

Software Requirements Specification for UXNest

Version 1.0

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Revision History

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1. Introduction

1.1. Purpose

The purpose of this document is to present a detailed description of the Usability Testing Platform. It will explain the purpose and features of the system, the interfaces of the system, what the system will do, the constraints under which it must operate and how the system will react to external stimuli. This document is intended for both the stakeholders and the developers of the system.

1.2. Scope

This software system will be a Usability Testing Platform for software testers, software owners and guest users. This system will be designed to help improve the usability of software products through systematic testing and feedback collection. More specifically, the platform will serve as a collaborative ecosystem where testers, guest users, software owners, and administrators engage in the usability evaluation process to identify, report, and refine usability issues within various software applications. The system will facilitate account management for testers, enable them to report usability issues, and engage with community feedback. Software owners will use the platform to track feedback and discuss testers' findings, while guest users will be able to view and rate these findings, expanding feedback reach. Administrators will control platform activity, manage listings and registrations, and utilize an admin panel for efficient operations. Additionally, the platform will feature a blog page for sharing news and posts related to user experience and usability.

1.3. Glossary

Term	Definition
Guest User	Users that can read and rate the findings without any registration or accounts.
Tester	Users that can add/edit/delete usability problems for the selected software.
Software Owner	Users that can enter the system and add comments on the findings(usability problems) on their software.

1.4. Overview

The remaining sections of this document provide a general description, including characteristics of the users of this project and all requirements and constraints of the product.

- Section 2, General Description section of this document gives an overview of the functionality of the product. It describes the informal requirements and is used to establish a context for the technical requirements specification in the next chapter.
- Section 3, Requirements Specification section of this document is written primarily for the developers and describes in technical terms the details of the functionality of the product. It specifies the functional requirements, data requirements and constraints and assumptions made while designing the system.

2. General Description

2.1. Product Perspective

The Usability Testing Platform is envisioned as an online collaborative tool dedicated to enhancing the quality of software through user-driven feedback and usability analysis. It serves as an autonomous portal where users from various roles -testers, software owners, and guests- interact to refine software products. Testers, upon registering with their email and password, can document and manage usability findings, whereas software owners monitor and discuss these insights to facilitate iterative product enhancements. Guest users can also engage by anonymously rating the reported issues, contributing to a comprehensive understanding of usability.

2.2. Product Functions

2.1.1. User Registration

Allows new users to register to the platform providing their username, email address, password, city(optional), gender(optional) information. Allows software owners to register using their company email address, pending admin approval.

2.1.2. Software Owner Registration

Allows software owners to register providing their username, company email address, password, city(optional), gender(optional), software selection and owner description. Admin approval is needed to complete the registration process.

2.1.3. Login

Enables registered users to access their accounts using their email and password. Verifies user credentials against the database to grant access.

2.1.4. Forgot Password

Offers a mechanism for users to initiate a password reset if users forget their credentials.

2.1.5. Reset Password

Allows users to create a new password for their account after verifying their identity.

2.1.6. Software Listing

Lists the software available for usability testing, with details like name and description, and allows navigation to another page for more detailed information.

2.1.7. Submit Usability Problem Finding

Testers will fill the provided form to report usability issues, select evaluation methods, and upload supporting images or screenshots. Finding will be visible if the submission is approved by the administrators.

2.1.8. List/Edit/Delete Findings

Testers can display their findings in the profile page, make changes if necessary.

2.1.9. Like Findings

All users are allowed to like the findings.

2.1.10. Comment on Findings

Only software owners are allowed to like the findings. They can edit/delete their comments.

2.1.11. List/Edit/Delete Comments

Software owners can display their comments from their profile page. Also, edit and delete their comments on the findings.

2.1.12. Administrator Panel

This panel will be used by administrators.

- Administrators can approve or reject the software owner registration request.
- Administrators can check and approve or reject the finding submission.
- Administrators can add new software through the admin panel to make it available for testing.
- Administrators can manage all user accounts through the admin panel.
- Administrators can add new blog posts through the admin panel.

2.1.13. Send Approval Notification Email

System sends a notification email to inform software owners of their registration status with an administrator confirmation message.

2.1.14. Error Handling

Displays error messages with suggestions for resolution when users encounter issues like 404 or 500 errors. Provides helpful information or suggestions for resolving the error and navigating back to the desired page.

2.3. User Characteristics

For the Usability Testing Platform, users are distinguished by their roles and interaction with the system, each requiring a different set of skills and expertise:

Testers are expected to be proficient in various testing methodologies to be able to assess and report on software usability. Familiarity with usability criterias and experience in providing constructive feedback are also key for this role.

Guest Users require minimal technical expertise. They should be able to navigate the platform's interface to read and rate the usability findings. These users are not expected to register, thus the interface should be intuitive enough for any individual to engage with the content effectively.

Software Owners should have a good understanding of software development processes and usability standards. Basic internet skills, including the use of email for communication and notifications, are essential.

Administrators are expected to have a higher level of technical skill, including familiarity with web administration tools, user management, and content moderation.

2.4. General Constraints

2.4.1. User Registration Limitation

Each email address can only be used to create one tester account to maintain the integrity of the testing process.

2.4.2. Web-Based Interface

The platform will be exclusively web-based and must be accessible through modern web browsers, including Chrome, Firefox, Safari, and Edge, ensuring cross-platform compatibility.

2.4.3. Data Security

All user data, especially sensitive information such as email addresses and passwords, must be encrypted and securely stored to comply with data protection regulations.

2.4.4. Feedback Approval

All usability findings submitted by testers will be subject to admin review and approval before being publicly visible, ensuring quality and relevance of the content.

2.4.5. Commenting

Only software owners will be able to comment on findings related to their software, and these comments will only be visible to the respective testers to maintain structured communication.

2.4.6. Ratings Limit

To prevent spam, users (both registered and guests) will be restricted in the frequency of rating the same finding within a given timeframe.

2.4.7. Image Upload Size

While testers can upload screenshots or images to support their findings, there will be a size limit per image to ensure efficient data management and platform performance.

2.4.8. Concurrent Sessions

The system shall support a high number of concurrent user sessions to ensure stability and responsiveness, which will be defined based on the hosting capabilities and expected user traffic.

2.4.9. Software Listing Updates

The list of software available for testing will be updated by admins only, and a process for software owners to request additions will be established.

2.5. Assumptions and Dependencies

2.5.1. User Internet Proficiency

It is assumed that all user categories are proficient with basic internet usage and can navigate the web-based platform effectively.

2.5.2. Admin Oversight

It is assumed that administrators will be available for the timely review and approval/rejection of user submissions, registrations, and content management to maintain the platform's quality control.

2.5.3. User Feedback Engagement

The platform's effectiveness is partially based on the assumption that users will actively engage in providing feedback and that such feedback will contribute to the improvement of software usability.

2.5.4. Hosting Service

The platform is dependent on reliable hosting services provided by Hostinger, which is expected to offer consistent uptime and the capacity to handle the expected traffic without significant downtime.

2.5.5. Database

The system will utilize DigitalOcean's managed PostgreSQL service for its database requirements, taking advantage of its scalable, on-demand infrastructure to meet the platform's performance and reliability needs. The choice of DigitalOcean PostgreSQL ensures robustness, automated backups, and easy management, anticipating a growing user base and data volume.

2.5.6. Email Delivery Service

The platform's email communication, such as notifications for registration confirmations and administrative communications, depends on Sendinblue's email delivery service. This dependency assumes Sendinblue's API stability and its ability to handle the volume of emails generated by the platform effectively.

3. Specific Requirements

3.1. External Interface Requirements

3.1.1. User Interfaces

3.1.1.1. Home Page

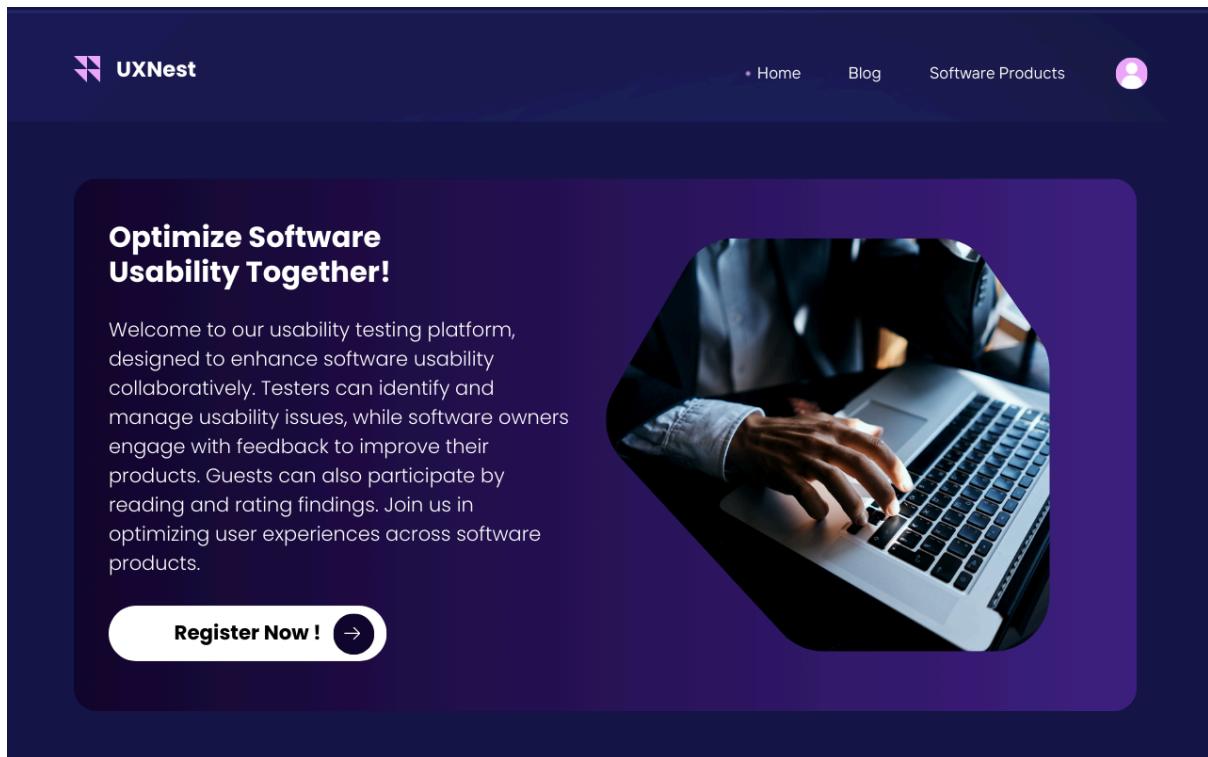
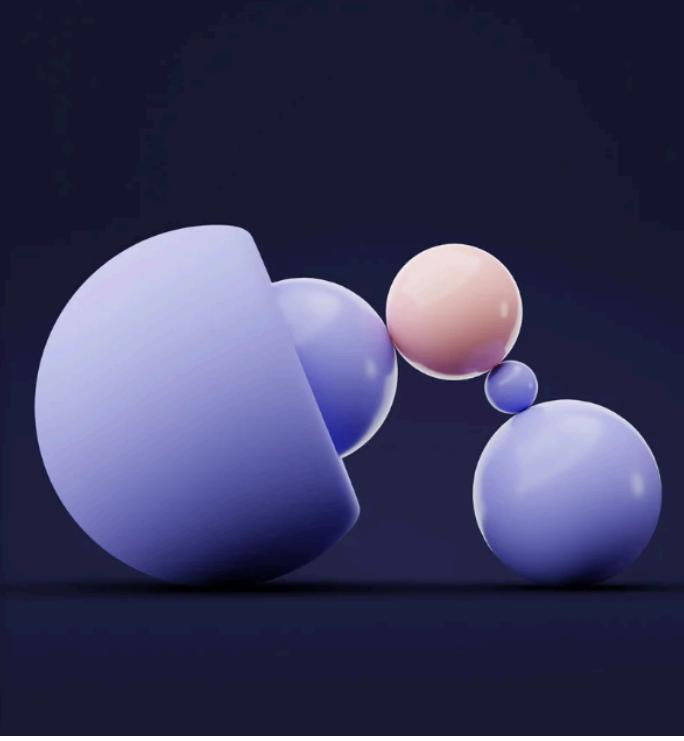


Figure 1: Home Page

3.1.1.2. User Sign Up Page



Create an account

Name *

Email *

Password * 

Gender 

City 

Upload profile picture 

Sign up

Already have an account? [Log In](#)

Do you have a company? [Register for company](#)

Figure 2: User Sign Up Page

3.1.1.3. Company Sign Up Page



Create an account for company

Name *

Email *

Password * 

Software *

Gender 

City 

Provide info about your company *

Upload company logo 

Sign up

Note: Your registration request will be submitted to the admin for approval.

Figure 3: Company Sign Up Page

3.1.1.4. User Login Page

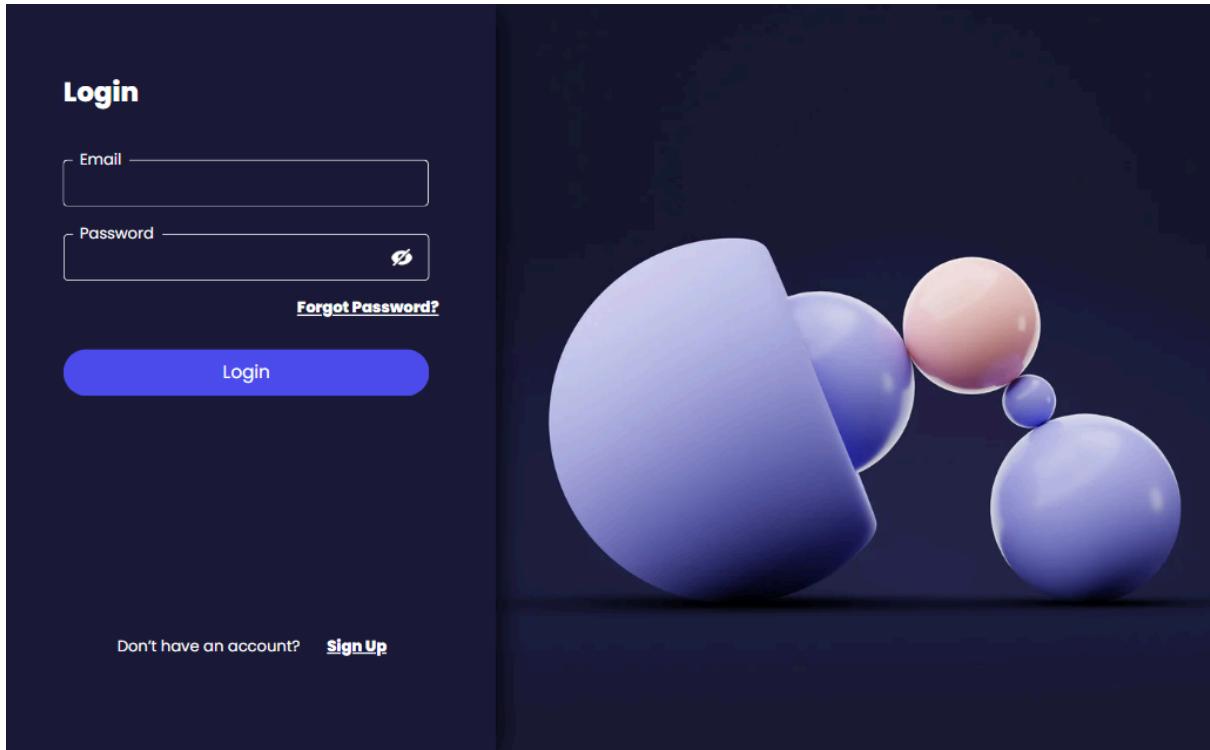


Figure 4: User Login Page

3.1.1.5. Administrator Login Page

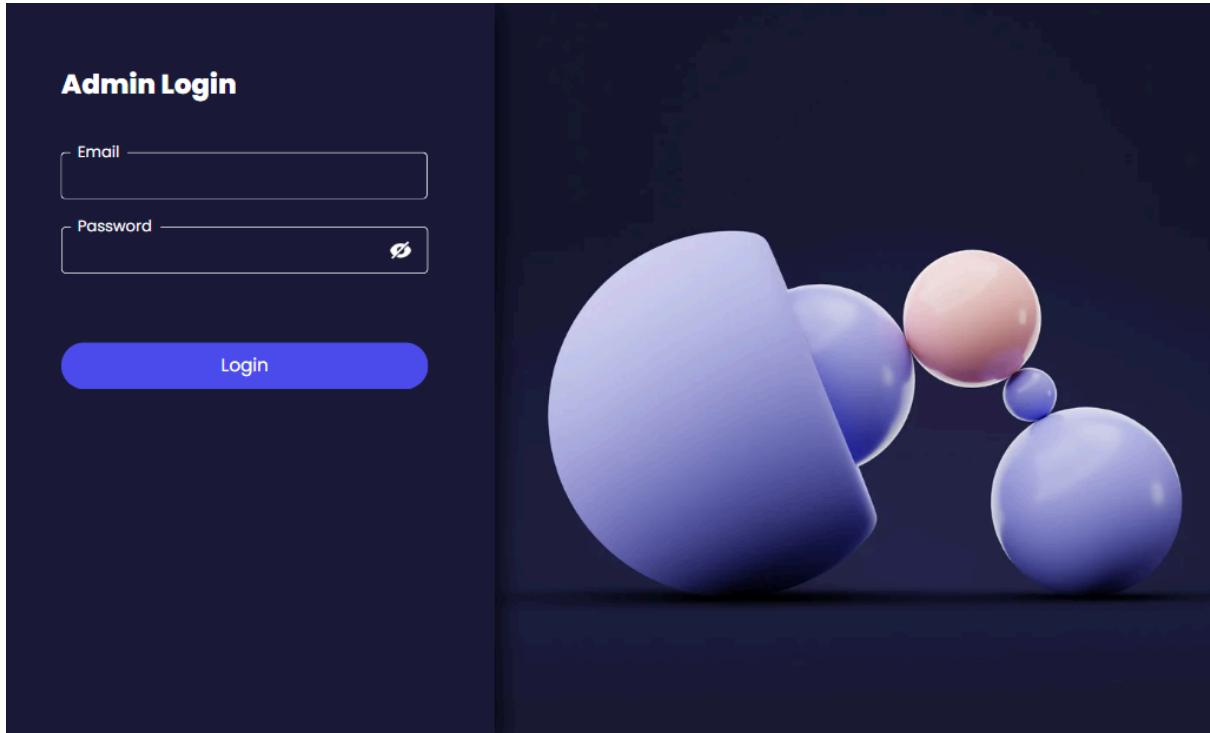
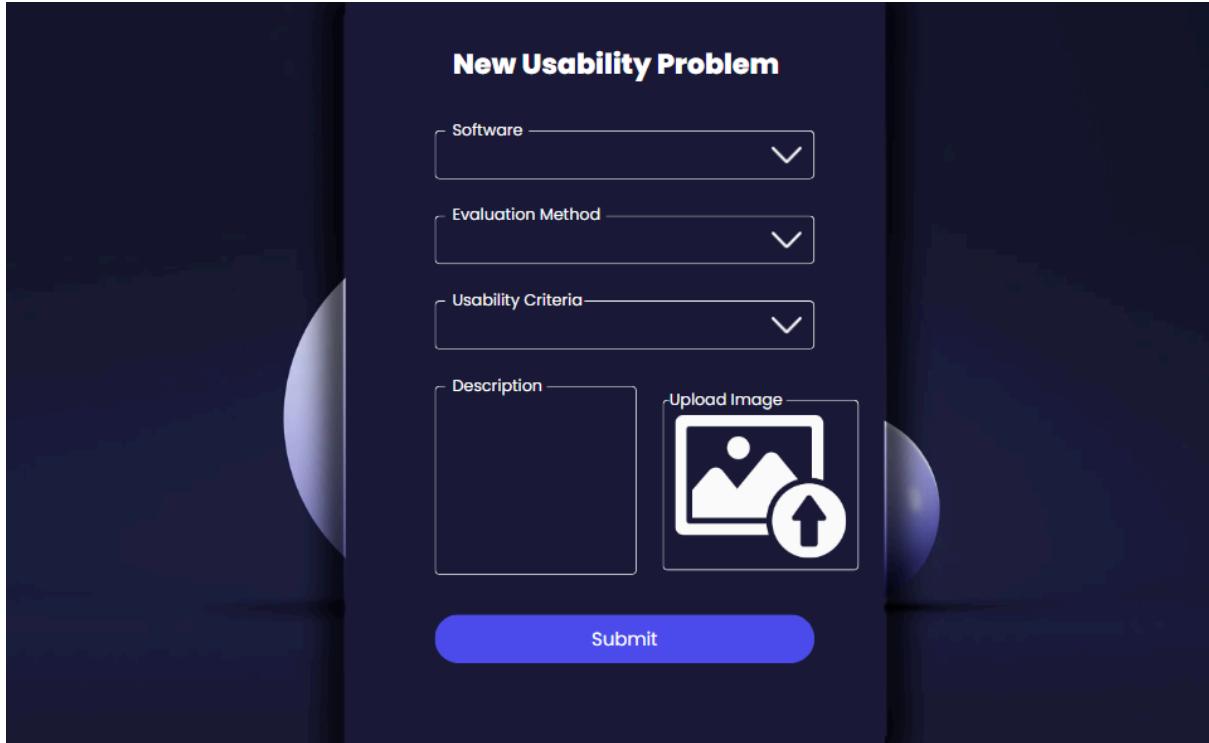


Figure 5: Administrator Login Page

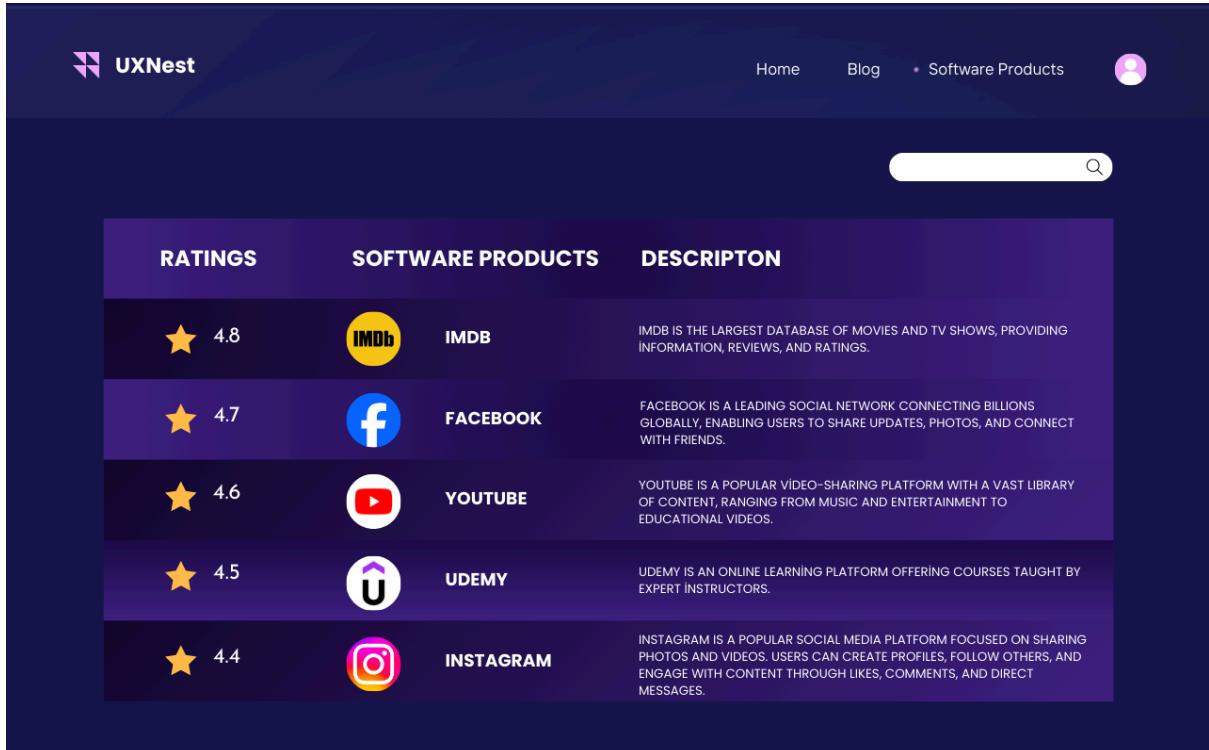
3.1.1.6. Usability Problem Submission Page



The image shows a dark-themed web page titled "New Usability Problem". It features four dropdown menus: "Software" (selected "Software"), "Evaluation Method" (selected "Evaluation Method"), "Usability Criteria" (selected "Usability Criteria"), and a large "Description" input field. To the right of the "Description" field is a "Upload Image" button with a camera icon. At the bottom center is a blue "Submit" button.

Figure 6: Usability Problem Submission Page

3.1.1.7. Software Listing Page



The image shows a dark-themed web page titled "UXNest". The top navigation bar includes links for "Home", "Blog", "Software Products", and a user profile icon. A search bar is located at the top right. Below the header is a table with three columns: "RATINGS", "SOFTWARE PRODUCTS", and "DESCRIPTION". The table lists five software products with their ratings, logos, and brief descriptions.

RATINGS	SOFTWARE PRODUCTS	DESCRIPTION
★ 4.8	IMDb	IMDb is the largest database of movies and TV shows, providing information, reviews, and ratings.
★ 4.7	Facebook	Facebook is a leading social network connecting billions globally, enabling users to share updates, photos, and connect with friends.
★ 4.6	YouTube	YouTube is a popular video-sharing platform with a vast library of content, ranging from music and entertainment to educational videos.
★ 4.5	Udemy	Udemy is an online learning platform offering courses taught by expert instructors.
★ 4.4	Instagram	Instagram is a popular social media platform focused on sharing photos and videos. Users can create profiles, follow others, and engage with content through likes, comments, and direct messages.

Figure 7: Software Listing Page

3.1.1.8. Software Usability Page

The screenshot shows a dark-themed web page titled "Usability of ----". At the top, there are three filter buttons: "Filter by Date" (with a calendar icon), "Filter by Tester" (with a magnifying glass icon), and "Filter by Finding" (with a magnifying glass icon). To the right is a blue button labeled "Add New Finding" with a plus sign. Below the filters is a table with six columns: Date, Tester, Usability Evaluation Method, Violated Criteria, Finding, and Actions. The table contains two rows, both of which are mostly blank except for the "Actions" column, which contains icons for thumbs up and a speech bubble.

Date	Tester	Usability Evaluation Method	Violated Criteria	Finding	Actions
--/-/--	-----	-----	-----	-----	
--/-/--	-----	-----	-----	-----	

Figure 8: Software Usability Page

3.1.1.9. Dashboard

The screenshot shows a dark-themed dashboard titled "STATISTICS ON APP USAGE". It features several data visualizations: 1) A teal box showing "75%" with an icon of a smartphone and the text "Use apps for software owners". 2) A teal box showing "25%" with an icon of a smartphone and the text "Use apps for personal use". 3) A dark blue box titled "TIME AMOUNT IN THE DAY WHERE APP USED" containing a line chart showing usage over the days of the week (S, M, T, W, TH, F, SA). The chart shows a general upward trend from Monday to Friday, peaking around Wednesday and Thursday. 4) A dark blue box titled "APP USE BASED ON USERS" containing a pie chart. The chart shows that 80% of users are "Registered User" and 20% are "Guests".

Figure 9: Dashboard

3.1.1.10. Manage Users Page (Admin Panel)

The screenshot shows the 'Manage Users' page within the UXNest Admin Panel. At the top, there is a navigation bar with links for Home, Blog, Software Products, and Admin Panel. A search bar is located at the top right. Below the navigation, three user profiles are listed in a grid:

- User 1**:
email address: a@example.com
Gender: Male
Delete button
- User 2**:
email address: b@example.com
Gender: Female
Delete button
- User 3**:
Email address: c@example.com
Gender: Male
Delete button

At the bottom of the list, there are page navigation buttons: 1, 2, 3, 4, 5, ..., 512.

Figure 10: Manage Users Page

3.1.1.11. Approve Registration Page (Admin Panel)

The screenshot shows the 'Software List' section of the Admin Panel. The title 'SOFTWARE LIST' is centered above four software entries, each displayed in a card format:

- UDEMY**:
It is an educational technology , mass online open course and online learning platform for adults and students.
Details button
- YOUTUBE**:
It is an educational technology , mass online open course and online learning platform for adults and students.
Details button
- IMDb**:
It is an educational technology , mass online open course and online learning platform for adults and students.
Details button
- FACEBOOK**:
It is an educational technology , mass online open course and online learning platform for adults and students.
Details button

Each card includes a red 'no' icon and a green checkmark icon on either side of the 'Details' button. At the bottom, there are page navigation buttons: 1, 2, 3, 4, 5, ..., 512.

Figure 11: Approve Registration Page

3.1.1.12. Approve Findings Page (Admin Panel)

User	Evaluation Method	Usability Criteria	Finding	
User 1	Heuristic Evaluation	Effectiveness	Lorem ipsum dolor sit amet, consectetur adipiscing elit.	 
User 2	Heuristic Evaluation	Efficiency	Lorem ipsum dolor sit amet, consectetur adipiscing elit.	 
User 1	Heuristic Evaluation	Effectiveness	Lorem ipsum dolor sit amet, consectetur adipiscing elit.	 
User 3	Heuristic Evaluation	Accuracy	Lorem ipsum dolor sit amet, consectetur adipiscing elit.	 

1 2 3 4 5 ... 512

Figure 12: Approve Findings Page

3.1.1.13. Add Blog Post Page (Admin Panel)



UXNest

Home Blog Software Products Admin Panel

Image

Title

Category

Author

Description

Publish

Figure 13: Add Blog Post Page

3.1.1.14. Blog Page

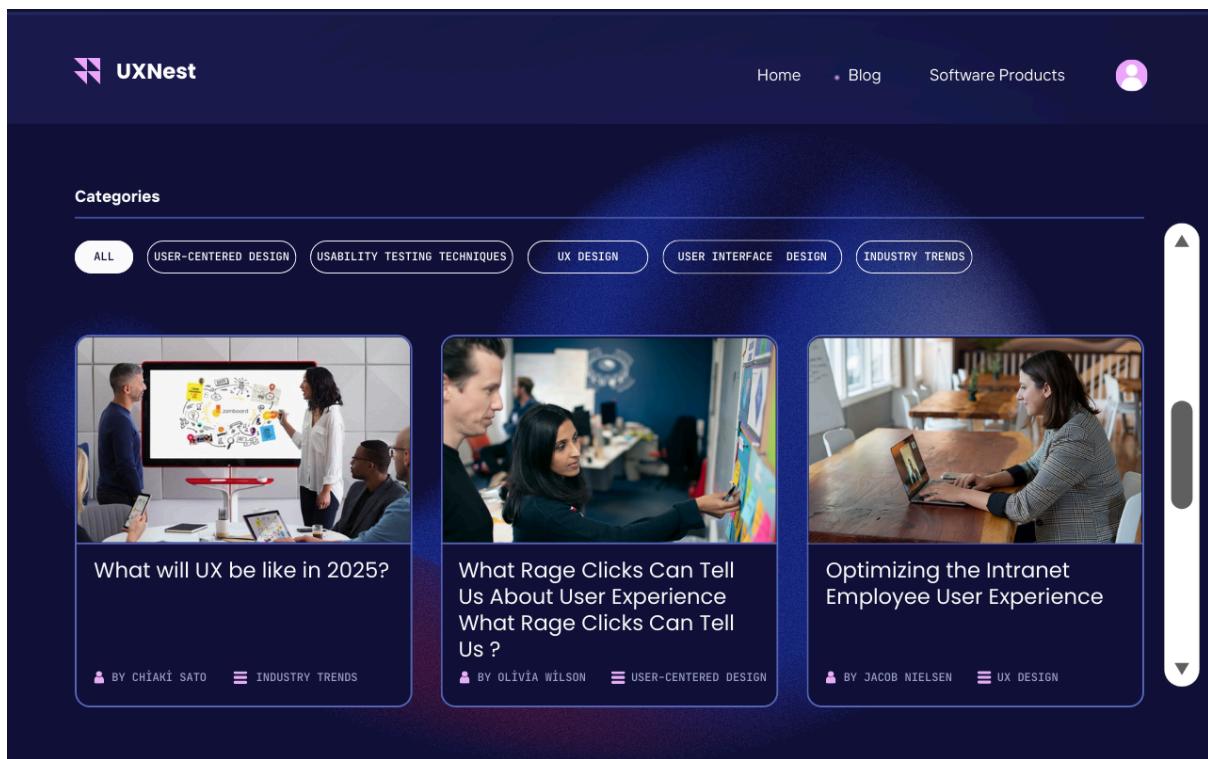


Figure 14: Blog Page

3.1.1.15. Blog Post Detail Page

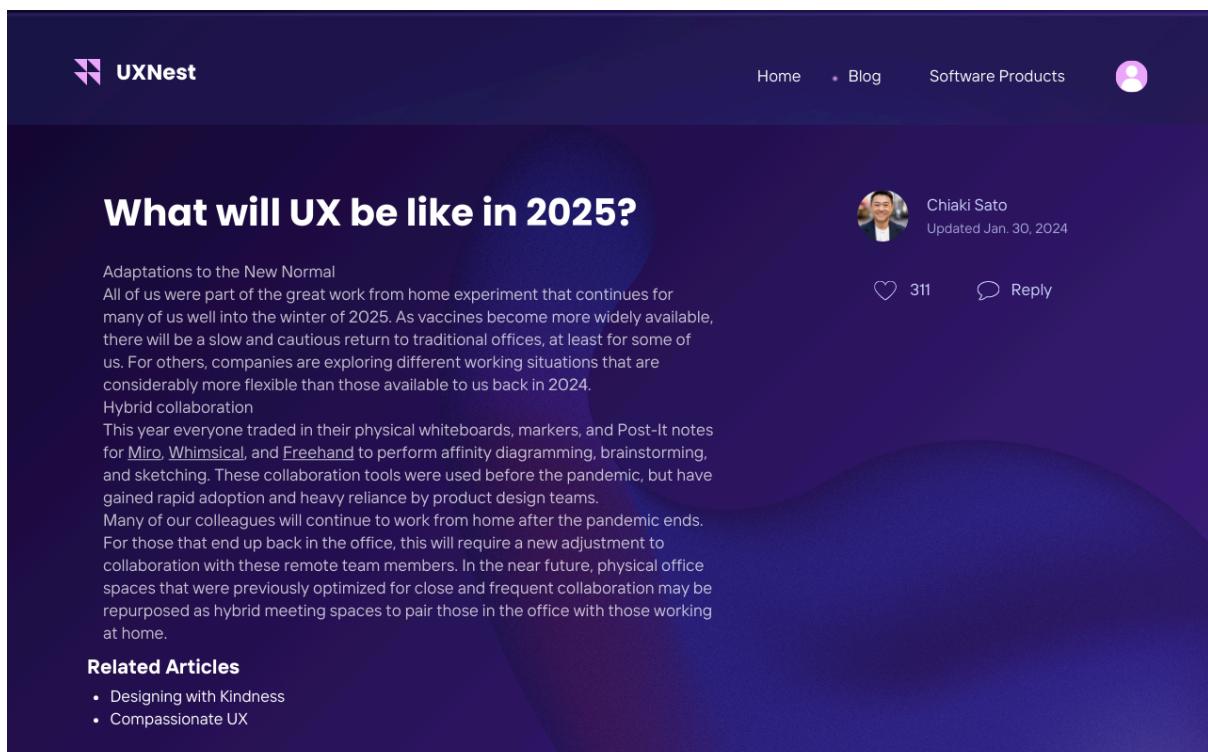


Figure 15: Blog Post Detail Page

3.1.1.16. Error Page 1 (404:Page Not Found)

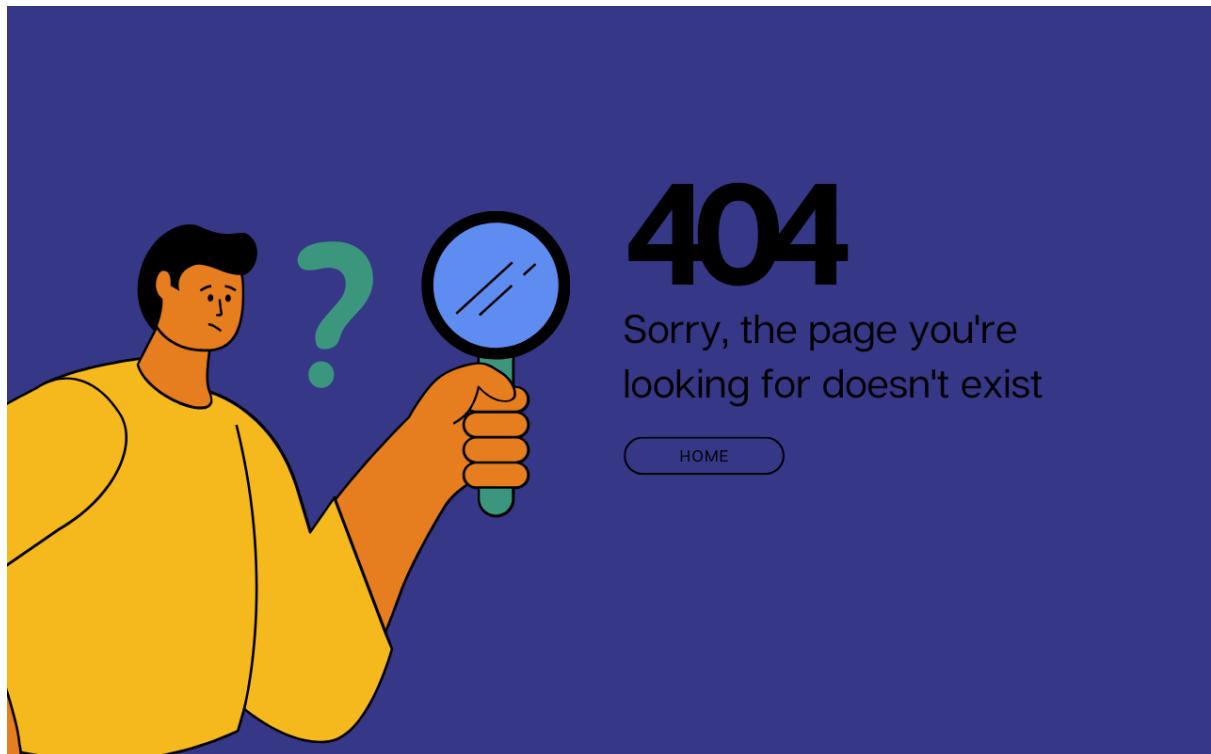


Figure 16: Error Page 1

3.1.1.17. Error Page 2 (Software Not Found)

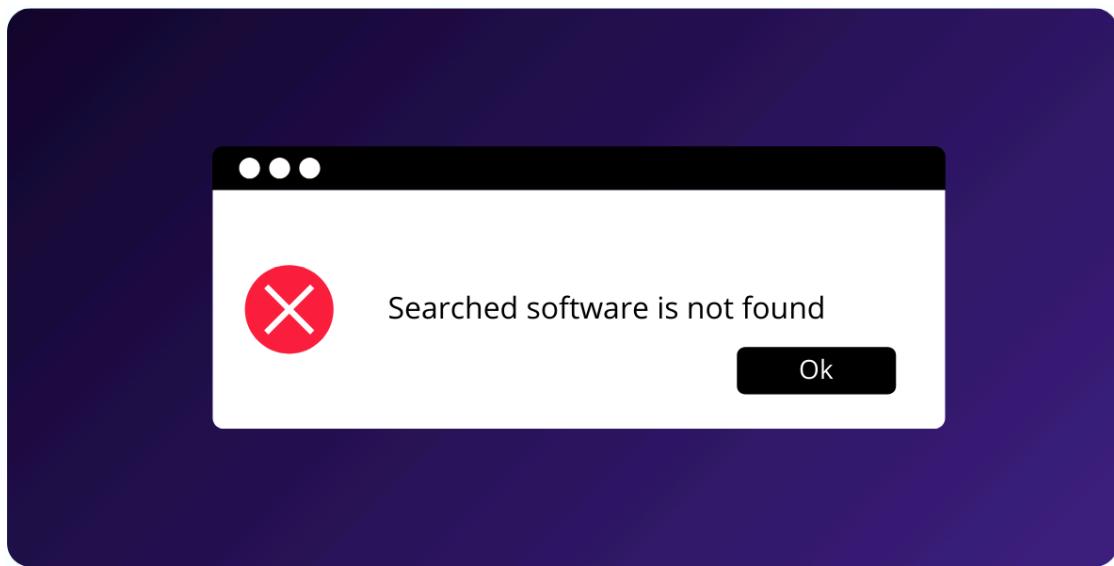


Figure 17: Error Page 2

3.2. Functional Requirements

3.2.1 Use Case Diagram

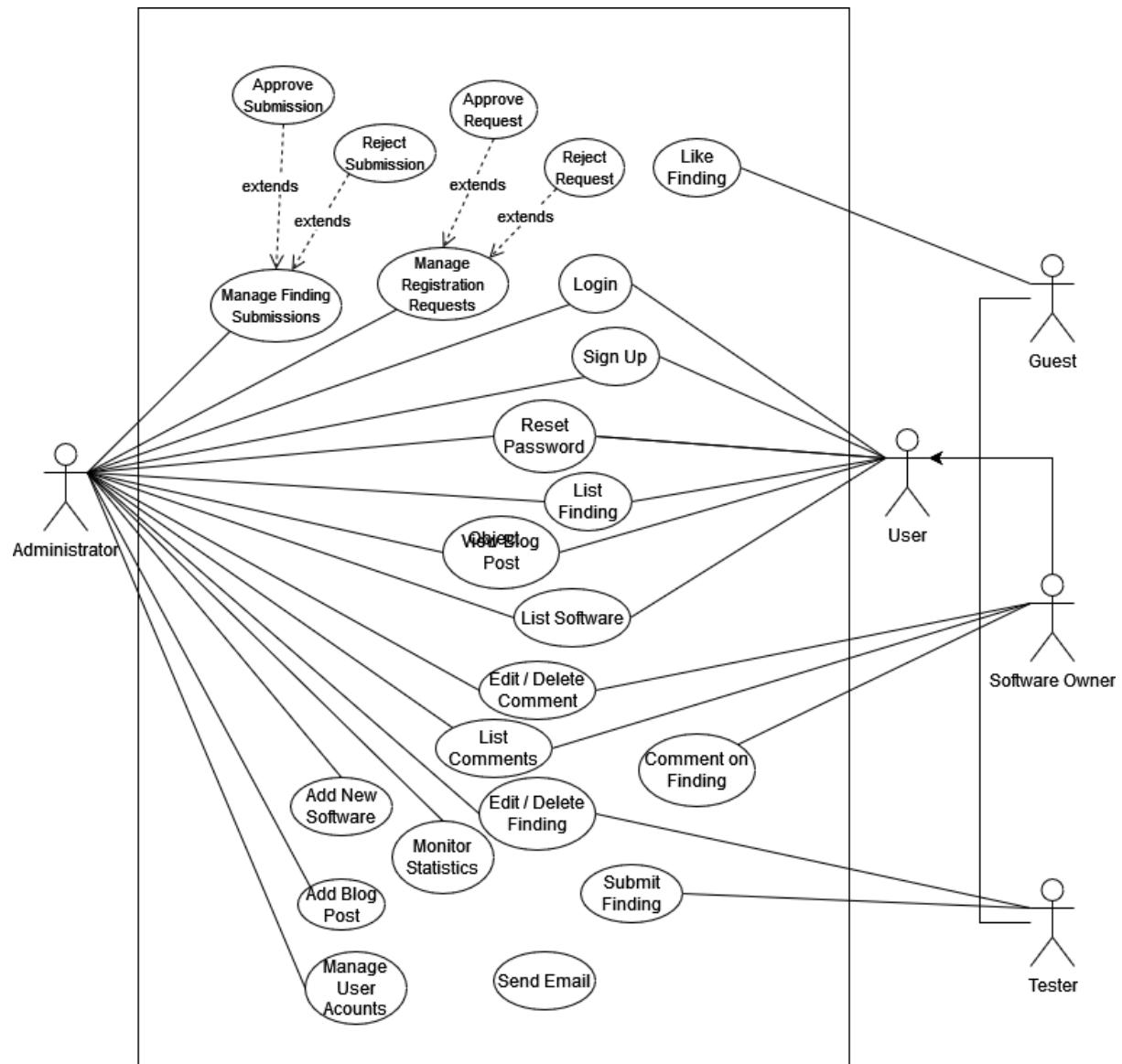


Figure 18: Use Case Diagram

3.2.2 Data Model

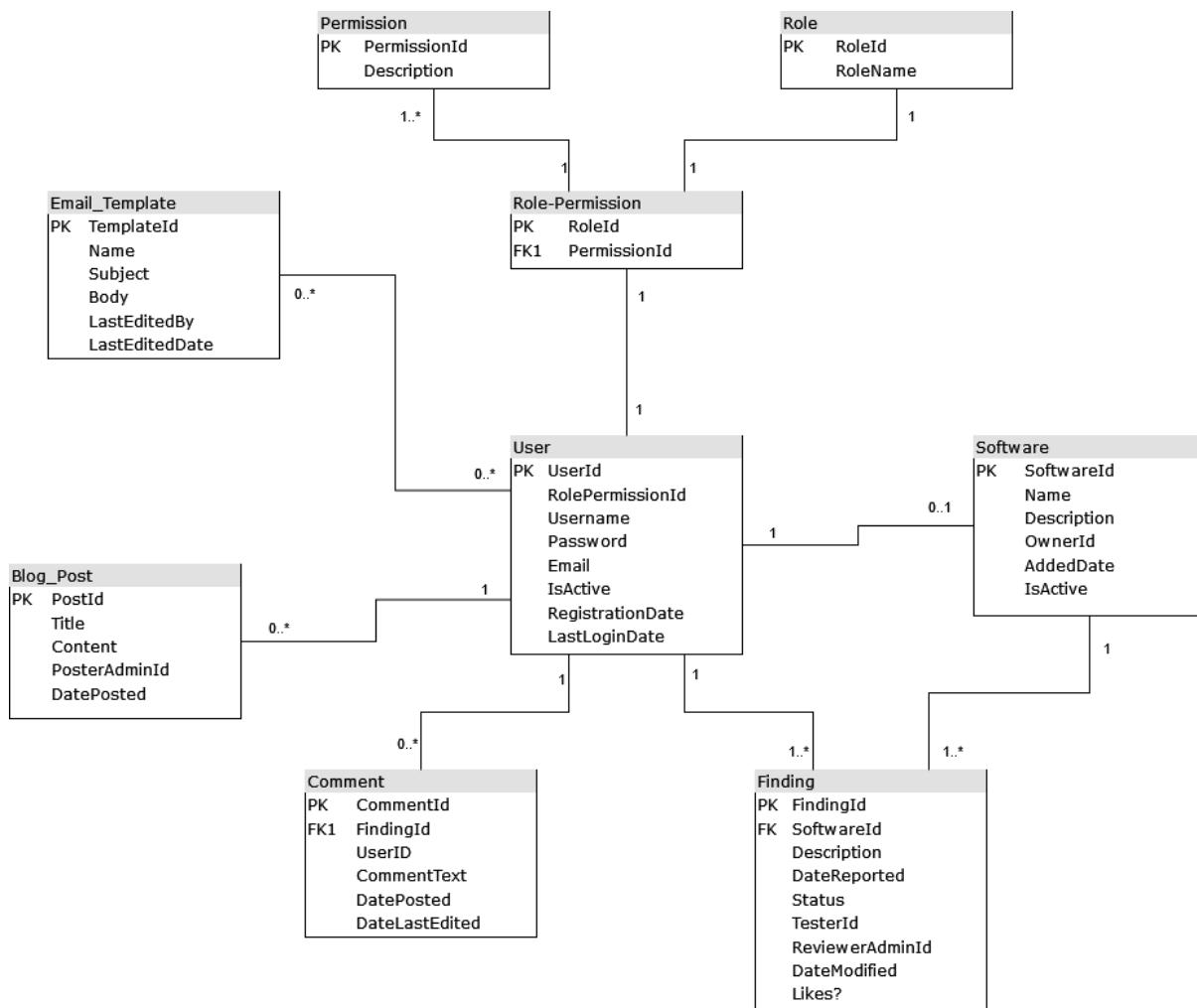


Figure 19: Data Model

3.2.3 Software Listing

3.2.3.1 Description and Priority

This feature displays a list of software available for usability testing, complete with details such as the software's name and a brief description. It also provides functionality for

navigating to a more detailed information page for each software. This feature is considered high priority as it forms the core interface for users selecting software to test.

3.2.3.2 Stimulus / Response Sequences

User: Navigates to the "Software Listing" page.

System: Displays a list of available software titles, each with a name and a short description.

User: Clicks on a software title.

System: Directs the user to a detailed page about the selected software.

3.2.4 Submit Usability Problem Finding

3.2.4.1 Description and Priority

Enables testers to submit detailed reports on usability issues using a form that includes options to select evaluation methods and upload supporting images or screenshots. This feature is essential for gathering valuable user feedback and is therefore assigned a high priority.

3.2.4.2 Stimulus / Response Sequences

User: Navigates to the "Submit Usability Problem" page.

User: Fills out the form detailing the usability issue, selects evaluation methods, and uploads any relevant images or screenshots.

System: Processes the submission and forwards it to administrators for approval.

System: Notifies the tester if the submission is approved and updates the system to include the new finding.

3.2.5 List / Edit / Delete Findings

3.2.5.1 Description and Priority

Allows testers to view, modify, or remove their submitted findings on their profile page. This functionality is crucial for maintaining accurate and current data, making it a high priority.

3.2.5.2 Stimulus / Response Sequences

User: Navigates to their profile page and views their listed findings.

User: Selects a finding to edit or delete.

System: If editing, provides a form to update the finding; if deleting, confirms the deletion request.

User: Confirms the edit or deletion.

System: Updates the findings list accordingly and provides confirmation of the changes.

3.2.6 Like Findings

3.2.6.1 Description and Priority

Permits all users to 'like' usability findings to express agreement or support. This feature is important for community engagement and is given a medium priority.

3.2.6.2 Stimulus / Response Sequences

User: Views a finding on the software's usability page.

User: Clicks the 'Like' button associated with a finding.

System: Increments the like count for the finding and displays the updated like total.

3.2.7 Comment on Findings

3.2.7.1 Description and Priority

This feature allows only software owners to comment on findings related to their software.

It's crucial for enabling owners to provide feedback or explanations, making it a high priority.

3.2.7.2 Stimulus / Response Sequences

User (Software Owner): Views a finding on their software.

User (Software Owner): Submits a comment on the finding.

System: Displays the comment only to the tester who made the finding.

3.2.8 List / Edit / Delete Comments

3.2.8.1 Description and Priority

Enables software owners to manage their comments on usability findings, allowing them to keep their responses accurate and relevant. This is a high priority for maintaining effective communication.

3.2.8.2 Stimulus / Response Sequences

User (Software Owner): Navigates to their profile.

User (Software Owner): Chooses a comment to edit or delete.

System: Either provides an editing interface or confirms deletion.

User (Software Owner): Submits the update or deletion.

System: Reflects the changes on the platform and confirms to the user.

3.2.9 Approve / Reject Software Owner Registration (Administrator Panel)

3.2.9.1 Description and Priority

This function allows administrators to review and decide on the registration applications submitted by software owners. This function is crucial for user satisfaction, so it is a high priority.

3.2.9.2 Stimulus / Response Sequences

User (Administrator): Receives a notification of a new registration request from a software owner.

User: Navigates to the registration management section of the admin panel.

User: Reviews the registration details and chooses to approve or reject the request.

System: Updates the registration status and notifies the software owner of the decision.

3.2.10 Check and Approve / Reject Finding Submission (Administrator Panel)

3.2.10.2 Description and Priority

Administrators have the ability to review usability findings submitted by testers and decide on their publication on the platform. The priority of this function is considered high, as it is crucial for maintaining the quality and reliability of the content displayed on the platform.

3.2.10.2 Stimulus / Response Sequences

User (Administrator): Receives an alert for new findings submitted by testers.

User (Administrator): Accesses the findings review section in the admin panel.

User (Administrator): Evaluates the details of the findings and decides to approve or reject each submission.

System: Updates the findings status accordingly and informs the tester of the approval or rejection.

3.2.11 Add New Software (Administrator Panel)

3.2.11.2 Description and Priority

This function enables administrators to add new software titles to the platform, making them available for usability testing. Because it is essential for continually updating and expanding the range of software available for usability testing on the platform, the priority of this function is considered high.

3.2.11.2 Stimulus / Response Sequences

User (Administrator): Decides to add new software to the platform for testing.

User: Enters the software details into the software addition form in the admin panel.

User: Submits the new software details.

System: Adds the software to the listing and makes it available for testers.

3.2.12 Manage User Accounts (Administrator Panel)

3.2.12.2 Description and Priority

Administrators can manage user accounts, including roles and statuses. The priority of this function is considered high, as it is crucial for maintaining user integrity, security, and ensuring that the appropriate roles and permissions are properly managed within the platform.

3.2.12.2 Stimulus / Response Sequences

User (Administrator): Reviews user accounts for updates or issues.

User: Navigates to the user management section of the admin panel.

User: Performs necessary actions such as updating user roles or deactivating accounts.

System: Applies the changes and logs the activity in the user management logs.

3.2.13 Add New Blog Posts (Administrator Panel)

3.2.13.2 Description and Priority

Administrators can create and publish new blog posts to share news, updates, or educational content related to usability. The priority of this function is high, as it plays a crucial role in engaging the platform's community and providing them with valuable insights and updates on usability practices.

3.2.13.2 Stimulus / Response Sequences

User (Administrator): Prepares to add a new blog post related to usability and user experience.

User: Enters the blog content into the blog management section.

User: Publishes the post or schedules it for a later date.

System: Displays the new blog post on the platform's blog page at the specified time.

4. Non-Functional Requirements

4.1. Performance Requirements

4.1.1. Response Time

The system shall provide web page loading times of no more than 2 seconds under normal conditions and no more than 5 seconds under peak load with up to 1,000 concurrent users.

4.1.2. Scalability

The platform must support scaling to accommodate an increase in user base from 1,000 to 10,000 users without degradation of performance levels.

4.1.1. Availability

The platform shall be available 99.5% of the time, excluding planned maintenance windows, which should be communicated in advance to all users.

4.1.1. Concurrency

The system must handle simultaneous access by multiple types of users (testers, admins, software owners) efficiently, ensuring data integrity and performance stability.

4.2. Security Requirements

4.2.1. User Authentication

All users - except guest users - must be authenticated using their email and a secure password. Passwords must adhere to best security practices, requiring a minimum of 8 characters including upper and lower case letters, numbers, and symbols.

4.2.2. Access Control

The system shall implement role-based access control (RBAC) policies to ensure users can only access data and functionalities specific to their roles.

4.2.3. Data Encryption

Sensitive data, including user personal information and usability findings, shall be encrypted in transit.

4.3. Software Quality Attributes

4.3.1. Usability

The interface shall be intuitive and user-friendly, designed to accommodate users with varying levels of technical expertise, with clear navigation and consistent layout across different pages.

4.3.2. Reliability

The system shall have a mean time between failures (MTBF) of at least 1,000 hours.

4.3.3. Maintainability

Code and architectures used in the platform shall follow industry standard best practices to facilitate easy maintenance and future enhancements. Documentation shall be comprehensive and kept up-to-date.

4.3.4. Portability

The platform shall be compatible with all major browsers, including the latest versions of Chrome, Firefox, Safari, and Edge.