**Test Strategy for Learning Hub Website**

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| --- | --- | --- |
| **version** | **updates** | **owner** |
| **V1.0** | **Intial version of test stratgy** | **Eman(PO)** |

**1. Introduction**

This document outlines the test strategy for the **Learning Hub** website, a platform enabling users to register, log in, follow categories, and publish content (articles, videos, audios), with admin capabilities to manage users and posts. The strategy defines the testing approach to ensure quality, functionality, and reliability, aligning with the project’s tight deadline and resource constraints.

## 2. Test Objectives

* Verify that all features (login, register, user home, notifications, categories, publish article, publish audio, publish video, admin home, delete user, delete post) function as per requirements.
* Ensure a seamless user experience for both regular users and admins on Chrome for PC.
* Identify critical defects before the release on Saturday, May 24, 2025.
* Achieve at least 75% test coverage for all specified features through manual functional testing

**3. Test Scope**

**3.1 In Scope**

* **Functional Testing** (manual) for all features:
  + **User Features**:
    - Register: Create user accounts (email, password, username).
    - Login: Authenticate user credentials.
    - User Home: Display user dashboard.
    - Notifications: Alerts for user actions (e.g., new content).
    - Categories: Follow one of two predefined categories.
    - Publish Article: Upload text-based articles.
    - Publish Video: Upload video content.
    - Publish Audio: Upload or record audio content.
  + **Admin Features**:
    - Admin Home: Display admin dashboard.
    - Delete User: Remove user accounts.
    - Delete Post: Remove articles, videos, or audios.
* Testing on the production environment using Chrome on PC.
* Mix of real and dummy test data provided by testers.

**3.2 Out of Scope**

* Non-functional testing (e.g., performance, security, compatibility on other browsers/devices).
* Testing third-party services (e.g., Firebase database, assumed reliable).
* Testing on browsers other than Chrome or non-PC devices.
* Automated testing (manual testing only).

## 4. Test Levels

* **System Testing**: Validates all features end-to-end in the production environment.
* **Acceptance Testing**: Ensures the website meets stakeholder expectations (led by product owner or delegate).

## 5. Test Types

* **Functional Testing**: Manual verification of all features against requirements.
* **Exploratory Testing**: Ad-hoc testing to identify defects not covered by test cases.

## 6. Test Environment

* **Platform**: Production environment (locally run code from GitHub).
* **Browser**: Google Chrome (latest stable version) on PC.
* **Database**: Firebase (third-party, excluded from testing).
* **Risks**:
  + Testing in production may affect live users or data.
  + Single-browser testing (Chrome) may miss compatibility issues.
* **Mitigation**:
  + Use dummy data for sensitive operations (e.g., user registration, content uploads).

## 7. Test Data

* **Type**: Mix of real and dummy data.
* **Source**: Provided by testers (Omar, Eman, Gehad, Hala).
* **Examples**:
  + Real data: Valid emails, realistic article/video/audio content.
  + Dummy data: Test accounts (e.g., testuser1@test.com), sample media files.
* **Management**: Testers document test data in the shared online folder.

## 8. Resources

* **Team**:
  + **Omar, Eman, Gehad, Hala**: Create/execute test cases, report bugs, verify fixes.
  + **Eman (Product Owner)**: Assigns tasks, reviews test cases, validates acceptance (with potential delegation due to recent illness).
  + **Ahmed,Mahmoud**: Fix bugs, update code on GitHub.
* **Environment**: Production environment (locally run via GitHub code).
* **Constraints**: Deadline of May 24, 2025, and limited product owner availability.

## 9. Test Tools

* **Task Management**: Trello (task assignment and tracking).
* **Test Case Management**: GitHub (test cases uploaded, reviewed via Trello cards).
* **Defect Tracking**: Shared online folder (bug reports stored, linked to Trello cards).
* **Communication**: WhatsApp group for team discussions.
* **Browser**: Chrome.

## 10. Test Process

1. **Test Case Creation**:
   * Testers (Omar, Eman, Gehad, Hala) create test cases and upload them to GitHub.
   * Test cases are linked to Trello cards, mentioning the creator for review.
2. **Test Case Review**:
   * Team members review test cases via Trello.
   * Reviewed test cases are marked as “Done” on Trello.
3. **Test Execution**:
   * Eman (product owner) assigns test cases on Trello.
   * Testers execute test cases manually in the production environment (Chrome on PC).
4. **Defect Reporting**:
   * Testers document bugs in the shared online folder.
   * Bug reports are linked to Trello cards, mentioning the responsible developer.
5. **Bug Fixing and Retesting**:
   * Developers fix bugs, update code on GitHub, and notify testers via Trello.
   * Testers review bug status, retest if needed, and communicate via WhatsApp.
6. **Status Tracking**:
   * Testers monitor bug report status to decide on retesting.

## 11. Entry and Exit Criteria

* **Entry Criteria**:
  + Test cases are written, reviewed, and uploaded to GitHub.
  + Website code is accessible via GitHub and can be run locally.
  + Production environment is stable and accessible.
* **Exit Criteria**:
  + 75% of test cases executed for all features.
  + No critical or high-severity defects.
  + All bug fixes verified by testers.
  + Product owner (or delegate) approves the release.

## 12. Risk Management

* **Risks**:
  + Tight deadline (May 24, 2025) with limited time for testing and bug fixing.
  + Product owner’s recent illness may delay task assignment or reviews.
  + Testing in production risks impacting live data or users.
  + Manual testing may miss edge cases due to time constraints.
* **Mitigation**:
  + Prioritize critical features (e.g., login, publish article) for testing.
  + Delegate product owner tasks to another team member if Eman is unavailable.
  + Use dummy data and limit production interactions to safe operations.
  + Incorporate exploratory testing to catch unexpected issues.

## 13. Roles and Responsibilities

* **Product Owner (Eman)**: Assigns test tasks, reviews test cases, validates acceptance criteria.
* **Testers (Omar, Eman, Gehad, Hala)**: Create/execute test cases, report bugs, verify fixes.
* **Ahmed,mahmoud**: Fix bugs, update code on GitHub, communicate fixes via Trello.
* **Team**: Collaborate via WhatsApp for real-time coordination.

## 14. Test Deliverables

* Test Strategy Document (this document).
* Test Cases (uploaded to GitHub).
* Test Execution Reports (summarized on Trello).
* Bug Reports (stored in shared online folder).
* Final Test Summary Report (prepared by testers for product owner).

## 15. Assumptions

* Test cases are comprehensive and cover all features.
* Developers will provide timely bug fixes before the deadline.
* The production environment remains stable during testing.
* Eman’s availability improves, or tasks are delegated effectively.

## 16. Constraints

* Deadline: Saturday, May 24, 2025.
* Limited team availability due to product owner’s recent illness.
* Testing restricted to Chrome on PC in production (no staging environment).
* Manual testing only, increasing time and effort.