Software Requirements Specification

for

Address Book Device

Version 0.1.0

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Revision History

- 2/24/20 - 0.1.0 - First Draft

1   Introduction

1.1 Purpose

Address book v0.1.0 The purpose of an address book software is to record and safekeep different people's contact information for the user. This SRS covers the software of the address book device.

1.2 Document Conventions

For example commands syntax is
COMMAND [optional Parameter] <Required Parameter>
Version number is major.minor.patch

1.3 Intended Audience and Reading Suggestions

This document is intended for all developers, testers, and documentation writers. This SRS contains an introduction, a general description of the product, the requirements for the user interface, features of the system, and the requirements for safety, quality, & security.

1.4 Product Scope

Application should function as a secure address book, that maximizes availability, information integrity and confidentiality while also minimizing difficulty.
<*Provide a short description of the software being specified and its purpose, including relevant benefits, objectives, and goals. Relate the software to corporate goals or business strategies. If a separate vision and scope document is available, refer to it rather than duplicating its contents here.*>

2   Overall Description

2.1 Product Perspective

This product is a new, self-contained product that is not part of any larger system.

2.2 Product Functions

- User: This product must be able to:
    - add addresses & contact information to the address book
    - delete addresses & contact information from the address book
    - recognize duplicate entries to the address system
    - allow the user to view information from the address book
    - edit entries in the address book

- protect the information within the address book
- import/export files to/from the address book
- Administrative: This product must be able to:
    - add users
    - delete users
    - Access user information and usage

2.3 User Classes and Characteristics

The complete set of users of this product can be described by two distinct classes: normal users and privileged users (admin). A normal user will be given access to most product functions and should be familiar with command line interfaces. It is assumed that some normal users will have malicious intent. Privileged users will be given complete access to all of the product's functionalities and should be very comfortable with the features of the product as well as operating in command line interface. It is assumed that all privileged users are benevolent in their intent.

2.4 Operating Environment

The software will operate on a Linux machine and be accessed through a Command Line Interface (CLI).

2.5 Design and Implementation Constraints

The developers will be limited by the amount of memory available within the linux device and the functions required by the software such as protection of user information.

2.6 User Documentation

A simple tutorial outlining how to use the software will be provided to the user which will explain how to perform all functions that are available to the basic user or the privileged. (e.g. adding/deleting users will not be available to basic users)

2.7 Assumptions and Dependencies

This software has a dependency on the Linux hardware that it runs on as well as a dependency on the user to enter accurate information to their address books. There may exist additional dependencies on the software such as upon a programming language or third party encryption library. Such dependencies will be appended to this document as they are added, and relevant parties will be notified.

3   External Interface Requirements

3.1 User Interfaces

Users will be able to interact with the application through an interface that will allow them to perform the functions within the address book device. This

interface will be a terminal accessible CLI. A more detailed description may be appended to this document in the future.

4   System Features

4.1 USER – Add Contact   (AD <contact>)

4.1.1   Description and Priority

The add contact feature will allow a user to add a contact entry to their account. This feature has a **priority rating of 8.**

4.1.2   Stimulus/Response Sequences

A normal user entering the AD command followed by the necessary arguments will invoke the behavior defined for this feature.

4.2 USER – Delete Contact   (DEL <contact>)

4.2.1   Description and Priority

The delete contact feature will allow a user to remove a contact entry from their account. This feature has a **priority rating of 8.**

4.2.2   Stimulus/Response Sequences

A normal user entering the DEL command followed by the necessary arguments will invoke the behavior defined for this feature.

4.3 USER – Find Contact   (FND <contact>)

4.3.1   Description and Priority

The find contact feature will allow a user to search for and display the contact information of any contacts associated with their account. This feature has a **priority rating of 9.**

4.3.2   Stimulus/Response Sequences

A normal user entering the FND command followed by the necessary arguments will invoke the behavior defined for this feature.

4.4 USER – Edit Contact   (EDT <contact>)

4.4.1   Description and Priority

The edit contact feature will allow a user to modify the information associated with a contact on their account. This feature has a **priority rating of 5.**

4.4.2   Stimulus/Response Sequences

A normal user entering the EDT command followed by the necessary arguments will invoke the behavior defined for this feature.

4.5 USER – Dump Contacts (DMP)

4.5.1   Description and Priority

This dump contacts feature will enumerate all of the contact names and information associated with a user's account and display them on their device. This feature has a **priority rating of 4**.

4.5.2   Stimulus/Response Sequences

A user (of any class) entering the DMP command followed by the necessary arguments will invoke the behavior defined for this feature.

4.6 ADMIN – Dump Contacts (DMP [username])

4.6.1   Description and Priority

This dump contacts feature will allow a privileged user to enumerate all of the contact names and information associated with a user's account and display them on the privileged user's device. This feature has a **priority rating of 3**.

4.6.2   Stimulus/Response Sequences

A privileged user entering the DMP command followed by the necessary arguments will invoke the behavior defined for this feature.

4.7 USER – Export Contacts (EXP <filename> <passkey>)

4.7.1   Description and Priority

This export contacts feature will allow a user to enumerate all of the contact names and information associated with the user's account into a and encrypted file . This feature has a **priority rating of 3**.

4.7.2   Stimulus/Response Sequences

A normal user entering the EXP command followed by the necessary arguments will invoke the behavior defined for this feature.

4.8 ADMIN – Export Contacts (EXP [username] <filename> <passkey>)

4.8.1   Description and Priority

This export contacts feature will allow a privileged user to export all of the contact information associated with a user's account to an encrypted file on the privileged user's device. This feature has a **priority rating of 3**.

4.8.2   Stimulus/Response Sequences

A privileged user entering the EXP command followed by the necessary arguments will invoke the behavior defined for this feature.

4.9 USER – Import Contacts (IMP <filename> <passkey>)

4.9.1   Description and Priority

This import contacts feature will allow a user to import all of the contact information in an encrypted file on the privileged user's device. This feature has a **priority rating of 3.**

4.9.2   Stimulus/Response Sequences

A privileged user entering the IMP command followed by the necessary arguments will invoke the behavior defined for this feature.

4.10 ADMIN – Import Contacts (IMP <username> <filename> <passkey>)

4.10.1   Description and Priority

This import contacts feature will allow a privileged user to import contact information from an encrypted file into any normal user's account. This feature has a **priority rating of 3.**

4.10.2   Stimulus/Response Sequences

A privileged user entering the IMP command followed by the necessary arguments will invoke the behavior defined for this feature.

4.11 ADMIN – Add User (ADU <username> <password>)

4.11.1   Description and Priority

The add user feature will allow a privileged user to create a new normal user. This feature has a **priority rating of 10.**

4.11.2   Stimulus/Response Sequences

A privileged user entering the ADU command followed by the necessary arguments will invoke the behavior defined for this feature.

4.12 ADMIN – Delete User (DLU <username> <password>)

4.12.1   Description and Priority

The delete user feature will allow a privileged user to remove a normal user account and all of the contact information associated with it. This feature has a **priority rating of 8.**

4.12.2   Stimulus/Response Sequences

A privileged user entering the DLU command followed by the necessary arguments will invoke the behavior defined for this feature.

4.13 ADMIN – Audit Log (ADL [username])

4.13.1   Description and Priority

The delete user feature will allow a privileged user to view all the actions that have occured on the system, and can be filtered by username.

This feature has a **priority rating of 5.**

4.13.2   Stimulus/Response Sequences

A privileged user entering the ADL command followed by the necessary arguments will invoke the behavior defined for this feature.

4.14 N/A – Login   (LGN <username> <password>)

4.14.1   Description and Priority

The login feature will allow both admin and normal users to gain access to the system. This feature has a **priority rating of 10**.

4.14.2   Stimulus/Response Sequences

An unidentified user can use the LGN command followed by the necessary arguments to invoke the behavior defined for this feature.

5   Non-functional Requirements

5.1 Availability Requirements

Rationale: The ability of the system to be operational when required to, and to handle failure to do so as appropriate

Drivers: Primary user expectation is ability to access data as needed, when needed.

Relevance: Any high profile system, or that which requires significant recovery features.

AVAILABILITY MEASURES:

Actions	Develop availability requirements. Assess functional ability and limitations. Develop misuse cases. Adapt architecture appropriately.
Strategy	Use fault-tolerant hardware. Log interactions with the system. Design and test system for failure. Assess and develop appropriate backup measures and protocols. Identify appropriate disaster recovery system.

5.2   Security Requirements

Rationale: Ability of the system to enforce the desired confidentiality, integrity, and availability. Additionally, detect and recover from failure of these security mechanisms.

Drivers: Manage and protect data in a way that conforms to the expectations of the client.

Relevance: Relevant to the data that stores the client's personal data, as well as the system that maintains and accesses such data. One can assume that said data contains personal and/or sensitive information, and malicious action could do serious harm to the user.

SECURITY MEASURES:

Actions	Create Security Requirements for the Development Lifecycle. Conduct risk analysis on the impact of failure of security systems. Use scalable user authentication components. Address security needs of software (ie. data storage, UI). Address security needs of relevant hardware and other physical infrastructure. Balance and evaluate performance and security tradeoff.
Strategy	Increase robustness of software design. Implement user authentication of both unprivileged and privileged users. Define and implement user access policies. Evaluate data integrity for critical services. Implement appropriate levels of encryption where necessary.