Agile development of a theory solver for SMT solving

Rebecca Haehn, Gereon Kremer March 29, 2019

Goals of this Practical Course

- Understanding of SMT solving
- Understanding of the theory `QF_UF`

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- Understanding of SMT solving
- Understanding of the theory `QF_UF`
- Implementation of decision procedures in SMT-RAT
- Implementation in clean and modern C++
- Debugging, evaluation and documentation of theory modules
- Presentation of results

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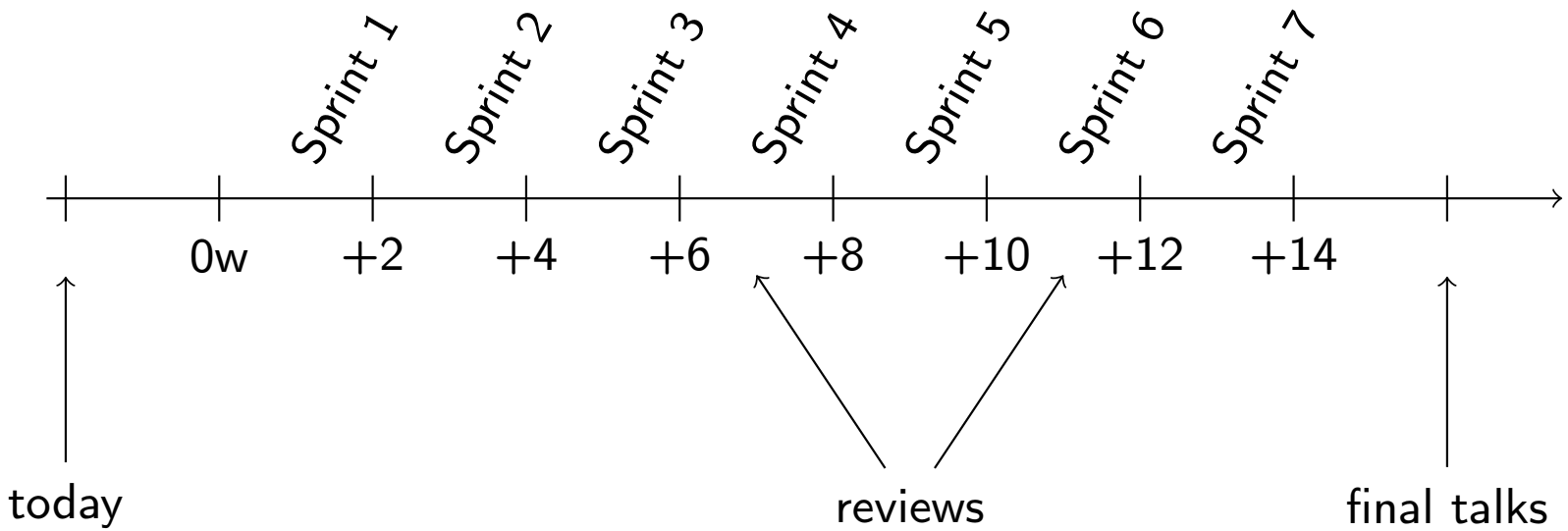
Approximate Schedule



Setup

You will form multiple teams $X \in \{a, b, ...\}$, each team will get

- a group chat in *Slack*
- a fork of SMT-RAT at `git.rwth-aachen.de`

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Are CArL and SMT-RAT working for everyone? (Sprint 0)

Grades

- Stability & correctness of your solver
- Development process of the team
- Code quality
- Impact of every team member
- Bonus of 0.3 for the best solver (correctness & performance)

Building Groups

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Send us the names of your group members in Slack.

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Meetings

Mandatory! To discuss results and present new tasks.

Sprint 0	April 10th	Sprint 4	June 5th
Sprint 1	April 24th	Sprint 5	June 19th
Sprint 2	May 8th	Sprint 6	July 3rd
Sprint 3	May 22nd	Sprint 7	July 17th

at 12:30 in this seminar room.

Also: April 4th (13:30) and every other Wednesday (12:30)

May be subject to change.

URLs

- Homepage: `https://ths.rwth-aachen.de/teaching/ss19/swp-smt/`
- Supervisors: Slack (or `smt-admin@i2.informatik.rwth-aachen.de`)
- CArL: `https://github.com/smtrat/carl`
- Documentation for CArL: `https://smtrat.github.io/carl/`
- SMT-RAT: `https://github.com/smtrat/smtrat`
- Your git: `https://git.rwth-aachen.de/ths-swp/smt-X`

That's it...

Questions?