



IMPLEMENTING USER-CENTERED DESIGN WITH AGILE SOFTWARE DEVELOPMENT

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Presentation Overview

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- What is SouthComb.org
- Designing the user experience
 - ▣ User groups
 - ▣ Mid-level service managers
- Integrating the agile development process into a user-centered design loop
 - ▣ Traditional vs. Agile Development
 - ▣ User-Centered Design



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What is SouthComb.org?



SouthComb.org

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- Portal development: long-standing interest of the digital library program at Emory University
 - ▣ MetaCombine project (Mellon)
 - ▣ Quality Metrics project (IMLS)
 - ▣ SouthComb production system (Mellon)



SouthComb Project Goals

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- Build a sustainable combined search portal service
- Improve networked access to humanities collections in the South
- Explore sustainable models for advancing scholarly cyberinfrastructure

SouthComb.org

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- Challenges addressed:
 - ▣ Searching across “information realms”
 - ▣ Engaging scholars and collection curators
 - ▣ Engaging cultural heritage institutions
 - ▣ Managing a production system
 - ▣ Creating a sustainable program



SouthComb.org

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- Not about inventing, nor reinventing, the wheel
- Rather, seeking to combine existing open source software tools into effective systems
 - ▣ Choosing tools to accomplish goals
 - ▣ How do you establish those goals?
 - ▣ How do you know that a system is going to fit the needs of your constituent audiences?



Designing the User Experience



Halbert and Skinner, D., 2008

Designing the User Experience

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- Prior to designing and implementing the system, held focus groups with constituent communities:
 - ▣ Advisory Board (subject specialists)
 - ▣ Librarians
 - ▣ Graduate Students
 - ▣ Faculty members



Designing the User Experience

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- Advisory Board valued:
 - ▣ Searching across websites, digital archives, library catalogs
 - ▣ Facetizing of results (both search and browse)
 - ▣ Vetting and prominently advertising peer-review process
 - ▣ Access to materials not yet indexed elsewhere
 - ▣ RSS as an additional information realm
 - ▣ Directory service
 - ▣ GIS mapping

- And devalued:
 - ▣ Media library and syllabi service
 - ▣ Rating system



Designing the User Experience

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- Findings from initial focus group sessions:
 - ▣ Expectations and desires differ across surveyed communities
- Danger:
 - ▣ No end in sight to the desire for new features



Designing the User Experience

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- Students
 - ▣ Desire for networking tools and announcement features
 - ▣ Desire for interactivity with the system (discussion threads, tagging, organizing, rating)
 - ▣ Desire for media library
- Librarians
 - ▣ Perceived solution to info-literacy problems via vetted resources
 - ▣ Great interest in geo-spatial options
- Faculty members
 - ▣ Want control over and knowledge about the vetting process
 - ▣ Concerned about user-generated materials and governance
 - ▣ Desire to use the system in teaching as well as their own research



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all collections
archival materials
websites

Directories
people
centers and programs
museums and archives
publications

Today's South News
all stories
by state
by topic

About SouthComb
advisory board
how we select resources
membership benefits
SouthComb's creators

FAQs
how do I get started?
how do I add/update my
directory entry?
what are archival
materials?
how do I suggest a
resource?
can I save my collections?

Search

Welcome to SouthComb!

SouthComb is a freely available search and discovery service created by scholars and for scholars with an interest in the cultures and histories of the American South. Here, you will find a wide variety of southern primary and secondary resources, including archival documents, websites, books, maps, and recent newsfeeds. You will also find directory information on people, programs, centers, archives, museums, and publications related to this geographic area. Membership is free.



Search...for archival documents, websites, books, maps, newsfeeds, and more



Discover...colleagues, researchers, programs, centers, archives, museums, publications, and more



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Announcements

[Call for Submissions \(10/15/07\): Space, Place, and Appalachia](#)
[Digital Scholarship / Digital Libraries Symposium](#)

Today's South News

[Dunbar Village security discussed by West Palm commissioners, Housing Authority](#)
1 minute ago
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Developing the System

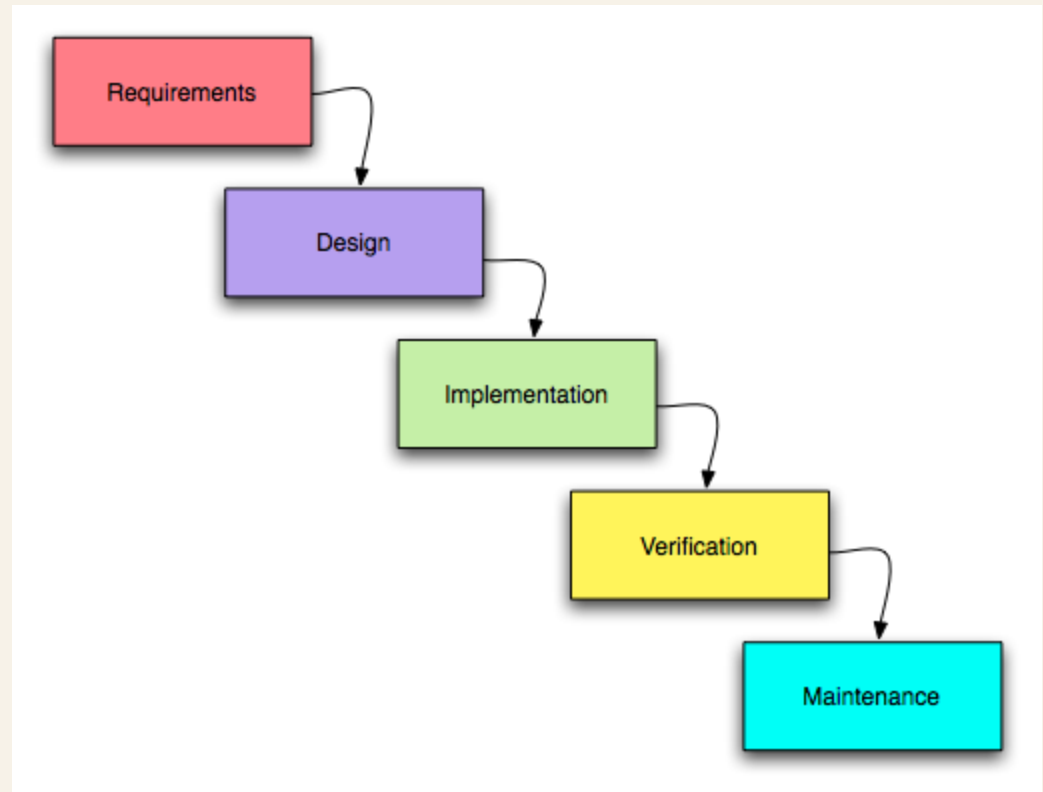
Agile Development + User-Centered Design



Typical SW Development Model

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- “Waterfall” methodology
- Received (in a naive way) from large software development firms
- Assumes you know exactly what you’re creating, everything proceeds perfectly in each stage, and that additional funding will be available to cover unexpected contingencies



http://en.wikipedia.org/wiki/Image:Waterfall_model.png

Problems with Typical Model

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- DL development projects attempt to create tools and functions that are new, innovative, prospective, and poorly understood
- Incremental findings from users often nudge exploratory efforts in different directions than originally planned
- Development efforts often encounter unexpected delays; some tasks may be much more difficult than anticipated
- Unlike commercial efforts, there is much less (none) ability to devote additional funds to complete a development task, but a waterfall path allows little flexibility to adapt to change

“Agile Development”

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- Refers to many newer iterative approaches to SW development strategies
- More organic, adaptive to findings along the way
- Typically set a series of short term goals that each produce something small that works, and can be built upon
- Emphasizes face-to-face communication between small teams of developers
- Perceived as less disciplined and less predictable

User-Centered Design (UCD)

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- Focuses on user feedback as an iterative design strategy
- Test the validity of assumptions with regards to user behavior in real world focus groups with actual users
- Such feedback is necessary as it is hard to understand beforehand what a first-time user of a system experiences, and what different users' learning curves may be like.



Agile Development + User Centered Design

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- Iterative process:
 - Set short-term goals
 - Scrum
 - Get feedback
 - Re-evaluate and set new short-term goals, then repeat
- Responsive to findings, but may feel like wandering in the wilderness unless you chart your path
- May lead to scary and/or exciting places you didn't expect
- May reveal so many new possible directions that prioritization of new goals becomes hard

Results of Agile + UCD

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- Better progress in SouthComb implementation than previously (also other projects)
- Decisions in development strategies based on expressions of user needs
- Improved ability to adapt to incremental findings in an exploratory project
- Feels more lively, constant process of innovation rather than slow grind

Questions/Comments?

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