

# Experiencing agile usability: Breaking through the 'Us vs Them' problem

UPA DC - UserFocus 2010

Jason Chong Lee  
D. Scott McCrickard



---

---

---

---

---

---

---

---

## About us

- Jason Chong Lee
  - Four years experience working at Meridium, Inc.
  - Ph.D. at Virginia Tech, May 2010
  - Developed Agile Usability approach at Meridium and Virginia Tech, funded in part through an NSF STTR grant
- D. Scott McCrickard
  - Over eight years as a faculty member at Virginia Tech
  - Consultant for many companies on usability and interface issues



---

---

---

---

---

---

---

---

## Getting to know you

- Where are you from?
- What is your area of study?
- Knowledge/experience with Agile?
- Why are you here?



---

---

---

---

---

---

---

---

## Causes of the “software crisis”?

- Poor customer/end user communication
- Poorly articulated project goals
- Unrealistic development schedules
- Poorly defined requirements
- Poor project management
- Commercial pressures
- ...

meridium
chci

---

---

---

---

---

---

---

---

---

---

## Agile methods

- Agile Manifesto
  - Individuals & interactions over processes and tools
  - Working software over comprehensive documentation
  - Customer collaboration over contract negotiation
  - Responding to change over following a plan
- Mitigate risks through
  - Iterative and incremental development
  - Continuous customer contact
  - JIT requirements engineering
  - Test-driven development
  - ...

meridium
chci

---

---

---

---

---

---

---

---

---

---

## How Agile works

The diagram illustrates the Scrum process. On the left, a vertical stack of boxes represents the 'Product backlog'. An arrow points from the top of this stack to a smaller stack of boxes labeled 'Backlog items'. From 'Backlog items', an arrow points into a large yellow circular arrow representing a 'Sprint' cycle, which is labeled '1 - 4 weeks'. Inside this cycle, a smaller yellow circular arrow represents the 'Daily Scrum meeting' with a '24 hours' duration. An arrow exits the 'Sprint' cycle to a box on the right labeled 'Potentially shippable product increment'. At the bottom left, there is a small text reference: 'Schwaber, K. Agile Project Management with Scrum. Microsoft press, Redmond, WA, 2004.'

meridium
chci

---

---

---

---

---

---

---

---

---

---

## Is Agile enough?

"The resulting product seemed to have features the actual end user didn't need or care about while lacking features the end user did need." –Jeff Patton

"It's my experience that neither users nor customers can articulate what it is they want..." –Alan Cooper



Patton, J. (2002). Hitting the target: adding interaction design to agile software development. In Proc. OOPSLA '02, 1-11.  
Nelson, E. (2002). Extreme Programming vs. Interaction Design. Fawcett Technical Publications.

meridium

chci

---

---

---

---

---

---

---

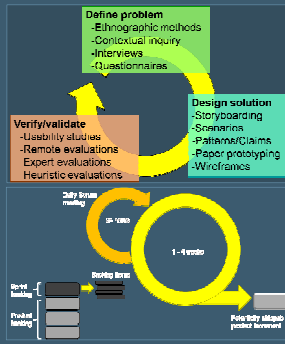
---

---

---

## Convergence points

- Cyclical development
- Continuous testing
- Human-centered processes



meridium

chci

---

---

---

---

---

---

---

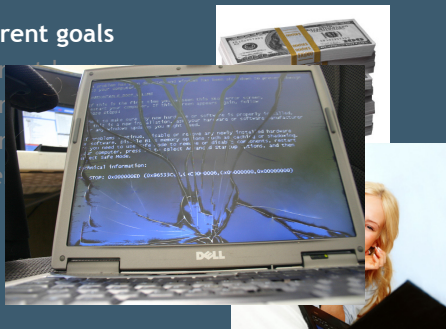
---

---

---

## Challenges of integration

- Different goals
- Different
- Different
- Different
- Power



meridium

chci

---

---

---

---

---

---

---

---



---

---

## Challenges of integration

- Different goals
- **Different languages**
- Different approaches
- Different tools
- Power imbalances

“This design is simple and elegant.”

---

---

---

---

---

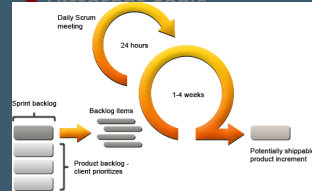
---

---

---

## Challenges of integration

- Different goals
- Different languages
- **Different approaches**
- Different tools





Usability Evaluations

**Analyze**  
Problem Scenarios & Claims

**Design**  
Design Scenarios & Claims

**Implement**  
Usability Specs    Prototype

---

---

---

---

---



---



---

---

## Challenges of integration

- Different goals
- Different languages
- Different approaches
- **Different tools**
- Power imbalances

---

---

---

---

---

---

---

---

## Challenges of integration

- Different goals
- Different languages
- Different approaches
- Different tools
- **Power imbalances**



meridium chci

---

---

---

---

---

---

---

---

## Meeting the challenges with agile usability



meridium chci

---

---

---

---

---

---

---

---

## XSBD overview

- Based on SBD, XP, Scrum
- Specialist roles
  - Usability engineer, end user rep, software engineer, customer rep
- Incremental development
  - Abbreviated requirements analysis
  - 2 week increments
  - Parallel UX and development
  - Regular sync points
- Shared design representations

meridium chci

---

---

---

---

---

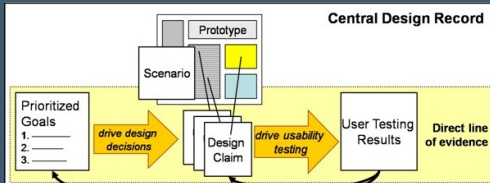
---

---

---

## Managing different goals

- Usability managed as a quality characteristic
  - Usability goals prioritized relative to other goals
  - Assessing and redesigning to meet these objectives
  - Define users and their key characteristics



meridium

chci

---

---

---

---

---

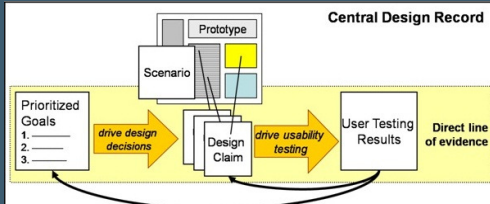
---

---

---

## Rapid prototyping

- Develop prototypes using low/med-fidelity tools
- Prototype activities, don't focus on details
- Communication with others is key!
- Claims to track key design decisions—leads to testing



meridium

chci

---

---

---

---

---

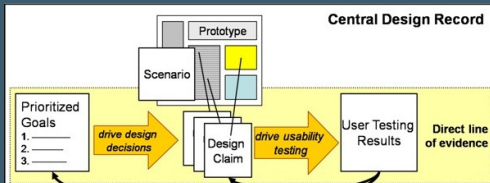
---

---

---

## Usability testing

- Usability testing tied to design claims
- Lightweight usability testing within iterations
- Summative testing at end of release cycles
- Can usually run tests on working systems



meridium

chci

---

---

---

---

---

---

---

---

## Example claim

**Goal: Time efficiency**  
system interaction must take 2-3 minutes on avg

**Claim: Popup selection box to make decision**  
+ creates real estate without leaving page  
+ limits error paths  
- User might not understand focus change

**Test results:**  
average time to completion - 1:59 minutes  
Only 2 data entry mistakes...

meridium chci

---

---

---

---

---

---

---

---

## Getting people to speak the same language

- UX people as members of the team throughout the development process
- Shared understanding of goals and their relative priorities
- Continuous collaboration and communication between team members
- Shared design artifacts

meridium chci

---

---

---

---

---

---

---

---

## Integrating different approaches

- Abbreviated requirements analysis phase
  - Define high level goals
  - Define vision
  - Collect info on end users
- Parallel development tracks

meridium chci

---

---

---

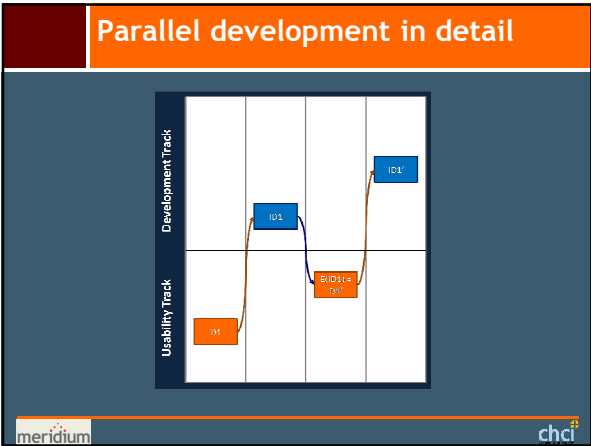
---

---

---

---

---




---

---

---

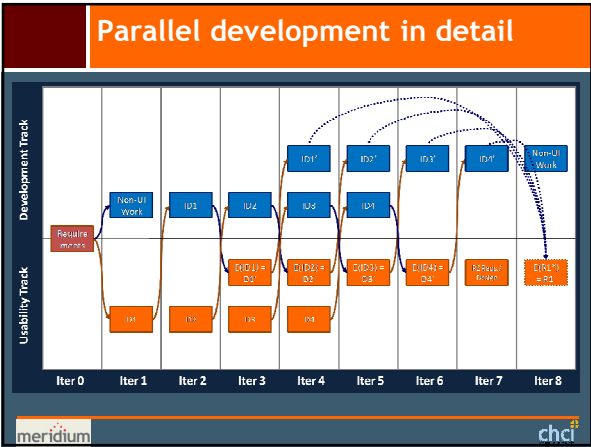
---

---

---

---

---




---

---

---

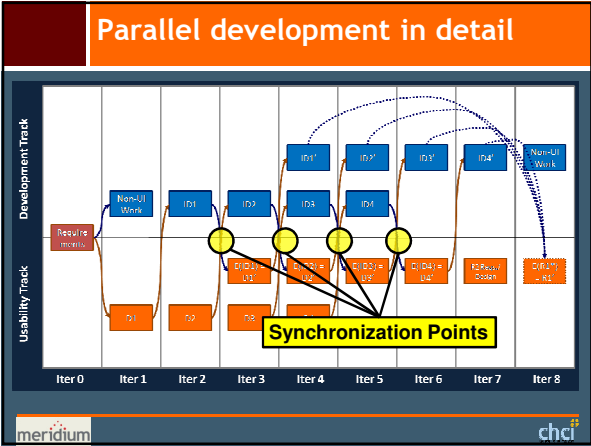
---

---

---

---

---




---

---

---

---

---

---

---

---

## Synchronization is critical!

- Parallel development tracks enables:
  - UX people to focus on user interface design
  - Software developers to focus on implementation
- But risk of drift between *interface design* and *implementation* due to:
  - Poor communication
  - Implementation limitations
  - Changing requirements

meridium chci

---

---

---

---

---

---

---

---

## Optimizing synchronization

- How do synchronizations happen
  - Shared design artifacts, models
  - Verbal communications
  - Electronic communications
- Where do synchronizations happen
  - Mandatory sync points
  - Opportunistic sync points

meridium chci

---

---

---

---

---

---

---

---

## Selected new principles of agile usability

- *Business people, developers and UX people must work together daily throughout the project.*
- *Perform early and continuous usability evaluations that are linked to high-level goals to ensure that designs meet end user needs.*
- *Deliver UI designs frequently, to get continual feedback from end users and customers to improve the product.*
- *Work towards simplicity—the art of maximizing the amount of work not done—by making appropriate design tradeoffs.*
- *Respect other team members and work diligently to earn theirs.*

meridium chci

---

---

---

---

---

---



---

---

Other questions and comments?

Jason Chong Lee  
[jlee@meridium.com](mailto:jlee@meridium.com)

D. Scott McCrickard  
[mccricks@vt.edu](mailto:mccricks@vt.edu)

meridium  chci 

---

---

---

---

---

---

---

---