**1. Elaborate on the differences between test cases and test plans with**

**relevant examples.**

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| --- | --- | --- |
|  | Test Plan | Test Case |
| Definition | It is an in-depth, up-to-date document that includes all the important and major part associated with particular testing project. | A test case is mainly involved in testing a particular scenario, feature in the software or product. |
| Features | It includes schedule, scope, potential risks, staff responsibilities, defect and bugs, reporting, etc. | It includes test steps, test data, test environment, the expected results, actual result, test status, test priorities and so on. |
| Purpose | It is relevant to other departments in the company that needs to follow the progress of the project. | Mainly it is created to serve only the testing teams with the intention to track and monitor different aspects of a specified test. |
| Scope/Duration | It is used till the end of the whole testing project. | It is used till the end of the particular testing process. |
| Benefits | It keeps history of testing that has already finished, keeps everyone aligned and informed. | It helps testers understand their daily tasks, to understand unexpected bugs. |
| Example: Consider establishing an online thrift store in Nepal. | 1. Here, it requires to first perform research and analyze the feasibility of creation of such software in case of Nepal.  2. Next we need to design a test strategy and objective for creating online thrift store.  3. Next, we have to outline test criteria’s that is required to develop this software, then plan a test environment for this(e.g: where this software can be implemented for alpha or beta testing)  4. Generate a schedule for software development and implementation.  5. Identify deliverables  6. Review the entire process, plan and finalize upon agreement of everyone. | Possible Test Case for registration with online thrift store here could be:  1. Prerequisites: web application installed, availability of internet, valid personal credentials(including online payment systems).  2. Test Setup: In the web browser.  3. Test ID: OnlineThrift-0A0  4. Test Name: Registration Functionality Verification.  5. Test Case Description: This test case verifies if user registration is according to correct credential and confirm registration successful.  6. Test Scenario: Validate registration functionality of application and applicant.  7.Test objective: Ensure users fill in the required credentials properly and correctly.  8. Test steps:(Include steps for registration with application)  9. Expected result:……  10.Actual result:…… |

**(Qxn no 2 is in excel sheet)**

**3. Prepare a test plan for the above headphone produced.**

**Test Plan for Headphone with Detachable Microphone**

**1. Objective of Test Plan**

To verify the functionality, usability, durability, and compatibility of the headphone with detachable microphone and control buttons.

**2. Scope of Testing**

1. Test all the functional components of the headphone:
   1. Detachable microphone
   2. Volume buttons
   3. Microphone on/off switch
2. Ensure compatibility with multiple devices like smartphones, laptops.
3. Check audio quality for playback and recording.
4. Check the durability of the headphone and its components.

**3. Key Features to Test**

1. **Microphone**:
   * Attachment/detachment functionality.
   * Switch performance (on/off).
2. **Control Buttons**:
   * Volume up and down buttons.
   * Microphone on/off button.
3. **Audio Playback**:
   * Sound quality at various volume levels.
4. **Device Compatibility**:
   * Proper functioning with different devices such as phones, PCs, gaming consoles.
5. **Durability**:
   * Robustness of the microphone, buttons, and build under repeated use.

**4. Test Approach**

1. Perform manual testing to check hardware components and functionality.
2. Use test scripts for consistent input and playback scenarios.
3. Include real-world usage scenarios like gaming, calls, and music playback.

**5. Test Deliverables**

1. Test cases for all functionalities.
2. Reports on defects and issues found.
3. Final test summary with results and recommendations.

**6. Testing Environment**

1. Devices: Smartphones (Android/iOS), laptops, gaming consoles.
2. Tools: Audio testing apps, performance measurement tools.

**7. Roles and Responsibilities**

1. **Tester**: Execute test cases and record results.
2. **Test Lead**: Monitor the testing process and validate defect fixes.
3. **Developer**: Resolve reported issues and improve design if necessary.

**8. Timeline**

1. **Day 1-2**: Prepare test cases and set up devices.
2. **Day 3-5**: Execute test cases and log defects.
3. **Day 6**: Review results and retest after fixes.

**9. Acceptance Criteria**

1. All buttons and microphone work as expected.
2. Audio playback and recording are of high quality.
3. Headphone is durable and free from major defects.

This plan ensures the headphone meets quality standards and provides an excellent user experience.

**4. Explain the difference between bug and issue by explaining bug cycle steps.**

|  |  |  |
| --- | --- | --- |
|  | Bugs | Issues |
| Definition | Bugs are technical errors in code. | Issues are general problems or concerns in the product or project. |
| Concerns | It causes software to behave incorrectly or unexpectedly. | It is broader concept encompassing not only bugs but also features requests, improvements, and general challenges in development process. |
| Example | If an application calculates on operation incorrectly, it is a bug. | A complicated format/layout or a missing feature in user interface is classified as a problem. |

**Bug Life Cycle Stages:**

A bug life cycle consists of several stages that describe the current state and action of a bug. The exact number and name of the stages may vary depending on the project, organization, or tool used, but the general idea is the same.

**New**

The bug is first detected and reported by a software tester or a user. The bug report should contain all the relevant information about the bug.

**Assigned**

A developer or a team leader who is in charge of resolving the bug gets the assignment. The assignee needs to check the bug report and verify if the bug is genuine or not.

**Open**

The bug is being worked on by the assignee. The assignee should update the bug status and the estimated time for completion.

**Fixed**

The bug is fixed by the assignee and ready for re-testing. The assignee should update the bug status and the resolution details, and request for retesting.

**Retest**

The bug is retested by the reporter or the stakeholder to verify if the bug is fixed or not. The re-tester should update the bug status and the retest result.

**Verified**

The bug is verified by the re-tester and confirmed to be fixed. The re-tester should update the bug status and the verification details, and notify the assignee and the stakeholder.

**Closed**

The bug is resolved and closed. The bug report should contain all the history and information about the bug.

These are some of the basic stages of a bug life cycle. However, there may be some variations or exceptions depending on the situation. For example, sometimes a bug may need to be reopened, deferred, duplicate, rejected, or not a bug.

Rejected

Deffered

Open

Fixed

Retest

Closed

Reopen

New

**5. Prepare a bug report for the failed cases of the headphones.**

### ****Bug Report for Headphones****

#### ****1. Bug ID****: HPH-001

**Title**: Microphone does not transmit audio after attachment.  
**Description**: The detachable microphone fails to transmit audio even after being securely connected to the headphone.  
**Severity**: High  
**Steps to Reproduce**:

1. Attach the microphone to the headphone.
2. Speak into the microphone during a call or recording.
3. No audio is captured.  
   **Expected Result**: Audio should transmit correctly when the microphone is attached.  
   **Actual Result**: No audio transmission.  
   **Status**: Open

#### ****2. Bug ID****: HPH-002

**Title**: Volume up button is unresponsive.  
**Description**: Pressing the volume up button does not increase the audio level.  
**Severity**: Medium  
**Steps to Reproduce**:

1. Play audio through the headphones.
2. Press the volume up button repeatedly.
3. No change in volume.  
   **Expected Result**: Audio volume should increase when the button is pressed.  
   **Actual Result**: No change in volume level.  
   **Status**: Open

#### ****3. Bug ID****: HPH-003

**Title**: Headphones disconnect frequently during playback.  
**Description**: The headphone disconnects intermittently when paired with a smartphone via Bluetooth.  
**Severity**: High  
**Steps to Reproduce**:

1. Pair the headphone with a smartphone.
2. Play audio for 10 minutes.
3. Observe random disconnections.  
   **Expected Result**: Stable connection during playback.  
   **Actual Result**: Frequent disconnections interrupt playback.  
   **Status**: Open

#### ****4. Bug ID****: HPH-004

**Title**: Microphone on/off button does not respond.  
**Description**: Toggling the microphone on/off button has no effect; audio remains on regardless of the button state.  
**Severity**: Medium  
**Steps to Reproduce**:

1. Attach the microphone.
2. Press the microphone on/off button.
3. No change in microphone status.  
   **Expected Result**: Microphone should turn on/off as per the button state.  
   **Actual Result**: Microphone remains active.  
   **Status**: Open

#### ****5. Bug ID****: HPH-005

**Title**: Audio distortion at maximum volume.  
**Description**: Audio playback is distorted when the volume is set to maximum.  
**Severity**: Low  
**Steps to Reproduce**:

1. Play music or audio.
2. Increase the volume to the maximum level.
3. Notice distortion in the sound.  
   **Expected Result**: Clear audio at all volume levels.  
   **Actual Result**: Distorted audio at maximum volume.  
   **Status**: Open

**6. Explain briefly about UI/UX Tests and prepare a Checklist for UI/UX Testing.**

UI/UX testing is the process of verifying the functionalities of the user interface (UI) and keeping the user experience (UX) in check. It helps explore critical bugs that can quickly magnify and may hinder performing basic operations on a web application.

**UI Testing**

1. Focuses on verifying the design and functionality of the user interface.
2. Ensures elements like buttons, links, forms, and layout work as expected across devices and browsers.
3. Checks for visual consistency, responsiveness, and adherence to design guidelines.

**UX Testing**

1. Evaluates the overall user experience by analyzing how users interact with the product.
2. Identifies pain points, bottlenecks, or confusing workflows.
3. Gathers user feedback to optimize navigation, accessibility, and satisfaction.

**Goals of UI/UX Testing**

1. Detect usability and functional issues.
2. Improve product accessibility and ease of use.
3. Enhance user satisfaction and retention

**UI/UX Testing Checklist**

**1. Usability Testing**

* Are all interactive elements (buttons, links, forms) functional and intuitive?
* Is navigation easy and logical across all screens/pages?
* Are user flows (e.g., sign-up, purchase) smooth and free of confusion?
* Is the design consistent across all pages and features?
* Are error messages clear, actionable, and user-friendly?

**2. Accessibility Testing**

* Does the design meet WCAG (Web Content Accessibility Guidelines) standards?
* Are text alternatives (e.g., alt tags) provided for images?
* Can all content be accessed via keyboard navigation?
* Are color contrasts sufficient for readability?
* Is the interface usable by screen readers or other assistive technologies?

**3. Functionality Testing**

* Do all UI components (dropdowns, sliders, buttons) work as intended?
* Are forms validating inputs correctly and displaying relevant error messages?
* Are all internal and external links functional?
* Does the application handle edge cases (e.g., empty states, large inputs)?

**4. Visual Design Testing**

* Are fonts, colors, and styles consistent with the design system?
* Does the layout adjust correctly on various screen sizes (responsive design)?
* Are images and icons correctly aligned and displayed?
* Do animations and transitions enhance the experience without causing delays?

**5. Performance Testing**

* Do pages load quickly on different devices and browsers?
* Are media elements (videos, images) optimized for performance?
* Is the application’s responsiveness unaffected under heavy user load?

**6. Compatibility Testing**

* Does the UI work seamlessly across all major browsers?
* Is the app compatible with different devices and operating systems?
* Are touch gestures (for mobile) functioning as expected?

7**. Security and Privacy**

* Are sensitive fields (e.g., passwords, personal info) masked or encrypted?
* Are there safeguards against unauthorized access or data breaches?
* Are privacy policies clearly accessible to users?

8. **Feedback Mechanism**

* Is there an easy way for users to provide feedback?
* Are surveys, ratings, or support contact options available and functional?

1. **If you encounter a technology or tool you're not familiar with during an internship project, how would you go about learning it?**

* I would first do my own homework. I will research about the tools and technologies that I should be familiar as a QA, as long as I can have access to it.
* If in the duration of internship I encounter such problem, I will check out for official documentations or introductory guidelines for the use and purpose of using such tools or technologies ( like you tube videos).
* If there is still the case that I wont be able to understand or learn it, I shall seek out my colleagues or immediate senior who can guide me.

**7.You can provide your personal experience here that motivates you for this work, which is why you selected QA for the internship.**

* I do not have prior experience in QA or formal coursework in this field. However, one of my mentors introduced me to Quality Assurance, giving me a general idea of its scope and importance, particularly in Nepal.
* This introduction opened a new path for me, and I was immediately drawn to the role of a QA. I realized that as a QA, you don't just focus on software development but contribute to the entire lifecycle, ensuring the final product meets the needs of customers and clients.
* I believe that developing software itself is not enough—it’s essential to create a product that truly satisfies its users. This perspective motivated me the most. **And that’s why, I knew that I’m in for this post as QA** and I am truly excited about the opportunity to contribute to this field.
* Further, it would be great if I can get this opportunity to learn, work and contribute to your esteemed company.