ASSESSMENT TASK

Table of Contents

Question 1

Elaborate on the differences between test cases and test plans with relevant examples.

Difference between test cases and test plans

Test Case:
A test case is a specific, detailed set of instructions to check if a particular functionality or feature of a software or product works as expected. It focuses on testing one scenario at a time.

Example:
A test case for a website might be:
“Verify if the login button redirects to the dashboard upon entering valid credentials.”

Test Plan:
A test plan is a document that defines the overall testing strategy. It includes objectives, scope, resources, schedules, and methodologies.

Example:
A test plan for a website would include details about functional testing for login, navigation, and responsiveness across devices.

Test Case	Test Plan
Validate individual functionalities and are narrower in focus.	Provides a roadmap for the entire testing process and covers overall testing strategy.
It includes: Test_id, description, prerequisites, steps, expected result, actual result, status, remarks.	It includes: Objectives, schedules, resources, and risks.
Prepared as early as possible in the development phase.	Prepared at the start of the project.
Prepared by QA testers.	Prepared by QA leads or managers.

Question 2

A headphone is produced with a detachable microphone. The microphone works only after being connected to the headset. The headphone also has a switch with different buttons - volume, microphone on/off. Now, develop a generalised test case for a freshly produced headphone with all of the scenarios.

Generalized Test Case for Headphones

Test Case ID	Test Case Description	Priority	Preconditions	Test Data	Test Steps	Expected Results
TC_001	Verify that the headphone powers on and functions properly.	High	Headphone is fully charged.	N/A	1. Turn on the headphone.	Headphone powers on and is functional.
TC_002	Verify that the microphone connects properly to the headset.	High	Detachable microphone and headset available.	N/A	1. Connect the microphone to the headphone. 2. Check if the microphone is detected.	Microphone connects securely and is detected by the headphone.
TC_003	Verify the microphone functionality after being connected to the headset.	High	Microphone connected to the headset.	N/A	1. Connect the microphone. 2. Speak into the microphone and check the input on a connected device.	The microphone transmits sound properly when connected.
TC_004	Verify the functionality of the volume control buttons.	Medium	Headphone connected to an audio source.	Audio file for testing.	1. Play an audio file. 2. Use the volume buttons to increase and decrease the volume.	Volume increases and decreases as expected.
TC_005	Verify the microphone on/off button functionality.	High	Microphone connected to the headset.	Audio recording software.	1. Speak into the microphone while toggling the microphone on/off button.	Microphone transmits sound when on and does not transmit when off.
TC_007	Verify the headphone's ability to function in low power mode when the battery is below a critical level.	Low	Headphone battery below 20%.	N/A	1. Play audio and attempt to use the microphone while in low power mode.	Headphone functions in low power mode, but certain features (e.g., microphone) may be limited as specified.
TC_008	Verify compatibility with a range of standard audio devices (smartphones, laptops, gaming	High	Compatible audio devices available.	List of compatible device	1. Connect the headphone to each device. 2. Test audio output	Headphone and microphone function correctly with all

	consoles).			s.	and microphone input on each device.	compatible devices.
TC_009	Verify the headphone's response to simultaneous button presses (e.g., volume up and mic on/off).	Low	Headphone powered on.	N/A	1. Simultaneously press volume up and mic on/off buttons.	Headphone handles simultaneous button presses without malfunction.

Note: A test case may include Test case id, description, test type, priority, prerequisites, test data, test steps, expected result, actual result, status, remarks, and many other columns as per requirement.

Question 3

Prepare a test plan for the above headphone produced.

Test Plan for Headphone with Detachable Microphone

Introduction

This document outlines the test plan for a newly produced headphone with a detachable microphone and various features, including volume control and microphone on/off functionality. The goal is to ensure the product meets functional, non-functional, and compatibility requirements.

Objectives

- Verify the functionality of the headphone and microphone.
- Ensure the durability and reliability of detachable parts.
- Test the compatibility with various devices.
- Assess the usability and overall user experience.

Scope

- **In-Scope:**
  - Testing the microphone attachment and functionality.
  - Testing volume controls and microphone on/off button.
  - Durability testing for detachable parts.
  - Compatibility testing with standard devices.
  - Audio quality testing in different scenarios.
  - Edge case testing for simultaneous button presses.
- **Out-of-Scope:**
  - Environmental tests (e.g., extreme temperature, humidity).
  - Manufacturing defects analysis.

Test Approach

- **Testing Types:**
  - Functional Testing
  - Non-Functional Testing
  - Compatibility Testing
  - Edge Case Testing
  - Regression Testing
- **Testing Levels:**
  - Unit Testing (for components like buttons)
  - Integration Testing (headphone with microphone and audio source)
  - System Testing (complete product)
- **Test Environment:**
  - Devices: Smartphones, laptops, gaming consoles, and other compatible devices.

    - Tools: Audio recording software, audio quality assessment tools.

Test Criteria

- **Entry Criteria:**
    - Prototype headphones are available for testing.
    - Test data and tools are ready.
    - Test cases are reviewed and approved.
- **Exit Criteria:**
    - All test cases are executed.
    - All critical and high-priority defects are resolved.
    - Test summary report is reviewed and signed off.

Test Deliverables

- Test Plan Document
- Test Cases
- Test Data
- Defect Report
- Test Summary Report

Question 4

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

1. **Bug**: A *bug* is an unintended behavior in the software caused by a flaw or error in the code. It leads to the system malfunctioning or behaving incorrectly. Bugs are usually identified during testing or by users.
2. **Issue**: An *issue* is a more general term that can refer to any problem, concern, or task that needs attention. It could be a bug, a feature request, a task to improve performance, or even a question. In many bug-tracking systems, *issues* are the broader category under which bugs fall.

Bug Cycle Steps:

1. **New**: The bug has been reported but not yet acknowledged. It may be found by testers or end-users.
2. **Assigned**: The bug is assigned to a developer or a team to investigate and fix it.
3. **Open**: The developer is actively working on the bug. The cause is being investigated, and a fix is being worked on.
4. **Fixed**: The developer has made changes to the code to resolve the issue. It is now marked as "fixed" but needs to be retested.
5. **Retested**: The bug fix is tested by the quality assurance (QA) team or testers to ensure the bug is truly resolved and that no new issues were introduced.
6. **Verified**: If the fix works and the bug no longer exists, the fix is confirmed, and the bug is marked as "verified."
7. **Closed**: The bug is officially closed when it is confirmed that it is resolved and no further action is required.
8. **Reopened**: If the fix doesn't work or the bug resurfaces after being closed, it may be reopened for further investigation.

Question 5

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

Bug ID: BUG001
Severity: High
Priority: Medium
Status: Open

Title: Microphone does not turn off after pressing the off button.

Description: The microphone does not power off after pressing the "Off" button on the device. Despite the button being pressed, the microphone remains active, and users can still hear audio through the device. This causes inconvenience when users want to mute or power off the device for privacy or during breaks.

Steps to Reproduce:

1. Connect the microphone to the headphone.
2. Turn the microphone on using the switch.
3. Press the microphone off button.

Expected Result: The microphone turns off.
Actual Result: The microphone remains on.

Bug ID: BUG002
Severity: High
Priority: Critical
Status: Open

Title: Microphone does not turn on after connecting it

Description: The microphone does not turn on when connected to a computer via AUX port. Despite being plugged into a functional AUX port, the microphone remains unresponsive and fails to power on. This prevents users from using the device for audio recording or communication.

Steps to Reproduce:

- Plug the XYZ microphone into a working AUXport on a computer.
- Wait for a few seconds to allow the system to detect the device.
- Check if the microphone powers on (the LED indicator should light up or the system should detect the microphone).
- Observe that the microphone remains off and unresponsive.

Expected Result: The microphone turns off.
Actual Result: The microphone remains on.

Question 6

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

UI Testing: Verifies that the user interface elements (buttons, sliders, icons) are functional and visually appealing.

UX Testing: Ensures that the user experience is seamless and intuitive.

UI/UX Testing Checklist:

a. Verify the design consistency (e.g., button sizes and colors).
b. Check if buttons and sliders respond correctly.
c. Ensure labels and icons are clear.
d. Confirm usability across devices (mobile, desktop).
e. Test for accessibility (e.g., contrast, font size).

Question 7

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

If I encounter a new technology or tool during an internship, I would approach it systematically:

1. Start with official documentation or tutorials to build foundational knowledge.
2. Watch video tutorials for a practical understanding.
3. Experiment with small projects to get hands-on experience.
4. Seek guidance from colleagues or online forums if needed.

For example, during my recent project, I learned Node.js by following online tutorials and building simple APIs.

Question 8

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

I'm deeply motivated to pursue a QA internship because I enjoy ensuring products meet the highest quality standards. I find it satisfying to identify issues and help create a flawless product.

My interest in QA started from a mix of hands-on experience and learning. During my graphic design internship, I worked on some projects involving React JS, which made me curious about the technical side of things. Later on, my college offered QA training, where I learned about things like API testing, load testing, and the basics of QA. The more I learned, the more I realized how important testing is to making sure software works well. That's when I became really interested in QA and decided to pursue it further

I also appreciate that QA allows me to combine analytical skills with creativity. This internship is a perfect opportunity to grow my skills and contribute meaningfully to your team.