Project Group Presentation
Summer Term 2019
Master Computer Science & Master Computer Engineering

Matthias Fischer

- Monday, January 28th, 6:15pm,
- Rooms O1 and O1.258
Agenda

Joint Session for CE + CS Students
18:15  Why Project Groups?  Registration and Requirements
18:30  Mixed Project Groups – Room: O1
After the last talk:  CE students move to O1.258   CS students stay here

Parallel Sessions
20:05  CS Project Groups – Room: O1
20:05  CE Project Groups – Room: O1.258

Discussion Session
If you plan to take part in a group in Summer Term 2019, please stay here!
20:45 (CS), 20:45 (CE):  In front of or in room O1, O1.258

- build small groups for questions, discussion, application, declare personal interest
- CE students (room O1.258) can first discuss with CE advisors and afterwards come back to O1
- Mixed PG advisors: Please wait for CE students !!!

Mixed Project Groups (2x10 ECTS, 2x9 ECTS)
accept both Computer Science and Computer Engineering students

CS Project Groups (2x10 ECTS)
accept Computer Science students

CE Project Groups (2x9 ECTS)
accept Computer Engineering students (and EE students, not the concern today)
<table>
<thead>
<tr>
<th>Time</th>
<th>Course Title</th>
<th>Instructor(s)</th>
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<tbody>
<tr>
<td>18:30</td>
<td><strong>Mixed Project Groups (2x10 ECTS, 2x9 ECTS)</strong></td>
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<td></td>
<td>CogniCrypt++ - Bringing Secure Cryptography to C/C++ Applications with PhASAR</td>
<td>Bodden</td>
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<td>18:40</td>
<td>Jarvis for MBSE II</td>
<td>Dumitrescu</td>
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<td>18:50</td>
<td>Exploring Paderborn 9</td>
<td>Oberthür</td>
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<td>19:00</td>
<td>Bare Android Native ANAlysis (BANANA)</td>
<td>Wehrheim</td>
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<td>19:10</td>
<td>Overlay Hybrid Peer-2-Peer Distributed Simulator (OverHyPeD)</td>
<td>Scheideler</td>
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<td>19:20</td>
<td>Development of an Open-Source CTF Platform</td>
<td>Jager</td>
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<td>19:30</td>
<td>Embedded Machine Learning (EML) II</td>
<td>Platzner</td>
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<td>19:40</td>
<td>BAcKFLiP: Benchmarking network functions to collect the world largest NFV</td>
<td>Karl</td>
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<td>performance dataset</td>
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<td>19:50</td>
<td>STULP: Support Tool for University Lecture Planning</td>
<td>Böttcher</td>
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<td>Electronic Commerce and Databases</td>
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<td>Time</td>
<td>CS Project Groups (2x10 ECTS)</td>
<td>CE Project Groups (2x9 ECTS)</td>
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<td>20:05</td>
<td><strong>Jimple Language Server</strong> Software Engineering, <em>Bodden</em></td>
<td><strong>Brain sensing with EEG and signal processing</strong> Signal and System Theory, <em>Schreier</em></td>
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<td>20:15</td>
<td><strong>Data Science Suite II</strong> Data Science, <em>Ngonga</em></td>
<td><strong>Disaster Response Robots</strong> GET Lab, <em>Mertsching</em></td>
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<td><em>(For information, please contact: Michael Röder, <a href="mailto:michael.roeder@upb.de">michael.roeder@upb.de</a>)</em></td>
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<td>20:35</td>
<td><strong>New Interaction Concepts and Eyetracking for InterDisciplinary Educational Applications (NICE IDEA)</strong> Didactics of Informatics, <em>Schulte</em></td>
<td><strong>Signal Processing and Machine Learning over Wireless Acoustic Sensor Networks</strong> Communications Engineering Group (NT), <em>Schmalenströer</em></td>
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<td><em>(For information, please contact: Michael Röder, <a href="mailto:michael.roeder@upb.de">michael.roeder@upb.de</a>)</em></td>
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<td><strong>Entwicklung von Mess- und Analyse-Software</strong> Measurement Engineering, <em>Henning</em></td>
<td><em>(For information, please contact: Leander Claes, <a href="mailto:claes@emt.upb.de">claes@emt.upb.de</a>)</em></td>
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*No talk*
**Definition**

**Project Group**

**Group** of about 8 – 16 students working together on a research-related project

- Upper limit 16 holds for all groups!
- Lower limit 6 in particular situations!

**Research topics**

from the advisor’s field of interest

Duration: **one year** (two terms)

Default language is English.

If all participating students agree, the group can be held in German.
Aims: Improvement of character building (1/2)

Project Group

Practical experience in teamwork and organization of a project

- Build your own personnel structure, similarly to an industrial team
- Delegation of sub tasks and responsibilities to subgroups

Division of tasks involves

- the necessity to report at regular intervals
- and to defend the own work

Download these slides: www.upb.de/cs/pg
www.upb.de/cs/pgen
Aims: Improvement of character building (2/2)

Project Group

Self-organization

- Define the aims on your own together with the advisors
- Self training with necessary tools, methods and approaches

Tools

- git, JAVA, C++, UML, Android, Linux,…

Research Topic

Objective of the Project Group

Define the aims on your own together with the advisors

Self training with necessary tools, methods and approaches

Download these slides:
www.upb.de/cs/pg
www.upb.de/cs/pgen
Outcome

Project Group

Your outcome

You learn

- systematic and methodic working
- comprehensive development processes (including final report and documentation)

You

- will be intensively prepared for industrial practice
- approach current research topics
  (often students write their *master's theses* in the same field and research topic)

Advisor’s outcome

- Project groups are a means for research
- Implementation and execution of research
Seminar

Project Group

Seminar as parallel course

- the organizer can provide a seminar parallel to the project group
- the seminar is a separate course
- the organizer determines whether participation is mandatory or optional
- the organizer decides whether such a seminar is available or not

Please note the announcements of the organizer
Requirements for Participation (1/2)

Project Group

Project group can only be started when the **bachelor's degree** has been successfully **completed**

**Bachelor's degree** is successfully **completed**, when

- all examinations have been passed and
- the **thesis’ 4.0 confirmation** is handed over to the examination secretariat (Lessmann, Guhlich,...)
  - by **31 March** (PGs starting summer term) and
  - by **30 September** (PGs starting winter term)
Requirements for Participation (2/2)

Project Group

Project group can only be started when the enrollment in the master's program has been completed.

Students of the bachelor's program,

- who reach the 4.0 confirmation or examinations only on the 31st of March or on the 30th of September,

- must therefore enroll for the Master's program in the relevant period of the change of studies (by 21 March, see uni webpage)

- you can submit proof of successful completion of your studies (Bachelor's certificate and deed or a corresponding certificate from the office responsible for issuing the deed) by 30 April, see uni webpage
How to Get a Project Group (1/7)

New Method to Match Students to Project Groups

New method consist of 4 phases:

- **Phase 1**: PAUL registration
  February 11 – 17, only one week!

- **Phase 2**: Assignments & Preferences
  February 21 – March 20

- **Phase 3**: Stable Marriage
  March 21 – 26

- **Phase 4**: Notification & Decision
  March 27 – April 5
How to Get a Project Group (2/7)

PAUL registration

Phase 1 – PAUL registration

- February 11 – 17, only one week!
- You register only for one “virtual” project group: “L.079.07099 All Project Groups Summer Term 2019”
- The course captures the registration for all project groups, here you cannot choose your preferred groups!
- You can see all project groups in the Course Catalogue, but you can’t register for them
How to Get a Project Group (3/7)
Assignments & Preferences

Phase 2 – Assignments & Preferences

- February 21 – March 20

Consist of 2 steps:

Step 1
- Students state the preferences for all project groups
- All means all and not just 1 or 2 or just the one you like!

Do students have to participate in a project group they do not like?
→ No! See below
How to Get a Project Group (4/7)
Assignments & Preferences

Phase 2 – Assignments & Preferences

- February 21 – March 20

Consist of 2 steps:

Step 2

- Project group advisors provides an "assignment"
- Used to test student’s suitability for a given project group
- Students fill in these assignments for the project group they are interested in

Assignment can be

- Empty (e.g., if the organizers do not require a precondition for participation)
- Programming assignments
- Free-text answers
- Placeholder for a personal interview
- … whatever the organizer needs
How to Get a Project Group (5/7)
Assignments & Preferences

Phase 2 – Assignments & Preferences

- February 21 – March 20

Consist of 2 steps:

Both Steps

- Where?
  Tool chain by Jupyter and nbgrader extension
- You can log in starting on 21 February

Download these slides:
www.upb.de/cs/pg
www.upb.de/cs/pgen
Phase 3: Stable Marriage

- March 21 – 26
- The project group advisors score the assignments of the students with points
- The more points a student gets from the advisor, the greater the chance of a project group seat

Now we apply the Stable Marriage algorithm

- Scores rank students from project groups advisor’s perspective
- Preferences of the students rank the project group from student perspective
- Based on both, we compute a stable marriage
- The Stable Marriage algorithm matches students to project groups
- Each student gets a project group!
How to Get a Project Group (7/7)

Notification & Decision

Phase 4: Notification & Decision

- March 27 – April 5
- The students are informed which project group they have been assigned (We do not yet know how you get informed, probably by PAUL)
- Final result will be entered into PAUL, students move from virtual project group to the actual course by PAUL administration

Do students have to participate in a project group they do not like?

1. No, they can refuse the assigned project group! However, they will not get another project group!

2. The only exception is if two students wish to swap seats and receive the approval from both advisors, they can do so

If 1 or 2 apply please send email to Matthias Fischer, mafi@upb.de not later than April 5
Main web page for project groups: [http://www.upb.de/cs/pg](http://www.upb.de/cs/pg)

Contains:

- **Listing** of all project groups (each listed group points to advisor’s PG web page)
- Information of the overall **registration and notification process**
  
- **Guidelines for project groups** (Rahmenrichtlinien für Projektgruppen)
  
  follow the links “guidelines for project groups / Rahmenrichtlinien für Projektgruppen“
  Please read it before you start a project group!

Students who cannot apply electronically via PAUL (e.g. due to missing master status) register in written form via the printed form

- German: "Antrag auf Zulassung zu einer Lehrveranstaltung in PAUL“
  [http://www.upb.de/fileadmin/paul-info/Formulare/Antrag_Anmeldung.pdf](http://www.upb.de/fileadmin/paul-info/Formulare/Antrag_Anmeldung.pdf)
- English: "Application for admission to a course “
  [http://www.upb.de/fileadmin/paul-info/Formulare/Antrag_Anmeldung_english.pdf](http://www.upb.de/fileadmin/paul-info/Formulare/Antrag_Anmeldung_english.pdf)
- both on: [http://www.upb.de/studium/paul-info/formulare](http://www.upb.de/studium/paul-info/formulare)