic Evaluation - A System Checklist

I. → 1. Visibility of System Status

The system should always keep user informed about what is going on, through appropriate feedback within reasonable time.

#	Review Checklist	Yes No N/A	Comments
1.1	Does every display begin with a title or header that describes screen contents?	O Q	
1.2	Is there a consistent icon design scheme and stylistic treatment across the system?	O Q	
1.3	Is a single, selected icon clearly visible when surrounded by unselected icons?	O Q	
1.4	Do menu instructions, prompts, and error messages appear in the same place(s) on each menu?	O Q	
1.5	In multipage data entry screens, is each page labeled to show its relation to others?	O Q	
1.6	If overtype and insert mode are both available, is there a visible indication of which one the user is in?	O Q	
1.7	If pop-up windows are used to display error messages, do they allow the user to see the field in error?	O Q	
1.8	Is there some form of system feedback for every operator action?	O Q	
1.9	After the user completes an action (or group of actions), does the feedback indicate that the next group of actions can be started?	O Q	
1.10	Is there visual feedback in menus or dialog boxes about which choices are selectable?	O Q	
1.11	Is there visual feedback in menus or dialog boxes about which choice the cursor is on now?	O Q	
1.12	If multiple options can be selected in a menu or dialog box, is there visual feedback about which options are already selected?	O Q	
1.13	Is there visual feedback when objects are selected or moved?	O Q	
1.14	Is the current status of an icon clearly indicated?	O Q	

Prioritization: Severity

Goal: prioritizing recommendations

Nielsen's: frequency, impact, persistence

Possible severity rating scale:

- 0 not a problem

- Cosmetic – need not be fixed unless time available

- Minor – low priority

- Major – high priority

- Catastrophe – fix before release

Or:
Weighting →
Prioritization

Content Area: *Human Resources Benefits Policies and Procedures*

Value Criteria	Importance	Score	Value
Currency	20%	85%	17%
Authority	25%	50%	13%
Popularity	10%	70%	7%
Feasibility	45%	50%	23%
Totals	100%	-	60%

Content Area	Score	Value Tier
Best sales proposals	73%	I
Internal white papers from R&D group	72%	
Compliance guidelines from Legal dep't.	72%	
Sales support documentation (English)	64%	II
HR benefits policies and procedures	60%	
Client case studies	51%	III
Materials science technical reports	47%	
Recent company newsletters	43%	IV
Product support documentation	40%	
Sales support documentation (Spanish)	40%	
Staff directory	39%	V
Technical support documentation	36%	
Corp. Communications newsletter archive	19%	VI
Employees' personal web pages	12%	

Reporting Heuristic Evaluation Results

Tell a story

Your audience is likely not interested in the heuristics themselves but in problems and recommendations.

Communicate clearly what's problematic

By task report problems and identify heuristics violated

By location or region of the product

By priority group violations by severity or weight

By heuristic – least useful?

Be concise

Reporting example: By task/activity

Task	Problem	Heuristics violated	Severity
Search for plant by name	Requires Latin name, with genus capitalized	H2: match with real world; H1 5, use users' language	4 (catastrophe) 90% of searches will fail

Reporting example: heuristic x evaluators

Sidebar #6: Thematic Problems Identified

Heuristic	UI Experts	Developers
1: Speak users' language	Use of jargon Uninformative ordering of lists	Not enough information Misleading titles
2: Consistency	Terminology Link term vs. Page header Formatting (typeface, header, graphics, layout) Button labels ('go', 'run', etc.)	Formatting (typeface, header, graphics, layout)
3: Memory load	No theme	No theme
4: Flexibility and efficiency	Need instructions Difficulties finding desired material Insufficient short cuts	Need instructions Optimize 'applications'
5: Aesthetic and minimalist design	Visual appeal Redundant objects on screen Missing information	Visual appeal Position elements for visibility
6: Chunking	Separate topics merged Same topic split	Separate topics merged
7: Progressive levels of detail	No theme	Insufficient detail Inconsistent granularity
8: Navigation	Insufficient navigation aids (titles, headers, etc.) Inaccurate or unclear links	Missing links

What's the problem here?

User Control and Freedom

- Add site map to HTC home page.
- To offer the user more control, make navigational links of each word in the unordered list that repeats in the link button frame.
- Add navigational options so the user does not rely on the back button.
- Add more internal links to the course description page to take users back to the top.
- If a user goes to the HTC home page and bypasses the SPSU links, the user does not know that this department is part of Southern Polytechnic nor can the user go to SPSU's home page, other department pages, or other information such as fees and registration.

Consistency and Standards

- Site identification is really important, as is the repetition of frames (and how the frames look), colors, and fonts. Why aren't frames used on the HTC home page?
- Make Peers and Professionals consistent with the others. The faculty bios do not have a link back to HTC

<http://www.ablongman.com/barnum/pdf/inertiaheuristics.PDF>

Heuristic evaluation: Benefits

Low resource requirements

Fast

Easy to repeat

Easy to communicate

Facilitate group agreement

Face validity

Heuristic evaluation: Limits

Can be superficial

Tends toward a short list

Tends to identify superficial problems

Deceptively rigorous-looking

Are experts like users?

How appropriate are the heuristics?

How relevant are the tasks?

False positives?

COGNITIVE WALKTHROUGHS

Cognitive walkthroughs

From the perspective of new or infrequent users, **try out the application**

As you go, **identify problems, assumptions, possibilities** for change

Rationale: acceptability depends on first experience

Cognitive Walkthrough Worksheet

This section should be used by evaluators to keep track of the steps & screens they find. Positive results or issues found should be included in the two sections above.

Scenario 1: Brief description

#	Step	Screen	Comments/issues	Principle	Suggestions for solution

Components of a cognitive walk-through

Written assumptions (i.e., personas) about new/infrequent users population and contexts of use

1–4 important tasks to accomplish

Sequence of actions (i.e. scenarios or task flows) a user is likely to perform to complete the task

Prototype to walkthrough (paper or digital)

Templates

OCLC's <http://www.oclc.org/policies/usability/heuristic/oclc.htm>

Fluid Project <http://wiki.fluidproject.org/display/fluid/UX+Walkthrough+Report+Template>

Roles in a cognitive walkthrough

COMPETITIVE ANALYSIS

What's in a competitive analysis?

“What are competitors (and other ‘best practice’ sites) doing to provide services and content that is positive and meaningful to users?”

Site name	Travelocity	Expedia	Travelnow	Yahoo! Travel	Netscape Travel	Lufthansa	Icelandic Air	Southwest	Alaska	United	Away.com	Lonely Planet
Classification	Portal sites					Airline sites					Adventure	
General features												
Search for flights												
Make online reservations												
Search for hotels												
Make online hotel reservations												
Search for rental ccars												
Search for vacation packages												
Customer service 1-800												
Customer service online chat												
Book flight features												
Search for flights												
By city												
By date												
By price												
Sort flights												
By airline												
By lowest fare												
By nonstop												

from Goto and Cotler, C

from Goto and Cotler, Chapter 10, p 262

Formal vs informal comparisons

	Formal Industry Analysis	Informal Features Analysis
Team	An independent research team with expertise and background in marketing, communications, research, and/or strategy	Members of the {product} development team who will be re-creating the user experience online
Approach	Formal analysis of industry, market segmentation, trends and forecasts, and customer needs	Informal analysis of competitive sites focusing on features and user experience
Results	Quantitative data-driven market and research-centered focus	Feature-driven, qualitative information, show what is working and what is not working
Report	A huge book of information	5 to 20 pages, short and sweet.
Budget	\$20,000 and up	Lunch to \$20,000
Goals	Provide comprehensive, detailed, strategy-based recommendations on changing marketplaces, evolving business models, and customer habits and segmentation	Gain firsthand, comparative view of customer experience. Provide relevant documentation and industry information.

Steps in competitive analysis

- 1) Define the process
- 2) Create a features list
- 3) Conduct analysis (usability or otherwise)
- 4) Create a report

Step 1: Defining the process

1

What features might serve users with heavy time and/or mobility constraints?

- 1 Build a plan for analysis
- 2 Define the competitive set
- 3 Prioritize and categorize your competitive set

2

Example: Online dating study

Top Five Online Dating Web Sites in the US, Ranked by Unique Visitors, December 2006 (thousands)

1. Yahoo! Personals	4,153
2. Match.com sites*	3,970
3. True.com	3,086
4. Spark Networks	2,504
5. SinglesNet.com	2,173
Total online dating category	20,555
Total Internet users in the US	152,350

*Note: ages 15+; from home and work locations; excludes traffic from public computers (eg Internet cafes) and access from mobile phones or PDAs; *excludes traffic from sites powered by Match.com, such as MSN Personals (635,000 unique visitors) and eHarmony (500,000 unique visitors) in press release, February 12,*

www.eMarketer.com

3

Online Dating Insider
Online Dating Industry News & Commentary

HOME CONSULTING CONTACT ARCHIVES ABOUT TOOLS SUBSCRIBE

These posts might be related to what you're looking for:

- Blog Move Update
- Online Dating Insider Blog Network
- PerfectMatch Relationship Expert Single Again
- Online Dating Insider By Another Name
- State of the Blogosphere

Links for 8-31-07
By David Evans on Aug 31st, 2007

It's been fun connecting with dating industry folks on Facebook, add me and I'll show you around the various dating apps on Facebook.

Spark Networks is repurchasing 1,000,000 shares of its common stock at \$4.10 per share.

Spark Networks loses another Officer.

Question: What will happen to PlanetOut?

Text Voice IM Chat Record

Hosted Web Platform Database-Integrated Starting at \$100

userplane

SkaDate Dating site software & solutions

800 Internet

Subscribe by Email

Explore Online Dating Network Blogs

Step 2: Making a list of features

Inspection of competitors

Design decisions

Online discussions, reviews

Expert or user interviews

Example: Online dating study					
	A	B	C	D	E
1	Services	Audience	Activity	social	platform
2	Proxidating	broad	focused	individual	mobile
3	Eharmony	middling	focused	individual	web
4	Y! Personals	broad	focused	individual	web
5	Match.com	broad	focused	individual	web
6	True.com	broad	focused	individual	web
7	Zencon	niche	focused	individual	web

intent?

platform?

genre?

audience?

personality?

support for FtF?

social orientation?

	Peers ThinkTank	CXO Round Table	Session with a Consultant	Session with a Performance Coach
Have access to an outside perspective				
Receive multiple feedback			No	No
Receive perspectives from peers (in a similar position)			No	No
Get feedback from everyone in the session		No	N/A	N/A
The feedback received are always supported by personal examples		No	No	No
Get feedback in writing from the subject matter expert (after the session)		No		No
Receive a complete transcription of the session within a couple of days of the completed session		No	No	No
Confidential				
Anonymous		No	No	No
Participants can be anywhere in the world		No		
No commuting		No		
Amount of relevant and applicable information received				
Time needed				
Cost	\$	\$\$	\$\$\$	\$\$\$\$

Feature grid

<http://peersthinktank.com/resources/Peers+ThinkTank+Competitive+Analysis+2.jpg>

eHarmony®

Already a Singles member? [Log In](#)

Register to Begin

First Name:

I'm a:

Postal Code:

Country:

Email:

Confirm Email:

Password:

How did you hear about us?

FREE to review your matches! Start now.

eHarmony marriage



im in like with you.

HOME BROWSE MY PROFILE LOGIN SIGNUP

EMAIL ADDRESS:

PASSWORD:

SHE LOGS IN

SHE CREATES A GAME.

ITS EASY.

SHE TYPES WHAT SHE WANTS IN A GAME.

This demo video isn't finished. For now check out **How It Works** for an explanation of the site.

Hot Games | New Games | Games About To Close

52 120

ABOUT iminlikewithyou for a fun, free, and

Step 3: Analyzing the set based on features

Perform *individual* inspections

Conduct *informal* usability testing

singlesnet.com
online dating made easy

Home | Signup | Help

Join now | Login | Lost password

Member login

Join today's limited-time FREE Trial offer

- Offer valid 6/13/2007
- Free to - contact members
- Free to - receive and read e-mails from members
- Free to - reply to e-mails from members
- Free to - create your own personality profile
- Free to - use the compatibility matching system and view photos
- No credit card required

Why we are rated #1 in dating

- Takes less than 30 seconds to create an account
- Proprietary compatibility matching technology
- More marriages than any other dating site

get your free trial membership

Quick search

13,606,455 members with photos
24,254 members online

I am a seeking a

Screen name: Password:

☐ Remember me ☐ Not a member yet? [Sign Up FREE](#)

MY PROFILE MY INBOX SEARCH COACHING CENTER TIPS & ADVICE CUSTOMER CARE SAFER DATING

MEET THE ONE WHO'S RIGHT FOR YOU - RIGHT NOW.

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- Find your most compatible matches - for dating, romance, love and more
- Coaching and matchmaking services give you expert profile and personal advice
- Use your webcam and get up-close and personal with live webcam
- Meet singles at the single dating service that screens for members and felons
- Browse members' personal ads, personal profiles and personal photos
- For instant gratification, use our one-click search for a single man or single woman, or get more tailored results with an advanced single search
- Find the freshest personal profiles on TRUE any time you want
- Get a head start and find single men and women who are looking for a single like you - based on how you describe yourself in your personal profile

WHO'S SEARCHING FOR YOU?

Enter Your Name and Age to Find Out

First Name:

Last Name:

Age:

SEXPLORATION ARE YOU WILD... OR MILD?

TRUE's research has uncovered that there are eight different sex personalities. Take our SexExploration™ test now to find out your type - and we'll show you your hottest matches!

match.com®

members sign in here

We guarantee you'll find someone special within 6 months. Don't wait. → Make Love Happen now

make love happen guarantee match.com

I am a:

Seeking a:

Between ages: and

Your postcode:

Your Date of Birth:

Username:

Password:

Email Address:

☐ Send me photos of compatible matches, tips, announcements, and special offers from Match.com and select third parties.

☐ I am at least 18 years old & have read & agree to Match.com's [Terms of Use](#) & [Privacy Policy](#)

why Match.com will work for you

- THE MOST INTERESTING MIX OF MEMBERS. We're the biggest*, so there's someone for everyone. No matter what your type.
- THE MOST PEOPLE LOOKING FOR A SERIOUS RELATIONSHIP. Over 70% of our members are looking for the person that will change their life.
- MATCH.COM WORKS. We're so sure you'll meet someone special within 6 months, we've created the *Make Love Happen* guarantee. If not, the next 6 months FREE.

Terms of Guarantee | Match International | Our Credito | Local Dating

okcupid

MY ACCOUNT MATCHES TESTS JOIN NOW! FREE & FUN! Joining takes

"OkCupid says I'm perfect!" - drifting_lulus

OkCupid is Totally Free

Find Your True Self: Take The Free Online Dating Personality Test Right Now!

Ok User: drifting_lulus Found, Toronto, Canada

Find my matches

OkCupid is a free online dating service brought to you by the creators of SpinSingles and ThrillDate. We're proud to offer you a breath of fresh air in your search for the best online dating site. Our matching service is based upon complex algorithms that aim to vastly improve your online dating experience. We are committed to providing the most simple dating environment for a pleasant experience. We welcome you to use OkCupid for gay singles, Christian singles, a Jewish matchmaking service, a gay dating service, or even an adult friend finder. You can be sure you'll find it at OkCupid!

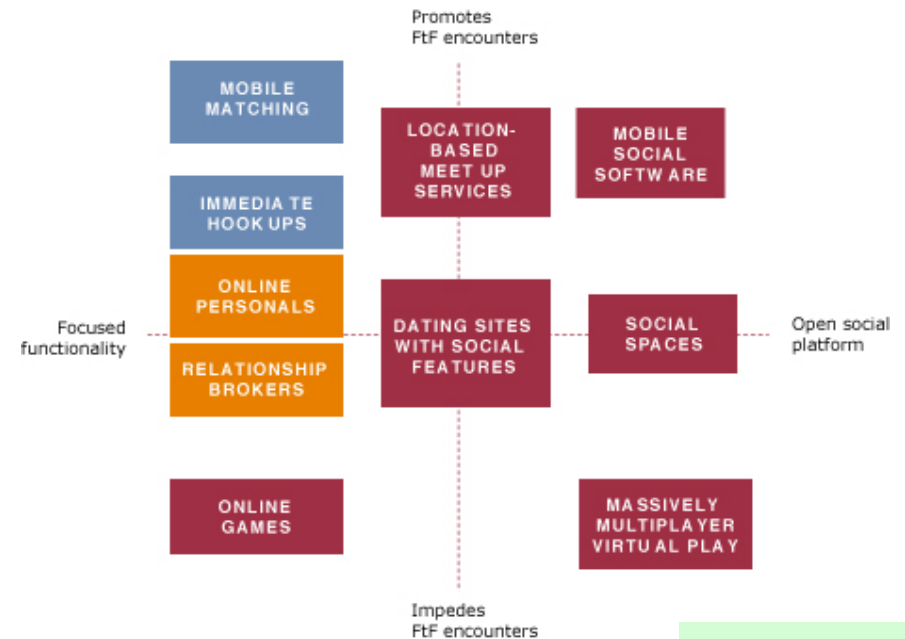
WARNING: MARRIED PEOPLE AND CRIMINALS WILL BE PROSECUTED

If you are married and representing yourself as single, or if you are a convicted criminal, be aware that you could be guilty of fraud and subject to civil and criminal penalties under U.S. Federal and state law. For example, Title 18, Section 1343 of the U.S. Code authorizes fines of up to \$250,000 and jail sentences of up to five years for each offense. TRUE reserves the right to report violators to appropriate law enforcement authorities and seek prosecution or civil redress to the fullest extent of the law. If you are married or a convicted criminal, please close your browser.

Step 4: Creating a final report

- 1) Create a **features grid** or a **landscape map**
- 2) Make overall evaluations

Example: Online dating study



Appendix

Inspection methods resources

Another sample heuristics checklist

these categories:

Homepage Usability

Communicating the Purpose of the Site

0	1/2	1	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	company name and logo shown prominently in standard size and location
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	tagline present that explains company/site purpose
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	site's value proposition/differentiators communicated
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	highest priority tasks (from user's perspective) emphasized
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	only one page identified as "home" or "homepage"
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>Web site</i> used only to refer to total site, not to pages or sections
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	homepage design clearly different from all other pages

Comments:

1.) Name and Logo: The company name is present in the thematic "blurb" in the banner area of the site. The name is not closely associated with the logo. It is understood that the

<http://www.olkcommunications.com/images/Clients/Heuristic%20Evaluation.jpg>

Specialized feature list: E-commerce and Order Forms

Shows total cost

Shows itemized costs

Shows product names and/or descriptions

Allows the user to change the quantity easily

Provides an option to save an order and complete it later

Provides details on any other charges on the order

Provides details on shipping options and charges

Provides shortcuts for repeat visitors to make transactions faster

Allows users to easily move from the order form to shopping
and back again

Provides security information

Provides users with an alternate offline way of ordering

Allows users to view and/or change previous orders

Does not require users to register before a purchase

Guidelines and checklists

Research-based web guidelines from

<http://www.usability.gov/pdfs/>

See specifically:

<http://www.usability.gov/pdfs/chapter7.pdf>

<http://www.usability.gov/pdfs/chapter11.pdf>

<http://www.usability.gov/pdfs/chapter4.pdf> :

user connection speeds and screen resolutions