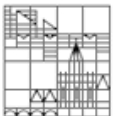


CRUISER: a Cross-Discipline User Interface & Software Engineering Lifecycle

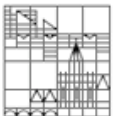
Thomas Memmel, Fredrik Gundelsweiler, Harald Reiterer

HCII 2007, Beijing



Motivation

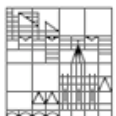
- HCI and SE are recognized as professions made up of very **distinct populations**
- To provide a high level of UI usability, software experts has to work with people with a background in HCI
- Course of collaboration is mostly unclear, little has been done on cross-discipline lifecycles
- **Agile methods** are the optimum, and workable, compromise
- Informal methods of XP and AM are close to HCI practice and therefore the **pathfinder** for a common course of action



XP, AM & HCI

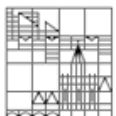
XP Practice	HCI Practice
Iteration, Small Increments, Adaptivity	Prototyping
Planning Game	Focus Groups
Story Cards, Task Cards, User Stories	Scenarios, User Profiles, Task Model

Agile Modeling Practice	Usability Engineering Practice
Prove It With Code	Prototyping
Create Several Models in Parallel	Concurrent Modeling
Active Stakeholder Participation	Usage-Centred Design, User Participation
Consider Testability	Evaluation, Usability Inspections



Design Approaches Compared

AM & XP Practice	HCI Practice	TID & ACD Practice
Minimalist documentation	Comprehensible models	Interactive representations
Show results early	Lo-/Hi-Fi prototyping	Make ideas visible asap
Small teams, design rooms	Design rooms, styles guides	Informal communication
Active stakeholder part.	Collaborative design	externalization of visions
User performance	User performance, user experience	User performance, user experience, hedonic quality



Phase I

Initial Requirements Up-Front (IRUP)

Agile SE

- Use Cases
- Usage Scenarios
- Technical Requirements
- User Performance Goals

Human-Computer Interaction

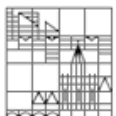
- Role Model, User Scenarios
- Task Model, Task Scenarios
- Operational Model
- Essential Use Cases
- Interaction Scenarios
- UI Patterns
- User Performance & Experience Goals

Authoritative Design

- Sketchy Design Visions
- Hi-Fi Design Visions
- Hedonic Quality Goals



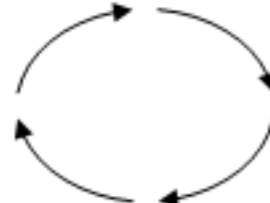
Agile Models, Essential Use Cases, Scenarios, Prototypes



Initial Conceptual Phase

User Interface Prototyping

- Scenario Refinement
- Narrow Design Space
- Operative Image
- Conceptual Design – Content Model (Abstract Prototype, Navigation Map)
- Visual & Interaction Design (Detailed Prototyping)
- Extreme Usability Inspection
- Hedonic Quality Questionnaires



Minimalistic UI Specs

Architectural Prototyping

- Parallel Architectural Prototyping
- Wait For Minimalistic UI Idea

Code / UI Trial

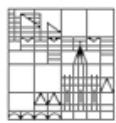
(Un-)Certain Estimates

UI Design, Selected Use Cases

Release Planning

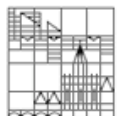
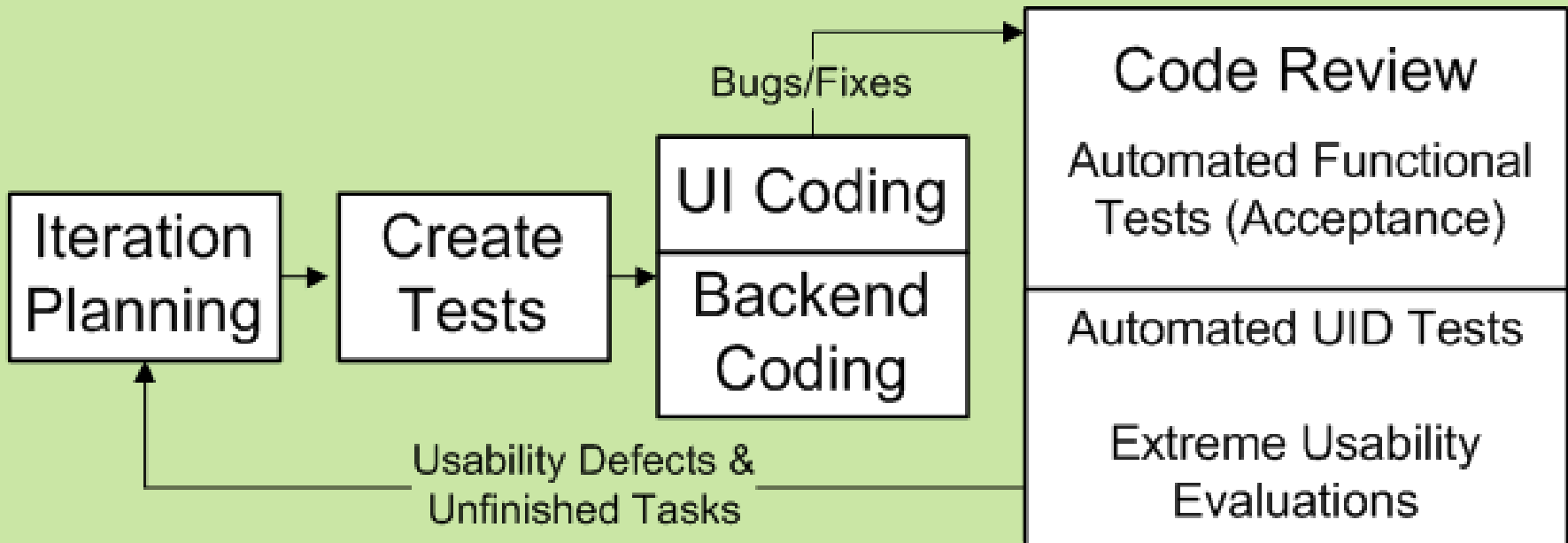
System Metaphor

Release Plan, System Metaphor, UI Design, UI Specification



Phase III

Construction & Test Phase



Summary

- We bridge HCI and SE based on their commonalities
- Similarities in basic principles and practices as well as among the methods and tools
- Important links to XP, but many important aspects relate to AM, HCI and beyond
- We concur with the findings of interdisciplinary researchers and use scenarios and prototypes as fundamental artifacts propelling a design process
- Could include **business modeling** due to agile RUP (AUP)

