

QUALITY ASSURANCE PLAN

Project name: Bikroy.com

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1. Introduction

1.1. Overview

The Quality Assurance (QA) plan for Bikroy.com's website aims to ensure the delivery of a high-quality and reliable platform for users engaging in online buying and selling activities. This plan encompasses comprehensive testing strategies, meticulous documentation, and proactive measures to identify and rectify potential issues. Through systematic testing methodologies and continuous improvement initiatives, the QA plan strives to uphold Bikroy.com's commitment to user satisfaction and trust in its online marketplace.

1.2. Purpose

The purpose of the quality assurance plan for Bikroy.com website is to ensure the platform delivers a seamless and reliable experience for users engaging in online buying and selling activities. By implementing rigorous testing procedures and proactive quality management strategies, the plan aims to identify and mitigate potential issues, thereby maintaining user satisfaction, trust, and the overall integrity of the online marketplace.

1.3. Scope

The scope of the quality assurance plan for Bikroy.com website encompasses comprehensive testing of website functionality, performance, and security across all user interfaces and features. It includes testing on various devices and browsers to ensure compatibility and a seamless user experience. Additionally, the plan covers continuous monitoring and improvement processes to maintain the quality standards of the platform.

1.4. Objectives

The objectives of the quality assurance plan for Bikroy.com website include ensuring:

- The functionality of all website features meets user expectations and requirements.
- The performance of the website remains consistently high, with fast loading times and responsive navigation.
- The security measures are robust, protecting user data and transactions from potential threats.
- The website maintains compatibility across different devices, browsers, and operating systems.
- Continuous monitoring and improvement processes are in place to address any issues promptly and enhance the overall user experience.

2. Project Overview

2.1. Features

Some key features of Bikroy.com:

- Login
- Search
- Categories
- Location-based Search
- Buy and Sell
- Advanced Search Filters
- User Profiles
- Chat System
- Verified Listings System
- Mobile App
- Safety Tips and Guidelines
- Customer Support
- Add system
- Share
- Save Ad
- Feedback and Reviews

2.2. Functionality

Some main functionality of Bikroy.com:

- Users can login the system by using phone number email or google account.
- Users can easily list items they want to sell or offer services they provide, including detailed descriptions, images, and pricing.
- Users can browse through a wide range of categories or use search functionality to find specific products or services they're interested in.
- Users can filter listings based on their location, allowing them to find items available nearby.
- Users can refine their search results using filters such as price range, condition, brand, and more to find exactly what they're looking for.
- Bikroy.com provides a messaging system that allows users to communicate with each other securely within the platform to discuss listings, negotiate prices, and arrange transactions.
- Registered users have their own profiles where they can manage their listings, track their transactions, and view their messaging history.

- Bikroy.com likely offers a mobile-responsive website or mobile app for Android and iOS devices, enabling users to access the platform conveniently on their smartphones or tablets.
- The platform typically provides safety tips and guidelines for users to help them stay safe while buying and selling online.
- Users can leave feedback and reviews for sellers and buyers, helping to build trust within the community and maintain accountability.
- Bikroy.com likely offers customer support services to assist users with any issues or questions they may have while using the platform.

2.3. Navigation

Here is some navigation structure for Bikroy.com:

1. Homepage
 - Login, chat and language settings
 - Search bar
 - Main categories or popular categories
 - Quick links and additional links
2. Categories
 - Electronics
 - Vehicles
 - Property
 - Fashion and Beauty
 - Home and Living
 - Hobbies, Sports and Kids
 - Business and Industry
 - Services
 - Jobs
 - Pets and Animals
 - Food and Agriculture
 - Others
3. Search Results Page
 - List of search results based on the user's query.
 - Filter options such as price range, location, condition, etc.
 - Sorting options such as relevance, price, date posted, etc.
4. Individual Listing Page
 - Detailed information about the product or service
 - Photos or videos

- Seller's contact information
 - Similar listings or related items
 - Options to save the listing or share it on social media
5. User Account
 - Profile information.
 - Listings such as active, sold, expired.
 - Messaging inbox.
 - Settings such as privacy, notifications, etc.
 - Help or support options.
 6. Additional info
 - About Us
 - How it Works
 - Safety Tips
 - Terms of Use
 - Privacy Policy
 - Contact Us
 - Blog or News section
 7. Footer
 - Links to important pages such as about us, help, privacy policy.
 - Social media links.
 - Language options.
 - Copyright information.

2.4. User flow

1. Users on the Homepage
 - The users land on the homepage of Bikroy.com.
 - They are greeted with featured listings, promotions, and popular categories.
2. Creating an Account
 - If the user wants to engage more deeply with the platform, they can create an account.
 - Account creation typically involves providing an email address, creating a password, and possibly verifying their account.
3. Search or Browsing
 - The users may choose to search for a specific item using the search bar or browse through categories to discovering items.
4. Viewing Search Results

- After entering a search query or selecting a category, the user is presented with a list of relevant listings.
 - They can further refine their search using filters such as price range, location, condition, etc.
5. Selecting a Listing
 - The user clicks on a listing that interests them to view more details.
 - They can see photos, read the description, check the price, and view seller information.
 6. Messaging and Transactions
 - Users can communicate with other users via the messaging system to discuss listings, negotiate prices, and arrange transactions.
 - They can finalize the transaction by agreeing on the terms and meeting in person or using payment methods supported by the platform.
 7. Providing Feedback
 - After completing a transaction, users may leave feedback and reviews for each other to build trust and reputation within the community.

3. Test Plan

3.1. Test scenarios

1. Test Scenario 1: Check the Search Functionality
 - Navigate to the homepage.
 - Enter a search query in the search bar.
 - Search for a specific item by name and location such as "iPhone 12 Dhaka". Verify results are relevant and location filters work correctly.
 - Use advanced search filters such as price range, brand. Verify filtering accurately narrows down results.
 - Click the search button.
2. Test Scenario 2: Check the Browsing Categories Functionality
 - Navigate to the homepage.
 - Browse by category such as electronics and subcategories such as mobiles. Ensure proper navigation and filtering options.
3. Test Scenario 3: Check the Viewing Item Details Functionality
 - Select a listing from the search results or category page.
 - View the details of the selected item, including description, photos, and price.
 - Initiate a purchase for an item. Verify the process allows contacting the seller and provides clear instructions.
4. Test Scenario 4: Check the Messaging Functionality

- Log in to the user account.
 - Navigate to the messaging inbox.
 - Send a message to a seller regarding a listing.
 - Verify that the message is delivered successfully.
5. Test Scenario 5: Check the User Account Management Functionality
 - Register a new user account with valid information. Verify successful account creation and confirmation email sent.
 - Update profile information such as name, email, or phone number.
 - Login and logout of the user account using different devices. Verify successful authentication across platforms.
 6. Test Scenario 6: Check the Purchasing Items Functionality
 - Find a listing for an item to purchase.
 - Contact the seller to negotiate the price or ask questions.
 - Agree on the terms of the transaction.
 - Proceed to checkout and complete the purchase.
 7. Test Scenario 7: Check the Payment Gateway Integration Functionality
 - Add an item to the cart and proceed to checkout.
 - Select a payment method such as credit card, mobile banking.
 - Enter payment details and confirm the transaction.
 - Confirm the system displays clear error messages and allows users to retry or choose alternative payment methods.
 8. Test Scenario 8: Check the Feedback and Reviews Functionality
 - Complete a transaction as a buyer or seller.
 - Leave feedback and a review for the other party.

3.2. Test case

Section	Test Case ID	Test Case Description	Test Data	Expected Results
Searching	01	Search item without any name.	Blank	Random items are displayed.
	02	Search for a common item by name and location.	Used MacBook in Dhaka	Search results are displayed and relevant to the search query. Location filter successfully narrows results to Dhaka area.
	03	Search for a misspelled item name.	iPhe 12	Search engine suggests alternatives or displays a message indicating no results found. It shouldn't crash or display irrelevant results.
	04	Use advanced search filters like price range and brand selection.	2500-3000, Samsung	Search results are filtered accurately based on the chosen criteria. Only items matching the selected price range and brand should be displayed.
	04	Apply invalid filters such as negative price range.	-1200	The system displays an error message or prevents selecting invalid options. It

				shouldn't allow searches with nonsensical filters.
Browsing	06	Browse by a category and then a subcategory.	Electronics, Mobiles	User is navigated to the Mobiles subcategory page within the Electronics category. Filtering options specific to Mobiles are displayed.
	07	Browse a non-existent category.	Antiques	The site displays an error message or redirects to a relevant category page
Purchasing Items	08	Initiate a purchase for an item.		The process allows contacting the seller through messaging and provides clear instructions on how to complete the purchase.
	09	Reregistered user, proceed with a purchase using a valid credit card.	01389384774	The purchase is completed successfully. Confirmation email is sent with order details.
	10	Simulate a failed payment scenario.	insufficient funds	The system handles the error gracefully. It should display an error message explaining the issue and allow retrying the payment or choosing an alternative method.
	11	Attempt to purchase an item marked as "Sold" or already purchased by another user.		The system displays a message indicating the item is unavailable and prevents completing the purchase.
Messaging	12	Check the field when the user is unregistered.		The system requires registration for initiating communication with sellers. It shouldn't allow sending messages without an account.
	13	As a registered user, send a message to a seller inquiring about an item.		The message is sent successfully and reaches the seller's inbox. A confirmation message is displayed for the sender.
	14	Reply to an existing message thread between a buyer and seller.		The reply is sent successfully and the updated conversation history is displayed for both participants.
	15	Attempt to send a message with inappropriate content.	offensive language	The system filters or rejects the message and displays an error message explaining why the content is not allowed.
User Account Management	16	Check the field is required or not.	Blank	Form should not be submitted without number.
	17	Check the mobile number accepts more than 11 digits.	123456789098	Should not be submitted more than 11 digits
	18	Check the mobile number accepts less than 11 digits.	1234568	Should not be submitted less than 11 digits
	19	Check the mobile number field accepts other characters.	Ddddddddt576	Should not work without numbers and characters.
	20	Check the space is allowed between mobile numbers digits		Should trimmed the space.
	21	Check the initial three digit accepts without Bangladeshi Mobile Operator (013,014,015,016,017,018, 019)	012,011,001	Should show an invalid operator message.

	22	Register a new user account with valid information.		Account creation is successful. A confirmation email is sent to the provided email address.
	23	As a registered user, edit account information (e.g., name, phone number).		The changes are saved successfully and reflected in the information.
	24	Check the registers user can delete phone number.		Phone number shouldn't be deleted.
Payment Gateway Integration	25	Enter invalid payment information during checkout (incorrect card number).	098754567896	The system detects the error and prevents the transaction. It should prompt the user to correct the information and retry.
	26	Successfully complete a purchase using a valid credit card.	0987655412345	The payment is processed successfully, the order is confirmed, and the user receives a notification.
	27	Successfully purchase an item using an alternative payment method.		The payment is processed successfully, the order is confirmed, and the user receives a notification.
	28	Simulate a scenario where the payment gateway declines the transaction (insufficient funds).		The system displays a clear error message indicating the decline and allows the user to retry or choose another payment method.
	29	Inspect the checkout process for secure communication protocols (HTTPS).		The checkout process uses HTTPS to encrypt user data and payment information during transmission.
OTP	30	Check the field with invalid OTP.	098754	The system can not work with invalid OTP and the form should not be submitted.
	31	Check the field with valid OTP.	123890	The system can work with valid OTP and the form should be submitted.

4. Testing methodology

To ensure the quality of Bikroy.com, a combination of testing methodologies including manual testing, automated testing, and other tools and techniques will be employed:

4.1 Manual Testing:

- Exploratory Testing: Testers will explore the website extensively, trying different features and scenarios to identify any unexpected behavior or usability issues.
- Ad Hoc Testing: Testers will perform spontaneous testing without predefined test cases to uncover any hidden defects.
- Integration Testing:
- User Experience Testing: Testers will evaluate the website from the perspective of end-users, focusing on aspects such as navigation, layout, and overall user satisfaction.
- Regression Testing: After each update or change to the website, testers will manually verify that existing features still work as expected, ensuring that new changes do not introduce regressions.

- System Testing: After Completing all feature try to execute a business scenario such as buy an item.

4.2 Automated Testing:

- Functional Testing: Automated tests will be created to validate the functionality of critical features such as search, browsing, messaging, and purchasing.
- Regression Testing: Automated regression tests will be executed to ensure that existing functionality remains intact after each deployment or code change.
- Load and Performance Testing: Automated tests will simulate a large number of concurrent users to assess the website's performance under heavy load conditions.

4.3 Other Tools and Techniques:

- Cross-Browser Testing Tools: Tools like Selenium WebDriver or BrowserStack will be used to test the website's compatibility and functionality across different web browsers and versions.
- Security Testing: Tools such as OWASP ZAP or Burp Suite will be used to perform security testing, including vulnerability scanning and penetration testing, to identify and mitigate potential security risks.
- API Testing: Tools like Postman or SoapUI will be used to test the functionality and performance of APIs used by Bikroy.com for data exchange and integration with external services.
- Database Testing: Apache JMeter, Redgate SQL Toolbelt will be used to test the database of Bikroy.com website.
- Stress Testing: LoadRunner, Apache JMeter will be used to test the stress of Bikroy.com website.
- Other tools: Cypress, TestNG, Junit, SoapUI, Katalon Studio etc. can be used for automation testing.

5. Testing Schedule

Test Schedule ID:	
Product ID / Name:	Bikroy.com
Number of Tester	03

Test step	Sub Task	Start Date	End Date	Activities/Responsibility
Test Planning and Preparation		20/04/2024	25/04/2024	Define testing scope areas to be tested based on project requirements. Identify testers, test environment, test data, test scripts.
Test Case Design	Design Function Tests, Define the System	26/04/2024	29/04/2024	Design the test cases detailed test cases that outline step-by-step instructions for executing tests. Test cases cover various scenarios, including positive and

				negative test cases, boundary conditions, and edge cases.
Test Development	Develop Test Scripts, Approve Test Development	30/04/2024	2/05/2024	Develop test scripts using appropriate testing frameworks and tools. Test scripts automate the execution of test cases, allowing for efficient and repeatable testing.
Test Execution/Evaluation	Setup and Testing, Evaluation	3/05/2024	10/05/2024	Execute test scripts covering core functionalities of the website. Document test results (pass/fail) and captured screenshots. Log bugs in a designated system with detailed descriptions, steps to reproduce, and expected behavior.
Bug Reporting & Retesting	Bug priority and update reports	11/05/2024	14/05/2024	Developers fix reported bugs based on severity and priority. Testers retest fixed bugs using the same test cases. Update test results and bug reports accordingly.
Regression Testing	Update test results	16/05/2024	18/05/2024	Re-run a subset of key test cases from previous phases to ensure no regressions occurred due to bug fixes.
Reporting & Review		19/05/2024	25/05/2024	Consolidate test results into a comprehensive report. Review overall testing process and identify areas for improvement.

6. Testing Report

This report details the expected results, potential issues encountered during testing of Bikroy.com functionalities, and recommendations for addressing them.

Section	Test Case ID	Test Description	Expected Result	Issue	Suggestions
Search Functionality	01	Search for listings using relevant keywords.	Search results displaying listings containing the keywords.	Search results not relevant.	Refine search algorithm for better keyword matching.
	02	Search with irrelevant keywords or gibberish.	No results found message displayed.	Unclear message for no results.	Provide a more informative message suggesting alternative search terms.
User Registration	03	Register with a valid email and password.	Account creation successful, confirmation email sent.	Email delivery failure.	Verify email delivery settings.
	04	Register with an existing email.	Error message indicating email already in use.	Weak error message.	provide a clearer message suggesting using a different email.

6.1 Bug Reporting & Suggestions

The above table provides a brief example of potential issues encountered during testing. Identified bugs should be logged in a designated system with details like:

- **Test Case ID:** Reference the relevant test case for traceability.
- **Description:** Clearly explain the observed issue.
- **Steps to Reproduce:** Provide a step-by-step guide to replicate the bug.
- **Expected Result:** Describe the behavior expected under normal conditions.
- **Severity:** Classify the bug based on its impact (critical, major, minor).

Recommendations for addressing bugs should be specific and actionable. For instance, for the "weak error message" bug, the recommendation could be to update the error message to say "This email address is already in use. Please try a different email."

6.2 Conclusion

Testing plays a vital role in ensuring the quality and functionality of Bikroy.com. By following a structured testing approach and addressing identified issues promptly, we can create a reliable and user-friendly experience for Bikroy.com users.