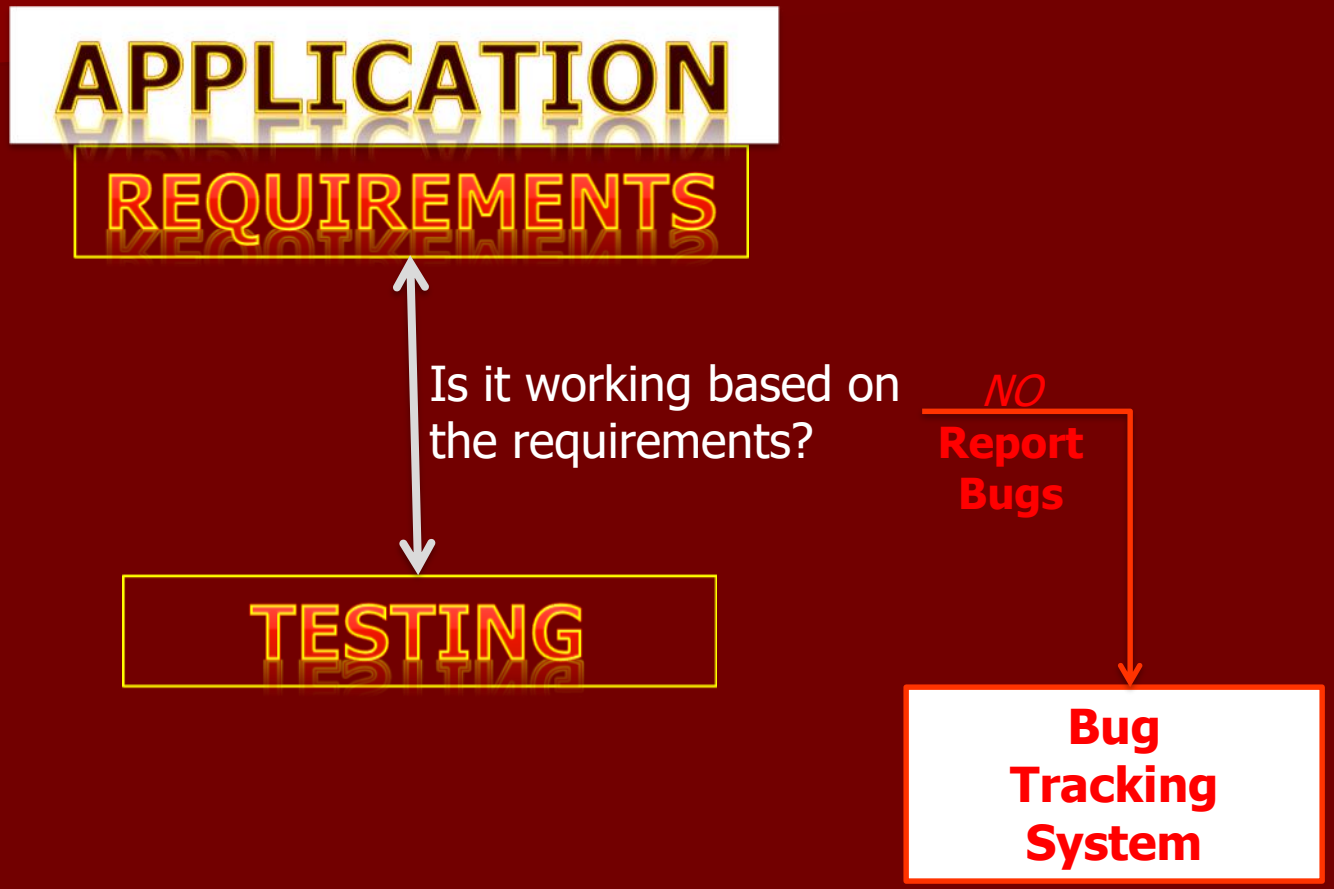
BUG TRACKING

Introduction

- Business systems and QA Department business systems;
- All the bug reports and all the bug tracking systems are very similar

Bug Reporting

What is a Bug (Defect)?



What is a Bug (Defect)?

What is a Bug (Defect)?

- **Bug** is a **mismatch** between *actual behavior* of a software application and it's *expected behavior*.

  We learn about expected behavior from requirements, and other technical documentation.

How to write Bug Reports?

Rule of WWW:

1. **What** happened?
2. **Where** it happened?
3. under **Which circumstances**?

Bug Reports - Good Practice

- Write **one bug** report **for each** fix to be verified;
- Bug report should be as **complete** as possible;
- Bug reports are as **concise** (simple and understandable) as possible;
- **Report** a bug **immediately**, do not postpone;
- Use **technical terms**, not the “street” language.

Bug Reports - Good Practice

- Look for configuration dependence
- Reproduce the bug before it is reported
- Is that first-time-only bug?

Most Important Components of Bug Report

1. **Short Description (summary)**

   Problem summary

2. **Steps to Reproduce**

   Detailed steps to replicate the issue with actual and expected results

3. **Severity**

   Bug impact on application

4. **Priority** (Assigned by Product Owner)

   How soon to resolve the bug

5. **Status**

6. **Environment, Build Number (Version)**

Most Important Components of Bug Report

Severity — Bug impact on application

- *Critical/Fatal* — crash, data corruption, security;
- *Serious* — workaround;
- *Minor* — cosmetic defect;
- *Enhancement* — suggestion requests.

Priority — How soon to resolve the bug

- *High* — Resolve immediately
- *Medium* — Resolve right after High
- *Low* — 'Good to have'

Can you give an example of:

1. Critical Severity - Low Priority

2. Minor Severity - High Priority?

Most Important Components of Bug Report

Status

- *Open* when bug was just created;
- *Pending* bug was assigned, but not ready yet;
- *Fixed/Resolved* bug was completed;
- *Closed* bug was fixed or closed due to tester's misunderstanding; as designed; duplicate, etc.
- *Can't Reproduce* reported, but can't recreate;
- Deferred confirmed bug but the effort to correct it exceeds the Return On Investment. (re-design is scheduled for that area of the application, technology barriers, etc)

Discussion:

Developer
can't reproduce a defect
that you filed

Developer
changed your defect
"as designed"

Developer can't reproduce a defect that you filed

As a tester, you:

- Reproduce on your or other computers

If you can reproduce the defect:

- Make sure that steps to reproduce in the bug report are detailed and nothing is missed
- Compare developer's and your working environment (configuration, setting, DB)
- Make sure that developer uses the same build number
- Ask developer to debug on QA environment with his/her tools

Developer marked your defect “As Designed”

As a tester, you:

- Verify the requirements;
- If no specific requirement exists, compare to same feature implemented in quality applications and discuss it with developer;
- Talk to Product Manager, assigne the ticket to him/her.

Bug Life Cycle

- Bug **found**;
- Bug **reported**;
- Bug is **Assigned**;
- Developer **fixes** the bug, marks it as Fixed;
- It goes to Tester for **verification** of the fix;
- If it is fixed Tester **close** the bug.

How do we monitor /assign a bug?

Bug Report Scenario

To create a new user, you need to logon into the application and navigate to: USERS menu > New User. When on the page, enter First Name, Last Name, SSN, Age, Address, Phone and click 'SAVE' button. You will see a success message saying: "New User has been created successfully".

But when you followed all the steps and clicked save BANG! The application crashed and you got one error page on the screen.

Write Bug Report

Bug Tracking

Bug Tracking System

Bug Tracking system is a software application, designed to:

- Report bugs;
- Track (retrieve and update) bugs;
- Close (fix, defer, move to another system);
- To run the statistical analysis, monitor, and summarize the results;
- Work on quality improvements.

Bug Tracking Systems Examples

Popular Bug Tracking Tools examples:

- Jira
- Mantis
- Bugzilla
- Asana
- Redmine
- Backlog

All bug reports and bug tracking systems are very similar…

Bug Tracking System

Why do we need Bug Tracking Database?

- Accountability;
- Communication tool (inter-personal and inter-departmental);
- Organization of the information;
- Monitoring individual performance;

What is a prime objective of a Bug Tracking Database?

- To get the bugs fixed

REVIEW!

Bug is a **mismatch** between actual and expected behavior of an application

Most Important Components of Bug Report:

1. **Short Description** - tester describes a system discrepancy/error;
2. **Steps to Reproduce** – instructions to recreate an error;
3. **Severity** – *Assigned by tester*:
   - *Critical/Fatal* crash, data corruption, hang;
   - *Serious* workaround;
   - *Minor* cosmetic defect;
   - *Enhancement* suggestion requests.
4. **Priority** - *Assigned by Manager or at the Defect Review meeting, NOT Tester*
   - *High* Resolve immediately
   - *Medium* Resolve right after High
   - *Low* 'Good to have'
5. **Status** –
   - *Open* when bug was just created
   - *Pending* bug was assigned, but not ready yet
   - *Fixed/Resolved* bug was completed
   - *Closed* bug closed due to misunderstanding; as designed; duplicate
   - *Can't Reproduce* reported, but can't recreate

How to write a good bug report?

- Use *Rule of WWW*:
  1. What happened?
  2. Where it happened?
  3. under Which circumstances?
- Concise - simple and understandable;
- Complete and descriptive;
- Reproducible;
- One bug report for every problem;
- Immediately report (detected, reproduced, not yet reported);

Bug Life Cycle:

- Bug **found**;
- Bug **reported**;
- Bug **assigned to developer**;
- Bug **fixed by developer**;
- Fix **verified by tester**;
- Bug **closed**.

Bug tracking system is a software application, to:

- Report bugs;
- Track bugs;
- Close (fix, defer, move to another system);
- To run reports;

Examples: Jira, TaskManager, Elementool, Bugzilla, Zephyr, etc.

What to do if:

Bug status changed **to "Fixed":**

1. Execute the steps in the bug report (retest);
2. Make sure the fixed bug does not result in *new bugs in same area*

Developer marked your defect **"as designed".**

1. Verify the requirements, if any;
2. Talk to Product Owner and/or developer;
3. Close the bug;

Developer **can't reproduce a bug** that you filed:

1. Reproduce on your and other computers;
2. Review bug report detailes

Interview Questions

Interview Questions

What is a Bug (Defect)?

- Bug is a mismatch between actual behavior of a software application and it's expected behavior (requirements, and other technical documentation).

Why do you need to write a bug reports?

- Getting the bug fixed

When should you write a bug report?

- Immediately upon finding the bug

Interview Questions

What makes a good bug report?

- Follow WWW rule;
- How to reproduce the bug;
- Analyze the problem to minimize number of steps to reproduce it;
- Complete, easy to understand, non-coflicting

What happens if reported bug cannot be reproduced by a developer?

What happens if reported bug closed "as designed"?

What does that mean Deferred Bug? Who makes a decision to defer a Bug?

Interview Questions

Name the most important components of Bug Report:

- Short Description
- Steps to Reproduce
- Severity
- Priority
- Status

Who can assign/change severity or priority in a bug report?

- Tester assigns severity
- Product Manager (Product Owner) assigns Priority

Interview Questions

Name levels of the seriousness of the Problem (Severity)?

- Critical/Fatal (crash, data corruption, security, hang)
- Serious (workaround)
- Minor
- Suggestion/Enhancement

Name 3 levels of priority?

- High
- Medium
- Low

Interview Questions

Why should tester look for simplest and most general conditions under which bug will be easily reproducible?

- We have to look for more than just one path to a same problem.
- The easier to understand – the better chances to have it fixed
- The faster the fix - the better the chance it will be done
- Management pays lots of attention to high visibility routine bugs

Interview Questions

Describe Bug's life cycle?

- Bug Found;
- Bug Reported;
- Bug Assigned;
- Bug Fixed;
- Bug Tested;
- Bug Closed;

- Bug found and reported;
- It goes to Development Manager to get Assigned To and Priority;
- Developer sees the report, fixes the bug, marks it as Fixed;
- It goes to Tester for verification of the fix;
- If the bug is fixed – Close the bug;

Interview Questions

1. Describe the bug life cycle.
2. Describe a bug.
3. Describe one big bug that you found in your project?
4. How you can be sure that bug was fixed?
5. What are major Bug Report components?
6. What are steps to reproduce?
7. What is the difference between severity and priority?
8. Give me an example of high severity and low priority?
9. Give me an example of low severity and high priority?
10. If you found a bug what do you do next?
11. How can a tester be sure that a bug was fixed?
12. How many bugs do you report in one bug report? Why?
13. What would you do if the developer can’t reproduce your bug? What can be the reason, he can’t reproduce it?
14. What would you do if the developer changed your bug to "as-designed”?

Homework

1. Review class material;
2. Prepare Interview Questions