

Iterative Development & Usability Testing

EVIA Digital Archive

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Ethnographic Video for Instruction and Analysis Digital Archive
Development Team

DLP Brown Bag Presentation

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Agile Software Development: Intro

- Characteristics of Agile Software Development
 - Light-weight methodology
 - Small to medium sized teams
 - Vague and/or changing requirements
 - Vague and/or changing technologies
 - Simple design
 - Minimal system into production



Agile Software Development : Intro

- What Agile Software Development does not do:
 - No complete up-front analysis
 - No up-front infrastructure and framework
 - Don't write and maintain implementation documentation
 - All programmers participate in all critical activities



Agile Software Development in EVIA

- Why Agile Software Development for EVIA?
 - Shifting requirements
 - Changing technology decisions
 - Short development cycle with user review
 - Keep focus on high priority items
 - Small Development Team
 - Daily review of progress



Usability in EVIADA Agile Software Development

- How can we incorporate some of the standard usability techniques into EVIADA's Agile Software Development?



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Rapid Contextual Design

1. Set project focus
2. Contextual Inquiry with potential customers
3. Build an affinity
4. Introduce data to the larger team
5. Identify issues
6. Build User Stories
7. Run the Planning Game
8. Design detailed User Interfaces (UIs)
9. Test UIs with users
10. Deliver to development
11. Continue iterations in parallel

Beyer, H., K. Holtzblatt, et al. "An Agile User-Centered Method: Rapid Contextual Design." Available at <http://www.incontextdesign.com/resource/pdf/XPUniverse2004.pdf>



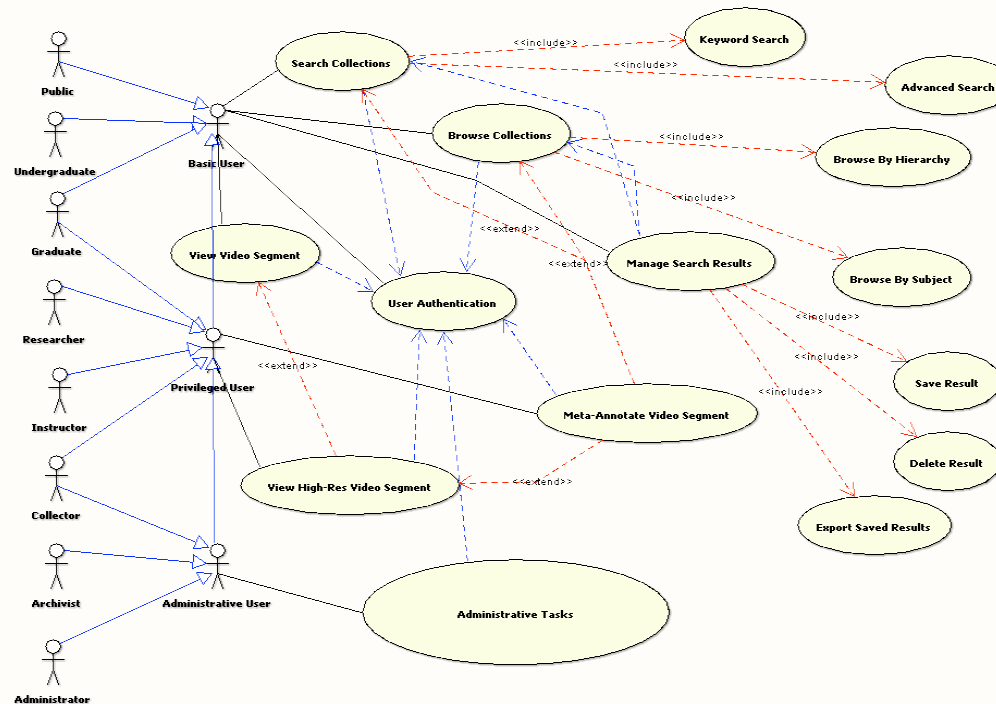
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EVIADA Agile Usability

- Pick task(s) from Use Cases Inventory
 - Prioritize tasks based on their critical need, anticipated frequency or commonality & complexity



EVIADA Agile Usability Contd.

- Create Descriptive User Stories
 - Short Narrations, User Intentions & System Responsibilities, Sequence Models
- Run the planning game with User Stories
 - Detailed UI Mockups to determine the complexity and thereby time estimate to implement the features
- Test
 - Lo-Fi Paper Prototype of N Iteration
 - Refine design
 - Acceptance of N - 1 Iteration
 - Refine design
- Continue Design and Development



EVIADA: Iteration Turnaround Challenges

- Developing unique task workflows
 - User testing and feedbacks to validate concepts
- Adopting new software technologies
- Unforeseen technical roadblocks
 - Cross-browser Incompatibilities
- Sequential design and development workflow
 - Resource constraints



Usability Study

- Participants
 - 2 Faculty
 - 1 Graduate Student
 - 2 General Public

- Test Hi-Fi Prototype Video Playback Page (**Iteration 1**)
 - Find relevant information based on user scenarios
 - (In)validate currently implemented concepts
 - Obtain qualitative, quantitative and informal feedbacks
 - [Demo Link](#)

- Test Lo-Fi Paper Prototype Browse Page (**Iteration 2**)
 - Find information based on user scenarios
 - (In)validate layout and labeling
 - Obtain informal feedbacks
 - [Demo Link](#)



Iteration 1 Usability Study: Qualitative Response

o **Negatives**

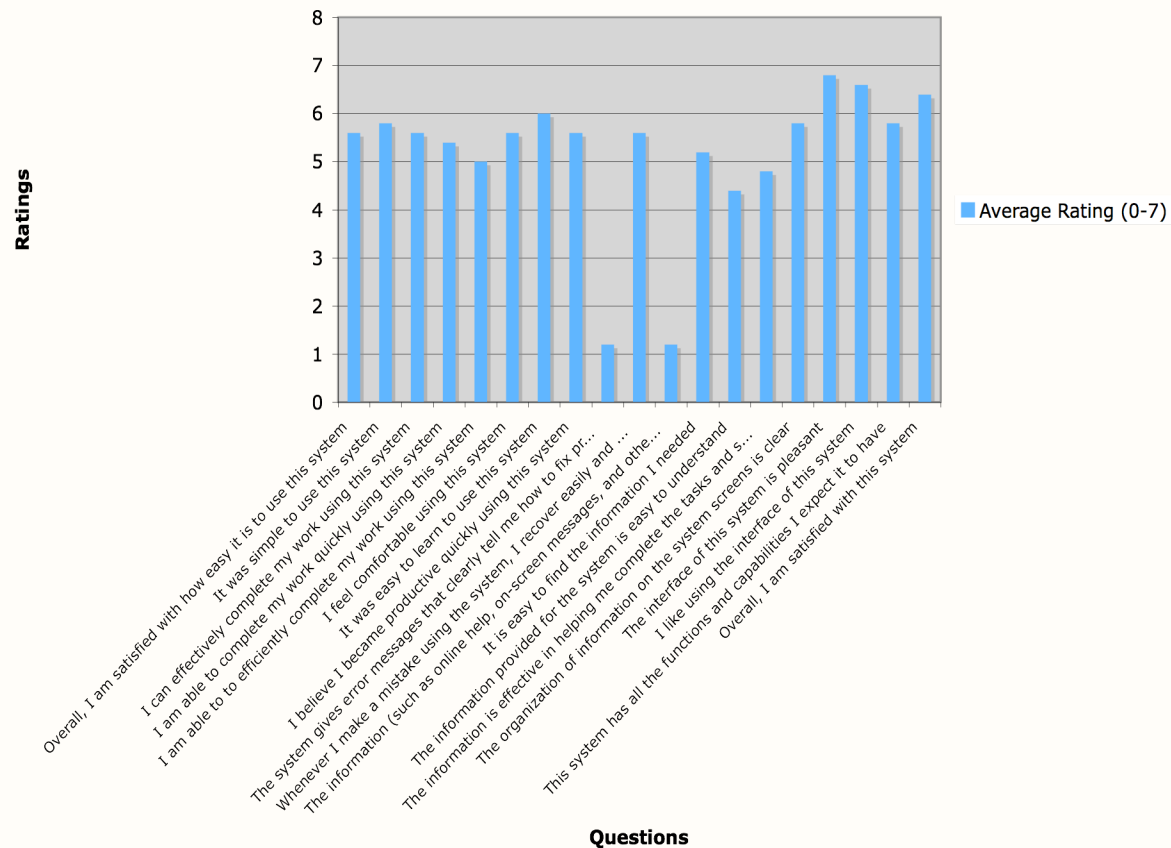
- “I was not aware if there was a page explaining some basics about scene, action, event and other aspects such as basic vocabulary”
- “The hierarchy of Collection, Event, Scene (& Action) wasn't spelled out very well in the interface”

o **Positives**

- “After familiarizing myself with the interface I did not feel put off or frustrated”
- “LOTS of relevant information available about each segment I viewed”
- “Good use of color for displaying complex data”



Iteration 1 Usability Study - Quantitative Response



Computer System Usability Questionnaire

- Overall, I am satisfied with how easy it is to use the system
- It was simple to use the system
- I can effectively complete my work using this system
- I am able to complete my work quickly using this system
- I am able to efficiently complete my work using this system
-

Questionnaire available at:

<http://hcibib.org/perlman/question.cgi>



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Iteration 1: Pending Issues

- Conveying the segment hierarchy concept
 - What are Collections, Events, Scenes & Actions?
 - Alternative Approach: [Sliding Drawer Demo](#)

- Mixed reception to the Interactive Visual Timeline
 - Enhance level of interaction



Iteration 1: Development Status

- Enhanced Video Player
 - Full Screen Video Playback
 - Player Reload vs Page Reload

 - Improved Collection Hierarchy Representation

 - Cross-Browser Compatible

 - Graphic Design & Labeling Updates
 - Aesthetics
 - Visual Metaphors
 - Labels

 - New Features
 - Transcriptions
 - Technical Problems
 - Glossary References
 - Bibliographic References

 - [Demo Link](#)
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Upcoming Objectives:

- Complete Iteration 1 - Video Playback Page
 - Do acceptance testing for the updates and enhancements
 - Include students in the next usability study, if possible
 - Incorporate feedback to refine design, if necessary

- Iteration 2 : Browse Page
 - On hold

- Develop Design for Iteration 3 - Search Page
 - Higher Priority
 - Lo-Fi Paper Prototype
 - Obtain feedback for proposed design
 - Incorporate feedback to refine design, if necessary



Questions & Comments ..

Thank You!

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