

Sprint 1 Testing Plan

Consulting our test plan for the whole project, we would only conduct function tests for sprint 1 requirements and acceptance tests to ensure the quality of sprint 1 before final release.

Why the team takes function tests so serious?

Function test is a type of black box testing that each part of the system is tested against functional requirements / user stories. When we talk about delivering quality software, function test has the highest ROI since it is done with real data. During function tests, testers verify the app features against the user expectations. In this way, Function tests verify that the product performs as users expect.

Function tests we decide to operate contain smoke test, system test and regression test. Smoke test is used to ensure that our system is runnable, while system test is designed to guarantee that there are no severe functional bugs existing in our project. Once we find some defects, we need to log them into our requirement traceability matrix (RTM) and link them to corresponding use cases and developers. If these bugs have been fixed, we need to execute the same test cases again to check whether the defects are made up, which is often regarded as a regression test.

Why are acceptance tests important?

Normally, acceptance is the last step before releasing the product. That is also to say, acceptance takes the last step to ensure the quality of the final product. Since the major goal of most software developing projects is to realize a workable and easy-to-use product with high level of quality for target users, we need to ensure that our product really works for these end users. In alpha test, which is also called internal acceptance test or validation test, the team would pretend to be real users of our software, and act as users when utilizing our product. The beta test, which is also regarded as a user acceptance test, would only be held after passing the alpha test. In this step, representatives of clients would check whether requirements of all user stories in sprint 1 are met. Besides, they may also have interest in the degree of completion of our user interface design. Beta test is helpful because it offers actual viewpoints of future users of our product.

Steps the team would take to test Sprint 1

The flow chart below shows a general overview of testing processes we would operate during sprint 1:

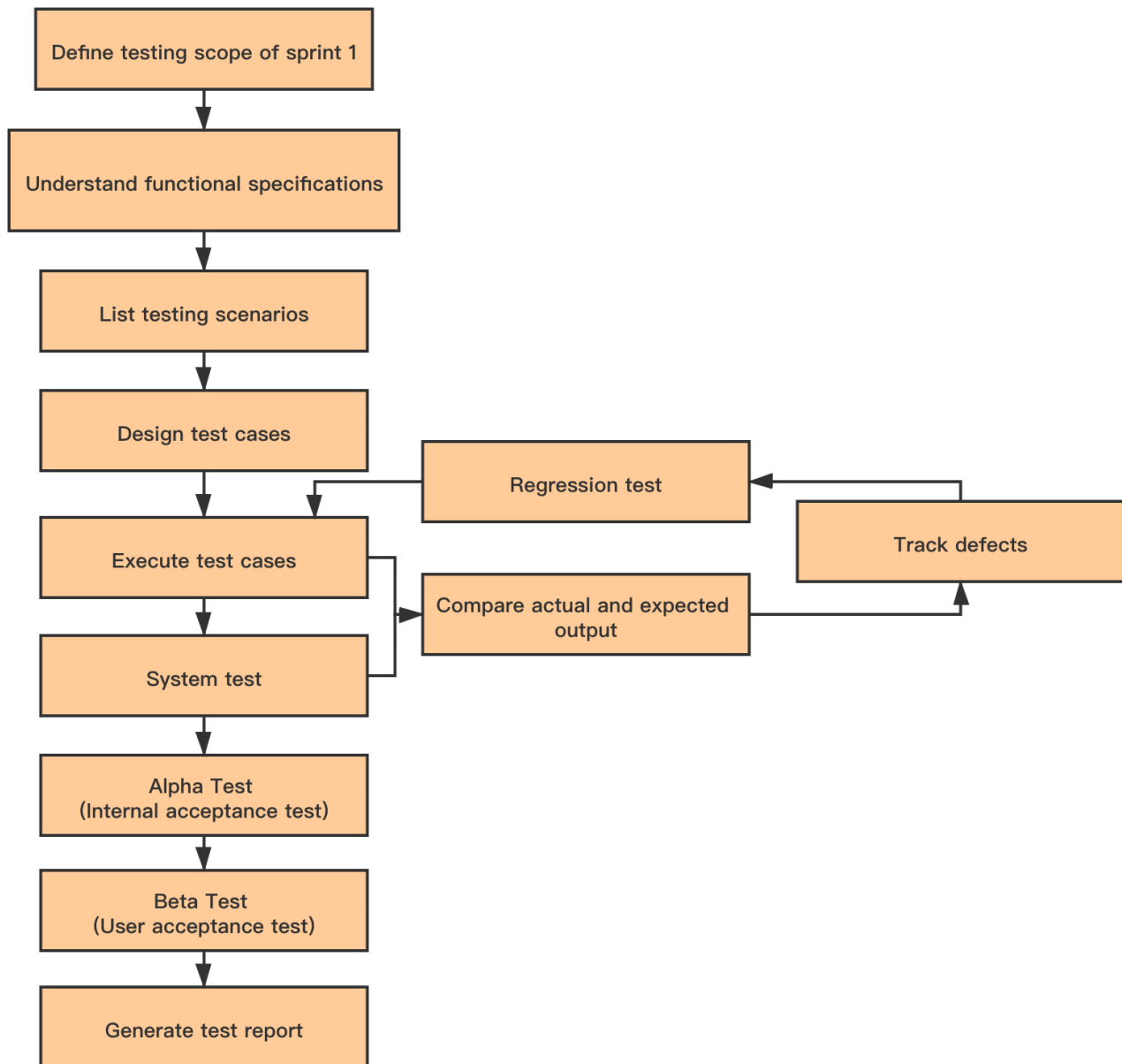


Figure 1: Sprint 1 testing processes

In the following paragraphs, detailed description of each step of sprint 1 testing plan would be showed.

1. Define the testing scope

In this step, the testing team makes a list of user stories included in sprint 1 that are going to be examined. Below is the list of requirements we would test in sprint 1:

User story ID	User story Name
2-1	Google login
2-2	Facebook login
3	Delete sections
4	Reset account

9	Beautify UI design
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2.List testing scenarios

In this section, we list down possible test scenarios for all required functions. Test scenarios are helpful when designing test cases, since they offer a basic idea of what would be examined when testing a specific requirement.

3.Design test cases

This time, the team would begin to design use cases. Use cases should be created strictly follow the table below:

Code	Module	Name	Designer	Maintainer	Create time	Type	Status	Pre-condition	Steps	Expected outcome	Importance level
ID of the use case.	Functional module that the use case belongs to.	Name of the use case.	Name of the designer.	Name of the maintainer.	Time when the use case is created.	Type of the test case.	Current status of the use case.	Pre-condition needed to fulfill before executing the test case.	Steps need to take when executing the use case.	Expected output after running the test case.	Level of importance of the test case.

4.Execute test cases

In this step, the team would start running these test cases above. These test cases would firstly be executed after completion of each function. After the full achievements of all requirements in sprint 1, system test and regression test would be conducted, during which the team would go through all these test cases again to see whether functions the team completed in sprint 1 would meet requirements of clients.

The following table indicates different status of test cases:

Status of a test case	description
Passed (P)	Actual results exactly match the expectations.
Failed (F)	This may contain some sub-conditions. On one hand, actual results do not match initial expectations; On the other hand, actual results match the expected outputs but cause other problems. Defects need to be logged and tracked.
Unprocessed (UP)	Test cases that have not been executed yet. This is the default status.
In Progress (IP)	Test cases have been put into process, but not all steps have been finished.
Investigating (I)	Test cases have been executed and corresponding outputs are generated. However, it is hard to decide at the first glance whether these cases are passed or not. Needs additional discussion.
Blocked (B)	Test cases cannot be executed because of blocking issues.

It is the comparison of expected results to actual results that will determine whether the test has a 'Pass' or 'Fail' status. Additionally, since the team put user story 1 - 'Forget password' to sprint 2, test cases related to this function would not be done during sprint 1, resulting in several 'Unprocessed' status in "test cases.xlsx".

5.System test and regression test

This time, all the functional modules have been integrated and the whole system has been built successfully. In this step, the team would start with a smoke test to see if the software is runnable. Afterwards, functional testing cases would be executed one by one again. However, test cases conducted during the system test are different to those operated in function tests, not only because in the system test we focus more on the overall system, but also due to that we are meant to find 'problems' existing in our product. That is to say, during function tests, the team wants to guarantee that all the basic functional modules are working well; While during system test, the major goal is to find any existing defects, logging them into requirement traceability matrix (RTM) and tracking them. Then, a regression test would be done with the help of RTM. In regression tests, test cases are re-executed so as to check whether the previous defects is fixed and the new changes have not brought any new bugs. All the team members would try their best fixing the defects and optimize the product. If no severe defects exist in the system, the testing team would move to the next step.

6.Internal acceptance test (Alpha test)

If the system test is passed without finding any severe defects, alpha test would be put into process. In the alpha test, the team would go through the sprint 1 test cases again to see if all functions are met at a high level of quality. If there are no severe functional defects left the team would move to the next step, beta tests operated by client representatives.

7.User acceptance test (Beta test)

Beta test is an important step in our testing plan. Once passed the user acceptance test, our product could be regarded as quality guaranteed and could be released and put into actual use. In this step, the team would invite client representatives to a user acceptance test meeting to see if they have any suggestions on the functional and non-functional modules of our project.