#### 1. Introduction

This document describes the user requirements for a fingerprint lock system. The system will be used to control access to a secure area, allowing only authorized individuals to enter.

#### 2. General Requirements

* The system must be able to store and manage multiple individual fingerprints.
* The system must be able to accurately and reliably identify authorized individuals based on their fingerprints.
* The system must be easy to use and intuitive for authorized individuals to operate.
* The system must be secure and resistant to tampering or unauthorized access.

#### 3. Functional Requirements

* The system must be able to enroll new fingerprints and associate them with specific individuals.
* The system must be able to verify the identity of an individual based on their fingerprint.
* The system must be able to grant or deny access to the secure area based on the verification results.
* The system must be able to provide feedback to the user, such as indicating a successful verification or denying access.

#### 4. Non-Functional Requirements

* The system must have a high degree of accuracy, with a false acceptance rate (FAR) of no more than 0.001% and a false rejection rate (FRR) of no more than 1%.
* The system must be able to operate in a range of environmental conditions, including temperatures between -10°C and 40°C and relative humidity between 20% and 80%.
* The system must be able to operate continuously for at least 12 hours on a single battery charge.

#### 5. Constraints and Assumptions

* The system will be installed and used in a single location with a fixed secure area.
* The system will be connected to a power source.
* The system will be used by individuals with stable fingerprints.

6. User Interfaces

* The system will have a user interface consisting of a fingerprint scanner.
* The user interface will allow authorized individuals to enroll their fingerprints and access the secure area.
* The user interface will provide feedback to the user through LED’s, displaying a message indicating a successful verification or access denied.

#### 7. Technical Requirements

* The system will use a secure database to store enrolled fingerprints and associated information.

#### 8. Support and Maintenance

* The system will include a warranty period of at least 12 months.
* The system will be supported by the manufacturer with regular software updates and technical assistance.
* The system will be designed for easy maintenance and replacement of components, such as the fingerprint scanner or battery.