**Sonic Sargam**

**Test Plan**

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Contents

[1. Introduction 3](#_Toc185634951)

[2. Scope 3](#_Toc185634952)

[Functional Testing 3](#_Toc185634953)

[UI/UX Testing 4](#_Toc185634954)

[Performance Testing 4](#_Toc185634955)

[Compatibility Testing 4](#_Toc185634956)

[Security Testing 5](#_Toc185634957)

[Usability Testing 5](#_Toc185634958)

[3. Objectives 5](#_Toc185634959)

[4. Features to Be Tested 5](#_Toc185634960)

[5. Test Strategy 6](#_Toc185634961)

[5.1 Test Types 6](#_Toc185634962)

[5.2 Test Environment 7](#_Toc185634963)

[6. Test Schedule 7](#_Toc185634964)

[7. Test Deliverables 7](#_Toc185634965)

[8. Defect Management 8](#_Toc185634966)

[9. Set Approach 8](#_Toc185634967)

[10. Roles & Responsibilities 8](#_Toc185634968)

[11. Entry & Exit Criteria 8](#_Toc185634969)

[12. Tools 9](#_Toc185634970)

[13. Challenges & Solutions 9](#_Toc185634971)

[14. Approval 10](#_Toc185634972)

**Test Plan Document**

**Project Name: Sonic Sargam**

**Prepared By: Atul Pal**

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# 1. Introduction

Sonic Sargam is a user-friendly music streaming platform designed to deliver an exceptional audio experience. The website allows users to explore, search, and play a wide variety of songs, albums, and podcasts with ease. Key features include a seamless audio player with functionalities like Play, Pause, Shuffle, and Volume adjustments, intuitive navigation across playlists and artists, and a responsive design optimized for desktop and mobile devices. With its engaging interface and smooth performance, Sonic Sargam ensures users enjoy their favorite tunes anytime, anywhere.

**Purpose:**  
This test Plan defines the scope, strategy, approach, and resources required to validate the **Sonic Sargam** website's functionalities. The main focus is to ensure the website delivers a smooth user experience, functional accuracy, performance efficiency, security compliance, and UI/UX consistency.

# 2. Scope

**In-Scope Testing**

## Functional Testing

* + Audio Player Functionality:
    - Play, Pause, Stop, Seek Bar, Next, Previous, Shuffle, Volume Adjustments.
    - Track progress bar display (e.g., Start Time, End Time).
  + User Navigation:
    - Menu links: Playlist, Albums, Artists, Podcasts, Explore.
    - Navigation flow and redirection accuracy.
  + Search Functionality:
    - Search with valid inputs (songs, artists, genres).
    - Search with invalid inputs (non-existent queries).
  + Login/Logout:
    - Successful and unsuccessful login scenarios.
    - Logout button and session handling.
  + Like/Favorite Button:
    - Validation of interaction and feedback upon clicking.

## UI/UX Testing

* + Layout consistency across devices (mobile, tablet, desktop).
  + Button placements, font sizes, and visibility.
  + Color scheme, alignment, and design usability.
  + Playlist grid view and Player component alignment.

## Performance Testing

* + Page load time and speed under various networks (slow, fast).
  + Streaming audio without lag.
  + Response time for:
    - Search requests.
    - Clicking Play, Pause, or Skip buttons.

## Compatibility Testing

* + Browser Compatibility: Chrome, Firefox, Edge, Safari.
  + Device Compatibility:
    - Windows, macOS, iOS, Android.
    - Mobile and tablet responsive behavior.

## Security Testing

* + Login credentials validation (invalid username/password).
  + Session timeout behavior.
  + Logout security: Ensuring no access after logout.

## Usability Testing

* + Intuitive user flow from landing page to music playback.
  + Ease of access to menus, albums, and playlists.

# 3. Objectives

* Verify that the **audio player works seamlessly** with core functionalities like Play, Pause, Seek, Volume, Shuffle.
* Ensure **responsive design** across devices and browsers.
* Validate **UI/UX elements** for consistency, alignment, and smooth navigation.
* Test **search functionality** to handle valid and invalid inputs gracefully.
* Check **login/logout security** and session management.
* Ensure that the **website performs well** under different network conditions.
* Identify and report bugs for resolution.

# 4. Features to Be Tested

|  |  |  |
| --- | --- | --- |
| **Feature** | **Test Scenarios** | **Expected Results** |
| **Audio Player** | Play, Pause, Stop buttons. | Buttons should function as intended. |
|  | Volume adjustment slider. | Volume changes should reflect instantly. |
|  | Seek bar movement and time display. | Time progress reflects actual position. |
|  | Shuffle and Next/Previous buttons. | Tracks should change accordingly. |
| **Navigation** | Menu options: Playlist, Albums, Artists, Explore. | Redirection should work without errors. |
| **Search** | Valid search input (song/artist name). | Correct results displayed. |
|  | Invalid search input. | Show ‘No Results Found’ message. |
| **Login/Logout** | Successful login with valid credentials. | Redirect to dashboard. |
|  | Invalid login (incorrect credentials). | Error message displayed. |
|  | Logout session handling. | User redirected to Login page. |
| **UI/UX Testing** | Fonts, buttons, colors, and alignment. | All elements visually consistent. |
|  | Mobile responsiveness (small screens). | Layout adjusts without breakage. |
| **Performance Testing** | Page load speed (under 2 seconds). | Fast loading across all pages. |
|  | Audio streaming on slow networks. | No significant buffering delays. |

# 5. Test Strategy

## 5.1 Test Types

1. **Functional Testing**: Validate all core features of the website.
2. **UI/UX Testing**: Ensure visual appeal, usability, and consistency.
3. **Performance Testing**: Verify load times and streaming quality.
4. **Compatibility Testing**: Test across multiple browsers and devices.
5. **Security Testing**: Validate login security and session management.

## 5.2 Test Environment

|  |  |
| --- | --- |
| **Component** | **Details** |
| **Browsers** | Chrome, Firefox, Edge, Safari |
| **Devices** | Windows, macOS, iOS, Android |
| **Tools** | Browser DevTools, Network Throttling, Xmind, slack, |
| **Network Conditions** | 4G, Wi-Fi (Fast and Slow connections) |

# 6. Test Schedule

|  |  |  |
| --- | --- | --- |
| **Day** | **Task** | **Start Date** |
| **Tuesday** | Functional Testing: Audio Player, Navigation. | 17-12-2024 |
| **Wednesday** | Search Functionality, Login/Logout Testing. | 18-12-2024 |
| **Thursday** | UI/UX Testing and Usability Testing. | 19-12-2024 |
| **Friday** | Performance Testing (Speed, Network). | 20-12-2024 |
| **Saturday** | Compatibility Testing (Browsers and Devices). | 21-12-2024 |

# 7. Test Deliverables

The following deliverables will be provided:

1. **Test Scenarios and Test Cases**: Documented step-by-step test scenarios.
2. **Bug Report**: A list of identified defects with severity, priority, and status.
3. **Test Execution Report**: Status of passed/failed test cases.
4. **Daily Updates**: Uploaded to GitHub repository.

# 8. Defect Management

* All identified defects will be logged and tracked in **GitHub Issues**.
* Defect Severity:
  + Critical: Blocks core features.
  + Major: Affects key features but has workarounds.
  + Minor: Visual or non-critical issues.

# 9. Set Approach

The testing approach for Sonic Sargam involves a combination of manual and automated testing techniques to cover all aspects of functionality, performance, and usability. Priority will be given to core features like the audio player and navigation.

# 10. Roles & Responsibilities

* **Test Lead:** Atul Pal
  + Oversee test planning and execution.
  + Review and validate test deliverables.
* **QA Engineers:** Team Members
  + Execute test cases and report bugs.
  + Participate in daily standup meetings.
* **Developers:** Project Team
  + Fix identified defects and provide status updates.

# 11. Entry & Exit Criteria

**Entry Criteria:**

1. Requirements and design documents are finalized.
2. Test environment is set up and ready.
3. All test data is prepared.

**Exit Criteria:**

1. All test cases have been executed.
2. No critical or high-priority defects remain unresolved.
3. Test execution report is reviewed and signed off.

# 12. Tools

* **Test Management:** JIRA, Zephyr Squad
* **Defect Tracking:** GitHub Issues
* **Performance Monitoring:** Browser DevTools, Network Throttling
* **Collaboration:** Slack, Xmind

# 13. Challenges & Solutions

* **Challenge:** Handling audio streaming performance under low bandwidth.
* **Solution:** Implement advanced buffering techniques and test under simulated network conditions.
* **Challenge:** Ensuring cross-browser compatibility.
* **Solution:** Use browser testing tools like BrowserStack for diverse testing environments.
* **Challenge:** Managing large test data.
* **Solution:** Use automated scripts for data generation and cleanup.

# 14. Approval

|  |  |  |
| --- | --- | --- |
| Role | Name | Signature |
| Test Lead | Atul Pal |  |
| QA Manager | Anjali Shaw |  |
| Project Manager | Pooja Yadav |  |