in-Step : A Commercial Tool for Project Management in Education Domain?

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1. Connection between our Group and *microTOOL* Company

2. Project Management with *microTOOL in-Step* – Key Points

3. *in-Step* for Education?

microTOOL Company:
Specialized in Tools for Software Technology

Established 1984 in Berlin

microTOOL
making IT better

More than 1200 customers operating in different application areas e.g.

Air Traffic Control Germany (DFS)

kapsch >>>

Kapsch Carrier Com AG, Austria,
Intelligent Transportation Systems and Telecommunication Systems and Solutions
Subsidiaries in Bulgaria, Croatia, Macedonia, Serbia, Slovenia

Main Products

- Software Engineering - *objectiF*
  - Model driven software development with UML

    Code in C#, Visual Basic .NET, Java and C++ from the UML model

- IT Project Management - *in-Step*
  - Process based project management for different tasks e.g.
    - Air Traffic Control - planning and control of test processes
   - Kapsch – requirements management and risk management

Tool Usage by
Software Engineering Group at HU-Berlin

- A long tradition of cooperation with companies whose tools support software engineering concepts.

- A good opportunity for students to
  - get experience and skills with software tools, which are really used in practice
  - take advantages for future professional work

We like to use *microTOOL* products

- *objectiF* - already in use
  - Applied by students in Software Engineering course
  - Developing use case, class and activity diagrams

- *in-Step* - we are going to use it for
  - Project Management aspects in Software Engineering course
  - Semester Projects – new educational units
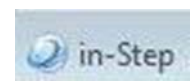
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in-Step : Support of all Common Project Tasks

in-Step Bar

My in-Step	⮟
Project Management	⮟
Risk Management	⮟
Reporting	⮟
Time Recording	⮟
Requirements Management	⮟
Change Management	⮟
Quality Management	⮟
Configuration Management	⮟
Reviews	⮟

in-Step provides assistance for the whole IT project

- **Planning and monitoring of time and budget**
  - Project and Risk Management
  - Reporting and Time Recording

- **Software development**
  - Requirements and Change Management with seamless connection to *objectiF* for design and implementation
  - Quality Management including tests
  - Reviews
  - Configuration Management

What is behind the single items of the in-Step bar?

in-Step : Support of all Common Project Tasks

Example of Activities in Project Management

- Control and adjustment of Project Schedule
- Overview about Project Costs and Resource Requests
- Team-Capacity Planning
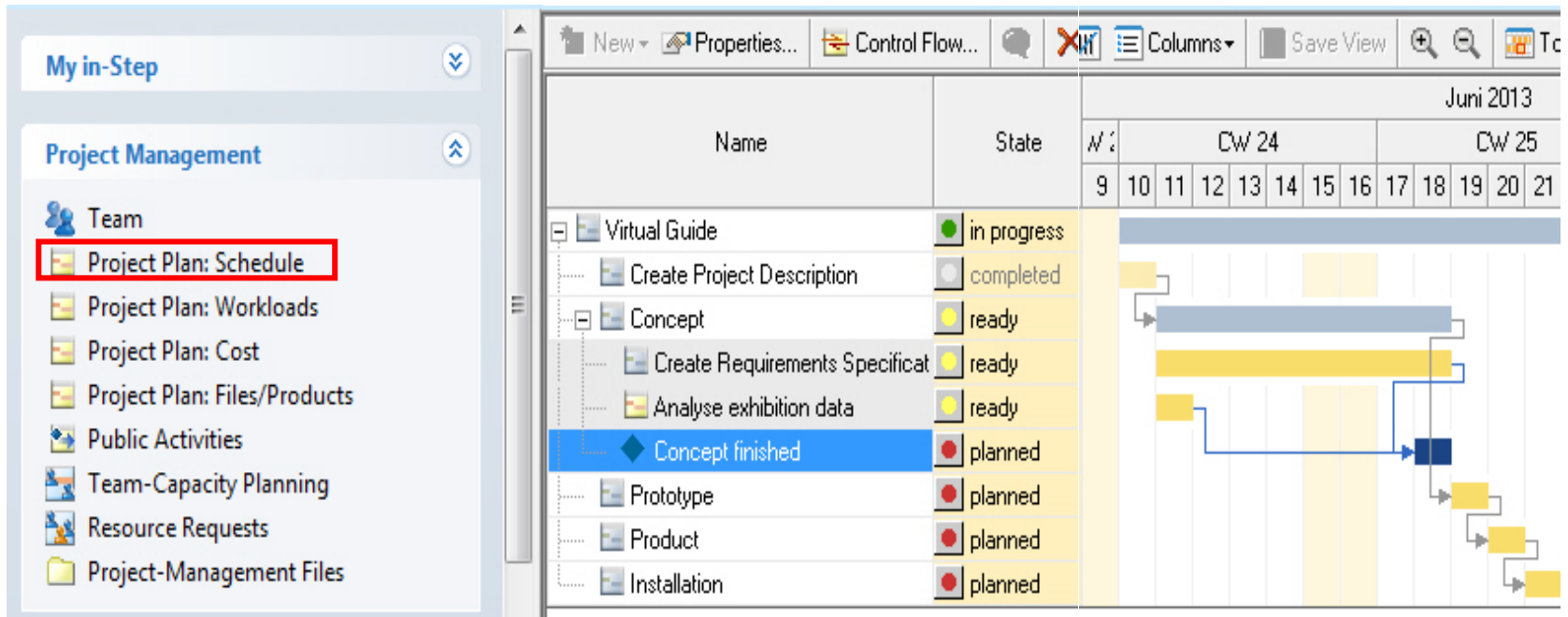
in-Step always shows the current state of the project´s activities and the results
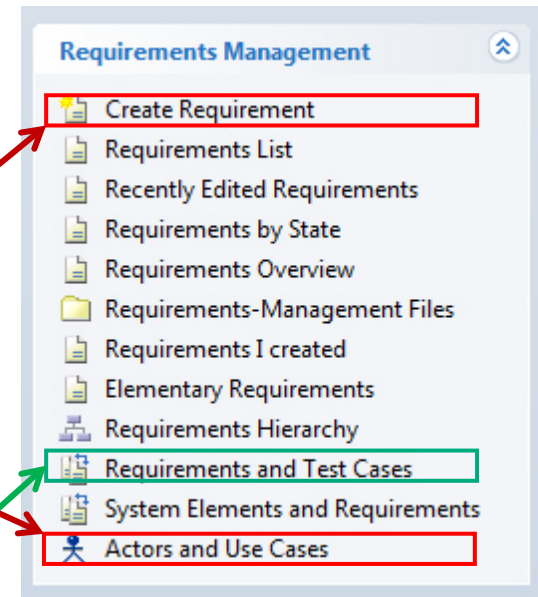
in-Step : Support of all Common Project Tasks

Example of Activities in
Requirements Management

Each single requirement is described separately

- as text document [Create Requirement]
- and/or as use case diagram in the integrated *objectiF* [Actors and Use Cases]

Parallel creation of requirements and test cases is recommended [Requirements and Test Cases]

in-Step supports transfer of single requirements into a global specification.

Its initial version exists as a predefined template.
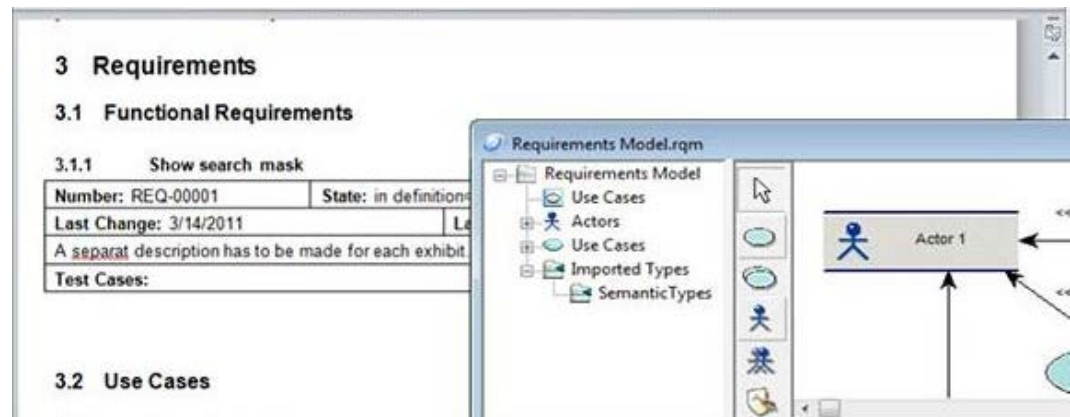
in-Step : Process based Project Management

Different *in-Step* editions for different process models are available e.g. for V-Model XT and PRINCE.

Each edition contains ready-to-use process templates.

What is a **process template** ?

- Description of all project tasks
    - Subject
    - Preconditions / links to input documents
    - Links to results
- Predecessor/successor relations between tasks ← process model
- Templates of products to be developed e.g. Word, Excel or XML documents
- Definition of common roles: project manager, software designer, reviewer
- Assignment of tasks to roles

Process templates

- will be adjusted and refined for each concrete project
- save time in project planning and management.

in-Step : Process based Project Management
Supported Process Model Editions

You can find all supported process model editions on the download page.

Typical project activities
and corresponding results:
CoreProcess Edition

International Standards:
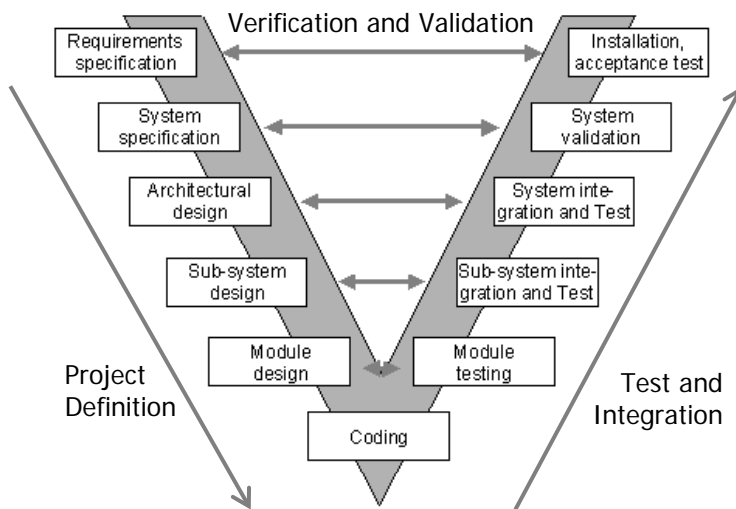
Scrum
V-Modell XT
PRINCE2®
SPICE

Special process models for your own standards and best practices:
Process Management option of *in-Step* Bar.

■ This process template supplies all steps and products which are required by V-Modell

■ The possibility to define iterations supports incremental work as extensions to the classical V-Modell

■ Automatically creation of all V-Modell specific steps and skeletons of all obligatory products for each iteration

in-Step : Process based Project Management Example - Support for Scrum
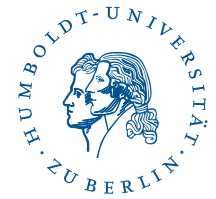
- Creation of backlog items as versioned stories having predefined structure and layout

- Support for sprint and release planning with relation to included stories

- Derivation of tasks from stories and management of a graphical task board

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Potentials of *in-Step* use for Education at HU

- Always good support + new *Research & Education Program* since 2012 by *microTOOL* company

- *in-Step* too complex for our Software Engineering course

- Introduction and customer report by *microTOOL* in lecture

- Mandatory usage in a semester project

  - New educational unit at Humboldt-University since 2010
  - Bachelor curriculum in 5th semester
  - 12 ECTS credits, about 345 working hours
  - Team-oriented project: planning, modeling, implementation and test of an appropriate complex software system

- Time capacity for

  - initial skill adaptation training
  - utilization of *in-Step* in project

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Conclusion

- *in-Step* is an interesting and ambitious tool

- It supports software engineering concepts and project management very well

- It is capable to be used for education

It could be a challenge to apply *in-Step* together with students.