

Name of module (en): Mining Software Repositories

Department/Faculty: FB4

Responsible professor: Prof. Dr. Ralf Lämmel

Semester: irregular

Language: English or German

ECTS points: 6

Format: Lecture / Lab (4 SWS)

Effort: (N/A)

Prerequisites:

- Knowledge of software engineering
- Knowledge of statistics, data mining, information retrieval (helpful, not required)

Learning objectives / competencies: The area „Mining Software Repositories" (MSR) is concerned with the analysis of data, as available in software repositories, with the objective of deriving scientifically or practically useful information about software systems and software development. The course equips students with a basic understanding of MSR. Students are provided with an overview regarding typical and current research problems and corresponding MSR techniques. Students learn how to plan, execute, and present MSR studies in terms of the central phases of data extraction, synthesis, and analysis. To this end, engineering and scientific methods are combined.

Contents

- I. Overview and motivation
- II. Selected MSR studies
- III. Data sources for MSR
- IV. Data extraction and modeling
- V. Basic data synthesis
- VI. Synthesis with information retrieval
- VII. Synthesis with data mining
- VIII. Analysis
- IX. Link to empirical software engineering
- IX. Link to software reverse und re-engineering
- X. Planning of student projects
- XI. Presentation of student projects

Mediatypes

(N/A)

Exam

Individual assignments with presentation

Literature

- Conference proceedings of „Mining Software Repositories“
- Selected conference and journal papers in the broader context of software engineering