TECHNISCHE UNIVERSITÄT
KAISERSLAUTERN

Software-Engineering Seminar, Winter 2017/18

Peter Zeller

AG Softech
FB Informatik
TU Kaiserslautern

Supervisors/Participants

Topic	Student	Supervisor
Red-black trees	Maxime Tchangou	Mathias Weber
1-2 Brother trees	Olivier Mahop	Peter Zeller
Queues	Ali Husan Raza	Annette Bieniusa
Lazy skew heaps	Benno Kallweit	Peter Zeller
Random-access lists	Jose Luis	Sebastian Schweizer
Binomial heaps	Abdullah Arshad Sadal	Ralf Hinze
Constructing Red-black Trees	Josua Mayer	Ralf Hinze
Catenable Lists	Kevin Bartik	Ralf Hinze
Optimal Heaps	Pramod Gopal Hegde	Ralf Hinze
Finger trees	Maham Lodhi	Ralf Hinze

Goals

- Learn about a specific topic in SE
- Read and understand scientific papers/books explaining the topic
- Learn how to present the topic

Your tasks

- Read and understand the material we provided
- Search for additional material on the topic
- Write a paper
  - Language: English (Bachelor: may be in German)
  - Use our Latex template
  - 10-15 pages (Bachelor: 7-15 pages)
  - Easy to read for other students
  - Present the problem and motivation of the work
  - Present the solution
  - You may add critique
- Presentation
  - 20 minutes presentation
  - about 10 minutes discussion and questions (know your topic!)
  - participate in discussion

Seminar topic: Functional data structures

- What is functional programming?
- What is the difference between strict and lazy evaluation?
- What is an abstract data type?
- What is a persistent data structure?
- Why do we need functional data structures?
- Why is challenging to design efficient functional data structures?
- Are functional data structures useful for imperative languages?

Schedule

- Extended Abstract submission: May 22
- First draft of paper: June 18
- Presentations: Thursdays, 10:00-11:30
  - June 21
  - June 28
  - July 5
- Final paper: July 16

All deadlines: End of the day 23:59.
Submissions: As pdfs by email to your supervisor and coordinator

Extended Abstract

An abstract is a short (often 100-250 words) summary of a paper, which helps potential readers to decide, whether they should read a paper or not. An abstract often has 4 parts:

1. A motivation/problem statement, which explains what the topic and scope of the paper is and what problem it tries to solve.
2. A brief statement about what approach/methods were used.
3. A summary of the results
4. A conclusion, which summarizes the contributions

Extended abstract:

1. similar but longer (at least 2 pages)
2. Focus on the motivation, problem statement, and the main ideas of your topic
3. No technical details necessary yet.

First draft and final paper

- Your paper should target other students in the seminar
- Be understandable
- Add context
- Explain in your own words

First draft:

- Full paper including everything you want to have in the final paper

Final paper:

- Incorporate feedback from first draft
- Polish paper

How to fail a seminar?

- Plagiarism
- Late submissions
- Not attending final presentations
- Poorly written paper
  - Fail to convey the concepts
  - Incomprehensible English
- Bad presentation
  - Fail to convey the concepts
  - Unable to answer any questions
- Never talk to your supervisor
- Do not use a spell checker

Next steps

- Talk to your supervisor
- Write extended abstract