

March 2010 - Monthly Newsletters

## 8 Best Practices for Managing Software Releases

Many software releases extend longer than expected and while sometimes project slippage is unavoidable, there are some clear cut best practice fundamentals that you can employ to reduce the chance of slippage. We conducted a webinar this month on this topic, if you wish to see the entire webinar, see it here:

:: Recorded Webinar in Flash format: <http://smartbear.com/docs/8Best.html>

:: Recorded Webinar in Windows Media format: [http://psfiles.pragmaticsw.com/demos/webinar\\_SPTC.wmv](http://psfiles.pragmaticsw.com/demos/webinar_SPTC.wmv)

### **Best Practice 1 - Identify what causes slippages**

The major contributors to slippage are:

- Poorly defined requirements resulting in poor estimates
- Too many defects discovered during the QA phase
- Lack of best practice techniques for managing all phases of the software lifecycle

### **Best Practice 2 - Create great requirements**

Great requirements has these elements:

- Succinct yet descriptive narrative
- Explicit list of business rules
- A prototype

Below is an example of a good requirement:

**Edit Requirement - Release 1.0/Sprint 1**

Actions: Choice Lists, Custom Fields, New Test Case, Fast Edit, Help

Return To Listing, Printer Friendly, Notes and Files

Item 2 of 4

Buttons: Edit, History, Notes, 1 File, Scheduled Events, Fast Edit History, 3 Tasks

Requirement #327875 - OA-0002 Add New Order

Folder Name: Release 1.0/Sprint 1 | Id: 327875

Title: OA-0002 Add New Order | Status: Approved

Owner: Miller, Steve | Assigned To: Developer, Mary

Group: Order Maintenance | Sub Group: User Interface Tier

Priority: 2-Medium

Description:
 

1. Click **CTRL+INS**
2. Click **Orders / New Order**
3. Right click in the listing and choose **New Order**

 Allow the client to add a new order to be processed by fulfillment. To begin the order process, the client has 3 options to start it:

Business Rule:
 

1. Customer Name - up to 50 characters - required field
2. Product - up to 50 characters (drop down list) - required field
3. Quantity - integer up to 5 numbers - required field
4. Price Per Unit - money up to \$100,000 - required field
5. Discount - percentage up to 50% - not required
6. Total - Quantity times price times discount - locked field

Buttons: Cancel, Submit, Delete

**Annotations:**

- Prototype is attached (points to Notes and Files)
- Description is short but powerful. (points to description list)
- Business rules are specific (shows field sizes and types and identifies required vs. optional data entry). (points to business rule list)

**Best Practice 3 - Provide Better Estimates**

To define better estimates you must:

- Start with a good requirement
- Decompose the requirements into tasks
- Build in buffers based on past experiences
- Identify tasks for testing, documentation, and other tasks that are often forgotten

**Edit Project Plan - Release 1.0 - Sprint 1**

Buttons: Add Wizard, Work Time, User Security, Choice List, Choose Fields, Export to MS Project, Fast Edit, Task Templates, Help

Action	Seq	% Complete	Task Name	Linked Item	Est Hours
	1	76.07	Release 1.0 - Sprint 1		114
	2	76.07	Requirements		114
	3	100	OA-0001 Order Listing screen		24
	8	52.63	OA-0002 Add New Order		57
	9	100	OA-0002 Create Database Objects and Stored Procs		8
	10	100	OA-0002 Create Add New Order screen	Req 327875: OA-0002 Add New O...	15
	11	100	OA-0002 Enforce all Business Rules for Add	Req 327875: OA-0002 Add New O...	7
	12	0	OA-0002 Add Audit Process	Req 327875: OA-0002 Add New O...	4
	13	0	OA-0002 Write Documentation (System and Help Documentation)	Req 327875: OA-0002 Add New O...	8
	14	0	OA-0002 System Testing	Req 327875: OA-0002 Add New O...	15
	15	100	OA-0003 Edit an Existing Order		24
	16	100	OA-0003 Create Edit screen	Req 327876: OA-0003 Edit an E...	20
	17	100	OA-0003 Enforce all Business Rules for Edit	Req 327876: OA-0003 Edit an E...	4
	18	100	OA-0004 Delete an Existing Order		8
	19	100	OA-0004 Create Delete function	Req 327877: OA-0004 Delete an...	4
	20	100	OA-0004 Write audit records	Req 327877: OA-0004 Delete an...	4
	21	0	Move to final production	Link to Item...	1

**Annotation:** Decompose the tasks. Add buffers based on past history (points to task 10)

#### Best Practice 4 - Implement solid Testing Techniques

A few simple best practices will dramatically increase quality:

- Create test cases directly from the requirement (linking them) to ensure good test coverage and traceability
- Create both positive and negative test cases
- Automate as many of the regression tests as possible -- this allows you to run them more often and without tying up testing resources

**Requirement Details**

Area	Value
Title / Description	Require Descrip
	Allow the client to add a new order to be processed by fulfillment. To begin th
	1. Click CTRL+INS 2. Click Orders / New Order 3. Right click in the listing and choose New Order
	Once the order entry screen appears, they will enter all required data and press OK and it will automatically write an audit record that shows the add activity (who added the order and the date/time it was added). See attached prototype for the screen layout.
	Business Rule:
	1. Customer Name - up to 50 characters - required field 2. Product - up to 50 characters (drop down list) - required field 3. Quantity - integer up to 5 numbers - required field 4. Price Per Unit - money up to \$100,000 - required field 5. Discount - percentage up to 50% - not required 6. Total - Quantity times price times discount - locked field 7. Date - Must be a valid date - required field 8. Street - Up to 30 characters - not required 9. City - Up to 30 characters - required only when street is entered 10. State - Up to 2 characters - required only when street is entered 11. Zip - Up to 9 numbers with a hyphen (12345-1234) - required only when street is entered 12. Card - Visa, Mastercard or American Express (Radio button) - required field 13. Card No - Up to 12 numbers - must pass MOD 10 test - required field 14. Expiration Date - Date field - must be a date in the future - required field

**Positive Test Case:**  
Ensure all 3 options are tested

**Positive Test Cases:**  
:: Ensure that all data is written up submitting  
:: Ensure screen matches prototype  
:: Ensure audit is written with correct person and date/time

**Negative Test Cases:**  
:: Validate field lengths  
:: Validate required vs. optional  
:: Validate field types (dates, etc)  
:: Validate boundaries / ranges

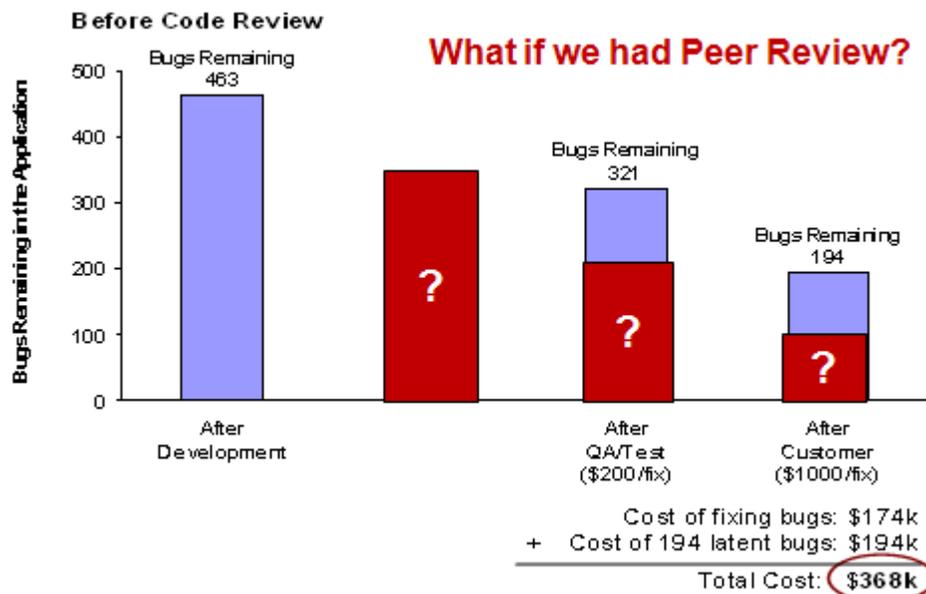
#### Best Practice 5 - Follow Testing Best Practices

View this document for a full list of best

practices: <http://www.softwareplanner.com/TestBestPractices.pdf>.

#### Best Practice 6 - Perform Peer Code Reviews

Providing peer code reviews can reduce the cost of defects exponentially. It is less costly to fix defects during coding, more expensive to fix them during the quality assurance phase, and even more expensive once the software is in production. Below is an example of cost savings of performing code reviews (this was based on an actual customer testimonial):



We use **Code Collaborator** (<http://www.CodeCollaborator.com>) to perform code reviews.

### Best Practice 7 - Implement Best Practices for Defect Management

When managing defects, teams tend to re-work defects over and over again causing project delays and unnecessary effort. To reduce re-work, use these best practices:

- Most times defects require re-work because the developer cannot reproduce the issue and it takes several iterations with the quality assurance team to document how to reproduce it. To eliminate this, use a tool like **Jing** (<http://www.jingproject.com>) to record the screen actions. By attaching the screen actions as a movie to the defect, it makes reproducing the issue quick and easy for the developer, as they can see exactly what you did to cause the issue.
- When creating defects, it is good to use your test management tool to automatically create the defect from the failed test case. A few tools allow this, Software Planner (<http://www.softwareplanner.com>) has this feature. By having it automatically created, it saves time in typing up the defect and creates a link between the failed test cases and the defect it generated.
- When fixing defects, keep a discussion thread inside the defect that shows who worked on the issue and what they did. This will save time later if the issue re-appears, allowing you to minimize rework.
- Keep track of rework analytics (how many times defects are reworked, etc). By understanding this, you can measure your team on reducing rework counts.

**Edit Defect**

Actions Choice Lists Custom Fields New Test Case Fast Edit Help

Return To Listing Printer Friendly Move Item to Another Project Notes and Files Send Client a Response Item 1 of 4

Edit History 5 Notes 2 Files Scheduled Events Fast Edit History Tasks

Defect #786741 - Error on Selecting Ad Hoc Detail Requirements Report Show linked items

Resolution Code: Fixed - Compiled Changes

Resolution: 11-Mar-10: Dmitry Popov  
If user runs a report selecting all projects (but has only one project) - this report won't be accessible anymore. I've changed the logic of "Ad Hoc Detail Requirements Report" in case of selecting "All project" by user

17-Mar-10: Barbara Eaton  
I'm not sure that's what caused the issue, but it seems to work. Tony checked, and I checked using Mark Bates' login and ran the report successfully.

Code Changes: 11-Mar-10: Dmitry Popov  
psCommonWeb.FillComboBoxProjectsAdHoc

Owner: Support, Pragmatic Re-work Reason: None

Discussion thread

Track Re-work Reason

Functionality Not Validated by Team  
Need better resolution details  
None  
Not Resolved  
Not Resolved - Not Unit Tested (Programmer)  
Not Resolved - Not Verified (External QA Team)

Dashboard Calendar Inbox Email Alerts AutomatedQA Corporation

Software Planner Home Projects: eTeam

Welcome to Software Planner. Use the tab across the top of the page to navigate to areas of the software.

Bulletins Project Mgt QA My Assignments Contacts Burndown Charts Marketing Work Hours Support Tickets PAD QA Analysis Trials

Folder: Release 9.4

Priority 1/2 Defects By Assignee (Trending over last 14 days)

Number

Date

1-Fix ASAP 2-Fix Soon 3-Fix If Time 4-Informational

Defects

Number of Defects that had to be Reactivated by Folder

Nbr. Defects

Release 9.2 Release 9.3 Release 9.3/Patch 01 Release 9.3/Patch 02 Release 9.3/Sprint 00 Release 9.3/Sprint 01 Release 9.4/Sprint 01 Release 9.4/Sprint 02 Release 9.5 Support Tickets

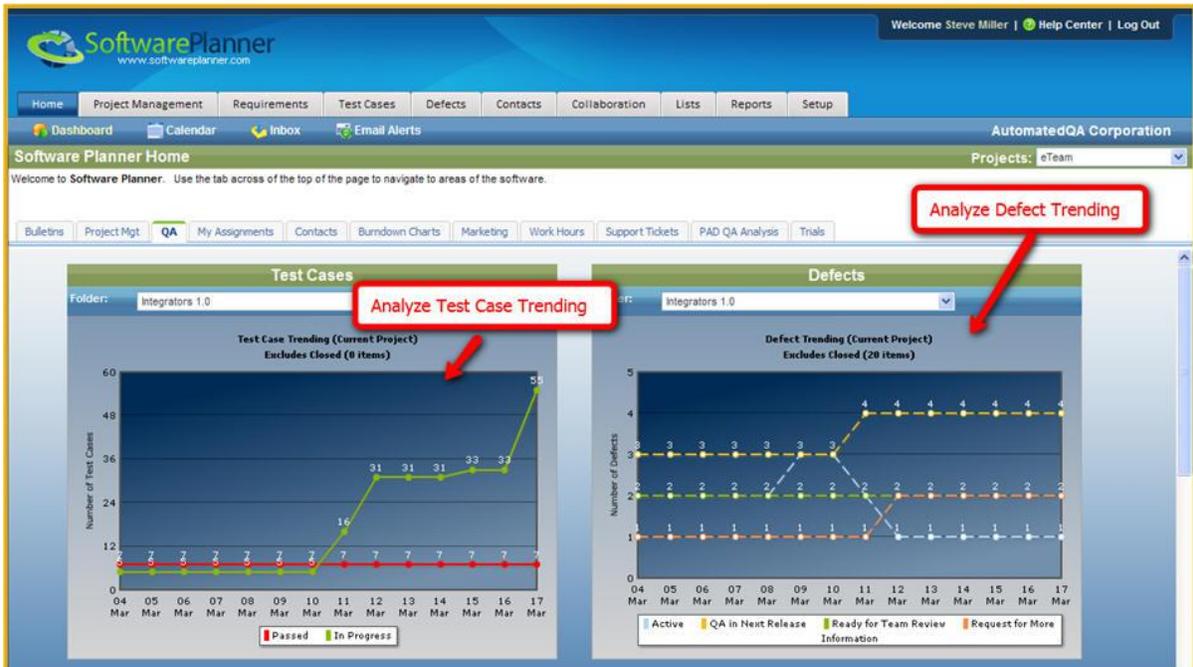
Track Re-work Metrics

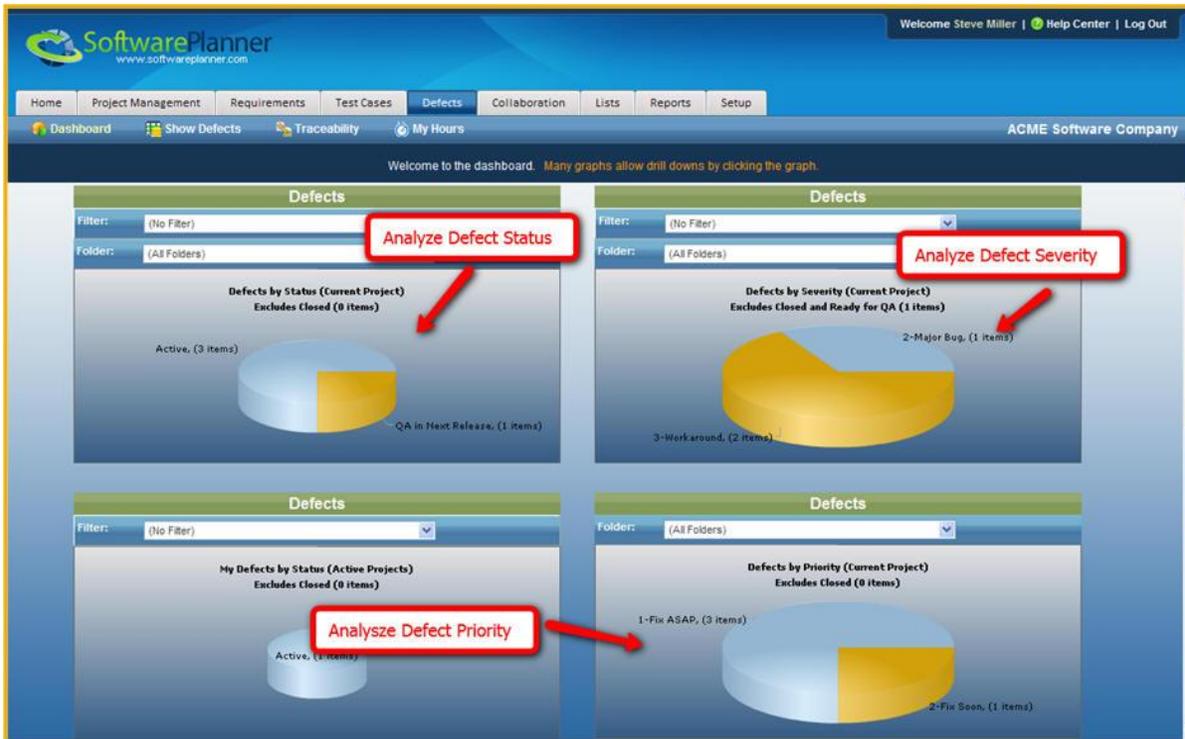
### Best Practice 8 - Analyze key metrics during your software development

When developing software for a new release, track these indicators:

- **Burn down statistics** - This shows day-by-day how quickly you are progressing to reach your target release date
- **Slipping Tasks** - This shows who is causing delays and slippage

- **Test Case Trending** - This shows how fast you are getting through your test effort and how many test cases pass and fail
- **Defect Trending** - This shows how fast you are getting defects fixed
- **Defect Statistics** - This shows how many defects you have by status, severity and priority
- **Variances** - This shows how close you came to your estimates. Use the variiances to buffer your estimates for your next project.





Crystal Reports Preview window showing a report titled 'Variance by Project, Project Plan, Assignee'.

Page: 129, Wednesday, March 17, 2010

Sorted by Assignee, Estimated Start, Estimated Finish, Project Plan

Project: eTeam	Project Plan: Release 9.3	Assignee: Gladchenko, Andrew	Start	Finish	Hrs	Int Costs	Ext Costs	Profit	% Done	Project / Project Plan / Task
Estimated:	08-Jun-2009	08-Jun-2009	6.00		\$174	\$810	\$636	100%	38683 - TDS-0002.001 Create Escalation Rule Entitle	
Actual:	08-Jun-2009	09-Jun-2009	6.00		\$174	\$810	\$636			
Variance:			0.00		\$0	\$0	\$0			
Estimated:	08-Jun-2009	09-Jun-2009	2.00		\$58	\$270	\$212	100%	38684 - TDS-0002.002 Add escalation relative fields 1 base Entities	
Actual:	09-Jun-2009	09-Jun-2009	1.50		\$44	\$203	\$159			
Variance:			0.50		\$15	\$68	\$53			
Estimated:	09-Jun-2009	11-Jun-2009	18.00		\$522	\$2430	\$1908	100%	38685 - TDS-0002.003 Create Escalation Rule Listing screens	
Actual:	09-Jun-2009	01-Jul-2009	64.50		\$1871	\$8708	\$6837			
Variance:			-46.50		\$-1349	\$-6278	\$-4929			
Estimated:	11-Jun-2009	15-Jun-2009	16.00		\$464	\$2160	\$1696	100%	38686 - TDS-0002.004 Create Escalation Rule Job	
Actual:	02-Jul-2009	07-Jul-2009	27.00		\$783	\$3645	\$2862			
Variance:			-11.00		\$-319	\$-1485	\$-1166			
Estimated:	16-Jun-2009	16-Jun-2009	4.00		\$116	\$540	\$424	100%	38794 - psWS Compiled Code and Install Program	
Actual:	18-Jun-2009	18-Jun-2009	2.00		\$58	\$270	\$212			
Variance:			2.00		\$58	\$270	\$212			
Estimated:	16-Jun-2009	18-Jun-2009	20.00		\$580	\$2700	\$2120	100%	38681 - PSC-0149.001 Coding	
Actual:	01-Sep-2009	01-Sep-2009	0.00		\$0	\$0	\$0			
Variance:			0.00		\$0	\$0	\$0			

A red callout 'Analyze variances by Release and Developer' points to the 'Release 9.3' folder in the left-hand navigation pane.

### Summary

By employing best practices, you can reduce software project slippage. If you wish to learn more about this and other topics, see our past webinars at <http://www.softwareplanner.com/webinars>.

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## Helpful Software Testing Tools and Templates

Below are some helpful software testing resources and templates to aid you in developing software solutions:

- [Software Planner](#)
- [AutomatedQA TestComplete \(Automated Testing Tool\)](#)
- [Code Collaborator \(Peer Code Review Tool\)](#)
- [STAR QA \(Automated Testing Resources\)](#)
- [Software Development and QA Templates](#)
- [Test Case Training](#)
- [Pragmatic Agile Development](#)
- [Other Webinars](#)

## About the Author

Steve Miller is the Vice President of ALM Solutions for [AutomatedQA](#). With over 25 years of experience, Steve has extensive knowledge in project management, software architecture and test design. Steve publishes a monthly newsletter for companies that design and develop software. Be sure to check out our other [newsletters](#).

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