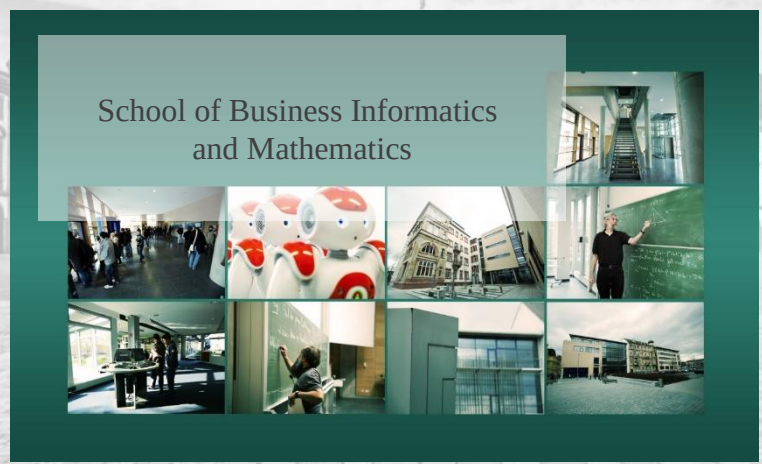
# Software Engineering Group



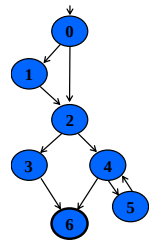

UNIVERSITY
OF MANNHEIM
School of Business Informatics
and Mathematics

# Courses

- ***Bachelor***
  - CS 308 Softwaretechnik I (*Prof. Atkinson*)
    - *Foundations of Software Development*
  - CS 306 Praktikum Software Engineering (*Prof. Atkinson*)
    - *Team project*
- ***Master***
  - CS 500 Advanced Software Engineering (*Prof. Atkinson*)
    - *Software Specification, Software Testing, …*
  - CS 600 Model-Driven Development (*Prof. Atkinson*)
    - *MDA, CIM, PIM, PSM, DSL & TLAs…*
  - CS 450 Programming Course (*Dr. Ursula Rost*) – MMDS only
    - *Basic concepts of object-oriented programming*
  - … Team projects, Seminars and Theses
    - *Several different projects (see research foci)*

# CS 500 - Advanced Software Engineering

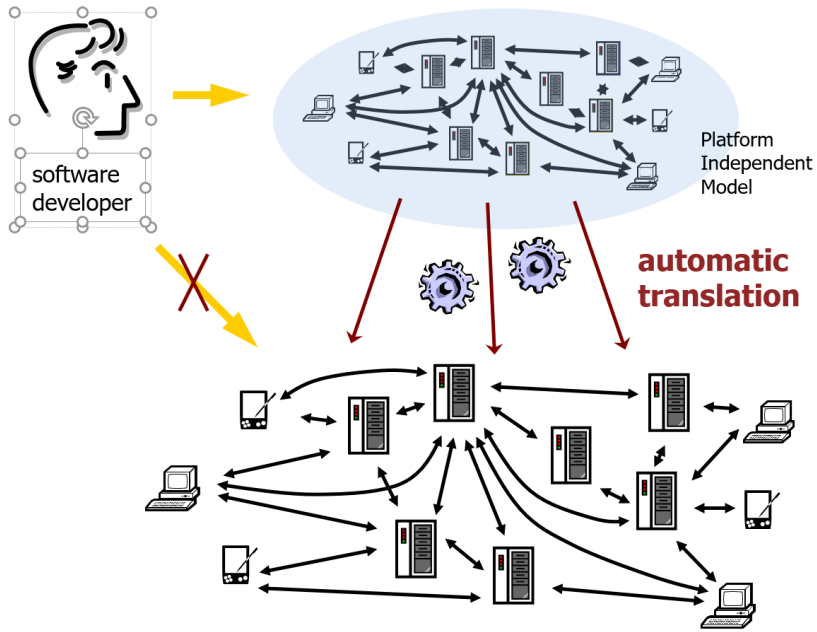
- Foundation course
- Fall semester
- English
- ECTS: 6
- Main topics
  - Model-based, multi-view system specification
  - Test design and description
  - Black-box testing approaches
- No pre-requisites
- Evaluated by a single written exam




| | A | B | C | D |
|---|---|---|---|---|
| 1 | 'Stack | create | | |
| 2 | D1 | push | 23 | |
| 3 | D1 | push | 42 | |
| 4 | D1 | pop | | 42 23 |
| 5 | D1 | pop | | C2 |

# CS 600 - Model-Driven Development

- Specialization course
- Fall semester
- English
- ECTS: 6
- Main topics
  - Metamodeling
  - Object Constraint Language (OCL)
  - Domain-Specific Languages
  - Model transformation
  - Multi-level modelling
  - …
- Prerequisites: Advanced Software Engineering
- Evaluated by a single written exam



# CS 450 - Programming Course

- Foundation course
- HWS semester
- English
- ECTS: 6
- Main topics
  - get to know the basic concepts of (object-oriented) programming
  - learn to write programs in the Java programming language
  - acquire knowledge in some advanced areas such as writing GUI applications and dealing with external data (XML, databases)
  - get to know some tools for development (text editor, IDE (eclipse), debugger)
- No pre-requisites
- Lecturer: Dr. Ursula Rost
- Evaluated by written examination + team project

# Python Programming Course

- FSS 2022 Semester
- English/German
- ECTS: 6
- Lecturer: Dr. Marcus Kessel
- More details to follow ….

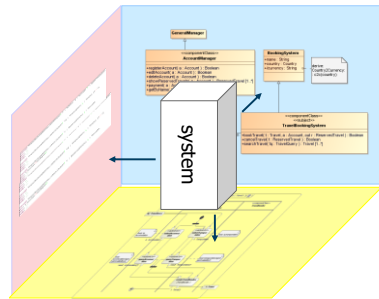
# Some Research Foci ...

## 1. Model-Driven Development

- Multi-Level-Modeling
- MELANEE Modeling Tool


## 2. View-Based Software Engineering

- Projective Modeling
- Ortographic Systems Engineering
- Single-Underlying Model




## 3. Big Code - Mining Software Repositories

- Large-Scale Software Observations with *LASSO's Scripting Language* – Dynamic Selection, Analysis and Comparison of Software
- Software Reuse through Test-driven Search with *merobase* and *Test Sheets*