Integrating Human-Centered and Model-Driven Methods in Agile UI Development

s-lab
Software Quality Lab

INTERACT 2015

W04: IFIP WG 13.2 Workshop on User Experience and User-Centered Development Processes

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Motivation

- Usability/UX
  - Increasing importance as a **quality aspect**
  - Not just a quality aspect of the **product**
  - Fundamental attribute of the **process**

- Challenges
  - **Integration** of human-centered design in software development
  - **Acceptance** is difficult for development
  - **Concurrent** processes executed by usability professionals

Human-Centered Design

- Big upfront analysis before starting to implement

  ➡ communicates a misleading understanding

- Missing formalization of concepts and artifacts

  ➡ e.g. to foster reusability

- Continuously refined design solutions

  ➡ limit the portability of prototypes

- HCD needs people and iteration

  ➡ difficulties for linear processes

Agile Development

- Misleading roles (e.g. product owner, customer)

  ➡ implies that HCD is already there

- Misleading techniques (e.g. user stories)

  ➡ nothing to do with users if based on assumptions

  ➡ doesn’t work with multiplicative complexity

- Feature-based development

  ➡ leads to ignorance of dependencies

Model-Driven Software Development

- Linear development from models to code

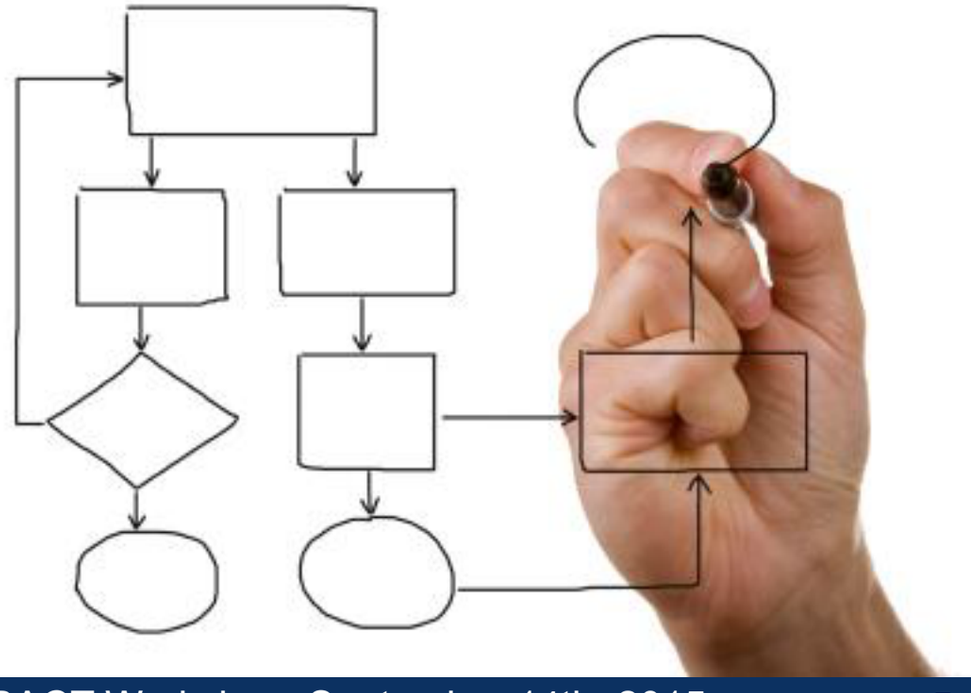
  ➡ no validation through iteration

  ➡ no continuous evolutionary development

  ➡ created models are perceived to be not changeable

- Communicates a lot of rigidity

  ➡ user interfaces are inflexible



Our Objectives

- Integrated development approach
  - Formalization of users' tasks and interactions

    ➡ to foster consistency in the UI

  - Decoupling & flexibility between workflow and technology

    ➡ to enable suitability of the tasks and controllability by the user

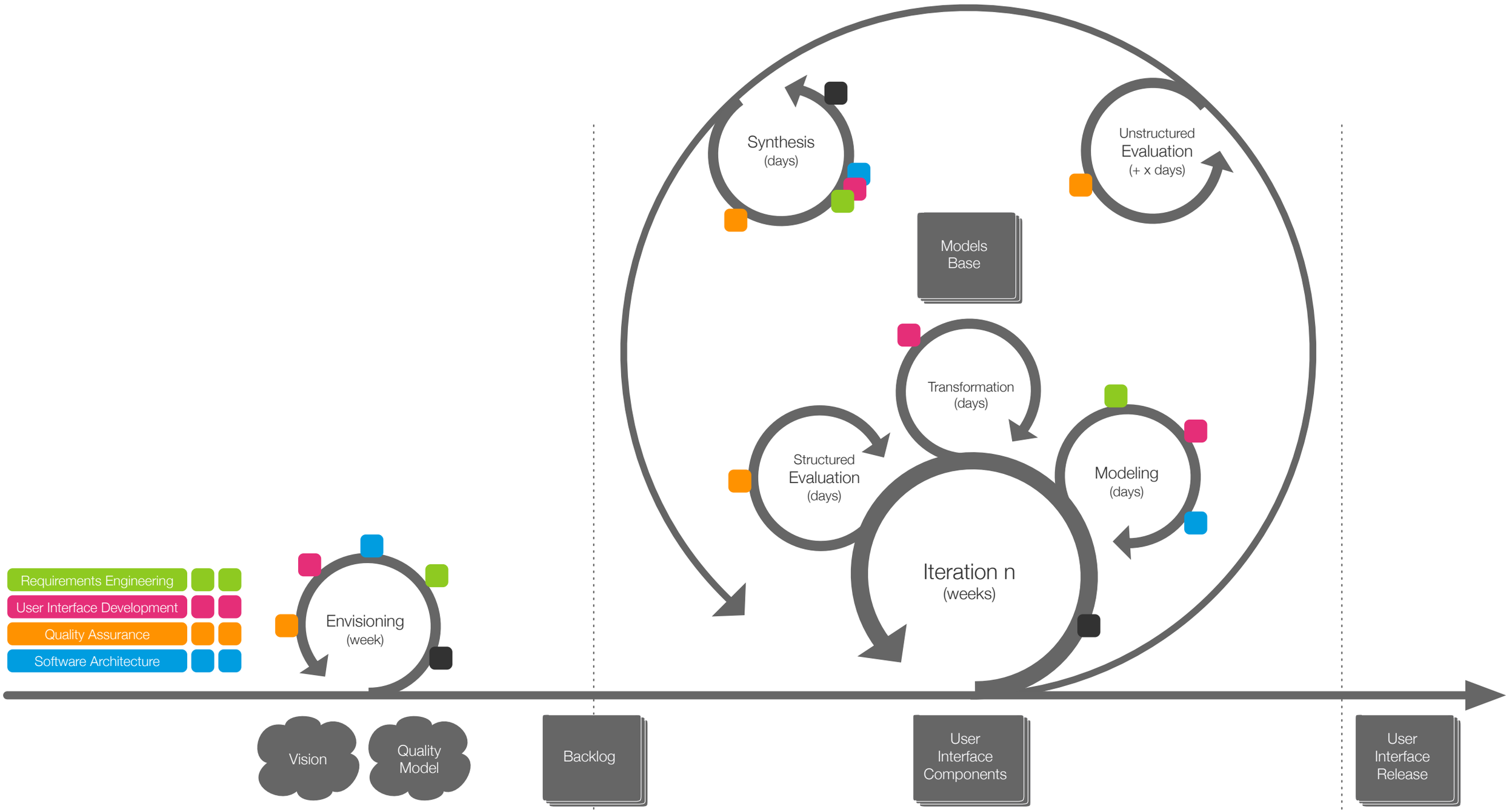
- Flexibility & exchangeability of UIs

  ➡ to foster agility and prototyping

- Iteration & user involvement

  ➡ to enable feedback and model refinement

Our Approach



Thank you very much.

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