



Introduction and Organization

Software Engineering II -
Agile Software Development in Large Teams
WS 2020/21

Enterprise Platform and Integration Concepts Group

Introduction: Hello!



- **Welcome** to Software Engineering II! **Thanks for joining!**
- We focus on Agile software development in Scrum teams
- All details/slides on website (we'll update as fast as possible):

<https://hpi.de/plattner/teaching/winter-term-2020-21/softwaretechnik-ii-agile-software-development-in-large-teams.html>



Introduction: Participants



Responsible

- Dr. Michael Perscheid (michael.perscheid@hpi.de)



Teaching Team (swt2_20_orga@lists.myhpi.de)

- Christoph Matthies (christoph.matthies@hpi.de)
- Ralf Teusner (ralf.teusner@hpi.de)
- Tutors: Wanda Baltzer, Luc Prestin, Gritta Weisheit



Students

- **You!** Without your participation this course won't work!

Introduction: EPIC Chair




HOME PEOPLE TEACHING RESEARCH PROJECTS PUBLICATIONS

HOME

Enterprise Platform and Integration Concepts

Research Group of Prof. Dr. h.c. Hasso Plattner



CHAIR OF PROF. HASSO PLATTNER

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NEWS

28.07.2020 | "An Experimental Evaluation of Index Selection Algorithms" published in PVLDB
Our recent paper compares and evaluates eight index selection algorithms along different dimensions, such as solution ... [> Zum Artikel](#)

04.05.2020 | "Quantifying TPC-H Choke Points and Their Optimizations" published in PVLDB
In our latest paper, we quantify the importance of eleven query plan optimizations for the TPC-H benchmark. Knowing ... [> Zum Artikel](#)

01.05.2020 | Change of Chair Representation
With beginning of May, Dr. Michael Perscheid is becoming the new Chair Representative at the chair of Prof. Dr. Hasso ... [> Zum Artikel](#)

Introduction: EPIC Chair



Introduction: You



- 3rd semester? 5th semester? 1st semester?! Not HPI?
- What are your **previous experiences**...
 - concerning software development team work?
 - concerning web development?
- What are your **expectations for this course**?
 - What do you hope to learn?
 - What do you hope to experience?
 - What is your personal goal?



https://docs.google.com/document/d/1aT_sP-rr-tZV5BGI8cwrallE8aL0zaXRjleVbl3pins/edit?usp=sharing

What is SWT II?

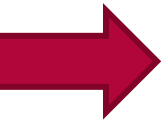


- This is a **project course!**
- The focus is on practical work in teams
- You will learn through experimentation and trying out collaboration techniques
- Team meetings are vital, you **need to make time** for them

Learning Objectives

After this course, all students should have

1. **Experience with Scrum** and all of its artefacts and meetings
2. Learned how to scale Scrum over **multiple collaborating teams**
3. The ability to use **Agile development practices**, such as BDD and TDD, where appropriate
4. Confidence in using the full feature set of a **source code management (SCM) system**
5. Experienced the value of rapid release cycles and **continuous integration (CI)**
6. Learned to critically **self-assess** their role in a team

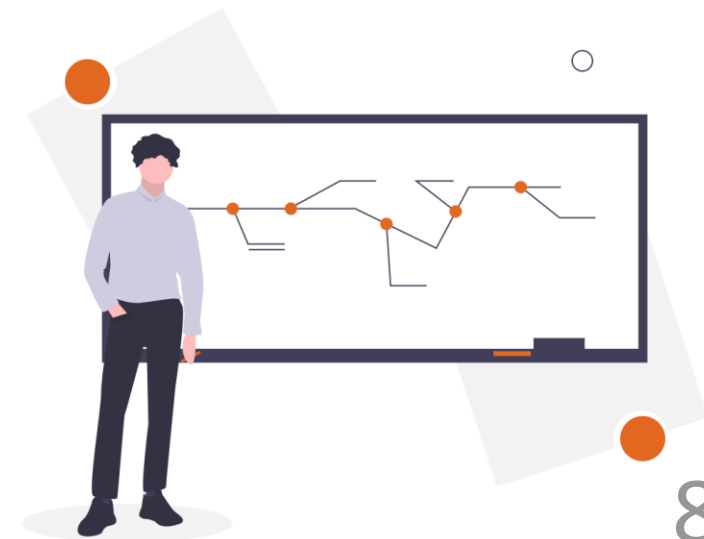


What is SWT II?



Lecture

- Scrum and Agile practices in large teams
- Guest lectures
- Agile methods beyond Scrum
- Requirements engineering
- Behavior Driven Development/Test Driven Development
- Development tools
- Continuous Integration
- DevOps
- **Topics you really want?**



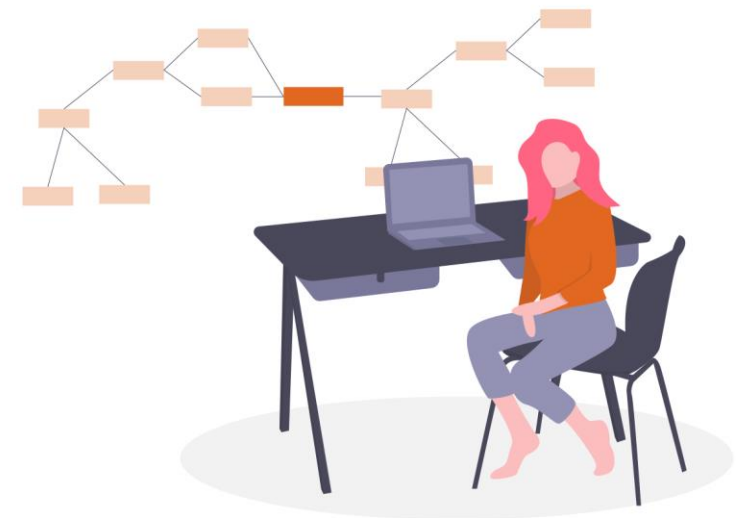
What is SWT II?



Software project

- One single project for **all participants, entire course**
- Most major project roles facilitated by you!
- **You influence and organize the project!**
- Realistic (coordination) challenges and problems
- Open source on GitHub (MIT license), your contributions are public
- Application deployed and hosted publicly

Have you contributed to open-source projects before?



What is SWT II?



The screenshot shows the HPI Connect Jobportal interface. At the top, there is a navigation bar with the HPI logo and the text 'Hasso-Plattner-Institut'. To the right of the logo are social media icons for Facebook, Twitter, RSS, and YouTube, and language options 'DE | EN'. Below the navigation bar is a main banner area with a background image of graduates. On the right side of the banner is the HPI logo and the text 'Hasso Plattner Institut' and 'Digital Engineering · Universität Potsdam'. Below the banner is a horizontal menu with four items: 'HPI CONNECT', 'JOBANGEBOTE', 'UNTERNEHMENSPROFILE', and 'ALUMNI -UND STUDIERENDENPROFILE'. Below the menu is a section titled 'Archiv' containing two job listings. Each listing includes a job title, a company logo (Airfarm GmbH), and the publication date (30.10.2020). To the right of the job listings is a sidebar with search and filter options. The sidebar includes a 'Sortieren nach:' section with radio buttons for 'Datum' (selected) and 'Arbeitgeber'. Below that is a 'Suche nach:' section with a search input field. At the bottom of the sidebar is a 'Filtern nach:' section with a dropdown menu labeled 'Jobs für' and the text 'Arbeitgeber' below it.

HPI Hasso-Plattner-Institut

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HPI Hasso Plattner Institut
Digital Engineering · Universität Potsdam

HPI CONNECT | JOBANGEBOTE | UNTERNEHMENSPROFILE | ALUMNI -UND STUDIERENDENPROFILE

Archiv

Quality Assurance Engineer (w/m/d)
Absolventenstelle
Airfarm GmbH
veröffentlicht am 30.10.2020

Fullstack Developer (w/m/d)
Absolventenstelle
Airfarm GmbH
veröffentlicht am 30.10.2020

Sortieren nach:
Datum Arbeitgeber

Suche nach:
Suchbegriff

Filtern nach:
Jobs für
Arbeitgeber

HPI Connect Jobportal

What is SWT II?



Time management

- Checking up on yourself part of the experience
- One fifth of the week
- Overtime discouraged



Organization



Prerequisites

- Undergraduate program
- Softwaretechnik I
- **Interest in learning and working in project teams**

Course

- 4 SWS (≈8h work per week **including lectures**)
 - Some lecture slots will be used for more group work time
 - 6 ECTS credit points (graded)

Grading

The final grading is determined by

- > 30%: *oral exam (date tbd)*
- > 45%: *usage of methods* and practices presented in the lecture: involvement in the development process, teamwork participation, Scrum meetings, BDD, TDD, SCM
- > 25%: *software development results* (team mark)

Completion of the introductory exercise is mandatory for passing the course.

- Product Owners are exempt from the exercise (will work with the customer)

COVID-related Course Adaptations

Due to COVID19, the following course adaptations have been made for the winter term 20/21. These are subject to change as the situation evolves.

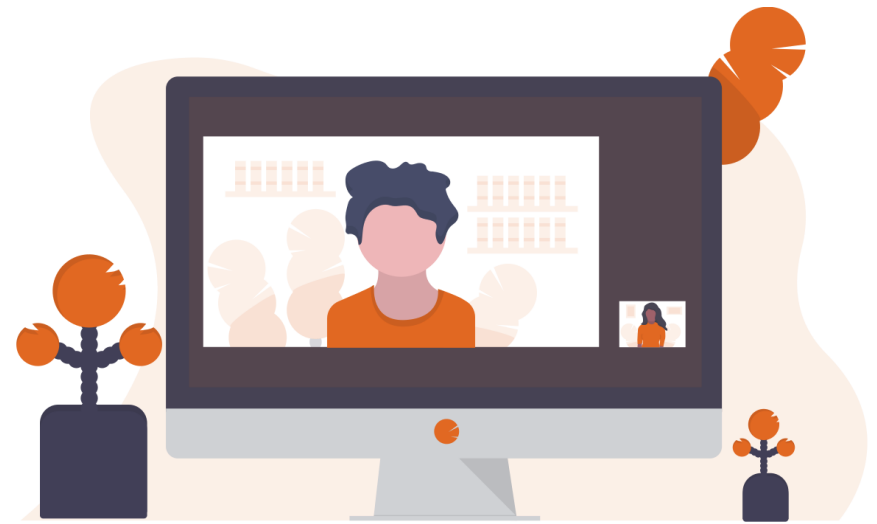
- > Lectures will *not* be held in the lecture hall. They will be live streamed during regular lecture slots, enabling direct interaction and interactivity with the presenter. We rely on course participants engaging actively.
- > We will be using a Discord instance as a central collaboration and communication platform.
- > Participation is capped at a maximum of 30 participants.
- > Team size is capped at a maximum of 8.
- > Large meeting spaces (at Campus III) will be provided, which allow team meetings with adequate distances. Attendance sheets will be used.
- > It will be possible to attend team meetings virtually as well.

Organization

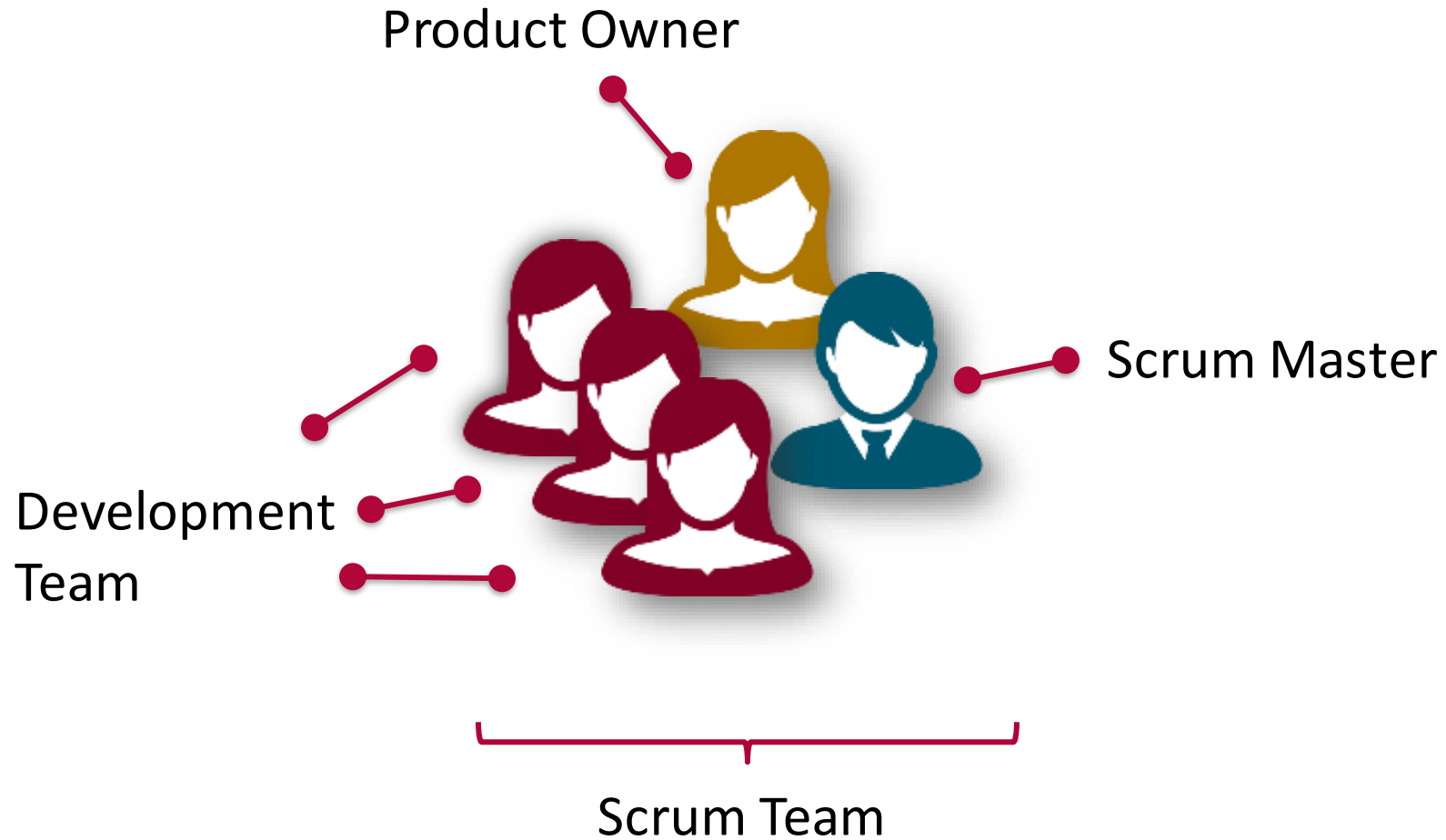


Virtual lecture format

- Live, so that we can interact
- Please let us know what works (and what doesn't)
- We're learning too!
- *Anything that you really liked in other lectures?*



SWT II Setup



SWT II Setup



Participants form teams of **absolute max 8** participants

Recommended: 5-6 team members

Each team consists of

- 1 Product Owner (PO)
- 1 Scrum Master (SM), who is also ½ developer
- Development Team members



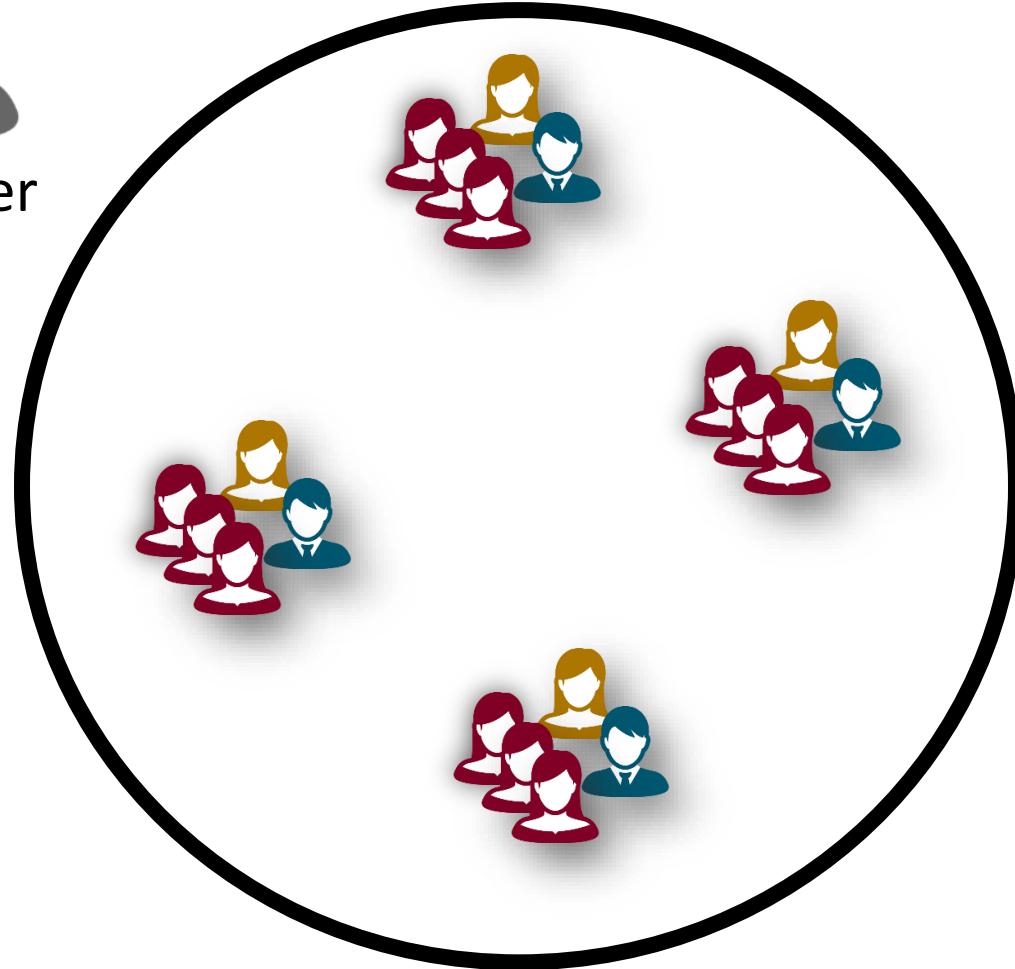
SWT II Setup



Stakeholders



Customer



PO Coach

Teaching Team Roles

■ Customer

- Represents the clients & stakeholders of the developed software
- Has ideas and requirements for the software to be built

■ Product Owner Coach

- Main contact point for team POs
- Helps in dealing with customer requirements & process

■ Tutors as Scrum consultants

- Present during all major meetings
- Open for questions, advice, help & (crazy) ideas
- **Coordinate with them!**

Collaborative software development

- **Web development**
- Programming framework: *Ruby on Rails (who has used that?)*
- Minimal core will be provided
- Results will be open source on GitHub (*well-known at this point?!)*

Engineering focus

- Understanding of web (MVC) stack and components (*404 is error, ok is ...?)*
- Avoiding “patchwork” (UI, Workflows, Data)
- Maintainability of the code base (tests, quality, etc.)
- Functionality (*not on top of the list for a reason*)

Remote teams are now having "coffee raffles"

- Less physical interactions means fewer chance encounters at the coffee machine
- Less talking about stuff that isn't work-related, less Mensa
- More chance to lose contact
- **An application to bring some of that back**

And make it even better?!

- Social contacts are really important! Can an application help me remember things?
- What is the ideal remote "social recharge"?
- What is the digital equivalent of a "watering hole"?

Project



Sounds interesting?

- Maybe you'd like to try out the role of Product Owner?!
- Connect with the customer and find out more!
- Do your own research!

Change and Adaptation

- Requirements Engineering is part of this course
- Discussion and meetings with the customer
- Requirements might change



Next Steps



- Mail your team choice to swt2_20_orga@lists.myhpi.de
 - Until **Sunday, November 15**
 - Who will be PO and SM?
 - Three suggestions for weekly meeting slot
- POs: mail us suggestions for **first customer meeting**
 - As soon as possible (please, gives you more time)
 - As close to November 16 as possible



Next Steps



Discord

- **Sign-up!** (link on the website)
- Team discussions
- Make a channel for your team
- **Coordinate meeting times**
- Strongly recommended as a single point of communication

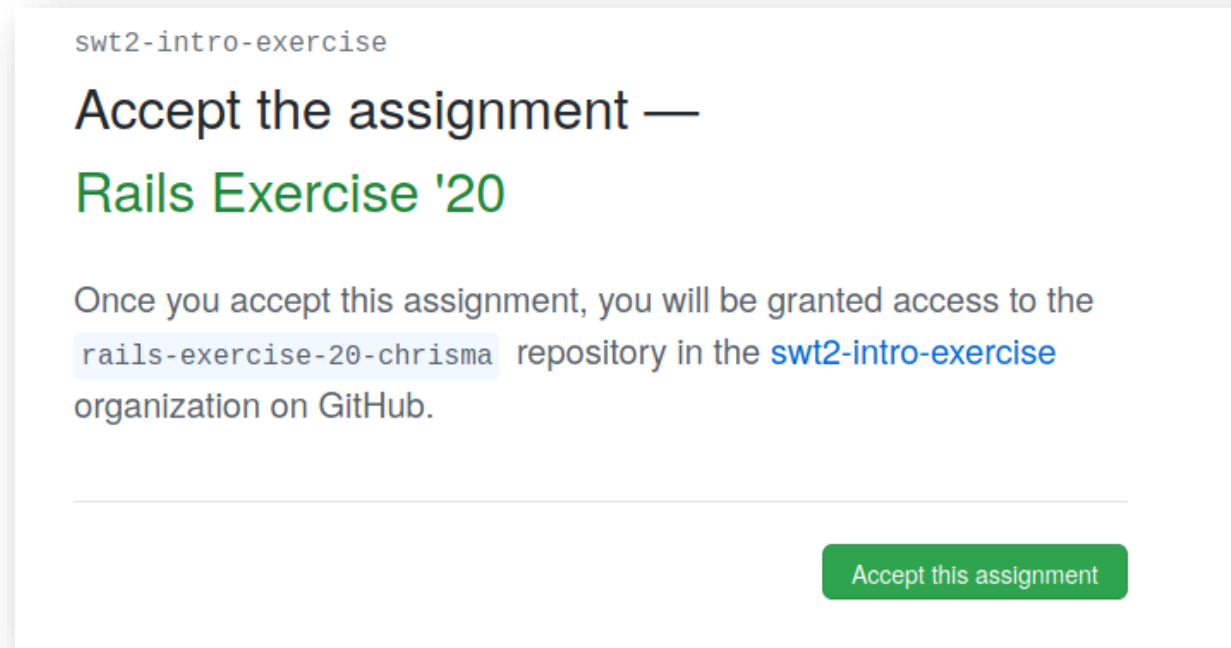


Next Steps



To get started in Rails...

- Tutorial exercise based on GitHub issues
- **Need a GitHub account**

A screenshot of a GitHub notification for an assignment. The notification is titled 'swt2-intro-exercise' and 'Accept the assignment — Rails Exercise '20'. It explains that accepting the assignment grants access to the 'rails-exercise-20-chrisma' repository in the 'swt2-intro-exercise' organization on GitHub. A green button labeled 'Accept this assignment' is visible at the bottom right of the notification.

swt2-intro-exercise

Accept the assignment — Rails Exercise '20

Once you accept this assignment, you will be granted access to the `rails-exercise-20-chrisma` repository in the `swt2-intro-exercise` organization on GitHub.

Accept this assignment

Next Steps



Rough Schedule

- **27.11. Project Kick-Off**
- Sprint 1 (2 weeks)
- Sprint 2 (2 weeks, academic X-Mas break)
- Sprint 3 (2 weeks)

- **January: Intermediate Presentation**
- Last weeks: Kanban Iteration
- **End of semester in February: Final Presentation**

No schedule survives contact with reality

- **Real teamwork brings real challenges**
 - Actually writing a software is vital
 - External constraints may change
- Schedule can adapt
 - Also according to your suggestions



General literature

- Verner, June M. et al. "In the 25 years since The Mythical Man-Month what have we learned about project management?." *Information and Software Technology* (1999)
- Meyer, Bertrand. *Agile!: The Good, the Hype and the Ugly*. Springer Science & Business Media, 2014.
- Kniberg, Henrik. *Scrum and XP from the Trenches*. Lulu.com, 2015.
- Sutherland, Jeff, and Ken Schwaber. *The Scrum Guide - The Definitive Guide to Scrum: The Rules of the Game*. *Scrum.org* (2013).

If you can't find these items in the library or online, please send us an email.
We might be able to help.

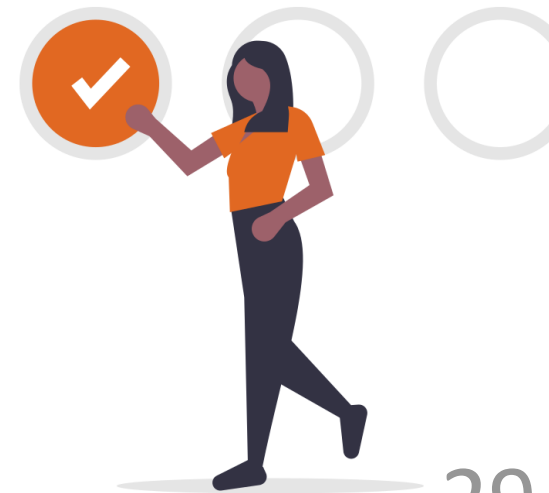
Next Steps



Lectures

- Friday, 09:15 – 10:45
- Friday, 11:00 – 12:30

Check the website for major changes



Next Steps



What to do next

- Sign up for communication channels
- **Form teams** (*how many are planning to take part in the course?*)
 - Discord
 - Email/message us if you'd like to be assigned
 - Discuss who takes on roles of Product Owner, Scrum Master and developers
- **Find time slots** that work for all team members
 - If none can be found, rearrange teams
 - Time for collaborative work is crucial!
- **Send team composition & meeting time slot proposals** to teaching team
- Start Ruby on Rails Intro exercise

Next Steps



- *Want to talk about team composition amongst yourselves?*
- *What is the best song that deals with computers?*