SHRI RAMDEOBABA COLLEGE OF ENGINEERING AND MANAGEMENT.

Name:- Harsh Agrawal CSE SEM-6th Shift-2
Rollno-43 Section-B
Under the guidance of Heena Agrawal Ma'am.
Software Engineering TA. Part-1.
(Content writing)
Topic:- Alpha, Beta & Acceptance Testing.

Acceptance testing :- It is the final level of software testing. The main aim of this testing is to determine working process of system by satisfying the required specification and it is acceptable for delivery. It is also known as end user testing.

Types of acceptance testing :-
1. User acceptance testing
2. Business acceptance testing
3. Contract- acceptance testing
4. Regulation acceptance testing
5. Operational acceptance testing
6. Alpha testing
7. Beta testing.

Acceptance testing also works under Black box testing.

Alpha- Beta & Acceptance Testing

Alpha testing:-

Alpha testing is a software testing performed to identify bugs before releasing the product to real users or to public. Alpha testing is one of the user acceptance testing.

→ It is called alpha testing because it is done early on near the end of the development of software. It is commonly performed by homested software engineers or quality assurance staff.

→ It is the last testing stage before the software is released into the real world.

objective:-

→ 1. The objective of alpha testing is to refine the software product by finding the bugs that were not discovered during the previous tests.

→ 2. It refines the software product by fixing the bugs. It involves the customes deeply into the process of development.

→ 3. To give better insight into softwares reliability at the early stage of development.

Advantages:-

1. Better insights about the softwares reliability at its early stage
2. It reduces delivery time to market.
3. Free up the team for other project
4. Early feedbacks improves software quality

* Phases:- There are two phases:-

1st phase:- It is done by inhouse developers or software engineers. They either use hardware--aided debuggers or debugger software. The aim is to catch bug quickly. usually here, tester comes across a lot of bugs, crashes, missing features, and docs.

2nd phase:- The second phase is done by software quality assurance staff for additional testing in an environment. It includes black box & white box testing.

Beta Testing:-

Beta testing is performed by real users of the software application in a real environment. Beta testing is a type of user acceptance testing. Beta version of software whose feedback is needed, is released to a limited number of end users of product to get a feedback of product quality.

Characteristics:-

→ 1. It is performed by clients or users who are not employee of the company.

→ 2. Reliability, security & robustness are checked during beta testing.

→ 3. It commonly uses black box testing.

→ 4. It is carried out in user's location.

→ 5. It doesn't require lab or testing environment.

Advantages:- 1. Reduces product failure risk via Customer Validation.
2. It allows Company to test post-launch Infrastructure
3. It Improves product quality via customer feedback.
4. Cost effective. Increases goodwill with customers, Increase customer satisfaction.

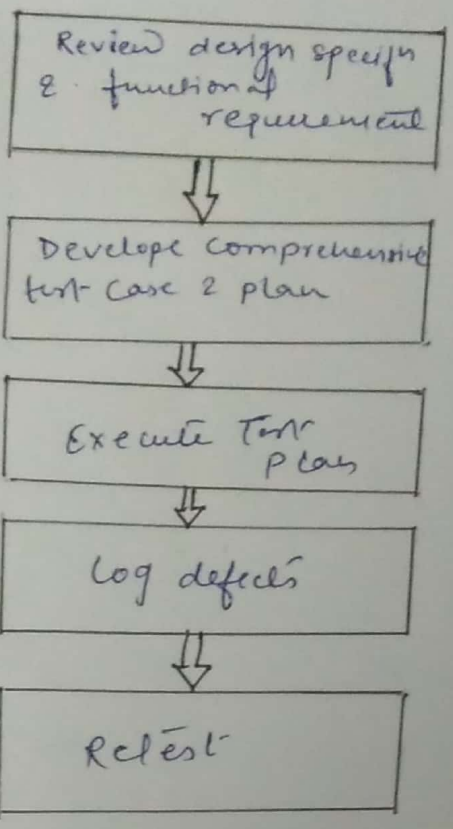
Criteria:- 1. Sign off document on alpha testing
2. Beta version of software should be ready
3. Tool to capture real time faults.

* Acceptance testing:-
A Method of Software testing where a system is test-ed for acceptability. The major aim of this test is to evaluate the compliance of the system with the business requirements and assess whether it is acceptable for delivery or not.

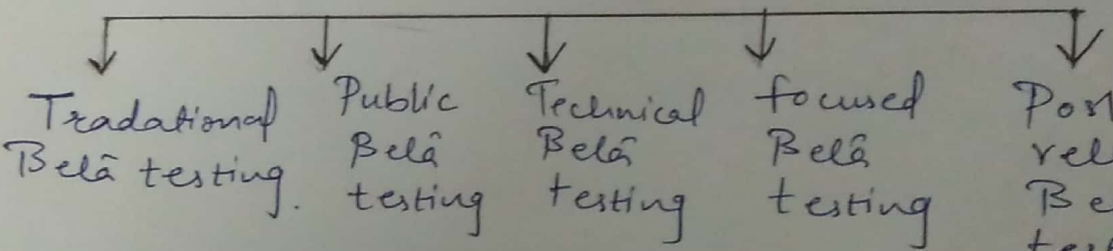
Use of Acceptance testing:-
1. To find the defects missed during the functional testing phase.
2. How well the product is developed.
3. feedback help in Improving the product performance and user experience.
4. Minimize or eliminate the issues arising from the production.

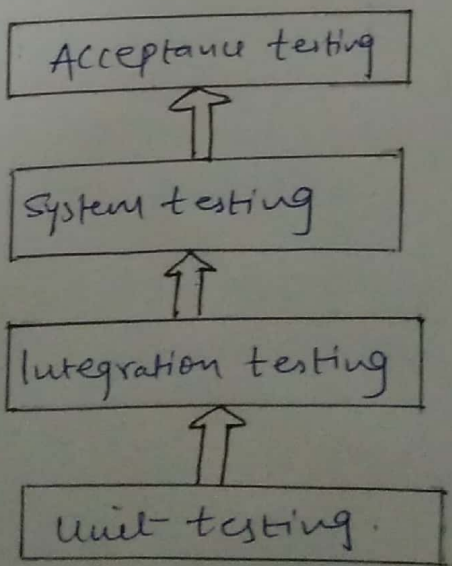
Alpha testing

Process followed during alpha testing →



Types of Beta testing: -





Acceptance testing is the last phase of software testing Performed after system testing and before making system available for actual use.

Example:-

During the process of manufacturing a mobile phone there are so many parts produced seperately
- All these parts will undergo unit testing.
- After unit testing they undergo integration testing
- later System testing will be performed.
- finally acceptance testing will be performed before it is out for delivery.

Calculation:-

The no. of defects (x) found at testing with n users is:-

$$x = N(1-(1-L)n).$$

N = total no. of detected problems.
L = proportion of defects discovered.
Typical value of L is 31%

Beta testing results from the case study.

$x = 39$ defects $L = 97\%$ $n = 5$ users.

$$\therefore \quad x = N(1-(1-L)n)$$

$$39 = N\left(1-\left(1-\frac{97}{100}\right)5\right)$$

$$39 = N(1-3/20^{x5})$$

$$39 = N\left(1-\frac{15}{100}\right)$$

$$39 = \frac{85N}{100}$$

$$N = \frac{3900}{85} = 46.$$

Total no. of detected problems:- 46.