MP3er Software Design Specification

Group 5

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1. System Overview

In an era where information and entertainment have become predominantly digital, access to diverse and affordable audio content is paramount. The realm of audio files, particularly mp3 files, encompasses music, podcasts, lectures, and more, enriching our lives, educating us, and connecting us across cultural and geographical boundaries. However, not all audiences across the globe have the luxury of easy access to such content due to regional, economic, or technical restrictions.

1.1. Purpose of the System:

The proposed system aims to bridge the access gap by providing a platform for individuals to upload, download, and search mp3 files directly via a dedicated web application. It will serve as a centralized repository of audio content, ensuring that diverse voices, music, and stories can be shared and heard globally. By offering a space where anyone, regardless of their location or economic status, can access a vast collection of audio files.

2. Development Tasks and Timeline

2.1. Task and Task Distribution

2.1.1. System Architecture

2.1.1.1. Tasks:

- Determine the server infrastructure and cloud services to use.
- Design the database schema
- Design the system's security measures, especially for data storage

2.1.1.2. Team Members:

- System Architect: Makes high-level design choices and dictates technical standards.
- Database Engineer: Focuses on how data will be stored, accessed, and updated.

2.1.2. Frontend Development

2.1.2.1. Tasks:

- Design a user-friendly interface for the application.

- Implement search, edit, upload, and download functionalities.
- Ensure the site is responsive and mobile-friendly.
- Implement user account management features.

2.1.2.2. Team Members:

- UI/UX Designer: Works on the look and feel of the platform, ensuring it's user-friendly.
- Frontend Developers: Implement the designs and ensure functionalities work as intended.

2.1.3. Backend Development

2.1.3.1. Tasks:

- Develop Restful APIs for the frontend to interact with.
- Implement upload, storage, and retrieval mechanisms for mp3 files.
- Design a system for categorizing and tagging content.
- Implement user account management on the backend side.
- Ensure security measures are in place.

2.1.3.2. Team Members:

- Backend Developers: Develop and maintain the server-side logic of the application.

2.1.4. Quality Assurance and Testing:

2.1.4.1. Tasks:

- Develop test cases based on system requirements.
- Perform various tests including unit, integration, system, and acceptance testing.
- Identify, report, and help fix bugs and issues.
- Ensure the system works as intended across different devices and browsers.

2.1.4.2. Team Members:

- QA Engineers: Conduct tests and ensure that the software is of high quality.

2.1.5. Deployment:

2.1.5.1. Tasks:

- Set up the live server environment.
- Migrate the application from the development environment to the live environment.
- Monitor the system's performance and address any immediate issues.

2.1.5.2. Team Members:

- DevOps Engineers: Handle deployment, monitoring, and maintaining the system in a live environment.

2.2. Development Timeline

Week 1-2: Project planning and requirement gathering.

Week 3-5: System design and architecture.

Week 6-10: Frontend and Backend development.

Week 11-13: Initial QA and testing.

Week 14: Address issues found in testing.

Week 15: Deployment to a staging environment.

Week 16: Final QA and any last-minute bug fixes.

Week 17: Official launch and marketing kickoff.

Week 18+: Continuous monitoring, feedback gathering, and iterative improvements.