
Software Requirements Specification

for

SummarEase

Version 1.0 approved

Prepared by

R ARAVIND - AM.EN.U4AIE21151

S. HARIHARASUBRAMANIAM - AM.EN.U4AIE21156

VISHNU SHAJI - AM.EN.U4AIE21167

AMRITA VISHWA VIDYAPEETHAM

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Revision History

Name	Date	Reason For Changes	Version

1. Introduction

1.1 Purpose

Introducing our innovative SummarEase web application, a cutting-edge platform designed to revolutionize the efficiency of audio file handling. With SummarEase, users can seamlessly transcribe and summarize audio files, unlocking a myriad of practical applications. This versatile tool finds its utility across various domains, including but not limited to business meetings, academic lectures, interviews, and content creation. Imagine effortlessly converting lengthy audio recordings into concise, coherent summaries, saving time and enhancing productivity. Busy professionals can streamline their information intake, educators can provide concise study aids, and content creators can expedite the content generation process. SummarEase empowers users to navigate the wealth of audio data with unprecedented ease and precision, making it an indispensable asset for anyone seeking to optimize their workflow and extract valuable insights from audio content.

1.2 Document Conventions

In crafting the SRS document for SummarEase, adherence to specific standards and typographical conventions has been diligently maintained to enhance clarity and facilitate effective communication. Some notable conventions include:

- 1. **Prioritization Hierarchy:** The document follows a standardized prioritization system, with higher-level requirements implicitly indicating priority for associated detailed requirements.*
- 2. **Formatting for Emphasis:** Consistent formatting, including bold, italics, or underline, is used to highlight key points and critical information.*
- 3. **Section Headings and Numbering:** Clear, hierarchical section headings and a systematic numbering scheme provide a structured framework for easy navigation and reference.*
- 4. **Consistent Font and Typeface:** A uniform font and typeface ensure a professional and cohesive presentation for enhanced readability.*

1.3 Intended Audience and Reading Suggestions

- 1. Developers.*
- 2. Project Managers.*
- 3. Marketing Staff.*
- 4. Users.*
- 5. Testers.*
- 6. Documentation Writers.*

This suggested reading sequence ensures that each audience group gains the most relevant information tailored to their roles and responsibilities within the SummarEase project.

1.4 Project Scope

The SummarEase software is a sophisticated web application designed to transcribe and summarize audio files, catering to the increasing demand for efficient content handling in diverse

professional and educational settings. The primary purpose of SummarEase is to streamline information extraction from audio content, providing users with a powerful tool to convert lengthy recordings into concise and coherent summaries. The software aims to enhance productivity by saving valuable time spent on manual transcription and summarization tasks. The key benefits include improved information accessibility, faster content creation, and heightened efficiency in scenarios such as business meetings, academic lectures, interviews, and content generation. The overarching objective is to empower users with a versatile solution that aligns with corporate goals of optimizing workflows, facilitating effective communication, and staying at the forefront of technological advancements in content management. SummarEase is envisioned as a pivotal asset, aligning with long-term business strategies by addressing the evolving needs of users seeking to extract valuable insights from audio content seamlessly.

1.5 References

[TailwindCSS](#)
[React](#)
[FastAPI](#)
[SQLite](#)
[Python](#)

2. Overall Description

2.1 Product Perspective

SummarEase emerged as a novel, self-contained product developed to address the growing need for efficient audio file transcription and summarization. It is not a replacement for existing systems but rather a pioneering solution that stands independently, offering advanced features to meet the contemporary demands of diverse users. While it is designed as a standalone application, SummarEase can seamlessly integrate with other existing systems or workflows, enhancing its versatility and adaptability.

Context and Origin:

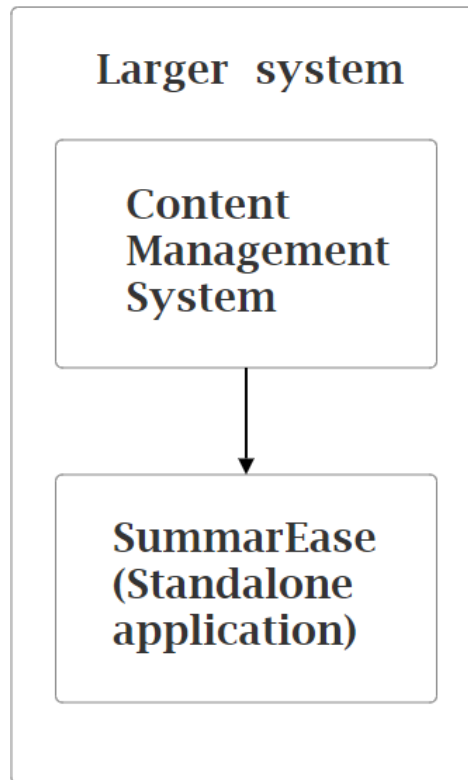
SummarEase is born from a recognition of the challenges posed by the increasing volume of audio content in various professional and educational domains. Its development is a response to the need for a streamlined, intelligent tool that goes beyond basic transcription, offering users the ability to distill key information from audio recordings efficiently.

Relation to Larger Systems:

While SummarEase is a standalone product, it can integrate into larger systems or workflows where audio content management is a crucial aspect. For instance, it could complement content management systems, communication platforms, or educational technology ecosystems.

System Overview Diagram:

A simplified diagram illustrates the major components of the overall system, highlighting SummarEase's position and interfaces:



2.2 Product Features

SummarEase offers the following features:

1. Audio Transcription:

- SummarEase excels in accurately transcribing audio files, converting spoken words into written text.

2. Content Summarization:

- The application intelligently analyzes transcribed content and generates concise and coherent summaries.

3. User-Friendly Interface:

- A streamlined and intuitive user interface facilitates easy navigation and interaction for a seamless user experience.

4. Multi-Format Support:

- SummarEase supports a variety of audio file formats, enhancing flexibility for users with diverse content sources.

5. Time-Saving Automation:

- SummarEase significantly reduces the time and effort required for manual transcription and content summarization tasks.

6. Export and Sharing:

- Users can easily export transcriptions and summaries in various formats, facilitating sharing and collaboration.

2.3 User Classes and Characteristics

1. Regular Users:

- *Characteristics:* These are everyday users who utilize SummarEase occasionally for tasks such as meeting note extraction, lecture summaries, or personal content management.

- *Requirements:* Intuitive interface, basic summarization controls, and ease of use.

2. Power Users:

- *Characteristics:* More frequent users who rely heavily on SummarEase for professional or academic purposes. They may require advanced features and customization options.

- *Requirements:* Advanced summarization settings, bulk processing capabilities, and customizable preferences.

3. Administrators:

- *Characteristics:* Users responsible for managing accounts, overseeing usage, and ensuring system security.

- *Requirements:* User management features, access controls, and security-related functionalities.

4. Integration Partners:

- *Characteristics:* Developers or technical experts integrating SummarEase into other systems or platforms.

- *Requirements:* API documentation, compatibility support, and system integration capabilities.

5. Educational Users:

- *Characteristics:* Students or educators using SummarEase for educational purposes, such as extracting key points from lectures or academic discussions.

- *Requirements:* Collaboration features, export options for educational materials, and compatibility with learning management systems.

- **Favored User Classes:** Regular Users and Power Users are the primary focus, as they represent the majority of the user base. The application aims to provide a user-friendly experience with essential features catering to their needs.

- **Less Important User Classes:** While every user class is essential, Integration Partners and Administrators may have specialized requirements that are secondary to the primary user experience. Their needs are addressed but are not the central focus for the average user.

2.4 Operating Environment

SummarEase is a versatile web application, accessible through popular web browsers like Google Chrome, Mozilla Firefox, Microsoft Edge, and Safari. Operating seamlessly on standard computing hardware, SummarEase coexists with common software components and integrates with external services such as cloud storage platforms. With a responsive design for mobile devices, the application ensures accessibility on smartphones and tablets. Security is prioritized, and SummarEase seamlessly works with standard security software. The adaptable and inclusive nature of SummarEase's operating environment caters to a diverse user base across different platforms and configurations.

2.5 Design and Implementation Constraints

The technology stack for the SummarEase project will be - ReactJS, TailwindCSS, FastAPI, SQLite, Python. The main goal of SummarEase is responsive and a user-friendly interface and accurate transcription of the audio content.

2.6 User Documentation

There is no complexity in using SummarEase as the user has to only upload an audio file and the rest shall be taken care of by the application without the user's intervention.

2.7 Assumptions and Dependencies

SummarEase's development is contingent on several assumptions and dependencies. These include the assumed availability and ongoing support of third-party APIs, stable internet connectivity for users, and regular updates of web browsers for compatibility. The stability of the regulatory environment regarding data processing is assumed, along with the continued availability and service quality of the chosen hosting provider. Additionally, the project assumes user adoption in line with expectations and the availability of development resources throughout. Continuous monitoring of these factors is essential, as any discrepancies or changes may impact the project's timeline, features, or overall performance, necessitating proactive adjustments to maintain alignment with requirements.

3. System Features

3.1 Audio Transcription

3.1.1 Description and Priority

- *Description: This feature enables SummarEase to transcribe audio files accurately, converting spoken words into written text.*
- *Priority: High.*

3.1.2 Stimulus/Response Sequences

- *Stimulus: User uploads an audio file for transcription.*
- *Response: SummarEase processes the audio, transcribes it into written text, and presents the transcription to the user.*

3.1.3 Functional Requirements

- *REQ-1: The system must support common audio file formats (e.g., MP3, WAV).*
- *REQ-2: The transcription algorithm must accurately convert spoken words into written text.*
- *REQ-3: Users should be able to upload audio files via a user-friendly interface.*
- *REQ-4: The system must provide real-time feedback on the transcription progress.*

3.2 Content Summarization

3.2.1 Description and Priority

- *Description: This feature intelligently analyzes transcribed content and generates concise and coherent summaries.*
- *Priority: High*

3.2.2 Stimulus/Response Sequences

- *Stimulus: User requests a summary of a transcribed audio file.*
- *Response: SummarEase analyzes the transcribed content and provides a concise summary to the user.*

3.2.3 Functional Requirements

- *REQ-1: The system must use natural language processing to identify key points in the transcribed content.*
- *REQ-2: Users should have the option to customize summarization parameters.*
- *REQ-3: SummarEase must generate summaries that are coherent and relevant to the context.*
- *REQ-4: The system should provide a preview of the summary for user verification.*

3.3 User-friendly Interface

3.3.1 Description and Priority

- *Description: This feature ensures a streamlined and intuitive user interface for easy navigation and interaction.*
- *Priority: Medium.*

3.3.2 Stimulus/Response Sequences

- *Stimulus: User accesses the SummarEase application.*
- *Response: The system displays a user-friendly interface for effective interaction.*

3.3.3 Functional Requirements

- *REQ-1: The user interface must be responsive and accessible across different devices.*
- *REQ-2: Navigation within the application should be intuitive, with clear labels and controls.*
- *REQ-3: Users should receive real-time feedback on their interactions.*
- *REQ-4: The system must provide assistance and tooltips for users unfamiliar with the interface.*

4. External Interface Requirements

4.1 User Interfaces

SummarEase features three distinct user interfaces: the Audio Transcription Interface for uploading and monitoring audio file transcriptions, the Content Summarization Interface for customizing summaries, and the User-Friendly Interface for overall application navigation. These interfaces adhere to industry GUI standards, ensuring a consistent user experience with responsive design, standardized buttons, clear error messages, and limited keyboard shortcuts. Detailed design specifications for these interfaces are documented in a separate User Interface Specification.

4.2 Hardware Interfaces

SummarEase is designed for versatile accessibility, supporting desktops, laptops, and mobile devices through standard web browsers. It ensures smooth data and control interactions, utilizing HTTP/HTTPS for web-based communication and WebSockets for real-time updates. Compatibility with Windows, macOS, and mobile operating systems, along with a stable internet connection requirement, ensures a seamless user experience across various devices.

4.3 Software Interfaces

SummarEase establishes crucial connections with various software components, ensuring compatibility with Windows and macOS operating systems, accessibility through popular web browsers, and communication via HTTP/HTTPS protocols for data exchange. Real-time updates during transcription leverage WebSockets, enhancing user engagement. The potential integration with third-party APIs, such as cloud storage, expands functionality and data export capabilities, adhering to RESTful principles for standardized communication.

4.4 Communications Interfaces

SummarEase establishes communication using HTTP/HTTPS for secure and standardized data exchange, while real-time updates leverage WebSockets. The application prioritizes optimized data transfer rates for efficient performance during file uploads and updates. Security measures include encryption through TLS/SSL, ensuring the protection of user data. Synchronization mechanisms maintain real-time consistency, crucial for progress indicators and user data across devices. Email notifications follow standard protocols like SMTP, and electronic forms adhere to web standards for an intuitive user interface. Clear and standardized error messages enhance user guidance. These measures collectively contribute to the reliability, security, and user-friendliness of SummarEase.

5. Other Non-functional Requirements

5.1 Performance Requirements

1. File Upload and Transcription Performance:

- Requirement: The system must support the upload and transcription of audio files with a duration of up to 60 minutes within a maximum processing time of 10 minutes.

2. Real-Time Summarization Feedback:

- Requirement: Users should receive real-time feedback on summarization progress, with updates provided at least every 10 seconds during active processing.

3. Concurrency and Scalability:

- Requirement: The system should support concurrent transcription and summarization processes for a minimum of 100 simultaneous users.

4. Responsiveness of User Interface:

- Requirement: The user interface must respond to user interactions within 1 second, maintaining a seamless and responsive user experience.

5. Optimized Data Transfer Rates:

- Requirement: The application should aim for a minimum data transfer rate of 5 Mbps during file uploads and real-time updates.

6. Security Performance:

- Requirement: Encryption and decryption processes for data transmission should not exceed 50 milliseconds, minimizing the impact on system performance.

7. Email Notification Delivery Time:

- Requirement: Email notifications for completed transcriptions or summarizations should be delivered within 5 minutes of task completion.

5.2 Safety Requirements

The specified requirements do not directly address potential loss, damage, or harm resulting from the use of the product. However, safety considerations for the product should include measures to prevent data breaches, ensure secure communication, and protect user information during the transcription and summarization processes. Adherence to data protection regulations, such as GDPR, and implementation of secure encryption protocols contribute to the overall safety of user data. Additionally, the product should comply with industry standards for information security and user privacy to mitigate potential risks associated with unauthorized access or data compromise.

5.3 Security Requirements

1. Data Encryption:

- Requirement: All data transmissions, including file uploads, downloads, and real-time updates, must be encrypted using industry-standard protocols such as TLS/SSL.

2. User Identity Authentication:

- Requirement: Users must undergo secure authentication mechanisms, such as username/password or multi-factor authentication, to access SummarEase features.

3. Access Control and Authorization:

- Requirement: Implement role-based access control to ensure that users only have access to the functionalities and data appropriate for their roles.

4. Data Privacy Compliance:

- Requirement: SummarEase must comply with relevant data protection regulations, including but not limited to GDPR, ensuring user privacy and data security.

5.4 Software Quality Attributes

1. Usability:

- Requirement: The user interface should achieve a System Usability Scale (SUS) score of at least 80, ensuring a high level of user satisfaction and ease of use.

2. Reliability:

- Requirement: SummerEase should have a system uptime of 99.9%, ensuring reliable access for users and minimizing service disruptions.

3. Adaptability:

- Requirement: The system must be adaptable to updates and new features, with a planned downtime not exceeding 1 hour for major updates.

4. Interoperability:

- Requirement: SummerEase should be interoperable with popular web browsers (Google Chrome, Mozilla Firefox, Microsoft Edge) and major operating systems (Windows, macOS) to ensure a broad user reach.

5. Maintainability:

- Requirement: The codebase should adhere to coding standards, and the system should be easily maintainable, with an average bug resolution time not exceeding 48 hours.

6. Other Requirements

No other requirements are needed.

Appendix A: Glossary

- **SummerEase:** A web application designed for the transcription and summarization of audio files.
- **SRS:** Software Requirements Specification, a document outlining the requirements and specifications for SummerEase.
- **GUI:** Graphical User Interface, the visual interface that allows users to interact with SummerEase.
- **API:** Application Programming Interface, a set of rules that allows one software application to interact with another.
- **TLS/SSL:** Transport Layer Security/Secure Sockets Layer, cryptographic protocols ensuring secure data transmission over a network.
- **SUS:** System Usability Scale, a standard questionnaire for measuring perceived usability.

Appendix B: Analysis Models

Appendix C: Issues List

Open Issues:

- Any ongoing or unresolved issues related to SummarEase development, functionality, or user experience.

Resolved Issues:

- Previously identified issues that have been addressed and resolved during the development or testing phase.

Future Enhancements:

- Suggestions or planned features for future releases of SummarEase, contributing to its continuous improvement.