Create Test Plan – HLR

To create a thorough and effective test plan, you first need to outline the type of software you intend to test. This includes information such as the purpose of the software and user requirements. Once you have this information, you can then proceed with outlining the strategy and objectives of testing, followed by the test criteria, resources, test environment, and schedule.

Step 1: Analyse the product

- ➢ Before writing an effective test plan, you first need to analyse the product. This means understanding what the product does, how it works, and what its potential users will want to use it for. This analysis will help you identify the areas that need to be tested and the types of tests that will be most effective. Once you understand the product well, you can start to uncover areas where problems may occur. By identifying potential problem areas, you can develop a plan for testing the product.

Step 2: Develop a Test Strategy

- ➢ The next step in creating a test plan is to develop a test strategy. A number of different factors need to be considered when developing a test strategy, including the type of testing, resources required, and schedule for testing. This strategy should be tailored to the specific project and consider the overall objectives, scope, and risks.

- **Define the Scope of Testing**

- ➢ Firstly, identify the objectives of the testing. What are you trying to achieve with the testing? Secondly, identify the areas of the application that requires testing. This includes identifying the functional areas, features, and components to be tested. Thirdly, identify the types of testing to perform.

- **Identify Testing Type**

- There are various types of testing that can be performed on software, and each has its own benefits and drawbacks. When writing a test plan, it is important to identify the type of testing most appropriate for AUT.
- One common type of testing is functional testing, which tests the software for compliance with its specified requirements. This type of testing is performed manually or using automation tools. Another type of testing is performance testing, which assesses the speed and stability of the software. Other types include security testing, compatibility testing, and usability testing.
- The type of testing most appropriate for software will depend on its purpose and intended audience. In general, however, all software should undergo at least some basic functional testing and performance testing before being released.

- **Document Risk & Issues**

- A test plan is a document that outlines the risks and issues associated with a software project. The plan communicates the risks and issues to the project team and management. These could be technical risks, such as problems with the code or architecture, or non-technical risks, such as changes in the business environment.

Risk	**Mitigation**
-Incomplete or confusing instructions -Limited time and resources for testing -Software or hardware that doesn't work together -Unexpected problems or slowdowns during testing	-Check with the project's people to ensure everyone understands what's needed. -Determine what needs to be tested first, and think about using machines or getting help from outside experts. -Make sure the tech stuff works with the software and hardware that will be used. -Have a plan ready if something goes wrong, and let everyone know.

- **Create Test Logistics**

- Creating test logistics is an important part of writing a test plan. This includes deciding where and when testing will take place, as well as what resources will be needed. Test logistics should be created to ensure that all aspects of the testing process are considered. This includes the timeline for the testing process, the resources needed for the testing, and any other relevant information.

Step 3: Define Test Objective

- The next step is to define the test objective. The test objective will depend on the software's purpose, such as verifying whether the software meets user requirements, identifying software defects, or assessing the software's completeness. The test objective will determine the type of tests that need to be conducted and how the test results will be analyzed and reported.

Step 4: Define Test Criteria

- The next step in creating a test plan is defining the test criteria. Test criteria assess whether a test has passed or failed and are closely linked with test objectives. The test criteria will depend on the type of test, and they should be clearly defined to avoid confusion.
- For example, a test for checking data accuracy may use a certain percentage of accuracy as the test criteria. However, it is important to consider any variations that may occur due to environmental changes. For example, one may not achieve the same accuracy level during testing if the data source differs from development.

- **Suspension Criteria**

- Suspension criteria are a set of conditions that, if met, will cause the testing process to be suspended. This could be due to a critical bug being found, a change in scope, or anything else that could significantly impact the testing process.

- Suspension criteria should be agreed upon by all parties involved in the testing process and should be clearly defined from the start. This will ensure everyone is on the same page and knows when testing should be suspended. Without clear suspension criteria, it can be difficult to decide when to continue testing and stop.

- **Exit Criteria**

- The exit criteria for a test plan are the conditions that must be met before the testing can be considered complete. This includes both functional and non-functional criteria. Functional criteria are those that relate to the functionality of the system under test, while non-functional criteria are those that relate to aspects such as performance, scalability, security, etc.
- The exit criteria should be clearly defined at the outset of the testing process so that everyone involved knows what needs to be achieved. They should be achievable, measurable, and relevant to the system under test.

Step 5: Resource Planning

- The next step when creating a test plan is to outline the resources required for testing. This includes determining whether internal or external resources will be required and what their skill sets and qualifications are.
- For example, if you require specific software programs for testing which are unavailable, this may delay the testing process. A test plan should also outline safety requirements to avoid any last-minute changes that may disrupt the testing process.

- **Human resource**

- Human resource planning is a key component of the test plan. The human resources required for testing include testers, developers, and other staff involved in the testing process. The number of resources required and the skills they need will vary depending on the size and complexity of the project. The team members’ skills and experience should be considered when making assignments. The plan should also include tracking the testing progress and identifying areas that may require additional resources.

- **System Resource**

- ➢ When creating a test plan for a system, it is important to consider the system resources required for testing, such as hardware, software, and so on. It should also identify the risks associated with the testing process and outline the steps that will help mitigate those risks.

Step 6: Plan Test Environment

- ➢ The next step when creating a test plan is to outline the test environment requirements. This will depend on the type of testing, such as functional, usability, or load testing. Besides, it is important to consider any variations that may occur due to changes in the environment. For example, if you are conducting a functional test, you will need a testing environment that resembles the live environment as closely as possible. This may include real data, network connections, and so on.

- **What is the Test Environment?**
- ➢ The test environment is where the testing takes place. It includes the hardware, software, and other resources required to support the testing process.

- **How to set up the Test Environment**

- ➢ The hardware and software requirements of AUT
- ➢ The testing tools to use
- ➢ The test data to use
- ➢ Network Configuration

Step 7: Schedule & Estimation

- Next, when creating a test plan, you need to outline the schedule and estimate for the testing process. This includes determining whether the testing phase is the same length as the development phase, or if you need to extend the testing phase. It is important to consider factors such as the complexity of the software, the testing environment, and other applicable factors.
- You can use the software project management techniques to create a testing schedule. You also need to outline how testing costs will be estimated and determined.

Step 8: Test Deliverables

- Lastly, you must outline the test deliverables when creating a test plan. Test deliverables are the final outputs of the testing process, such as test reports, defects, and enhancements. They may also include a list of unsupported features, an explanation of what is missing, and why they were not tested. It is important to note that test deliverables are not the same as software deliverables, and they should only contain information related to testing.