Process Improvement

Prof. Dr. Dirk Riehle

Friedrich-Alexander University Erlangen-Nürnberg

AMOS G01

Process Improvement

- Process improvement
  - Is a practice of reflection, learning, adjusting of a development process to improve team performance
  - Is ideally a continuously running process, in case of which process improvement may happen implicitly
  - Is typically a discrete repeated process, in which a team takes time-outs to reflect and learn
- A retrospective is
  - A time-out used to reflect and learn
  - Used to be known as “postmortem”

Retrospective Principles

- Kerth's prime directive
  - "Regardless of what we discover, we must understand and truly believe that everyone did the best job he or she could, given what was known at the time, his or her skills and abilities, the resources available, and the situation at hand." [K01]
  - In short: "Assume good faith" [WP]
- Chatham House rule
  - "When a meeting, or part thereof, is held under the Chatham House Rule, participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed." [C17]
  - Applies to technical information
- The Las Vegas rule
  - "Whatever happens in a retrospective stays in the retrospective."
  - Applies to personal disclosures

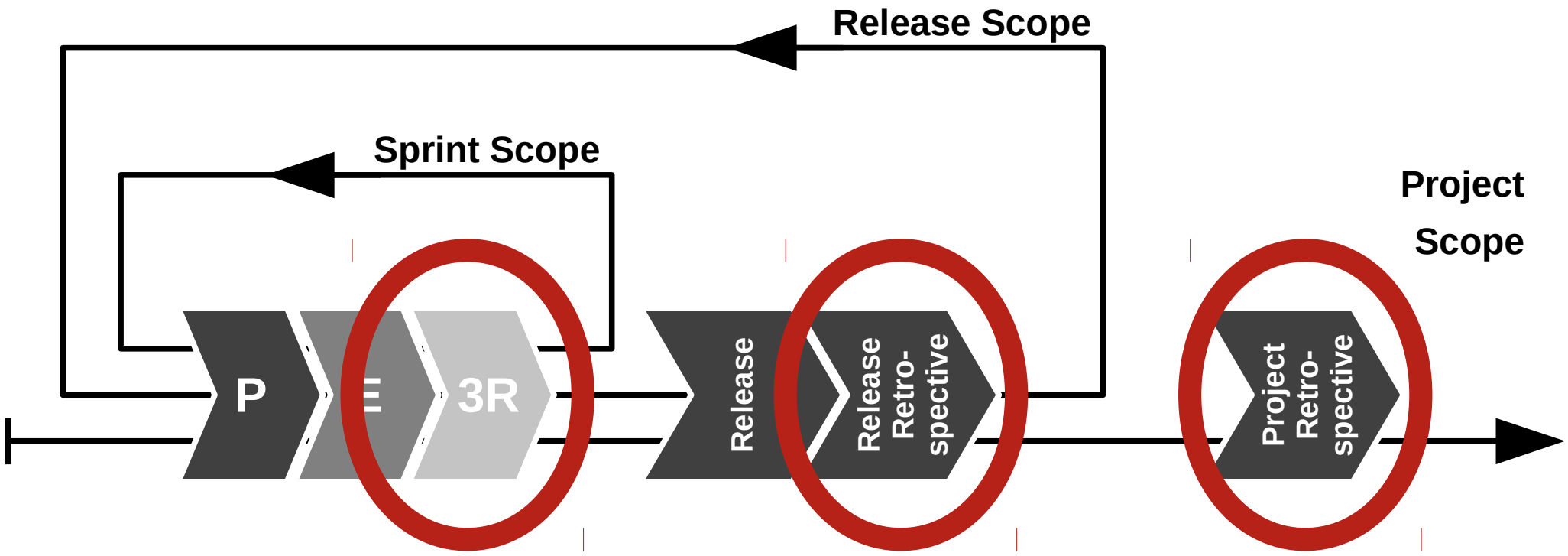
Retrospective Process

Structure [K01]	Content
The beginning	Set-up, create safety
The middle part	Review and discussion
The ending	Resolutions and closure

Types of (Agile) Retrospectives

1. Sprint retrospective
2. Release retrospective
3. Project retrospective

Scope of (Agile) Retrospectives



Roles by Retrospective Type

	Facilitator	Participant	Sponsor
Project	• External facilitator	• Committed people • Involved people	• Business owner
Release	• Scrum Master	• Committed people • Involved people	• Business owner
Sprint	• Scrum Master	• Committed people	N / A

Sprint Retrospective

- Sprint retrospective
  - Is a retrospective for a sprint-size iteration
  - Is limited to discussing the most recent sprint
  - Takes about 1-4 hours, usually much less
  - Assumes a well-working team
- Roles and responsibilities
  - Facilitator → Scrum Master
  - Participants → Committed team members

Structure of a Sprint Retrospective

5. Report on impediments resolution, if any

---

1. Perform roll call on sprint
   a. What happened when?
   b. What went well?
   c. What went wrong?
2. Find solutions to impediments
3. Commit to implementing solutions
4. Prioritize impediments

Reflecting on Sprint (Practices)

- Perform roll call on sprint
  - Responsible: Scrum Master
  - Artifact: Impediments backlog
  - Collaborators: Team
- Process of roll call on sprint
  - The three components are roll-called one after another
    - What happened when
    - What went well
    - What went wrong (impediments)
  - The Scrum Master takes note of impediments

Managing Impediments (Practices)

- Find solutions to impediments
  - Responsible: Facilitator / Scrum Master
  - Artifact: Impediments and impediments backlog
  - Collaborators: Team
- Prioritize impediments
  - Responsible: Facilitator / Scrum Master
  - Artifact: Impediments and impediments backlog
  - Collaborators: Team
- Report on impediment resolution
  - Responsible: Facilitator / Scrum Master
  - Artifact: Impediments and impediments backlog
  - Collaborators: None

Release Retrospective

- Release retrospective
  - Is a retrospective for a product release
  - Can take a day or more, depending on the release
- Roles and responsibilities
  - Facilitator → Scrum Master
  - Participants → Committed and involved team members

Structure of a Release Retrospective

1. Create safety
2. Develop and mine time-line
    a. What happened when?
    b. What went well?
    c. What went wrong?
3. Find solutions to impediments
4. Commit to implementing solutions
5. Prioritize impediments

Create Safety (Practices) 1 / 3

- Affirm ground rules
  - Responsible: Facilitator / Scrum Master
  - Artifact: None
  - Collaborators: None
- Examples of ground rules
  - Kerth’s prime directive
  - Speak to issues, not people
  - Do not interrupt person speaking

Create Safety (Practices) 2 / 3

- Check safety
  - Responsible: Facilitator / Scrum master
  - Artifact: None
  - Collaborators: Team
- Process of checking safety
  - Anonymously poll
  - If all agree, move on
  - If not all agree, discuss
- Eventually move on, safe or not

Create Safety (Practices) 3 / 3

- Address problems
  - Responsible: Facilitator / Scrum master
  - Artifact: None
  - Collaborators: Team
- Process of addressing problems
  - In third-person, suggest reasons
  - Put reasons on post-it on board
  - Jointly discuss, suggest resolutions

Develop Time-Line (Practice) 1 / 2

Develop Time-Line (Practice) 2 / 2

Mine Time-Line (Practice)

Develop and Mine Time-Line (Practices)

- Develop and mine time-line
  - Responsible: Facilitator / Scrum master
  - Artifact: Time-line
  - Collaborators: Team
- Process of developing the time-line
  - One after another, put down post-its on
    - What happened when?
    - What went well?
    - What went wrong?
- Process of mining the time-line
  - Review and correlate events
  - Understand problems and causal effects
  - Take notes on root causes

Project Retrospective

- A project retrospective
  - Is a retrospective on the whole project
  - Replaces the final product release retrospective, if any
  - May take 2-3 days (one day is usually too short)
- Roles and responsibilities
  - Facilitator → Scrum Master
  - Participants → Committed and involved team members
- In AMOS, student teams write a letter to next year's students

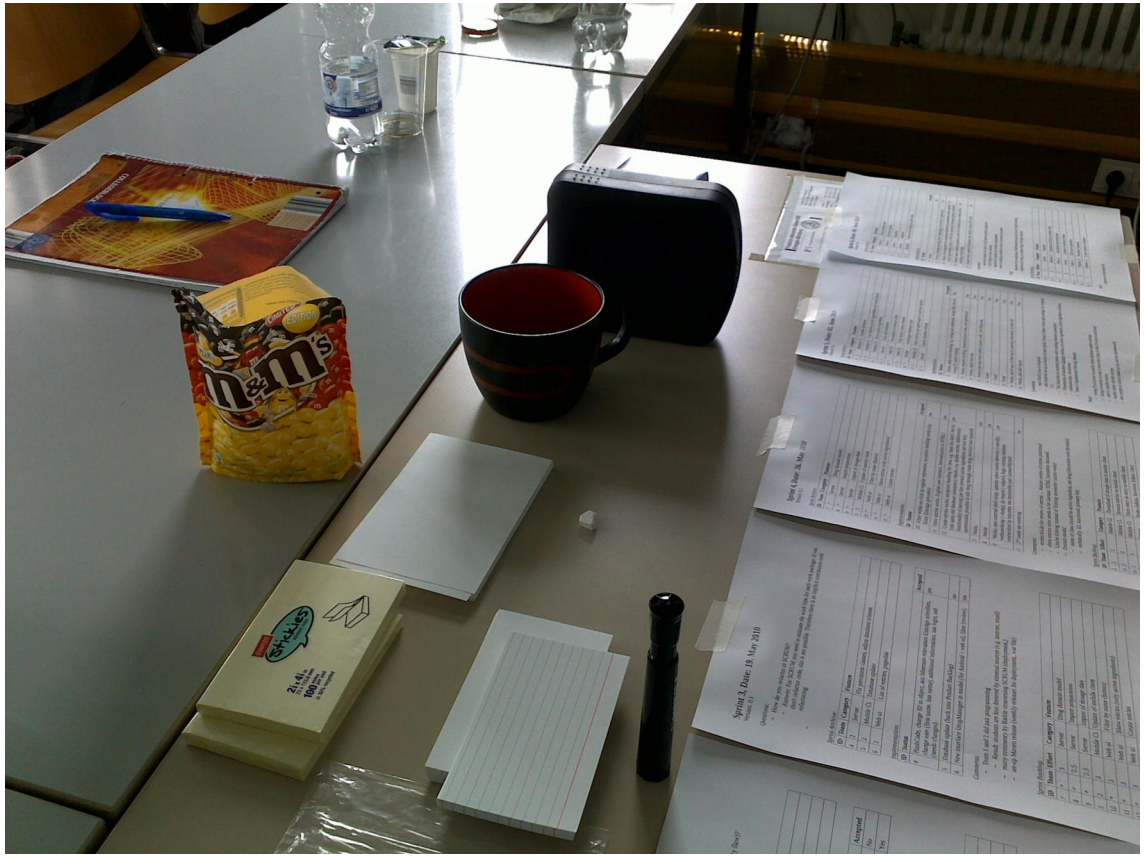
Structure of a Project Retrospective 1 / 2

- Setting the stage (beginning, “the readying”)
  - Lead participants to feel comfortable
  - Create safe and positive atmosphere
- Reflection and learning (middle part, “the past”)
  - Review and articulate project learnings
  - Recognize and repair relationships, personal damage
- Conclusions (ending, “the future”)
  - Articulate behaviors and activities needed to improve
  - Set tangible goals to realize these improvements

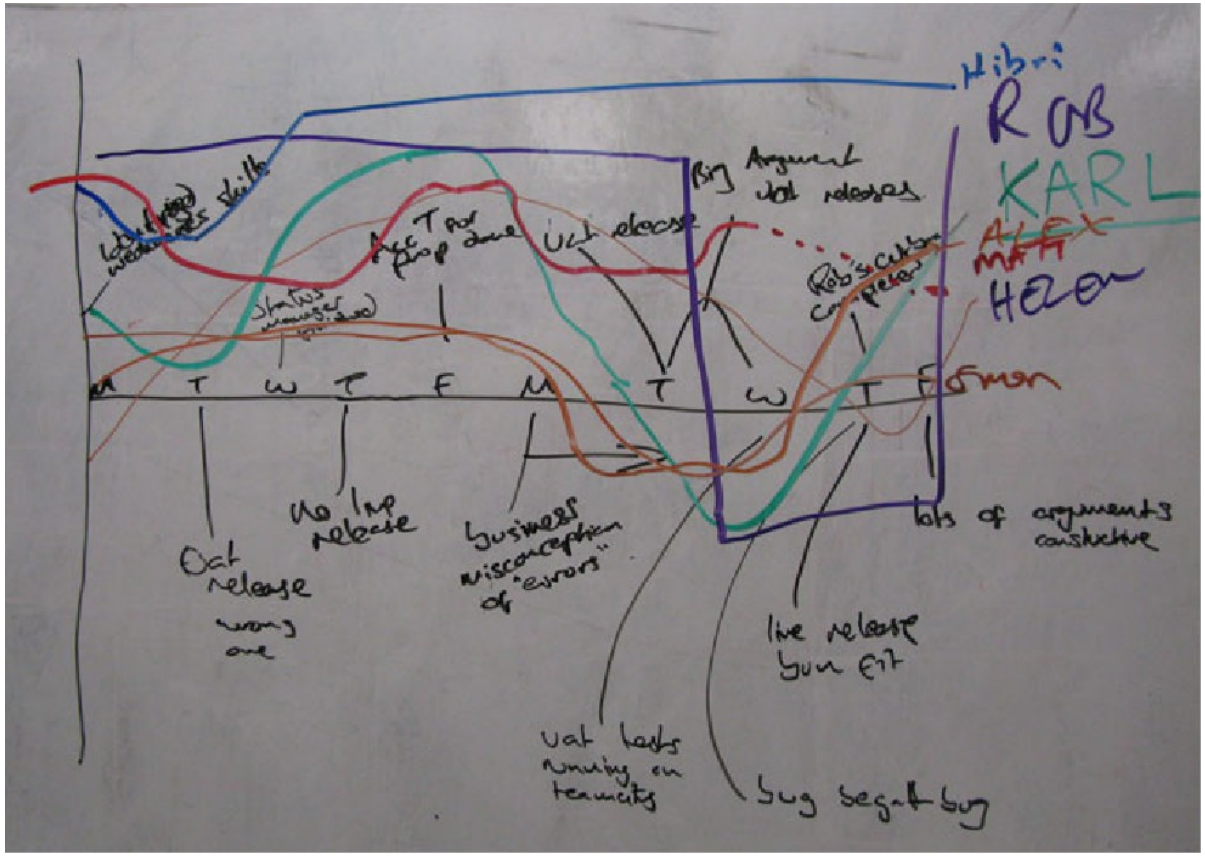
Best Practices of Project Retrospectives

Beginning: The Readying	Middle Part: The Past	Ending: The Future
• Introduction • I'm too busy • Define success • Create safety	• Artifacts contest • Develop a time-line • Offer appreciations • Passive analogy • Emotions seismogram • Sessions without managers • Repair damage through play	• Cross-affinity teams • Making the magic happen • Change the paper • Closing the retrospective

Artifacts Contest (Practice)



Emotions Seismogram (Practice)



Functional vs. Dysfunctional Organizations

- **Functional Organization**
  - Honest communication
  - Trust and cooperation
  - Appreciation, all of us
  - Encouragement to improve
  - Team achievements
  - Constructive meetings
  - Feeling of being empowered
  - Consensus-based decisions

- **Dysfunctional Organization**
  - Guarded language
  - Distrust between groups
  - Lack of respect, us vs. them
  - Pressure to produce
  - Competition and survival
  - Confrontational meetings
  - Feeling of being powerless
  - Unilateral power decisions

Quality Criteria of Retrospectives

- The entire team is engaged
- The discussion focuses on the issues
- The discussion is relevant for all participants
- The retrospective creates actionable resolutions

Review / Summary of Session

- Process improvement
  - Definition and components
  - Process context
- Agile retrospectives
  - Types of retrospectives
    - Sprint retrospective
    - Release retrospective
    - Project retrospective
  - Process and practices

Thank you! Questions?

dirk.riehle@fau.de – http://osr.cs.fau.de

dirk@riehle.org – http://dirkriehle.com – @dirkriehle

Credits and License

- Original version
  - © 2012-2019 Dirk Riehle, some rights reserved
  - Licensed under Creative Commons Attribution 4.0 International License
- Contributions
  - ...