RSE Trainings at DLR 2.0 - What we've learned from 1.0

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Software Development Background

Numbers
• More than 8000 employees
• ~20% of DLR employees involved in software development

Characteristics
• Variety of
  • Fields
  • Maturity
  • Software technologies
  • Team sizes
• “Developers” often do not have any training in software development

How to teach them software engineering?
Trainings 1.0
The Concept

Training to learn everything you need to run a software project successfully.

- Intensive two-day course
- Small groups with up to 15 participants
- Two trainers
- Trainings are offered on a yearly basis at different DLR locations across Germany
- At least three trainings a year

- Hands-on experience on the basis of a complete example project
Trainings 1.0
Content

Development processes
- Motivation
- History
- Modern processes

Configuration management
- Issue tracker
- Version control
- Continuous integration systems
- IDE

Project management
- Requirements engineering
- Iteration planning
- Automatisation
- Release management

Misc
- Testing
- Code quality
- ...

Adaption to project necessary
Trainings 1.0

Feedback

- Good training
- Great mix of theory and praxis
- Too much content
- Overwhelming
- More than I need right now
- Too much basics
Trainings 1.0
Lessons learned

- No “one size fits all”
  - Focus on role / maturity level of software

- Mix theory and practice
  - Consistent example project
  - Provide documentation

- Reusability of tooling

- (Even) Less text on slides, instead provide central information

- Pool of interchangeable trainers
Trainings 2.0
The Concept

Training to learn everything you need to run a sustainable software project successfully.

• Two courses
  • Base
  • Extension

• Small groups with up to 20 participants
• Two trainers
• Trainings are offered on a yearly basis at different DLR locations across Germany
• At least three trainings a year

• Aligned with DLR SE guidelines

• Re-use existing training materials (internal + external)
Trainings 2.0
The Base Course

Training to learn everything you need to run a small sustainable software project successfully on your own.

- Maturity level 1
- One day
- Every developing scientists should attend
- Based on carpentries + own material of short trainings

Content
1. Introduction in DLR SE guidelines and sustainability
2. Git/GitLab, single user
3. Making an example script shareable/sustainable

Goal
- Become an scientific developer with basic knowledge about RSE
Trainings 2.0
The Extension Course

Training to learn everything your group needs to run a sustainable software project successfully.

- Maturity level 2+3
- 1.5 days
- Knowledge of Base course required
- Every long term member of development project(s) should attend
- Based on existing DLR training material

Content
- Extensions based on DLR SE guideline (Maturity level 2-3)
  - Advanced Testing, CI, Release Management, etc.
- Additional focus on collaboration, (technical) project leadership

Goal
- Become a local RSE
Trainings 2.0
Hopes and Dreams

• Modular toolbox
  → Adaptable to requirements / roles / …

• Qualification of multipliers (see “The Carpentries”)
• Establish mentoring program
• Decentralization

• Reach everyone in DLR

• RSE Community
Questions?

If you have any more questions, just ask us here, or via mail:

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