Valid from 2024.HS

Module description: Software Project 4

Module Code	t.BA.IT.PM4.19HS
ECTS Credits	4
Language of Instruction/Examination	German
Organizational Unit	InIT
Module Coordinator	Andreas Meier
Legal Framework	The module description is part of the legal basis in addition to the general academic regulations. It is binding. During the first week of the semester a written and communicated supplement can specify the module description in more detail.
Module Characteristic	Type 4* 4 lab lessons per semester week and half-class
Module Description	Students are able to develop a complex software system using an agile development process – from the initial idea through to the customised solution.
Module Content	• In teams of seven (±2) and using agile methodology, students complete a software development project from the project outline to the customized software: **Project setup** • determining product vision (including creating product outline, defining requirements, identifying risks), creating product backlogs, estimating expenses and planning, setting up management and development tools. **Sprints (Project implementation)** • Project implementation in five iterations / two-week sprints. Sprint planning: negotiating sprint backlog entries. Sprint implementation: applying agile practices, principles and tools, project management, analysis and design, tests, implementation, integration, deployment, etc. Sprint review and retrospective: demonstrating products, reflecting on process, reacting to changes. Backlog refinement: adapting backlog (setting priorities, assigning roles, refining processes), adjusting time estimates and planning). **Closing Event** • Final presentation and demonstration (during exam period)
Prerequisite Knowledge	This module is closely linked with SWEN2 and must be attended in the same semester. PROG1, PROG2, PM3
Learning Objectives (Competences)	

Students...	Competencies	Taxonomies
You implement the agile collaboration practices consistently (e.g. sprint planning, scrum meetings, sprint reviews, backlog refinement).	F, M	K3, K4
You apply the agile technical practices effectively (e.g. test-driven development, continuous integration, agile estimating and planning, etc.)	M, F	K2, K3
You employ the necessary development and collaboration tools and always keep your data and documentation up-to-date.	F	K3
You apply the agile principles consistently (individuals and interactions, working software, cooperating with clients, reacting to changes).	F, M	K3, K4
You create and maintain the necessary agile artefacts (product backlog, sprint backlog, burndown chart).	M, F	K2, K4

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Performance Assessment

End-of-module exam	Assessment	Length (min.)	Weighting	Form
other	Grade		0	acc. to module agreement

Performance assessment during the semester	Assessment	Length (min.)	Weighting	Form
Project Setup *infrastructure, testing environment, product vision, team organization, product backlog*			5	
Sprint Procedure *application of agile methods and practices, backlog and documentation continually updated. Sprint Reviewand Sprint Planning*			20	
Sprint Retrospective *reflection, reaction to change, self-organization*			5	
Product *assessment / evaluation of results (usability, functionality, code, documentation, test coverage)*			50	
ILC *By arrangement*			20	

Classroom Attendance Requirement

None

Learning material

- Tidy First? A Personal Exercise in Empirical Software Design, Kent Beck, ISBN: 978-1-098-15124-9
- Clean Code, Robert C.Martin, Prentice Hall

Comments

- For group work, a student's performance may affect his/her individual grades, i.e. group members might receive different grades.
- Participation in all sprint reviews and the closing event is mandatory.