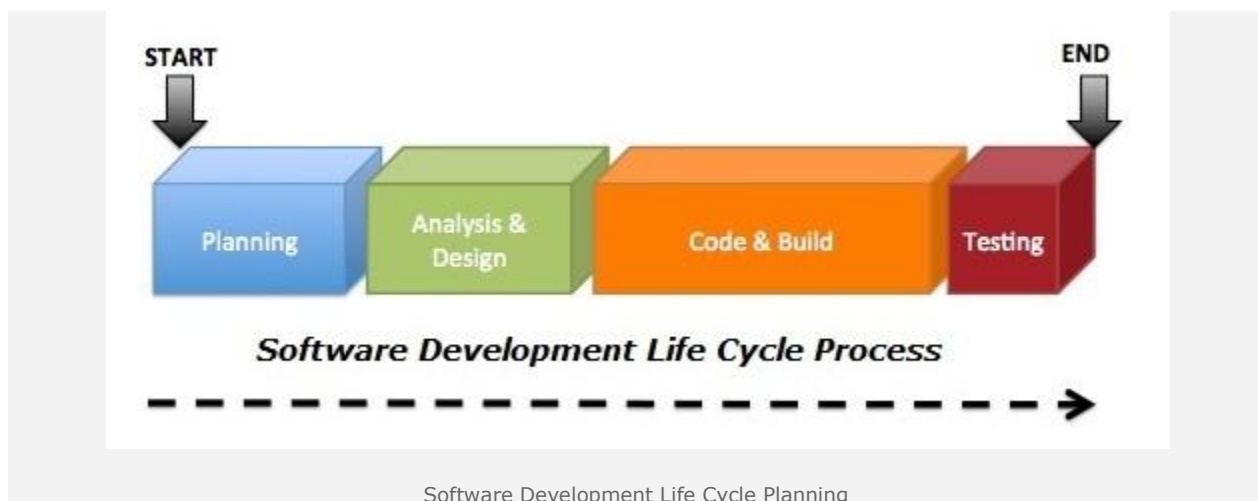


Why testing should start early in software development life cycle?

One of the software testing principles say that "Start Testing Early" in the software development life cycle, so in this article we will see what all advantages & practical reasons if we start testing early in SDLC.

It has been observed that most of the errors are identified in the testing phase which is already introduced in the requirement or design phase. Defects identified later in SDLC are expensive to fix than defects identified in early stage. So testing should start early to avoid the introduction of defects in the early phase.

First let's see normal software development life cycle process planning:



- In SDLC first step is 'Planning' in which planning of entire project where all requirements are captured, discuss if any queries & got clarified from Client. Requirements are finalized & entire planning is prepared.
- Upon finalizing requirements, start requirement analysis & system is designed as per the Planned Time.
- In this planning all steps are dependent on previous phase. Unless and until previous step is not completed then not to start the next step. In this step actual implementation (Coding) starts.
- Finally upon completion of Coding actual Testing starts here.

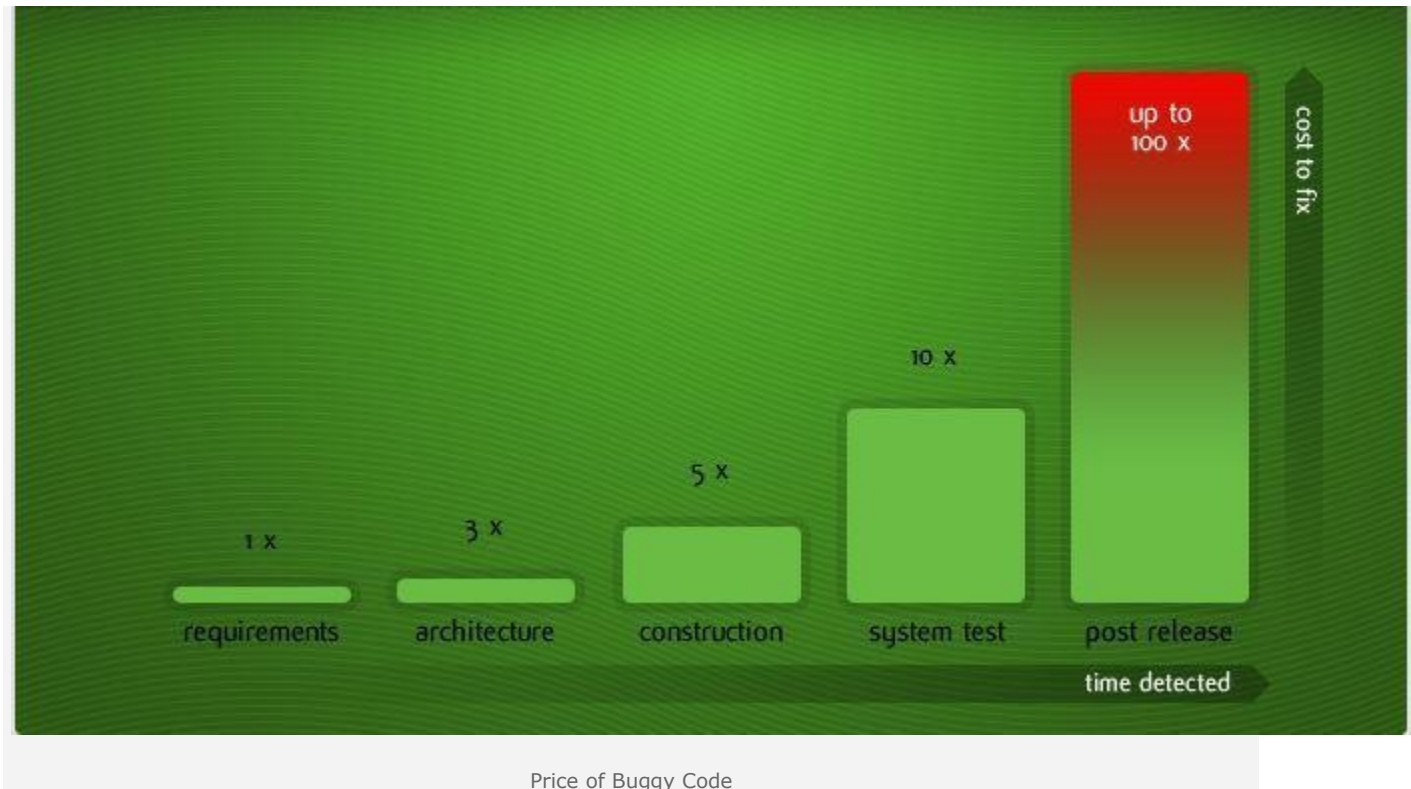
This is standard process to be followed in Software development life cycle. But it may vary from project to project. Most likely the project life cycle goes as below:

Planned activities won't go smooth, so time take to complete Planning, Analysis and Design & Coding would take more than the estimated time which causes issues in the overall project planning.

If the project timing is flexible then this is not an issue at all. But if the release date is fixed & not gonna change then it make direct impact on the quality of the software application, as very less time get to test entire application. Also the promises have been made to customers; project managers are going to lose their bonuses if they deliver later past deadline. Also to fix the bugs which are found at later stages are costlier than found in early stage.

Cost Effectiveness:

So start testing early in the software development would solve the problem, as the earlier you find a bug, the cheaper it is to fix it.



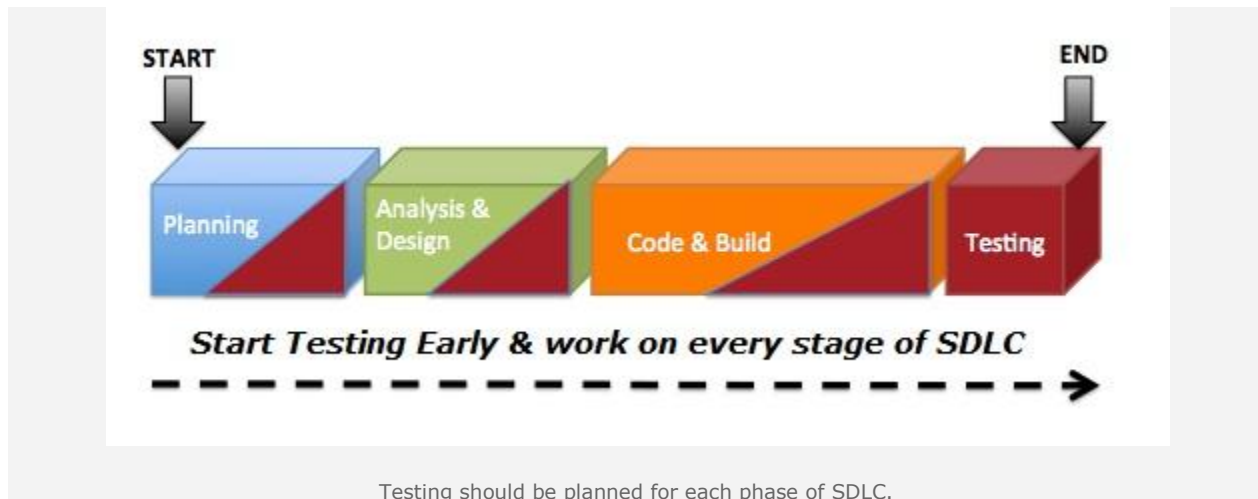
[Image credit: Loadstorm.com]

In the requirement phase if we found issue or conflict in the requirements itself then it won't take too much time to fix the issue. But if a bug is found in the early stage of SDLC then to fix this bug would be 50 times cheaper than fixing a bug in actual testing. It would be more costly if a bug is found in the maintenance phase, meaning after going to production.

Advantages of starting early testing:

- In the requirement's stage, testing project's requirements can be a cost-effective & useful way to avoid bugs afterward.
- Completion of writing test cases early will help to fix the test cases if there are later changes in requirements.
- You will get enough time to quantify the problem's scope.
- Early preparation of the test environment, thereby preventing any delays and unknown risks, will give you enough time to deal with them.
- Many times the test team does not get enough time to test the software application, so they have to squeeze the testing time, which affects the quality of the product. So one solution is to start testing early so the test team will get enough time to test the software application and not have to squeeze their testing time.
- You may find that few items may not be tested, since they may not be impacted. This input can cut down on your testing phase.

It's said, "**Quality is built in, not added on.**" So Early Testing would be better option to go on!!! So This is what you should do as testing is concern:



- Testing should involve in all phases of SDLC.
- Test planning should be started from beginning of the project.
- Once the requirements are baselined, System testing plan (or UAT) and test cases should be prepared. This will also help in uncovering the gaps in requirements process.
- Test preparation should be done before actual testing starts.
- Start finding defects from requirement gather phase.
- Keep on doing that throughout analysis and design phase.
- As you move forward and complete the Design, you should complete the Integration testing cases and also to some extent Unit test cases.
- Ensure that testing becomes part of the development process.

Source:

<http://www.softwaretestingclass.com/why-testing-should-start-early-in-software-development-life-cycle/>