Distributed Systems

Introduction

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https://teaching.dahahm.de

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Agenda

- Get to Know
- Organizational

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Interaction in this Lecture

- Participate lively
- Ask questions!
- A key attribute for science is scepticism
- Communicate problems early

Source: public domain

"Education is a dialogue not a one way monologue" [1]

[1] JNICSR Times, http://jnicsrtimes.com/?p=1476

Prof. Dr. Oliver Hahm

- Study of Computer Science at Freie Universität Berlin
- Software Developer for ScatterWeb and Zühlke Engineering
- Research on IoT and Operating Systems

Contact

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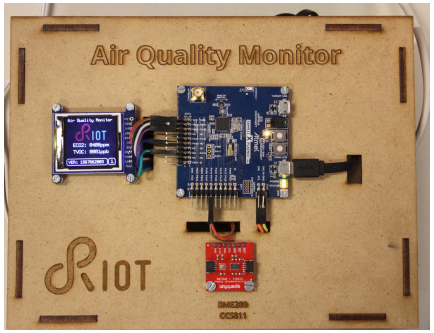
Office hours: Tuesdays 13:00 – 14:00, room 1-212

Join the RIOT!



RIOT is the friendly OS for the IoT!

You would like to. . .

- . . . learn how to develop exciting IoT applications?
- . . . contribute to a huge open source project in a globally distributed team?
- . . . realize your own ideas in software or hardware?

Contact

We will meet on a regular basis to hacking events to implement common IoT projects in a casual environment.
The first meeting takes place in room 1-237 at 16:00 today!
No previous knowledge required.

For questions contact me via mail or check `https://riot-os.org/community.html`!

Who are you?

Who are you?

- What is your preferred programming language?

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- What is your favorite operating system?

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- What is your preferred programming language?
- What is your favorite operating system?
- Which instant messenger do you use?

What do you think about Distributed Systems?

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- Have you ever developed a distributed program?

What do you think about Distributed Systems?

- Have you ever developed a distributed program?
- Have you ever used a distributed system?

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Organizational

- Lecture: Thursday 10:00 – 11:45, room 4-109/110

  Friday 10:00 – 11:45, room 4-109/110
- Exercises
  - Tuesday 14:15 – 15:45, room 1-236 (Mobile Applications)
  - Wednesday 10:00 – 11:30, room 1-236
  - Wednesday 11:45 – 13:15, room 1-236
- Written exam

Moodle

Enrolment Key: `HahmDisSys`

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Please note!

- Select your exercise group via campUAS
- Limited room capacity

Further Information

Course page

All material regarding this course can be found at
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This includes

- Announcements
- Slides
- Exercises

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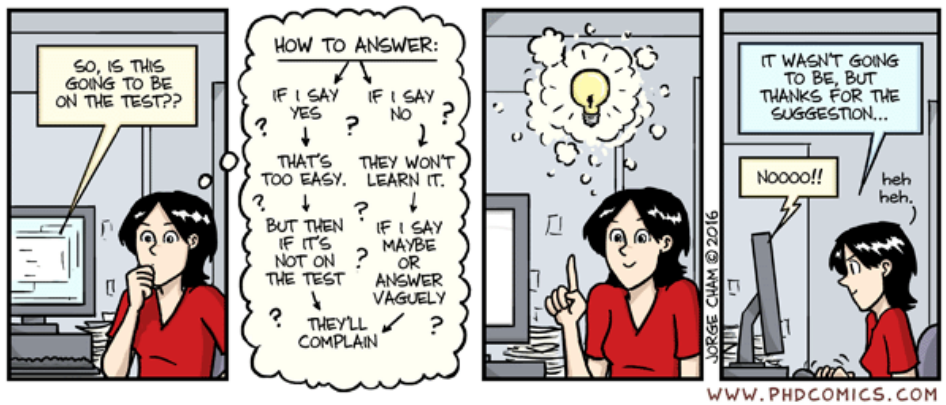
Do not ask!

Everything is relevant for the exam.



"Piled Higher and Deeper" by Jorge Cham

Slides

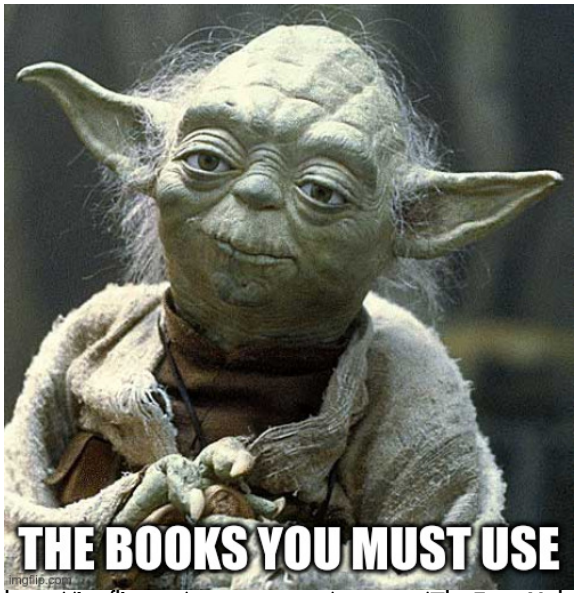
- The creation of the slide sets is work in progress
- They cover all topics of the lecture
- **BUT** they are no book and, hence, do not comprise
  - all details
  - all derivations
  - all thoughts and discussions which are part of the lecture and exercises

⇒ participate

⇒ ask questions

⇒ take notes

⇒ do your own research (e.g., use the books)



https://imgflip.com/memegenerator/47973781/The-Force-Yoda

Exercises

It is mandatory to (successfully) participate in the exercises to be allowed to take the exam.

- Submit a solution for $n - 1$ exercise sheets
- Individual submissions
- Submission for all participants at fixed date
- At least 50% of the points are required to pass
- Code quality matters!

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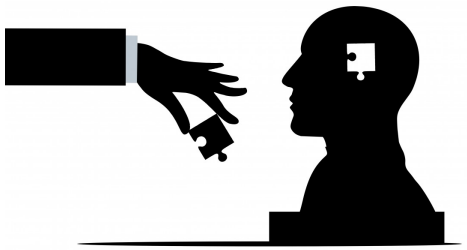
- Why?



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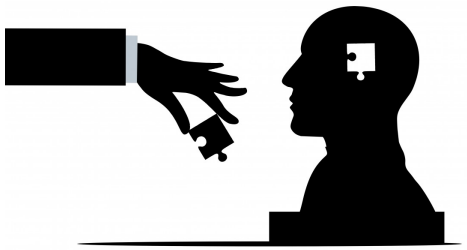
- Why?
  - Recap your understanding



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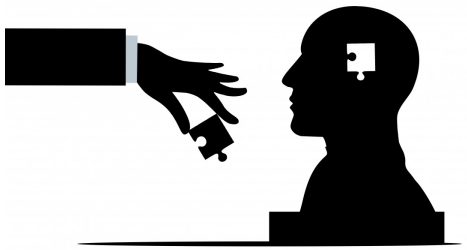
  - Understand the practical implications of the topics



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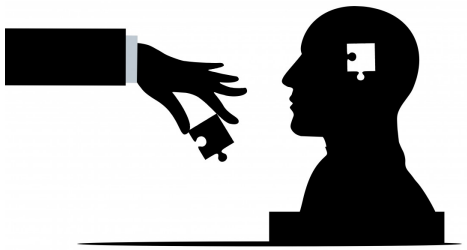
- Why?
  - Recap your understanding
  - Understand the practical implications of the topics
  - Hands-on experience is irreplaceable



Examination

"Piled Higher and Deeper" by Jorge Cham

Written exam

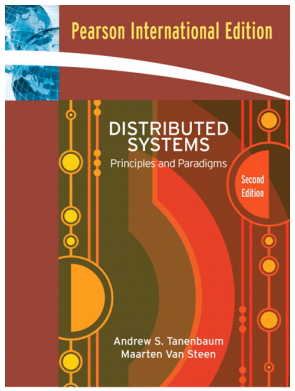
- 90 minutes
- 50% of the points are necessary to pass the exam

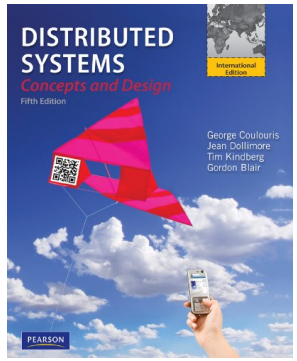
In order to pass the exam, you should be able to . . .

- explain main concepts and ideas with your own words,
- select a suitable solution for a given problem,
- analyze a given solution and detect (potential) problems, and
- explain your answers.

Literature

- Andrew Tanenbaum, Maarten Van Steen: *"Distributed Systems – Principles and Paradigms"*, 2nd Ed., Pearson, 2007.
- George Coulouris et al.: *"Distributed Systems – Concepts and Design"*, 5th Ed., Pearson, 2012.





Summary

- At the end of each chapter the last slide summarizes the most important take-away messages
- Now is a good moment to recapitulate whether there are any open questions
- When preparing for the exam these summaries can help you