

Bug Management Assignment (100 Points)

CSE 464

CIDSE, Arizona State University

Bug Management/Tracking Assignment

1. Overview

The purpose of this assignment is to give you experience reviewing bugs written by other people. This task will give you practice thinking about what a professional report should be, before you start writing your own bug reports. This assignment is a multi-phased assignment with three phases. Main reason for this to be a multi-phased assignment is to give you a best possible exposure in bug management and understanding of the bug workflow.

Background to the Assignment (adopted from Dr. Cem Kaner's Assignment on Replicate and Edit Bugs Assignment of Bug Advocacy Course)

We want you to develop experience in evaluating and editing bug reports for a few reasons:

1. We have been repeatedly shocked by the low communication quality of bug reports at good companies. That makes it important for us to work on your technical and persuasive writing skills as they apply to bug reporting.

- a. Our approach is to help you learn to be critical, analytical readers of other people's bug reports. As you see the common mistakes in these reports, identify them and explain what makes them problematic, you will develop better skills for evaluating your own reports.

2. It is common for companies to require testers to review bug reports before sending the reports to the programmers.

- a. This is especially common on open-source projects, because the people who write the original bug report are often inexperienced observers and writers. Sending first-draft bug reports to volunteer programmers, often wastes their time and will drive away volunteers.

- b. Some traditional organizations have testers review bug reports before they go onto the queue for programmers, specially design requests, bugs from new testers, and bugs from non-testers. Some independent test labs claim to review every bug report before passing it to their clients.

- c. As you'll see, this process has benefits and costs. It takes a lot of time. If you are going into testing, or development management, having personal experience with the costs and the benefits will help you assess your bug reporting process.

3. As a manager, you will often be asked to evaluate your staff. This is difficult and engineering managers tend not to be very good at providing detailed qualitative feedback to their staff.

a. Detail-oriented reading that starts from a carefully considered list of questions about the quality of a given task can give you a solid, fact-based foundation for staff training and decisions about raises, layoffs, and promotions.

b. The evaluation framework that we use in this assignment is derived from materials used by test managers to review their staff's work. Good testing requires development of several skills. The idea of this multi-phase assignment structure is to keep at the task, approaching it from a few different ways, until you get good at it. Our experience suggests that many students will need to work through all four phases and the feedback they get from them to finally cross over into doing obviously good work without struggling to achieve it.

Phase I [50 Pts]: Understanding the bug management process and bug reporting. Read the bug management lecture slides and watch video 1 and 6 from the following link before attempting these questions.

Listen to Lecture 1 and 3 of **BBST BUG ADVOCACY** : Basic Concepts and Writing a bug report @ <https://bbst.courses/videos/>

Due: By Oct 25th 11:59 pm Online

1. Video Lecture 1 explains five key challenges in effective testing. Name and explain them using a real-world example to illustrate each challenge.

2. a) What is the bug workflow?

b) Bug Triage process is one of the key steps in the bug workflow.

i.) Who is involved in the bug triage process?

ii.) Explain the main steps involved in the bug triage process.

3. In the video 1, a bug report is considered as a request. Why is the bug report considered as a request? Why is it important to write an effective and persuasive bug report?

4. Bug tracking systems are used by companies these days. Video 3 explains different usages of a bug tracking system. List and explain the 3 usages of a bug tracking system.

5. Video 3 explains the following steps involved in writing a good bug report.
Explain the significance of each of these steps.
- Isolate the failure
 - Generalize
 - Externalize
 - Clear and dispassionate reporting of the bug
6. What are the typical fields in the bug report? Briefly explain each field in a bug report.

Prepare a PDF document with your answers and submit online to the canvas.

Phase II [25 Pts]: Evaluating a Bug Report in Open Office Bug Management System – Individual. Due: By 11:59 pm Nov 1st , **Online**

(Individual Submission) Evaluating a Bug Report

(Adopted from Dr. Cem Kaner’s Assignment on Replicate and Edit Bugs Assignment of Bug Advocacy Course)

First, study the characteristics of a good bug report discussed in the class. You have provided with an UNCONFIRMED bug from the open office bug management system. Evaluate this bug report and see if you can improve it.

Note: We are simulating this scenario. Please DO NOT add your comments to the Open Office bug management system. Submit a copy of your report online to the canvas (PDF)

This includes:

1. Evaluating the UNCONFIRMED open office bug in the “writer” provided with this homework (128615 –OpenOfficeUnfirmedBug.pdf).
2. First read “HowtoEvaluateaBugReport” document posted with this homework considering following aspects.
 - a) What are your **first impressions** of the report?
 - b) What happens when you attempt to **replicate the report**?
 - c) What **follow-up tests** should have been done in the course of writing this report?
 - d) Does the report include **speculation or evaluation** by the tester, and if so, is it appropriate and useful?

Objective of the Evaluation: revise it in ways that help the OpenOffice developers prioritize the bug accurately and fix it efficiently.

Some common ways to improve the report include:

- Add a comment indicating that you successfully replicated the bug on XXX configuration in YYY build.
- Add a comment indicating that you were unable to replicate the bug, if that failure would be informative.

For example, if troubleshooting so far indicates this is a Macintosh-only bug, successful replication on a Linux system would be interesting, but failure to replicate on a Linux system might be uninformative. If you are reporting failure, be explicit about what variations of the reported replication steps you tried in your effort to replicate the bug.

- Add a comment describing a simpler set of replication steps (if you have a simpler set). Make sure these are clear and accurate.
- Add a comment describing why this bug would be important to customers.
- Your comments should NEVER appear critical or disrespectful of the original report or of the person who wrote it. You are adding information, not criticizing what was there. If you edit the report in the database, never change what the reporter has actually written. You are not changing his work, you are adding comments to it at the end of the report. Your comments should have your name and the comment date.

In your evaluation report, answer the following four questions for the UNCONFIRMED open office bug given with this homework

- a) What are your **first impressions** of the report?
- b) What happens when you attempt to **replicate the report**?
- c) What **follow-up tests** should have been done in the course of writing this report?
- d) Does the report include **speculation or evaluation** by the tester, and if so, is it appropriate and useful?

Submission: Please DO NOT add your comments to the Open Office bug management system. Submit a copy of your report online to the canvas (PDF)

Phase III [25 Pts] : Writing your own bug report Due: By Nov 22nd by 11:59 pm Online

Prerequisite (see the tutorial posted):

- a) Download and install open office developer snapshot or the current version

Deadline: Nov 22nd by 11:59 pm

Description: In phase II, you have had a chance to see a bug report written by someone else, evaluate strengths and weaknesses of bug reports. During this phase, you will write your own bug report. Investigate (explore) the open office developer snapshot or the current version and try to find a bug of open office Writer (Word equivalent). Since you do not have the specification, you need to do exploratory testing. While writing the bug report, pay attention to the lecture notes where we discussed the anatomy of a bug report.

Submission: Please submit your bug report online to the canvas. You can submit the bug report as a pdf. While naming the file, use the team number given. For example, BugReport_PhaseIII.pdf