PC PART PICKER

Software Test Report

Document Change History

Version Number	Date	Contributor	Description
V1.0	03.02.2024	Jameel Nassar	First Document Writing

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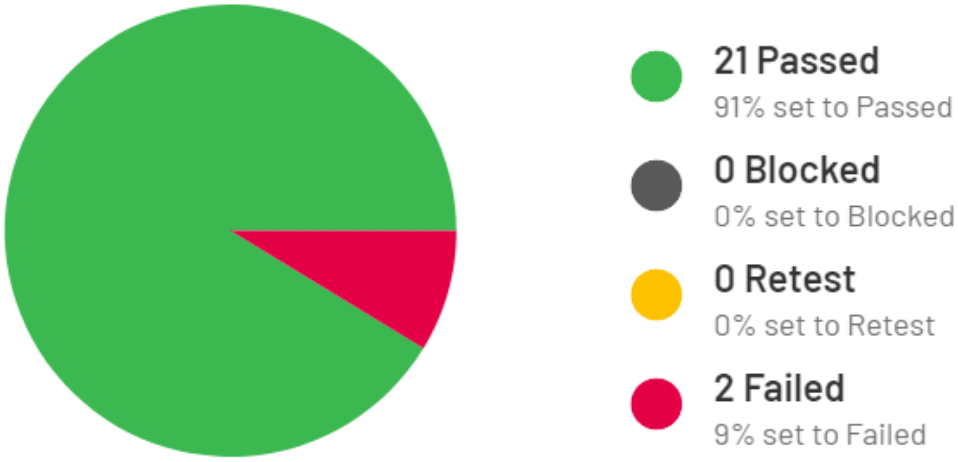


1 Introduction

This test approach document describes the result of PC Part Picker website testing.

1.1 Overview

PC Part Picker is a comprehensive online platform designed to assist users in building custom desktop computers tailored to their specific needs and preferences. It serves as a one-stop destination for both novice and experienced PC enthusiasts, offering a plethora of tools and resources to simplify the process of selecting compatible hardware components and assembling them into a cohesive system.
Key Functionalities:

- Component Catalog: Browse through a vast catalog of computer parts from various manufacturers, including CPUs, GPUs, motherboards, RAM, storage drives, power supplies, cases, and more.
- Comparison Tools: Compare specifications, prices, and user reviews to make informed decisions about which components best suit your requirements.
- Compatibility Checking: Automatically verify that selected components are compatible with each other, helping users avoid potential pitfalls such as mismatched socket types, incompatible form factors, or insufficient power supply wattage.
- Estimation Tools: Estimate power consumption, generate part lists, and share build configurations with others for feedback and advice.
- Community Engagement: Engage with an active community of users and contributors, sharing build ideas, troubleshooting issues, and providing guidance to fellow PC builders.

With its intuitive interface, robust feature set, and active community of users and contributors, PC Part Picker has become an invaluable resource for PC builders worldwide.

1.2 Scope

The test approach for the PC Part Picker website encompasses the evaluation of its functionality, performance, security, and user experience.

1.2.1 In Scope

The scope of testing for the PC Part Picker website includes:

- Testing all functional requirements as outlined in the PC Part Picker functional specifications document.
- Evaluation of application performance to ensure optimal user experience under various load conditions.
- Security testing to identify and address potential vulnerabilities in the system.
- Testing of all identified use cases to verify system behavior.
- Assessment of quality requirements and fit metrics specific to the PC Part Picker system.
- End-to-end testing to ensure seamless integration of all system components.
- Testing of interfaces with external systems or APIs that interact with the PC Part Picker website.

1.2.2 Out of Scope

The following aspects are considered out of scope for the PC Part Picker website:

- Functional testing of systems external to the PC Part Picker website.
- Testing of Business Standard Operating Procedures (SOPs), disaster recovery procedures, and Business Continuity Plans (BCPs).

2 Test Cases

The following test cases were performed on PCPartPicker website.

1. Login with correct credentials
2. Login with wrong username
3. Login with wrong password
4. Registration with already registered email
5. Registration with already registered username
6. Registration with invalid email
7. Registration with invalid password
8. Registration with invalid username
9. Registration without checking TOS
10. Registration without checking UCOC (User Consent and Ownership Confirmation)
11. Registration with not matching email
12. Registration with not matching password
13. Successful registration
14. Advanced searching in CPU section
15. Advanced searching in MOBO section
16. Empty search
17. Price range slider in product page
18. Product that doesn't exist
19. Searching in CPU section
20. Sorting by price descending order
21. Sorting by price increasing order
22. Build random PC
23. Compatibility Testing in pc Building Section
24. Save PC build permalink

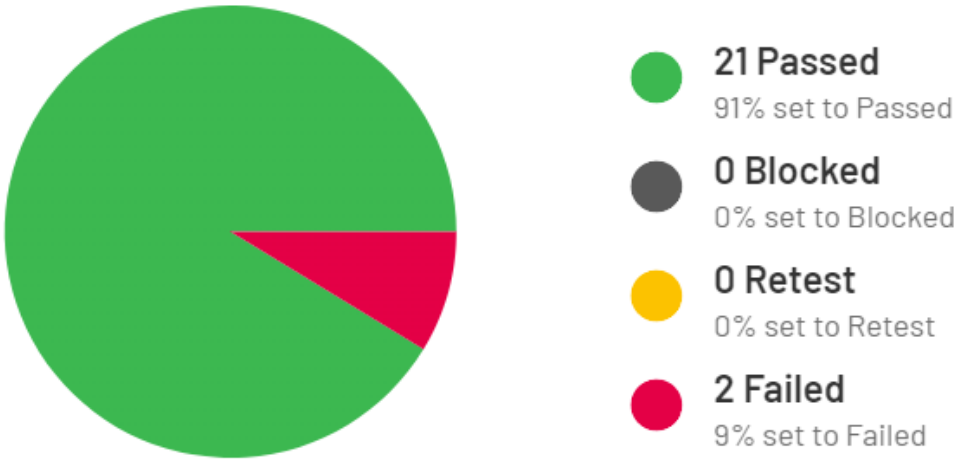
All Test cases were performed on the test environment as described in the STD and STP documents.

3 Results

A comprehensive account of the test execution is detailed below, providing transparency into the testing process and outcomes.

3.1 Summary of Results

- Total Test Cases Planned: 23
- Total Test Cases Executed: 23
- Total Test Cases Passed: 21
- Total Test Cases Failed: 2
- Total Test Cases Blocked: 0



3.2 Defects Found:

3.2.1 Critical

- T7: Registration with invalid password

3.2.2 Medium

- T14: Advanced searching in MOBO section

3.3 Defect Analysis:

3.3.1 T7 - Registration with invalid password

3.3.1.1 Severity***:***

it is categorized as Critical severity to highlight the importance of addressing the issue promptly to prevent potential security incidents and protect user accounts from unauthorized access.

3.3.1.2 Description***:***

When a user attempts to register with an invalid password, such as a password consisting of only two letters, the registration process accepts the input without proper validation. As a result, the system allows users to create accounts with weak or insufficiently secure passwords, which can compromise the security of their accounts and personal information.

3.3.1.3 Root Cause:

1. Insufficient password validation: The registration process lacks adequate validation checks to enforce password complexity requirements.
2. Lack of error handling: The system fails to detect and reject invalid password inputs, allowing them to pass through the registration process without proper validation.

3.3.1.4 Impact:

1. Security risk: Weak passwords increase the likelihood of unauthorized access to user accounts, potentially leading to data breaches or identity theft.
2. User inconvenience: Users may unknowingly create accounts with weak passwords, leading to frustration and potential security issues in the future.

3.3.1.5 Recommendation:

1. Implement robust password validation: Enhance the registration process to enforce password complexity requirements, such as minimum length, inclusion of alphanumeric characters, and avoidance of common or easily guessable patterns.
2. Provide informative error messages: Notify users of password validation requirements and provide clear feedback when an invalid password is entered, guiding them to choose a stronger and more secure password.
3. Educate users: Offer guidance and resources to help users understand the importance of choosing strong passwords and protecting their accounts from unauthorized access.

By addressing these recommendations, the system can improve its security posture and enhance the user experience by promoting the use of strong and secure passwords during the registration process.

3.3.2 T14 - Advanced searching in MOBO section

3.3.2.1 Severity: Medium

Severity is categorized as medium in this scenario due to the impact of the defect on user experience and website usability.

3.3.2.2 Description:

When users perform searches on the website, the search results returned are inaccurate and do not correspond accurately to the search query entered by the user. This inconsistency between the search query and the results displayed indicates a defect in the search functionality of the website.

3.3.2.3 Root Cause:

1. Search algorithm issues: The search algorithm used by the website may be flawed or improperly configured, leading to inaccurate matching of search queries with relevant content.
2. Indexing problems: The website's search index may not be up-to-date or comprehensive, resulting in missing or outdated content in the search results.
3. Filtering and sorting errors: Incorrect application of filters or sorting criteria may lead to the inclusion or exclusion of relevant search results, causing inaccuracies in the displayed results.

3.3.2.4 Impact:

1. User frustration: Inaccurate search results can frustrate users who are unable to find the desired content or products efficiently, leading to a poor user experience and potential loss of user engagement.
2. Decreased usability: Users may lose trust in the website's search functionality, reducing their willingness to use the search feature in the future and diminishing overall website usability.
3. Loss of revenue: Inaccurate search results can result in missed opportunities for product discovery and conversion, potentially impacting the website's revenue generation capabilities.

3.3.2.5 Recommendation:

1. Review and optimize search algorithm: Conduct a thorough review of the website's search algorithm to identify and address any flaws or inefficiencies that may be contributing to inaccurate search results.
2. Update search index regularly: Ensure that the website's search index is regularly updated and maintained to include all relevant content and products, improving the accuracy and completeness of search results.
3. Test filtering and sorting functionality: Verify that filters and sorting options applied to search results function correctly and consistently, providing users with relevant and well-organized search results.

4. Implement monitoring and feedback mechanisms: Implement monitoring tools to track search query performance and user feedback mechanisms to gather insights into user satisfaction and identify areas for improvement in the search functionality.

By addressing these recommendations, the website can improve the accuracy and reliability of its search functionality, enhancing user satisfaction and usability while mitigating potential revenue losses due to inaccurate search results.