

BUILDING IN-HOUSE UX TEAMS FOR FEDERAL AGENCIES: TIPS AND LESSONS LEARNED

Wei Ding, PhD

Federal Aviation Administration

7/23/2015

About Myself

- ❖ UX Team Lead with 23 years of professional experience in UX strategy, design and project/product management
- ❖ Major achievements:
 - Redesign of USPTO.gov (RWD)
 - Redesign of the online reservation path on marriott.com, Creation of 3-yr ecommerce globalization strategy for China market
 - Vanguard's external website, enterprise intranet design and online workspace integration strategy



- ❖ 1st author of “Information Architecture” by Morgan Claypool Publishers, 2009.

- ❖ Adjunct professor at Drexel University



Outline

- ❖ Why in-house UX teams*?
- ❖ Find your footing
- ❖ Advocate for your customers/users
- ❖ Build strategic relationships
- ❖ Strengthen your team
- ❖ Maximize positive organizational impact

* This does not suggest having in-house UX team is the only model to ensure good user experience

Why In-House UX Teams?

- ❖ More organizations see UX as their core competency
- ❖ Easier to develop deeper understanding and specialized knowledge about the organization and its customers
- ❖ Help to build customer centric culture
- ❖ Easier to maintain a longer term vision about the overall customer experience for business success

Why In-House UX Teams (cont.)?

❖ In the industry

- In-house UX teams
- Acquisitions of design firms
 - Mike & Maaiké -->Google
 - Hot Studio, Teehan+Lax-->Facebook
 - Fjord →Accenture
 - Adaptive Path →Capital One

....

❖ Public sector

- A number of digital products by each agency
- Digital government strategy mandate

- ❖ Why in-house UX teams*?
- ❖ Find your footing
- ❖ Advocate for your customers/users
- ❖ Build strategic relationships
- ❖ Strengthen your team
- ❖ Maximize positive organizational impact

Finding Your Footing

- ❖ Communicate proactively
 - Introduce ourselves
 - Introduce UX concepts
 - Ask questions/learn
 - Emphasis: helping others to succeed
- ❖ Harness quick wins
 - Volunteer to help
 - Suggest small changes

Example: Patent Filing Login: Current

About EFS-Web

EFS-Web is the United States Patent and Trademark Office's (USPTO's) Web-based patent application and document submission solution. Using EFS-Web, anyone with a Web-enabled computer can file patent applications and documents without downloading special software or changing document preparation tools and processes.

EFS-Web utilizes standard Web-based screens and prompts to enable you to submit patent application documents in PDF format directly to the USPTO within minutes. When creating your PDF documents, you choose the tool, process and workflow with which you author your documents, convert them to standard PDF files and then submit them to USPTO's secure servers. Additionally, EFS-Web allows submission of *PCT-EASY.ZIP*

compressed files to submit your bio-sequence data. You can use you all of the same basic

- [Launch EFS-Web](#)
 - [Launch EFS-Web](#)
 - [Launch EFS-Web](#)
 - [EFS-Web Announcements](#)
 - [EFS-Web Resources](#)
- useful information

The Patent Electronic Business Center (EBC) is open 24 hours a day, 7 days a week, from 6:00 a.m. to 12 Midn



[Portal Home](#) | [Patents](#) | [Trademarks](#) | [Other](#)

User Authentication

Select Digital Certificate

Enter Password:

☐ I understand that technology and/or software included in patent applications may be subject to U.S. dual-use export controls, which are set out in the Export Administration Regulations (15 C.F.R. parts 730-774). Access to such technology and/or software by any person located outside the United States or by a foreign national inside the United States constitutes an export that may require a license from the U.S. Commerce Department's Bureau of Industry and Security (BIS). I understand that I am not accessing or permitting access by others to technology or software in a manner that would violate or circumvent the Export Administration Regulations.

Information regarding U.S. dual-use export controls and their application to technology and software included in patent applications is available from BIS. Please visit BIS's website, available at www.bis.doc.gov, or contact BIS's Office of Export Services at 202-482-4811.

* NOTE : DIGITAL CERTIFICATES provided by USPTO have a file name that ends in ".epf".

If you need help:

- Call the Patent Electronic Business Center at (866) 217-9197 (toll free) or e-mail EBC@uspto.gov for specific questions about Patent e-Filing.
- Send general questions about USPTO programs to the [USPTO Contact Center \(UCC\)](#).
- If you experience technical difficulties or problems with this application, please report them via e-mail to [Electronic Business Support](#) or call 1 800-786-9199.

Patent Filing Login: Recommended

EFS-Web: Apply Patents Online

- Accepts standard PDF for patent applications.
- ZIP files for International PCT applications and TXT for supporting documents.
- Instant electronic receipt acknowledging submission date.
- Safe, simple, and secure.



Registered eFiler? Sign In

[eFiling without registration](#) | [Register Now](#)

Select Digital Certificate:

Enter Password:

[Forgot password?](#)

☒ I agree to the [terms and conditions](#)

Need Help?

Read [EFS-Web instructions and guidance](#)

Or contact the Patent Electronic Business Center:

- Phone: 866-217-9197, Monday - Friday, 6:00 a.m. -- 12 Midnight Eastern Time
- email: ebc@uspto.gov.

Also check [EFS-Web Announcements](#) to view availability of business systems and alerts

Finding Your Footing

❖ Communicate proactively

- ❖ Introduce ourselves
- ❖ Introduce UX concepts
- ❖ Ask questions/learn
- ❖ Emphasis: helping others to succeed

❖ Harness quick wins

- ❖ Volunteer to help
- ❖ Suggest small changes

❖ Fit in

- Don't reinvent the wheel
- Ask to be included

- ❖ Why in-house UX teams*?
- ❖ Find your footing
- ❖ **Advocate for your customers/users**
- ❖ Build strategic relationships
- ❖ Strengthen your team
- ❖ Maximize positive organizational impact

Advocating for Your Customers/Users

- ❖ Establishing a 360-degree view of customer needs
 - Monitor, analyze and synthesize rich data from various sources (online surveys, Google Analytics, call center reports and industry reports)
 - Conduct empirical user studies
 - Inform and drive on-going enhancements, projects and strategic planning
- ❖ Foster a culture for data driven approach to design decision-making
 - Homepage doesn't have to be the political battlefield
 - Content migration doesn't have to be so daunting

Uspto.gov Redesign:

Discovery Phase Activities

28 stakeholder
interviews

6 focus groups
sessions
with **35** users

9 + 5 user
interviews

Competitive & beacon
analysis of **11** sites

Review of
44 existing
documents

Content
assessment of
500 webpages

Analysis of **17**
months worth of
Google Analytics
data

20 months worth
of ForeSee online
surveys

Analysis of
7,206 ForeSee
free-form answers



Latest Honorees Inducted into National Inventors Hall of Fame

Honorees for the National Inventors Hall of Fame were inducted in a May 2 ceremony held at the 19th century home of the U.S. Patent Office in Washington, D.C., now the home to two Smithsonian museums. Ten men and women were in the 2012 class, including the late Steve Jobs, who was honored in remarks from USPTO Director David Kappos.



Fold line for 1024x768, used by 16% of the user population

Now Hiring

Electrical, chemical, and mechanical disciplines



America
Invents Act

Your guide >>

AIA entry was ignored by multiple users due to "banner blindness"

Track One Patents



IKS

>> iplaw&policy

Fold line for 1280x1024, used by 14% of users

IP Awareness Assessment Tool

Education for business and inventors



The Director's



Patents: File Online [EFS-Web]

Patents: Check Application Status [PAIR]

Patents Online Services

Patents Ombudsman

Trademark Search [TESS]

Trademarks: File Online [TEAS]

Trademarks: Check Status/Documents [TSDR]

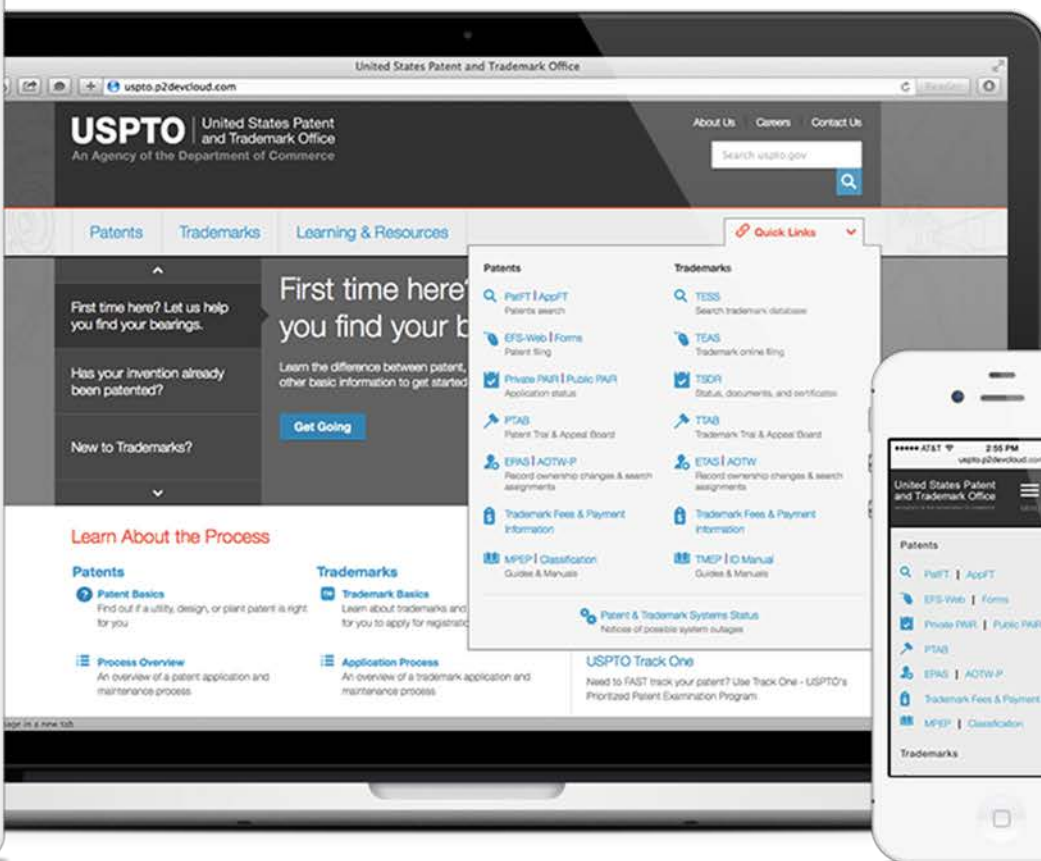
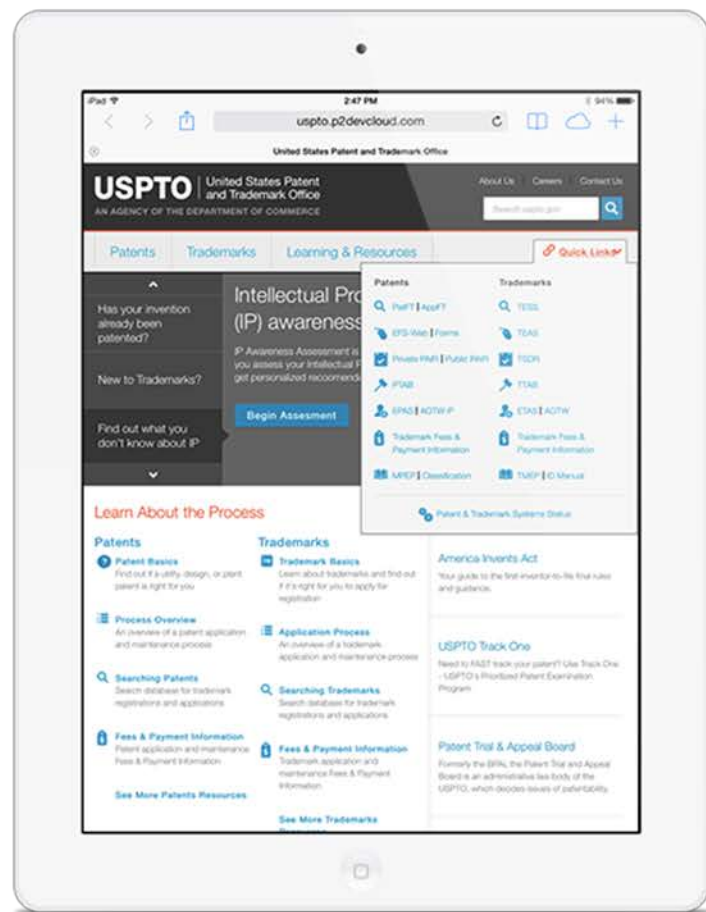
Trademark Basics

USPTO NEWS

USPTO to Test New Option for Information

Most important information to task-oriented users is left below the fold and not immediately visible.

NATIONAL INVENTORS HALL OF FAME
HONORS 2012 INDUCTEES



Example (uspto.gov redesign):

Accomplishments after Discovery Phase

- UCD Concluded the Discovery Phase with a Website Redesign UX Strategy.
 - Strategy built upon wealth of data, business insights, and research findings
 - Alignment of user needs and business objectives
 - Vision and design principles established
 - Content auditing, assessment and recommendations

Building Strategic Relationships

❖ Listen

- Understand different perspectives
- Priorities, issues and concerns
- Have empathy

❖ Learn

- Organizational goals and culture
- Business domain knowledge

❖ Engage

- Team up for user research/outreach (taking advantage of existing channels/resources)
- Invite stakeholders/project teams to usability sessions and debrief with them
- Regular design reviews
- Buy-ins from senior management

❖ Share

- Latest UX trends, design examples, articles/blogs/tools/techniques

❖ Ask for help

Strengthening the UX Discipline

❖ Create UX presence

- Build the UX deck (team vision, process, methods/techniques)
- UX Website (portfolio, team member bios, UX blog)
- Design Standards and Style Guide

❖ Equip the team

- Usability lab
- Tools

❖ Learn from each other

- Sharing resources and new learning
- Sharing design deliverables
- Design reviews

❖ Creative way of training:

- Invite industry experts to the agency for workshops and speeches

❖ Build a ux community inside and outside of the agency

Maximizing Organizational Impact

- ❖ Not afraid to demonstrate your expertise
 - Pick up the right battle to fight
- ❖ Integrate UCD/UX into overall SDLC
 - Fit in to minimize disruptive process changes
 - Adaptability and flexibility
 - Deal with resistance
- ❖ Create Enterprise Design Standards and Style Guide
 - Collaborate, communicate and ownership
 - Creativity and principles
- ❖ Contribute to product vision and longer term overall user experience vision

Example: Navigation Options?

AIR TRAFFIC OPERATIONS MANAGEMENT SYSTEM

Joe Smith



Alerts

3

Pay Period Schedule

Day Schedule

Baseline Schedule

11/05/2014

Facility 1

A

ATOMS

Air Traffic Operational Management System

Steve Ingram

ZFW

ZFW-520



Operations

Schedule

Request

Reports

10

☒ Validate My Shift

☐ Amend Shift

☐ Pay Period Schedule

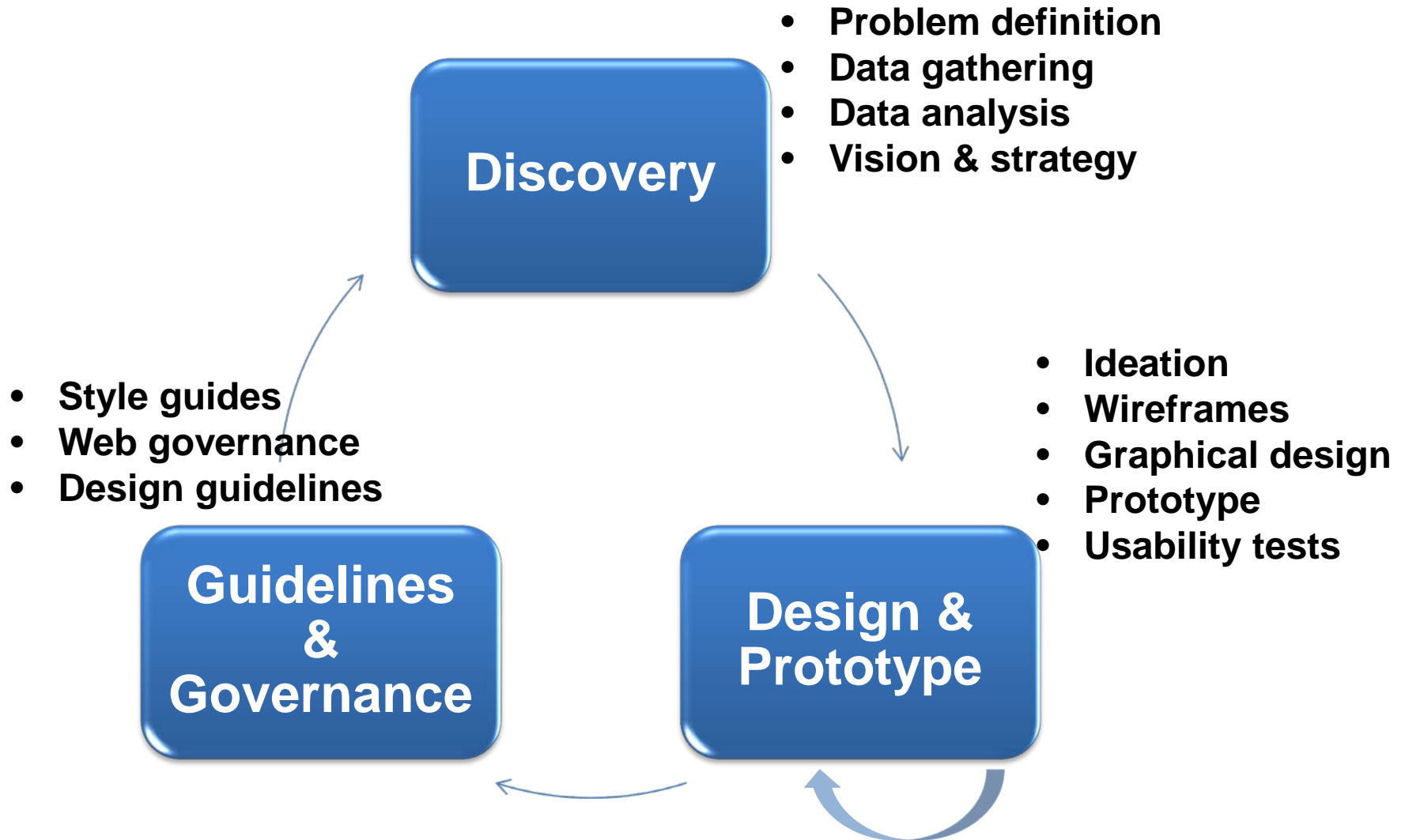
☐ Bid Schedule

☐ Bid Leave

Comparison of Navigation Options

	Current Icon-only Nav Bar	Text (+Icon)-based Hierarchical Nav Bar	
Scalability	<p>--Using only icons (with tooltip to show labels) to show navigation saves screen real estate than text labels;</p> <p>-- Has good scalability</p>	<p>--Hierarchical display of user tasks using text labels based on logical groupings and usage frequency, shows great scalability</p>	
Ease of learning	While the tooltip helps, the icons themselves are hard to memorize especially for the ones that are not commonly recognized.	<u>Text labels without ambiguity (with additional icons to reinforce the message) makes it easy to navigate.</u>	
Efficiency	Well-designed icons used in right context support quick recognition of the navigation options and quickly get necessary support	Visual appeal	Good
		Mobile friendliness (primarily on tablets only for now)	<p>--Icons may have some advantages on smaller devices, but not significant for tablets (mainly iPads) specifically for ATOMS.</p> <p>--Responsive design along media queries will take care of displays for tablets, not necessarily impacting the display for desktop/laptop views.</p> <p>--Tooltip won't be applicable to mobile devices;</p>
Effectiveness	<p>--Icons are (instead of text) not as effective. Icons are not as intuitive and hard to learn.</p> <p>--As more icons are added, the difficulty level to be usable increases.</p>	Fair	
		Design recommendation based on best practices	<p>--Using icons only for primary navigation is rarely seen in any applications if not none at all;</p> <p>--Tooltips are required for icons when they are used alone, but they are not an excellent substitute for text labels--putting the mouse cursor on each icon to figure out what they each represent could slow down the user significantly;</p> <p>--The number of first-level menu items ranges around 7 (plus or minus 2) for best efficiency</p>
		Additional comments	<p>--The current navigation bar seems to serve as a toolbar for direct actions as well as a navigation bar. If the number of icons and menu items don't continue to grow, it should work fine. However, when more uncovered requirements and user tasks are added to the application (see examples of WMT Scheduler screens), we may run into usability issues identified above.</p> <p>--Current navigation has been shown to SMEs without significant concerns. It would be beneficial if we could present the two options and have the SMEs react to them, ask questions and provide further feedback.</p>

Example: User Center Design Process



Example:

Kano Model for Product Roadmapping

Attractive

Delighters/Exciters

One-Dimensional

Performance/Linear

Must-Have

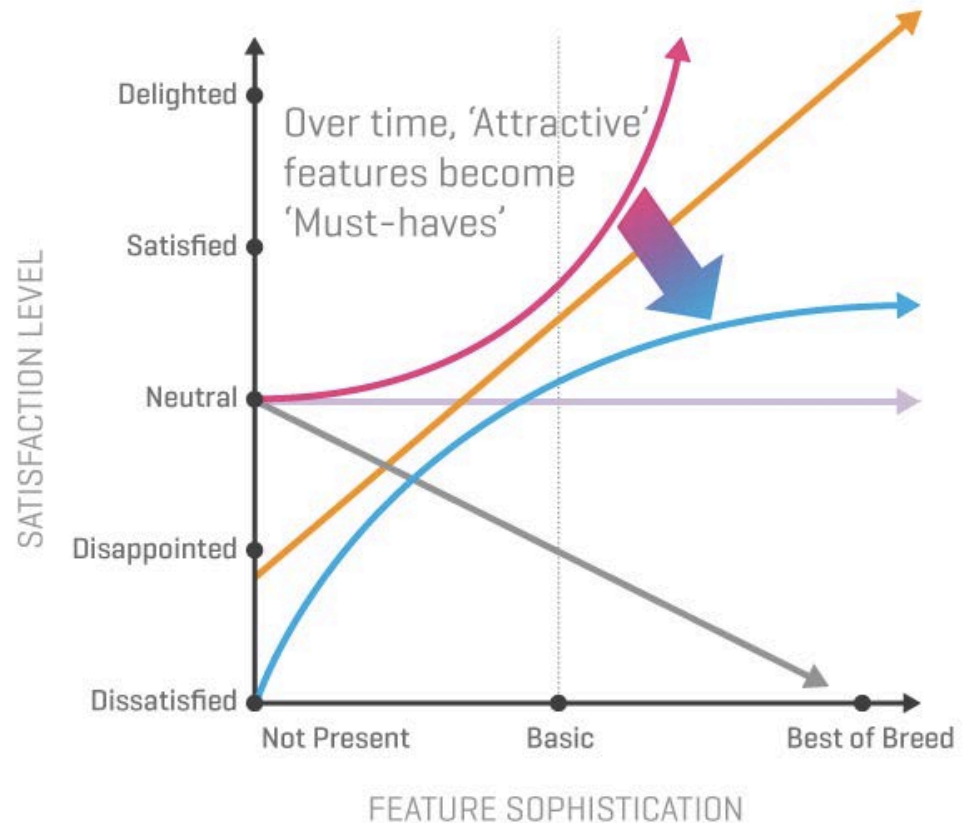
Basic/Threshold

Indifferent

Unimportant

Undesired

Reverse



Summary

- ❖ Find your footing
- ❖ Advocate for your customers/users
- ❖ Build strategic relationships
- ❖ Strengthen the UX discipline
- ❖ Maximize positive organizational impact

Questions?

thank you!

Wei Ding, PhD

wei.ding@faa.gov

LinkedIn: <https://www.linkedin.com/pub/wei-ding-phd/1/984/491>