

# Integrating UX Into Agile

How To Ensure Your Sprints Result In Usable Software



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# Overview

- **Do you have a long list of user stories and have trouble organizing and prioritizing them?**
- **Want a better way to track dependencies between stories?**
- **Do you find it tedious to write “As a user” over and over?**
- **Do you find that some stories impact more than a single user type and need a way to track that?**
- **Want to figure out how to measure the UX impact of backlog items?**
- **Want to track UX work like wireframes, mockups, or user testing more effectively?**
- **Just want to learn more about UX and how to integrate it into Scrum?**





# Agile & UX Integration Challenges

- **Working code is not enough to create a good UX**
  - UX produces deliverables of value other than code
  - UX deliverables are used in many parts of the company
- **UX changes can impact lots of teams, creating chaos**
  - UX deliverables often get used by many teams outside of developers
- **UX work may require longer term plans or sequencing**
  - User studies may need to be done a sprint ahead or behind
  - User research may take longer than a sprint to complete end to end
- **UX staffing often breaks “self contained team” rule**
  - Due to the variety of specialized skills it may be necessary to matrix
  - Some skills needed infrequently, but experience is key to success

# UX & Agile Meet



# Compatibility of Agile and UX Values

Individuals and interactions 	over	Process and tools
Working software 	over	Comprehensive documentation
Customer collaboration 	over	Contract negotiation
Responding to change 	over	Following a plan

Agile info based on [www.agilemanifesto.org](http://www.agilemanifesto.org) & [www.mountaingoatsoftware.com](http://www.mountaingoatsoftware.com)

# User Experience—A Brief Definition

It starts by something being **useful...**

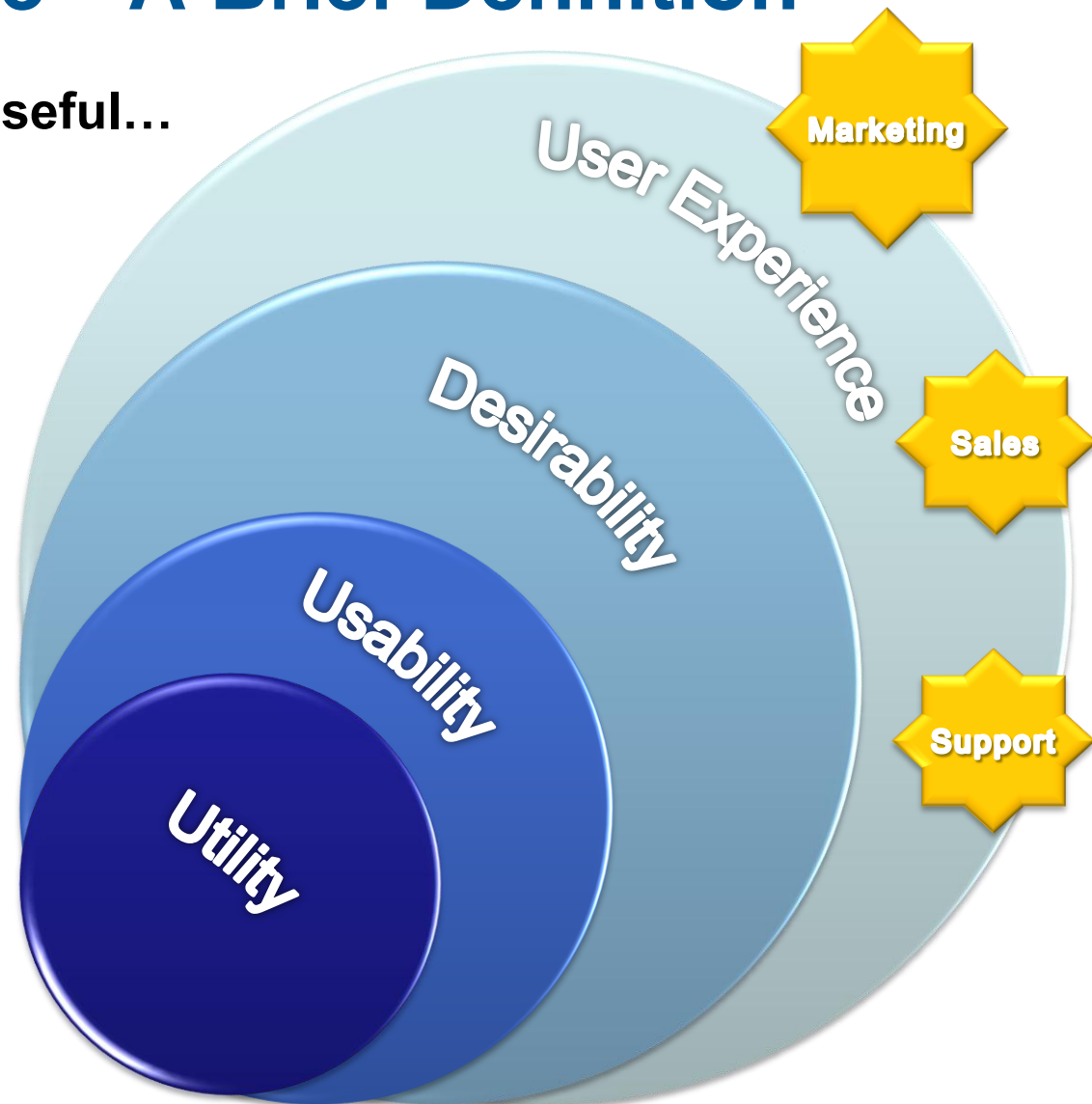
Functionally, people must **be able to use it...**

The way it **looks** must be **pleasing...**

This extends to designing an overall **user experience**

That includes **marketing, sales and support design**

Executing well on all of these areas is what creates a great user experience



# Four Categories of UX Problems

## Acquire

- Marketing oriented, get user to know offering exists

## Activate

- Get user to engage with product for initial 1<sup>st</sup> use

## Retain

- Get user to integrate offering into their lives and use long term

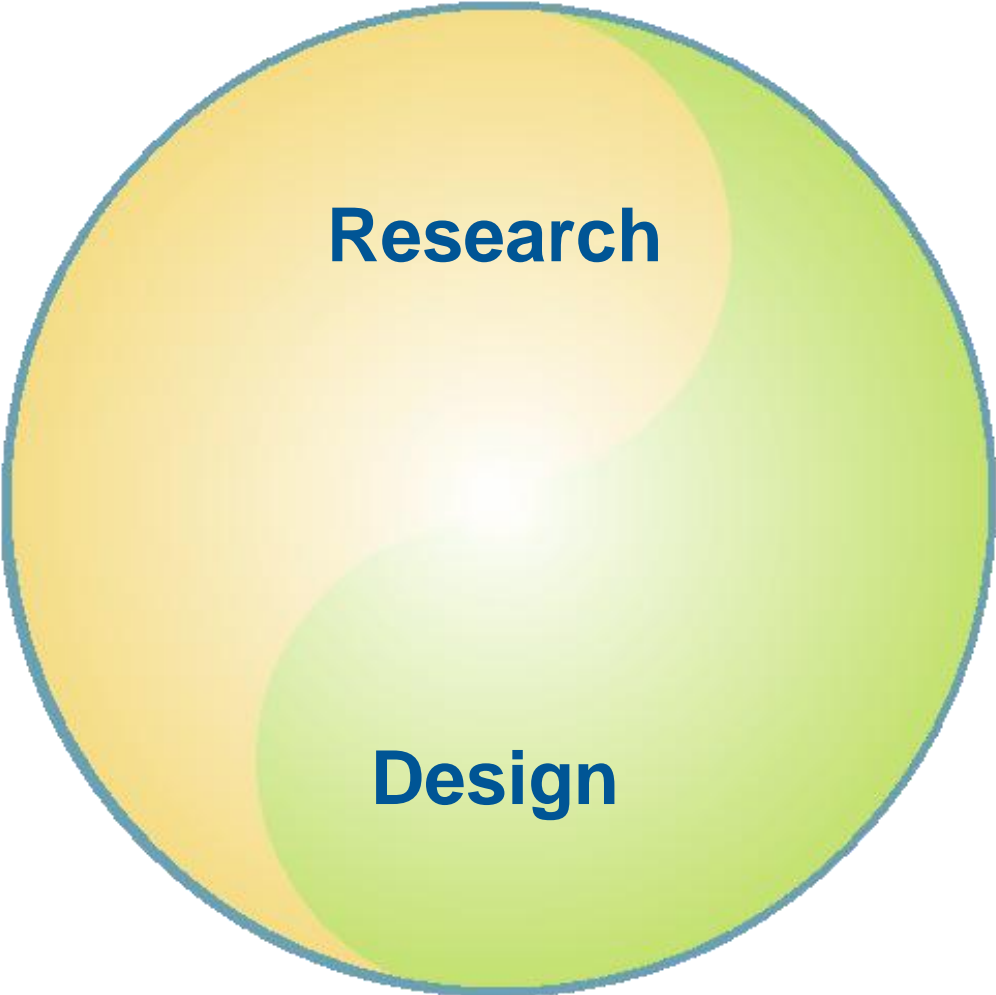
## Refer

- Get user to recommend to a friend

**These apply to any type of product or service  
AND  
includes more than product design activities**

Categories based on Dave McClure's AARRR Startup Metrics for Pirates see:  
<http://500hats.typepad.com/500blogs/2007/06/internet-market.html>

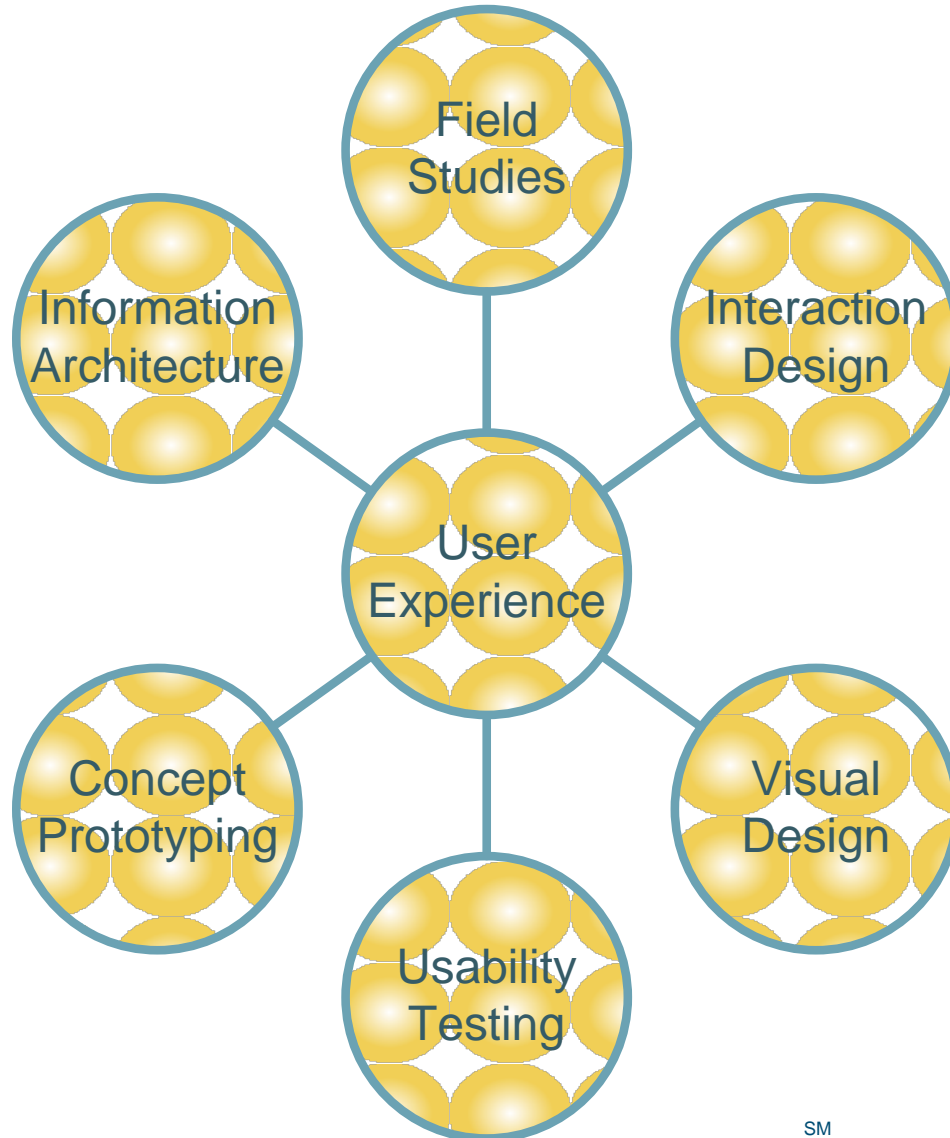
# UX Means Integrated Research & Design



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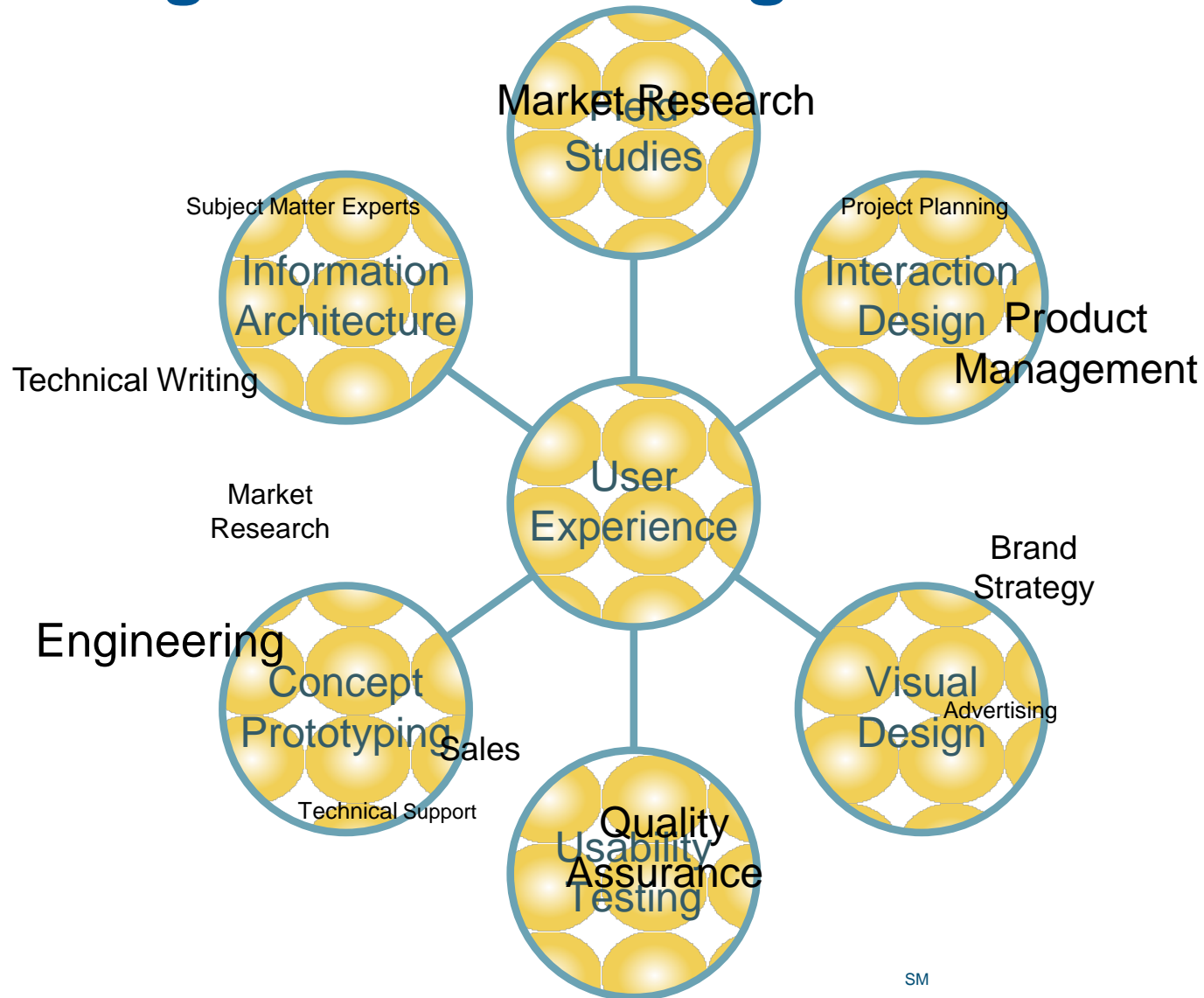
# Six Key UX Activities for Software



Activities listed based on Norman: The Invisible computer, 1998

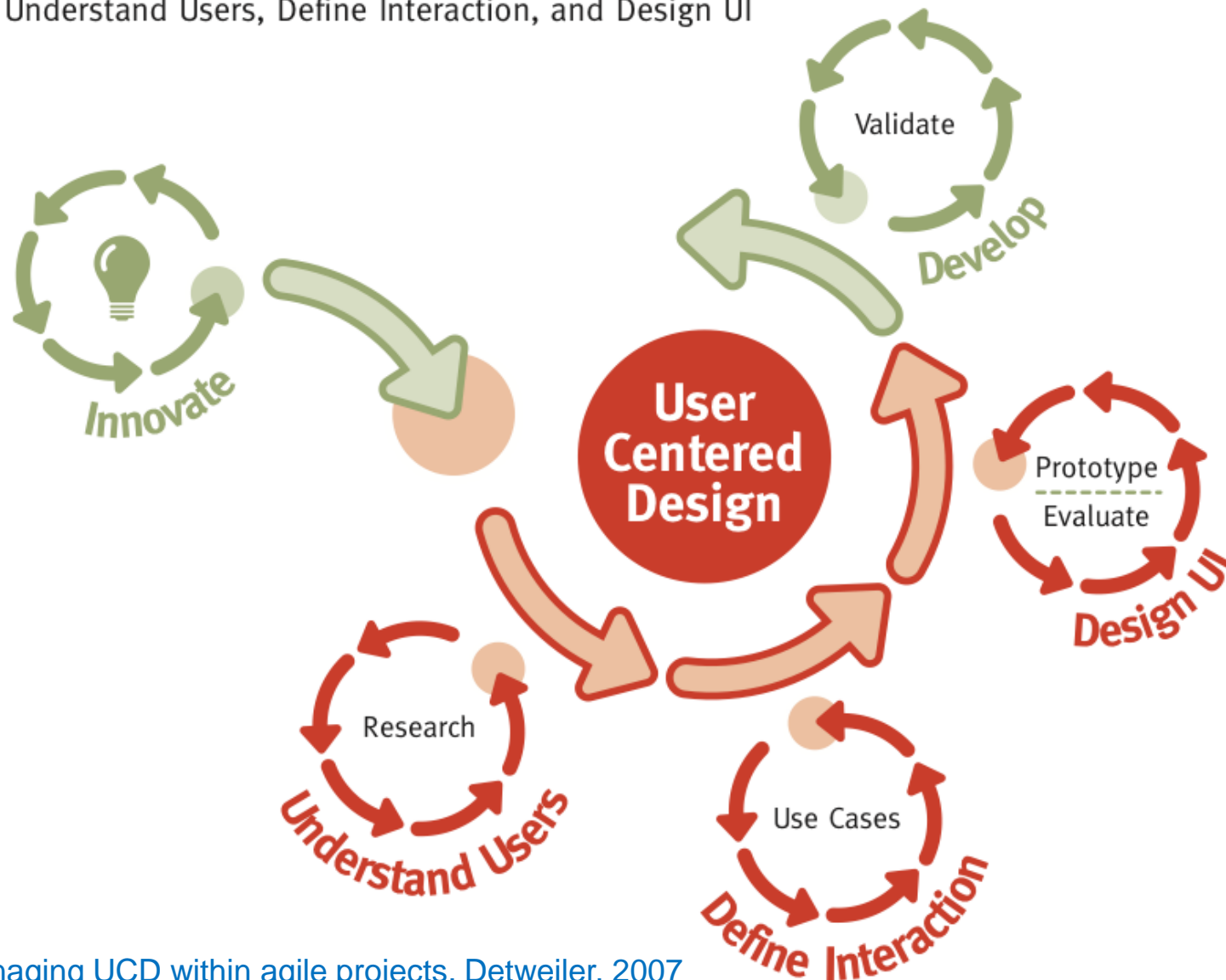
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# UX Organizational Integration Points



# Figure 1: Three Iterative, UCD Phases

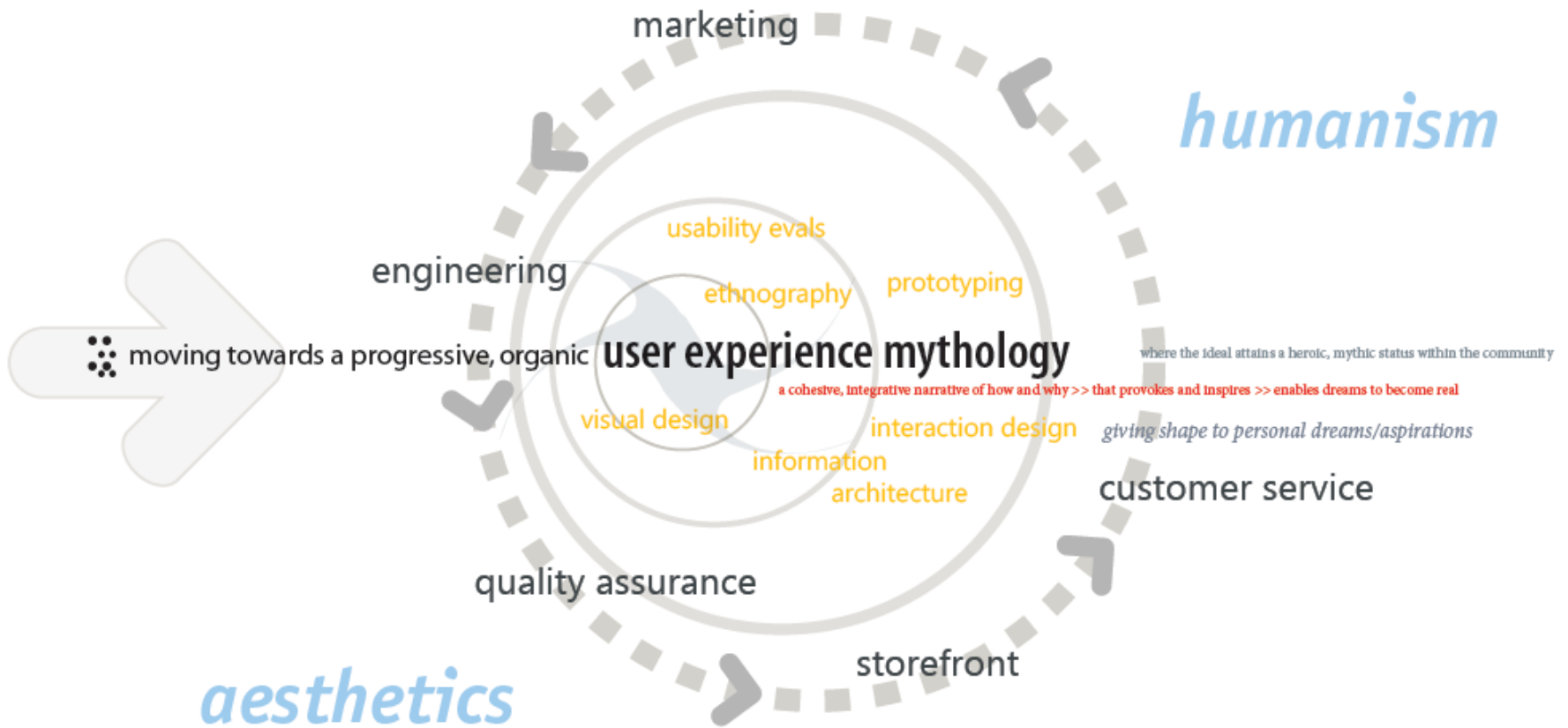
Understand Users, Define Interaction, and Design UI



Managing UCD within agile projects. Detweiler, 2007

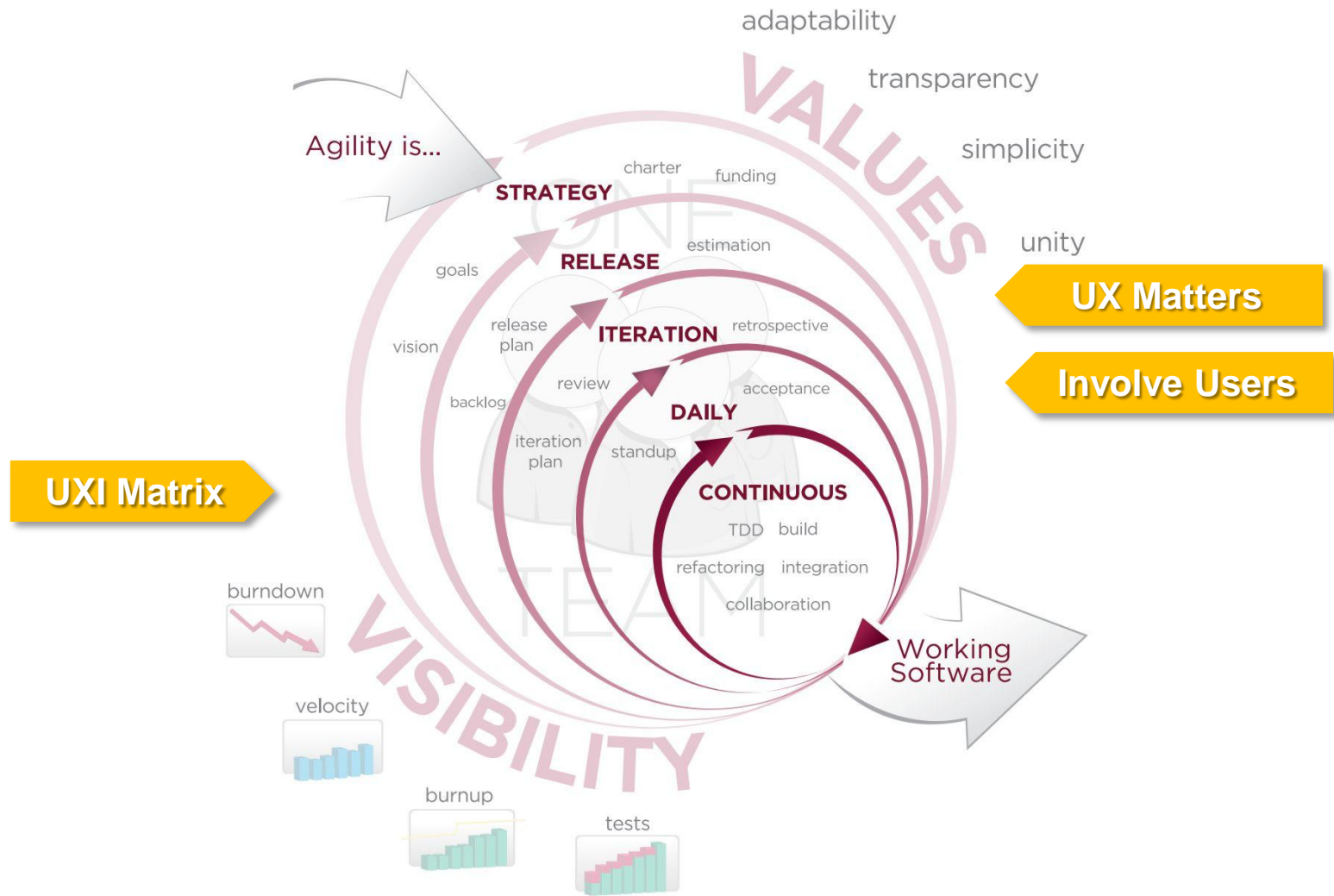


Our guiding principle is that design is neither an intellectual nor a material affair, but simply an integral part of the stuff of life, necessary for everyone in a civilized society.



<http://www.flickr.com/photos/udanium/290748501/>

# AGILE DEVELOPMENT



## ACCELERATE DELIVERY

[http://en.wikipedia.org/wiki/Agile\\_software\\_development](http://en.wikipedia.org/wiki/Agile_software_development)

# Changes Via Values and Visibility

- **New Values: UX Matters, Involve Users**
  - Involve users early and often
  - Waiting until the end is the waterfall way
  - The definition of “done” can only be determined by users
- **More Visibility: Tracking via UXI Matrix**
  - Track UX deliverables—who’s doing what?
  - Have we validated our stories with users?
  - Did the iteration feedback include user feedback?
    - Can they use it? Do they like it? Would they recommend it?
  - Is the UX getting better? What are we doing about it?

# UXI Matrix<sup>SM</sup>

	Target Personas				Estimating			Tracking			Staffing		
	Persona A	Persona B	Persona C	Persona N	UX Complexity Est.	Story Points (Dev Est.)	Business Impact	Story Verified	Design Complete	Task Completion Rates	IxD Assigned	UR Assigned	VD Assigned
<b>Acquire Theme</b>													
User Story 1	Y	Y	Y	Y	4	100	H	Y	Y	65%			
User Story 2		Y	Y		2	20	L	Y					
User Story 3	Y			Y	2	13	M	Y	Y		Bob	Sue	Joe
User Story 4	Y	Y			2	20	H	Y	Y	80%	Bob	Sue	Joe
User Story 5		Y			1	8	L						
<b>Activate Theme</b>													
User Story 6			Y	Y	1	5	L		Y	90%		Sue	Joe
User Story 7		Y	Y	Y	3	40	M					Sue	Joe
User Story 8		Y	Y	Y	3	40	M	Y	Y	55%	Jane	Sue	Joe
User Story 9		Y	Y	Y							Jane		
User Story 10		Y											Joe
<b>Overall Persona Weight</b>	3	8	6	5									
<b>Persona Validated</b>	Y	Y	Y	Y									
<b># participated in usability testing</b>	8	8	8	8									
<b>TaskCompletion Rates (Score)</b>	73%	81%	87%	78%									
<b>SUS score for this persona</b>	65%	80%	90%	85%									
<b>Net promoter score for this persona</b>	6.5	8.5	9	7.5									

1 List Users

List Stories 2

Groom 3

Estimate 4

5 Assign

Track 6a

Track 6b

Bonus: Add hyperlinks to deliverables

# Common Questions & Answers

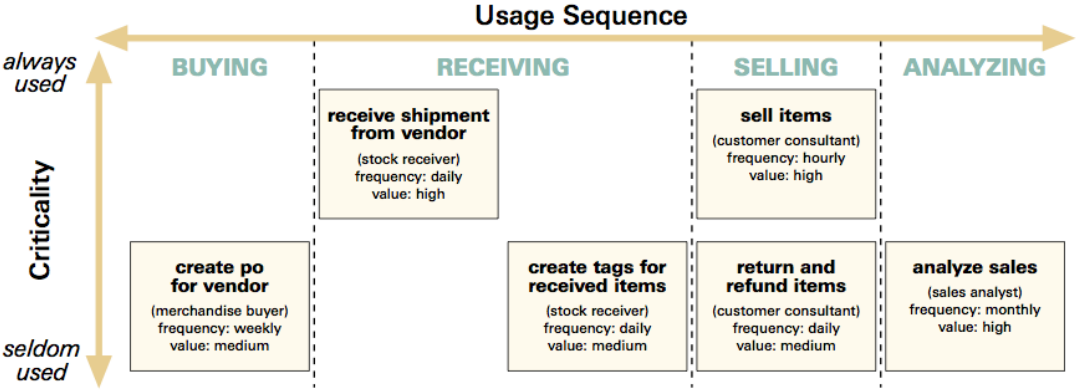
- **Isn't this just a product backlog?**
  - Sort of, but with additional information
  - Start with your backlog and just build off of it
- **How do I collect UX metrics?**
  - See [www.measuringux.com](http://www.measuringux.com)
  - Also consider just tracking what UX things you create
- **What “design” metrics do you capture**
  - Start with do you have a design for the story
  - Consider tracking intermediate work like wireframes
  - Another good one is “do we have assets” (e.g., icons)



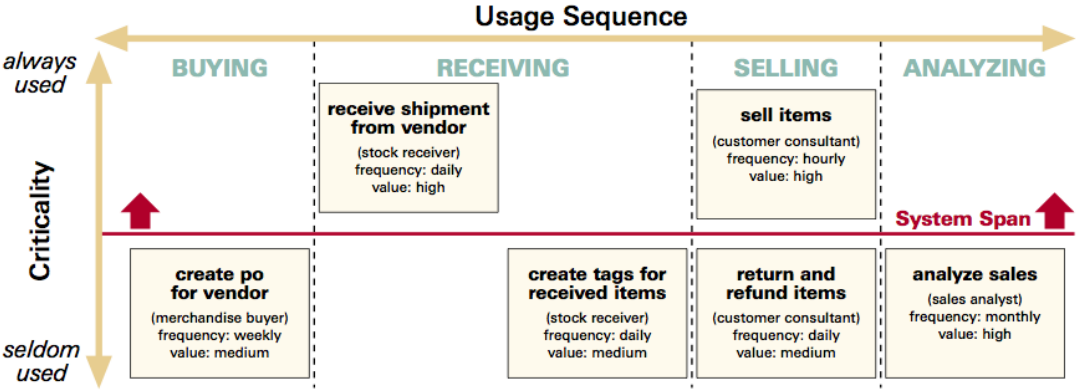
# More Questions & Answers

- **How does this relate to Patten's Story Map stuff?**
  - His technique is a great way to start
  - The UXI Matrix includes UX tracking and metrics
- **Can I use something else other than Excel?**
  - Sure, but I suggest you start simple
- **Why not use sticky notes?**
  - Teams I work with are distributed and like electronic stuff
  - The UXI Matrix has calculations on it, and hyperlinks
  - I can print it out or share it on a server

# Story Map Example



**Figure 5:** The model is vertically divided into business processes.



**Figure 6:** The first system span represents the smallest set of features necessary to be minimally useful in a business context.

[www.agileproductdesign.com/writing/how\\_you\\_slice\\_it.pdf](http://www.agileproductdesign.com/writing/how_you_slice_it.pdf)

# The UXI Matrix Explained

### Using the UXI Matrix

1. Enter persona names and link to details
2. Enter use case names and link to details
3. Analyze dependencies in design work
4. Develop estimates based on impact analysis
5. Prioritize work and assignments with team
6. Link to work in progress and update status
7. Track impact on usability and sat metrics

**AECIMPLG IPRM**  
From Market Requirements Document 2012-2014/Products

**Market Requirements**

**Autodesk**  
APP 12000 001 /APP/PRODUCT/COMPONENT/SHEET

**Product Requirements**

Identify Target Market & Users

Link Requirements To Detailed Use Cases

**Personas**

**Identify & Organize Use Cases**

**Detailed Use Cases**

**Swimlane Diagrams**

Identify Personas 1

Use Case	Personas = P												Roles = R												Estimating & Priorities				Tracking				Staffing			
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	Estimate	Priority	Impact	Complexity	Start	End	Status	Impact	Complexity	Start	End	Status
<b>P-51.1</b> Navigation & configuration (Electronic Meter)																																				
<b>P-51.2</b> Author accessible role																																				

- ### An Operational Dashboard
- Estimate & prioritize considering:
    - Design complexity
    - Development effort
    - Business impact
  - Detailed and summary views
  - Assignments & status of work
  - Impact on product usability
  - Impact on customer satisfaction

7 Track Impact On Usability & Sat Metrics

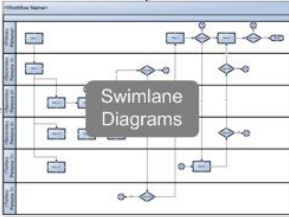
6 Link To Designs & Update Status

5 Prioritize Tasks & Assignments With Team

Design Specifications

3 Analyze Dependencies In Workflow & UI Patterns

4 Develop Estimates Based On Impact



UI Pattern Library

Define UI Details

**Legend**

- UXI Matrix Steps
- Related Tasks
- Artifacts

# Persona Example

## Civil 3D Persona—Tom S Roades



### Related User Research

[Formative Research 2010](#)

[Civil 3D Benchmark Study 2009](#)

[Civil Usability Study 2010](#)

**Average Task Completion Rate = 70%**

**System Usability Score = 65**

**Net Promoter Score = 7.5**

**Experience Rating = At Risk**

Occupation/Role	Highway Design Engineer in medium sized civil engineering firm
Technical Skills	Advanced PC skills, XP/Vista, MS Office 2007, formal AutoCAD training. Holds a Civil Engineering degree with extensive drafting training in college. Two years experience working at a local government highway authority.
Style	Introverted when problem solving, but likes talking to others about things like Civil engineering and technology. Focused, but lacks patience, wants immediate gratification and results.
Gear	<ul style="list-style-type: none"><li>•Dual Core Pentium Vista Workstation with 21" LCD display</li><li>•Blackberry Storm (to track emails and appointments)</li></ul>
Pain Points	Getting too involved in menial tasks related to drawing production. Spending too much time teaching others how to use Civil 3D. Becoming more involved in client meetings prevents him from focusing on "pure engineering work"
Values	Accuracy is everything, likes automated tools, but wants to verify calculations and check things against field data or other sources. Wants to feel like he is using the latest technology. Likes standards both in technology and engineering practices.
Key Use Cases	<ul style="list-style-type: none"><li>UC 1.1 Viewing and editing superelevation data</li><li>UC 2.4 Designing and creating sections</li><li>UC 3.1 Designing intersections and roundabouts</li><li>UC 4 Setting up data for corridor creation</li><li>UC 5 Analyzing surfaces such as depressions, slopes, elevations and watersheds</li><li>UC 6 Defining grading criteria and analyzing results</li><li>UC 7 Designing and editing alignments</li><li>UC 8 Reviewing parcels provided by GIS team</li><li>UC 9 Material and quantity analysis</li><li>UC 10 Analyzing sectional volumes</li></ul>



# UX & Agile Meet





**UX**

**Innovation LLC**

Strategy | Research | Design