Software Requirements Specification

For

ADDRESS BOOK

Version 1.0 approved

Prepared by-

Tanya Agarwal

Anchal Sharma

Chitrak Aseri

Table of Contents

Table of Contents 2

1. Introduction 3

1.1 Purpose 3

1.2 Document Conventions 4

1.3 Intended Audience and Reading Suggestions 4

1.4 Product Scope 4

1.5 References 4

2. Overall Description 5

2.1 Product Perspective 5

2.2 Product Functions 5

2.3 User Classes and Characteristics 6

2.4 Operating Environment 6

2.5 Design and Implementation Constraints 8

2.6 User Documentation 8

3. External Interface Requirements 9

3.1 User Interfaces 9

3.2 Hardware Interfaces 9

3.3 Software Interfaces 9

3.4 Communications Interfaces 9

4. System Features 10

4.1 System Feature 1 10

4.2 System Feature 2 (and so on) 10

5. Other Nonfunctional Requirements 11

5.1 Performance Requirements 11

5.2 Safety Requirements 11

5.3 Security Requirements 12

5.4 Software Quality Attributes 14

# Introduction

## Purpose

The primary objective of our software, which serves as an address book application, is to provide users with a robust and user-friendly platform for efficiently managing their information. This multifaceted software is designed to enable users to store, manipulate, and safeguard their valuable data. Let's delve into the various aspects of our software's purpose:

* **Data Storage**: Our software acts as a secure repository for storing diverse types of data. Users can input a wide range of information, including names, phone numbers, email addresses, physical addresses, and additional notes. This comprehensive storage capability ensures that users can maintain a thorough record of their information.
* **Data Manipulation**: One of the key functions of our address book is the ability to change, modify, delete, and add new information. This means that users can easily update their details as relationships evolve or new contacts are made. Whether it's correcting a phone number or adding a new colleague, our software empowers users to keep their address book accurate.
* **User-Friendly Interface**: Our software is designed with a user-centric approach. The interface is intuitive and user-friendly, making it effortless for individuals to locate and interact with their stored data. The software's layout and navigation are structured for maximum convenience.
* **Data Accessibility**: Accessibility is a core aspect of our software's purpose. Users can access their address book from various devices, ensuring that their data is readily available whenever and wherever they need it. This cross-device compatibility enhances the convenience and usability of our application.
* **Data Security**: Perhaps one of the most critical features of our software is its commitment to data security. We employ robust encryption techniques to safeguard the personal information of our users. By encrypting the address book, we ensure that sensitive data, such as phone numbers and addresses, remains confidential and protected from unauthorized access.

## Document Conventions

We have used ‘Times New Roman’ for all the Headings in our SRS in Bold characters with text size ‘24’. The sub-headings use the same font styles as heading with the text size of ‘22’and the main body comprises of font style ‘Times New Roman’ and font size ‘14’. We have also used various diagrams to represent our requirements graphically so that the concerned parties understand the SRS much easily.

## Intended Audience and Reading Suggestions

The intended audience for an address book software that focuses on storing and facilitating data changes as per user requirements can be quite diverse. Here are some potential groups of users who would benefit from such a software solution:

* **Individuals:** Everyday users, such as students, professionals, and anyone who needs to maintain a personal address book, can benefit from this software. It allows them to store and easily update contact information for friends, family, colleagues, and acquaintances.
* **Business Professionals**: Professionals in various industries, including sales, marketing, customer service, and networking, can use this software to manage and update their client and business contact lists efficiently. It helps them stay organized and ensures they have up-to-date information for effective communication.
* **Corporate Enterprises**: Larger organizations may require more robust address book solutions for managing extensive employee directories, customer databases, and supplier contacts. These solutions help ensure data accuracy and security while allowing for changes as needed.
* **Event Planners**: Professionals responsible for organizing events, conferences, or seminars rely on contact information for speakers, attendees, and sponsors. An address book software can assist in managing and updating these lists, making event planning smoother.
* **Non-profits and Associations**: Non-profit organizations, clubs, and associations often have membership directories that need regular updates. This software can help maintain accurate member data while accommodating changes in membership.
* **Educational Institutions**: Schools, colleges, and universities can use address book software to manage student and staff directories. This is particularly useful for institutions with a large and dynamic population.
* **Government Organizations**: Government agencies often require reliable contact databases for citizens, employees, and other stakeholders. Address book software can facilitate data management in these contexts.
* **Healthcare Providers**: Medical professionals can use this software to maintain patient contact information and update it as necessary. This ensures accurate communication and patient care

## Product Scope

The scope of an address book software that combines data management with encryption is extensive and versatile, making it a valuable tool for individuals, businesses, organizations, and professionals across various industries. Its ability to securely store, update, and protect information is crucial in today's digital world, where data privacy is of paramount importance.

## References

* [1]<https://www.researchgate.net/publication/341712729_Design_and_Implementation_of_Online_Address_Book_on_Information_System_Case_Study_of_Personal_Identity>
* [2]https://www.researchgate.net/publication/341712729\_Design\_and\_Implementation\_of\_Online\_Address\_Book\_on\_Information\_System\_Case\_Study\_of\_Personal\_Identity
* [3] <https://www.sciencedirect.com/science/article/abs/pii/S254266051830180X>
* [4] <https://www.bigcontacts.com/blog/best-address-book-software/#:~:text=An%20address%20book%20software%20is,family%2C%20colleagues%2C%20and%20clients>
* [5] <https://support.microsoft.com/en-gb/office/ways-to-add-edit-and-delete-records-5e90a80c-106d-4c55-996e-07d7200980ce>
* https://economictimes.indiatimes.com/news/india/india-health-data-faces-rising-risk-of-breaches-cyberattacks/articleshow/102065523.cms?from=mdr

# Overall Description

## Product Perspective

Here's a detailed overview of its product perspective:

* **Product Placement:** The address book software serves as a standalone application or an integrated feature within a broader suite of productivity tools.
* **User Interface and Experience:** The user interface is designed for ease of use, with intuitive navigation and search functionalities. User-friendly design ensures that users can quickly locate and manage their contact data.
* **User Support and Updates:** Ongoing customer support, documentation, and regular software updates enhance user satisfaction and security.
* **Data Encryption and Security:** The software employs robust encryption algorithms to secure stored personal information.User data is encrypted both in transit and at rest to protect against data breaches and unauthorized access.

## User Classes and Characteristics

User classes for an address book software can vary widely based on the software's intended use and target audience. Here are some typical user classes that may interact with such a software:

* **Individual Users:** These are everyday individuals who use the address book for personal contact management.They store personal contact information, including friends, family, and acquaintances.
* **Business Professionals:** Business professionals, such as salespeople, marketers, and customer service representatives, rely on the address book for managing client and business contacts.They frequently update client details, track interactions, and need data security for sensitive business contacts.
* **Educational Institutions:** Educational institutions use the software for managing student and staff directories.Changes in student enrollment and staff turnover require regular updates.
* **Healthcare Providers:** Medical professionals use the software to store and update patient contact information.Each user class has specific needs and expectations from the address book software. Software's design and features accommodate the requirements of these user classes to ensure its usefulness and success in various contexts.

**Characteristics –**

The characteristics of an address book software designed to store, modify, delete, add, and encrypt personal information for user convenience and data security are –

* **Data Storage:** Capable of storing a wide range of information, including names, phone numbers, email addresses, physical addresses, and additional notes.
* **Data Modification:** Allows users to easily change, modify, and update details as needed to keep information accurate and up to date.
* **Data Deletion:** Provides the option to delete specific data fields, ensuring users can remove outdated or unnecessary information.
* **Data Addition:** Permits users to add new details, accommodating evolving relationships and expanding networks.
* **User-Friendly Interface:** Offers an intuitive and user-friendly interface that simplifies navigation and quick access to contact data.
* **Search and Find Functionality:** Incorporates robust search and filtering tools, enabling users to swiftly locate specific contacts or information within the address book.
* **Privacy Protection**: Safeguards personal data and ensures compliance with data privacy regulations, maintaining user privacy and trust.
* **Scalability:** Scales to accommodate a growing number of contacts and data entries without compromising performance.
* **Compliance and Legal Considerations:** Ensures compliance with data protection laws and industry-specific regulations, addressing legal requirements and user data security.
* **Customization:** Allows users to customize data fields, categories, and preferences to suit their specific needs and preferences.

These characteristics collectively create a feature-rich address book software that empowers users to manage their contact data efficiently while prioritizing data security and user privacy.

A diagram of a blue rectangle with white text

Description automatically generated

## Product Functions

The product functions of an address book software designed to store data and facilitate changes as per user requirements include a variety of features and capabilities to ensure efficient management. Here are the primary product functions:

* **Data Storage:** Store contact information, including names, phone numbers, email addresses, physical addresses, and additional notes, in an organized manner.
* **Data Creation:** Allow users to create new entries by entering details manually or importing data from external sources.
* **Data Modification:** Provide tools for users to edit and update contact details easily, accommodating changes in phone numbers, email addresses, or other information.
* **Contact Categorization:** Enable users to categorize contacts into groups or categories (e.g., friends, family, work) for better organization and quick access.
* **Data Deletion:** Allow users to delete individual contacts or specific data fields within a contact, ensuring users can remove outdated or unnecessary information.
* **Search and Filter:** Implement a robust search and filter function that helps users quickly find specific contacts or information within the address book.
* **Sorting Options:** Provide sorting options, such as alphabetical sorting, to further assist users in organizing and locating contacts.
* **Data Privacy and Encryption:** Ensure data privacy by encrypting information, both in transit and at rest, to protect sensitive personal data from unauthorized access. These product functions collectively create a feature-rich address book software that empowers users to manage their contact data efficiently while adapting to changing requirements and prioritizing data security and privacy.

A diagram of a diagram

Description automatically generated

## Operating Environment

The operating environment of an address book software refers to the conditions and requirements necessary for the software to function effectively. Here's an overview of the operating environment for an address book software-

* **Operating Systems:** The software should be compatible with a range of operating systems, including but not limited to:
* Windows (e.g., Windows 10, Windows 11)
* macOS (e.g., macOS Big Sur, macOS Monterey)
* Linux distributions (e.g., Ubuntu, Fedora)
* Mobile platforms (e.g., iOS, Android)
* **Hardware Requirements:** The specific hardware requirements may vary depending on the platform, but typically, the software should be designed to run on a variety of hardware configurations. It should be optimized to work on both low-end and high-end devices, ensuring accessibility for a broad user base.

## Design and implementation

## Factors that can influence the development and functionality of an address book software. These constraints need to be considered during the design and implementation phases to ensure the software's effectiveness and compliance with user needs and expectations. Here are some key design and implementation constraints for such an address book:

## Data Privacy Regulations: Compliance with data privacy regulations, such as the General Data Protection Regulation (GDPR) or the Health Insurance Portability and Accountability Act (HIPAA), is crucial when handling personal information. This may impose constraints on data storage, encryption, and user consent.

## Encryption Standards: The choice of encryption standards and encryption/decryption processes must be carefully implemented to ensure the highest level of security for user data.

## Cross-Platform Compatibility: Ensuring consistent functionality and user experience across various platforms, including desktop, web, and mobile, may be a constraint due to differences in operating systems and device capabilities.

* **Maintenance and Updates:** Ensuring ongoing maintenance and timely updates to address security vulnerabilities and user feedback can be constrained by resource availability and organizational commitment.

Addressing these constraints during the design and implementation phases is critical for developing reliable, secure, and user-friendly address book software that meets user needs while complying with legal and ethical standards.

## 2.6 User Documentation

The user documentation for our address book software, designed to securely store, modify, delete, add, and encrypt personal data, is a comprehensive guide aimed at ensuring users can maximize the functionality of the application while safeguarding their personal information. This documentation provides step-by-step instructions on how to create, edit, and organize contacts, emphasizing the ease with which users can find and update their data. It also offers insights into our encryption mechanisms, reassuring users that their personal information remains confidential and protected. Furthermore, the documentation includes troubleshooting tips, system requirements, and best practices, fostering a positive user experience and ensuring that users can confidently manage their contact data while prioritizing data security and privacy.

# External Interface Requirements

## User Interfaces

The interface features a clean and organized layout, making it easy for users to navigate and locate their stored data effortlessly. Users can add, edit, and delete contacts with user-friendly forms, while robust search and filtering options enable quick access to specific information. We've incorporated data encryption seamlessly into the interface, so users can trust that their personal details are safeguarded from unauthorized access. The design prioritizes user-friendliness, ensuring that individuals can efficiently manage their data, update it at their convenience, and maintain the highest level of data security without complexity or confusion.

## Hardwar Interface

## The hardware interfaces for our address book software are designed to be versatile and adaptable, ensuring compatibility with a wide range of devices and configurations. Whether users access the software on a desktop computer, laptop, tablet, or smartphone, the hardware interfaces are optimized to function seamlessly. This includes support for various operating systems, such as Windows, macOS, Linux, iOS, and Android, as well as compatibility with different screen sizes and resolutions. The software's lightweight nature ensures it runs efficiently on both low-end and high-end hardware, accommodating users with diverse computing resources.

## Software Interface

The software interfaces for our address book are designed to ensure seamless integration and compatibility with various software components and services. This allows users to enhance their contact management experience and extend the functionality of the address book. The software interfaces may include integrations with email, storage services, enabling users to synchronize their contact data effortlessly. Moreover, our address book software may support data import and export to facilitate easy data sharing with other software tools. These software interfaces enhance the user's ability to keep their contacts up-to-date and efficiently manage their personal information while maintaining the encryption and security measures that protect their sensitive data.

# System Features

The system features and software interfaces of our address book, designed to securely store, modify, delete, add, and encrypt user data while ensuring user-friendly access and control, are as follows:

* **User Authentication and Access Control:** Robust user authentication mechanisms to ensure secure access to the address book. Role-based access control to define user permissions and restrictions.
* **Management:** User-friendly interfaces for adding, editing, and deleting contact information. Customizable data fields to accommodate various types of contact details.
* **Search and Filter Functions:** Advanced search and filtering options for quick and precise contact retrieval. Sorting features to arrange contacts alphabetically, by category, or based on user preferences.
* **Data Encryption:** Encryption protocols to safeguard contact data both at rest and during transmission. Secure key management for data decryption, ensuring user privacy.
* **Customization:** User-configurable settings for personalization, including the addition of custom data fields and labels.

These system features and software interfaces combine to create a comprehensive address book solution that empowers users to effectively manage their data

# Other Nonfunctional Requirements

## Performance Requirements

Performance requirements for the software interfaces of the address book, with a focus on data storage, management while maintaining user-friendly access are –

* **Responsiveness:** The software should respond quickly to user actions, such as opening, searching, or editing contacts, to provide a smooth and efficient user experience.
* **Data Handling Capacity:** The address book must be capable of managing a substantial number of data entries without significant performance degradation.
* **Offline Accessibility:** The software should allow users to access and make modifications to contact data even when offline.
* **Scalability:** The software should be designed to scale its performance as the number of data entries increases over time.

## Safety Requirements

Safety requirements for the software interfaces of our address book are paramount to protect user data and ensure the secure operation of the application. These safety requirements include:

* **Data Encryption:** Implement robust encryption standards to protect personal information from unauthorized access. Encryption should cover data at rest, in transit, and during any data synchronization processes.
* **Access Control:**  Implement access control mechanisms to ensure that users can only view, edit, or delete contacts based on their assigned permissions and roles. Restricting access to sensitive data fields.
* **User Education:** Provide user education materials and guidance on best practices for making changes in data and also give security and privacy within the address book software, enhancing user awareness and safety.

These safety requirements collectively contribute to the software's ability to protect user data, prevent unauthorized access. By addressing these requirements, our address book software ensures that personal information remains confidential and secure while offering

## Security Requirements

Security requirements for the address book software, which stores and manages user data, are essential to protect personal information and maintain the integrity of the application. Here are the key security requirements:

* **Audit Trail**: Maintain detailed audit logs of user activities within the address book, including login attempts, data changes, and security-related events.
* **Secure Data Transfer:** Use secure protocols (e.g., HTTPS) for data transmission between clients and servers to prevent eavesdropping and data interception.
* **Third-Party Security Audits:** If third-party components or services are used in the address book, conduct security audits and assessments to ensure their security compliance.

Addressing these security requirements will help create robust and secure address book software that protects user data and maintains user trust in the application's security measures.

**5.4** **Software Quality Attributes**

Software quality attributes, also known as software quality characteristics or non-functional requirements, are crucial aspects of any software application, including an address book. These attributes define the overall quality and performance of the software. Here are some key software quality attributes for an address book application:

* **Usability:** The software should be user-friendly, with an intuitive interface that allows users to easily add, edit, delete, and search for contacts.
* **Reliability:** The address book should operate reliably without unexpected crashes or data loss. Data integrity must be maintained, ensuring that contact information remains accurate.
* **Performance:** The software should respond quickly to user interactions, with minimal latency for operations like searching and syncing contacts. It should efficiently handle a large number of contacts without slowing down.
* **Scalability:** The software should scale to accommodate a growing number of contacts and data entries without sacrificing performance. Scalability ensures that the application remains responsive as user data expands.
* **Availability:** The address book should be available for use whenever users need it. Implementing redundancy and failover mechanisms can enhance availability.
* **Security:** Data security is paramount, with strong encryption for data at rest and in transit. Access control and user authentication mechanisms should be robust to prevent unauthorized access. By prioritizing these software quality attributes, developers can create an address book application that not only meets users' functional requirements but also delivers a high-quality and reliable user experience.

**Created by –**

1. **Tanya Agarwal – 500097545**
2. **Anchal Sharma- 500095441**
3. **Chitrak Aseri – 500097536**