

Project Retrospectives—An Opportunity for Team Learning

How do you ensure that you don't repeat mistakes? How do you identify and retain what worked in the past? Have you capitalized on lessons learned?

Kenneth Blanchard in his *"One Minute Manager"* encourages managers to give feedback using one-minute praising and one minute reprimands. The Toastmasters International program for developing public speaking skills is built on learning from constructive criticism. XP Programming has built-in mechanisms—daily stand-up meetings—which provide frequent feedback on task sizing and estimates.

To take advantage of learning through feedback in a software development project, **conduct a retrospective/post-mortem at the end of the project.**

Acknowledging that something has come to an end by bringing it to closure is important, as it frees energies to move on. This fact is also acknowledged in the classic model of the project lifecycle, which terminates with a closing phase. The closing phase of a software development project is the time to bring the technical documentation up-to-date and archive it. Part of the closing phase is transferring technology either to the customer or the sales force. It also involves preparing technical assets, such as the source code, for maintenance. **The closing phase is the time for the project team to conduct a lessons-learned review.**

This article discusses project retrospectives with a focus on team learning as the primary benefit.

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It assumes that your organization is ready for retrospectives. This means that your organization is not looking to assign blame when something goes wrong. An atmosphere of trust exists within the team and the organization as a whole. There is a willingness to learn, and people with the formal authority are willing to follow through with the implementation of improvement proposals.

One of the benefits and goals of a project retrospective is succinctly expressed in a quote by Bill Russell from the Boston Celtics, *"The most important measure of how good a game I'd played was how much better I'd made my team members play."* There is no better place than a retrospective to shine light on excellent support and cooperation amongst the team and to identify opportunities for "making project team members play better." Project team members can ask themselves, "How good a game did I play?", by minimizing communication breakdowns and improving coordination.

Providing feedback on a project level encourages team members to contribute and share their knowledge. Peter Senge in his book *"The Fifth Discipline Fieldbook"* quotes the following anecdote about someone being asked to provide regular feedback on meetings:

"I'll sit in a meeting and think, 'This is terrible. I ought to award it a 2 in the post-mortem. But then I'll be asked why, and I am going to have to say that I was bored. They'll ask why I was bored, and I'll have to say that we weren't talking about anything of interest. And, at that point, I find myself raising my hand and asking if I can add things to the agenda.'"

Team learning develops the skill of acting in each member's role and function with the whole in mind. Specifically, this means:

- ❖ Taking ownership in your area of expertise
- ❖ Making decisions in your area of responsibility with the whole in mind
- ❖ Taking ownership of communication with interested parties
- ❖ Providing support and being available for people that need assistance
- ❖ Preparing work for those who use your work products
- ❖ Maintaining awareness of the needs of others

A project retrospective can serve as a tool for developing and reinforcing these behaviors. In addition, the organization as a whole benefits from a project retrospective through improved product and service delivery and the resulting increased customer loyalty and satisfaction.

The following goals for a project retrospective aim at the above benefits:

- ❖ Reinforce good practices and share them with others in the organization.
- ❖ Resolve problems that prevent team members from being productive and having fun at work.
- ❖ Improve or eliminate unsuccessful practices.

Following is a short step-by-step approach for conducting a retrospective that allows you to achieve the above goals.

Hold a Kick-off Meeting

The purpose of the kick-off meeting is to prepare for the project retrospective. Invite all team members including the project sponsor, i.e., the president of the company, the VP of engineering or the department head. The project sponsor gives the “keynote address,” which provides an overview of goals and expectations. The project manager or a facilitator introduces the process for the retrospective. This is a short 30-45 minute meeting.

Prepare a Survey

The facilitator or the project manager sends out an e-mail to all project team members requesting input and feedback on what went well and what could be improved.

To: John Smith
From: Project Manager
Subject: Project Retrospective

Your input and feedback is important. Looking back at the triumphs and occasional setbacks, which activities do you think deserve the stamp “a job well done” and which areas need improvement? Please comment on all functions that contributed to the project: Marketing, Software Development, Quality Assurance, Technical Documentation, Project Management, Technical Support, Training, etc...

You may add questions for people to think about while they prepare their responses.

- ❖ Did you benefit from support and assistance from other team members?
- ❖ Did any information or activities make work easier?
- ❖ What went wrong and what was the outcome?
- ❖ Which outcome do you really want?

A response may confirm that it was well worth writing and distributing meeting minutes with a comment as follows:

“The content of the status meeting minutes was concise in addition to being a good medium for keeping all areas informed of the project progress.”

After having received responses from all members, collate the responses into a single document organized by functional area. Take each input verbatim. All responses are anonymous. Re-distribute the collated document to all team members and ask them to prepare for a brainstorming session to discuss causes and solutions.



Brainstorming Session

There are many ways to conduct a brainstorming session. The goal is to get as much input in each area and to hear from everyone. The round-robin method achieves this goal. The facilitator solicits input and feedback from each person. Participants can pass and wait for the next round. The process terminates when there is no more input.

Following a discussion on the topics and feedback, the facilitator asks team members to vote for their top two items that need improvement. The facilitator solicits champions who will prepare a proposal for improvement to be presented to the sponsor.

Prepare Proposals and Presentation

Prepare proposals for the two areas selected for improvement. Present the proposals to the sponsor for approval.

Prepare Final Report

The project manager or facilitator prepares a final report. The final report summarizes the findings for:

1. Areas of improvement including the two selected for implementation
2. Things that worked well and how to capitalize on them
3. Unfinished business that needs completion

Especially when a project went well, it is important to tie up the one or two loose ends, such as training the technical sales staff or completing special case testing.

A project retrospective is a simple process that takes little time and has little cost associated with it (staff time only). ***So, why would you not want to capitalize on lessons learned, but rather repeat mistakes?*** Frequently, the reason for not conducting a project retrospective is the old “enemy”—schedule pressure. When a project is late and product releases are scheduled back-to-back, it takes a leap of faith to take the time for a project retrospective. **Remember: every project needs closure.**

Given the frequent changes and fierce competition in the software industry, an organization cannot pass up an opportunity to become better at what it does. Just like asking for a report card from customers, a company needs to solicit input from employees on its product development process.

The best way to get started with a retrospective is to incorporate it into the project schedule up front. A retrospective provides the opportunity to strengthen and disseminate what was done well on one project to the rest of the organization. The following quote from J. Willard Marriott, Jr. (the chairman of Marriott in 1987) expresses the spirit of project retrospectives:

“People would always say to my father, ‘Gee whiz, you have done real well. Now you can rest.’ And he would reply, ‘Oh, no. Got to keep going and do it better.’”

Further information on project retrospectives can be found in the following references.

- (1) *A Defined Process For Project Post Mortem Review*, Bonnie Collier, Tom DeMarco, and Peter Fearey, IEEE Software, July 1996
- (2) *Looking Back, Looking Ahead*, Karl Wieggers and Johanna Rothman, Software Development, February 2001
- (3) *Leading Retrospectives: Your First Best Tool in Making Process Improvement*, Norman Kerth, Software Development Conference West 1999

Evaluating Defect Tracking Tools

Using a defect-tracking tool is a must for any software development organization. The question is, ***how do you choose the one that will work for your organization?*** If the company has established an organizational standard, this is an easy question to answer. Alternatively, you may choose the tool you are familiar with, which may not be appropriate for the organization. You need to get input from different sources to help you make a selection.

Approach

When I had to evaluate defect-tracking tools, I first sent e-mail to colleagues whose judgment I respected and asked for input and experience with defect-tracking tools. In my case, all the tools used were different. Except for the person using ClearQuest, nobody would recommend the defect-tracking tool they were using. This left me with selecting tools for evaluation. I chose the following:

1. DevTrack www.techexcel.com
2. PVCS Tracker www.merant.com
3. Problem Tracker www.n2r6.com
4. TestTrack Pro www.seapine.com

Based on my brief use of ProblemTracker, which was not favorable, I eliminated this product from my evaluation.

I then sent out a survey to the entire engineering organization listing 20 features and requesting their input on what they need and like. Based on the feedback from the survey, I created a list of 10 features for evaluating the three remaining tools. In my effort to gather information, I found the following Web sites helpful for evaluating the products:

http://www.incose.org/tools/tooltax/defecttrack_tools.html
<http://qualinks.com>

Evaluation Criteria and Evaluation Results

Based on feedback from engineers, quality assurance specialists and management, I evaluated the following **features**:

1. Find defects assigned to me
2. Sort defects by priority, date of creation, severity and combinations of field values
3. Enter defects, specifying release found, severity, component, description, attach file, etc.
4. Logon to the defect tracking system from home

5. Have the ability to assign a defect to another person
6. Configure workflow
7. Link defects
8. Report trends and statistics
9. GUI for administration
10. Import and export defects from an ASCII file

Evaluation Results

Feature	DevTrack	TestTrack	PVCS Tracker
1.	Y	Y	Y
2.	Sort by one field	Sort by one field	Y
3.	Y	Y	Y
4.	Y	Y	Y
5.	Y	Y	Y
6.	Y	N	N
7.	Y	N	Y
8.	Y (graphic)	Y (tabular)	Y (custom definition of statistics and trends and their display)
9.	Y	Y	Y
10.	Y, was successful	Y, was not successful	Y, was not successful

All products provide a history for the defects. PVCS Tracker provides extensive configurability.

P2E manages projects and we provide training.
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 visit <http://www.ullamerz.com>,
 or E-mail: UllaMerz@aol.com

Contacts

DevTrack: Phone: (925) 283 8930, sales person Mark Andrew, marka@techexcel.com

TestTrack Pro: Phone: (513) 754 1655 ext. 114, sales person Pat Burma, burma@seapine.com

PCVS Tracker: Phone: (503) 617 2644, sales person Eric Duran, eric.duran@merant.com

P2E Calendar of Activities

- ✧ **Sat., May 12, 2001, 8:30 a.m. – 4:00 p.m.**—“Introduction to XP (Extreme Programming),” Speaker: Ron Jeffries, Professional Development Seminar, Boulder Chapter of the ACM, Cost: \$95. www.acm-boulder.org
- ✧ **Wed., April 11, 2001, 5:45 p.m. – 8 p.m.**—“Valuing your Company,” Speaker: Manfred Steiner, Clifton and Gunderson CPA, Boulder Software Club. www.dimensional.com/~sms/bsc/
- ✧ **Wed., April 25, 2001**—“Project Management Institute (PMI) 2001 Spring Seminar,” Denver Marriott Hotel-City Center. For more information, visit www.pmi.org/chapters/milehi/pmiindex.htm

Do you know of any events of interest to the software community?

Share it in the ProjectPress. Send an e-mail to UllaMerz@aol.com.

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**INSIDE...
 PROJECT RETROSPECTIVES,
 AN OPPORTUNITY FOR TEAM LEARNING!**

