Bug Tracking System

# Introduction

The IT Support and Services Division of a company requires a software system to keep a track of bugs reported by various users, their resolution life cycle and the list of patches required for the same.

The ITSS dept has developed, deployed, purchased, and implemented various solutions for the company. The solutions are:

1. Developed by their own internal development team
2. Developed by Software development Vendors for them and is maintained under AMC
3. Purchased OTS products and implemented them

The department is responsible for smooth running of IT services of the company and all the employees of the company are dependent on the department as the first contact. It is the department’s responsibility to get the issues sorted either through their own development team, though software developer vendors or software seller vendors.

The department is also responsible for maintaining various subscriptions and getting the subscriptions renewed when they lapse. (e.g. Anti-Virus software, Cloud servers, Hosting services etc.)

## Real World Description - Bug Lifecycle

Whenever a bug is observed by the user, the user (initiator) reports the bug in the system. The user describes the bug and the behavior and also the expected behavior. The user has to specify the application name and version in which the bug has occurred. The user also has to submit the details of the context in which the bug has occurred, including screen shots or any other supporting files as and when needed. The user must specify the priority by which the user needs a resolution.

The IT departments has persons marked as controllers for various applications. After the bug is reported, the bug appears in the dashboard of the controller. From this, the controller can then assign the bug to the support team. Alternately, the team can also access the dashboard of new/unallotted bugs and claim the bugs (similar to the bug being assigned to them) The support team for every application can have one or more engineers as per the specialty and skill sets. Once the bug is assigned/claimed, the bug status shall be appropriately updated. After the bug is assigned, the team (controller or engineer) shall first verify the bug by trying and replicating the scenario. If they are not able to replicate the bug, the bug shall be classified as not-verified and the initiator shall be notified accordingly. In case the user is unable to resubmit the details, the bug shall be marked as closed.

After verifying the bug, the team shall update its status as verified. The team will then add their remarks on what needs to be done and decide to start work on the bug. When the team starts the work, the bug status shall be updated as In Progress and an estimated date of completion shall be tagged by the team to the bug. After the work on the bug is completed by the team, the team shall update the bug status to Completed. They will then apply the solution to the test implementation and make it available for technical testing by IT team. After technical testing and satisfactory behavior, the IT team shall then mark the bug status as resolved. The patch/solution files shall then be updated in the system and the support team will implement them in the production landscape. After this the bug will be reported to the user with a communication that the bug solution has been applied and the user should check on the same. In case the user is satisfied with the results, the user shall then close the bug. In case the user is not satisfied, the user can reopen the bug which will take the bug back gain to the new status and the entire lifecycle repeats.

Some features of the system shall be:

1. At every stage the related users should be able to mark comments on the bug which shall be saved chronologically.
2. For every stage, there will be an expected time limit after which the issue will either be escalated or an action will be taken, e.g.
   1. Escalation: If a bug is not assigned in 2 days, ( 1 day for any priority like high, urgent or critical) then a communication to the seniors shall be made
   2. Action: If the user has not responded after bug is resolved by team for 2 days then the bug shall be automatically closed. After this the user has to report a new bug. The bug can only be reopened for the 2 days after resolution.

## Business Components

### Application

The application which has been installed with the developer details (if developed) or vendor details (if purchased) along with the version number and any other prerequisites required to install, manuals etc.

### Vendor

The party which has developed or supplied the software with their contact details

### AMC

Annual Maintenance Contract details for various applications

### Bug

The errant behavior of the application as reported by the user.

### Patch

Technical enhancement required to resolve the bug. One patch can be made for multiple bugs of an application

## Users

##### User

User of the application. Can have a hierarchy as reporting to.

##### Controller

One per application. The person from the IT team who is the person of contact for the application

##### Engineer

The technical person working on the bug

## Bug Statuses

1. New
2. Assigned
3. Verified
4. Non-Verified
5. In Progress
6. Completed
7. Resolved
8. Closed

Reopen

Assigned

Reopen

Resolved

In Progress

Verified

Not Verified

Verify