**Use Cases**

**Enroll Fingerprint**

Entry Conditions:

User selects the option to add a user's fingerprint to the database

Flow of Events:

1. Ask for user name

2. User selects which hand and finger to enroll

3. User places previously indicated finger on scanner to record print

4. Repeat step 3 until five similar prints are recorded

5. If 5 similar prints are not recorded in 10 attempts, display error and exit

6. If 5 similar prints are recorded in 10 attempts or less, display success and exit

Exit Conditions:

Fingerprint successfully enrolled

User cancels the enrollment operation

Cannot record similar enough fingerprints

**Unlock Door**

Entry Conditions:

User initiates unlock operation

Flow of Events:

1. User initiates authentication with the system

a. If the fingerprint method is chosen, disable Bluetooth and keypad at that door and go to the Unlock Door with Fingerprints use case.

b. If a code is being entered, go to the Unlock Door with Code use case

c. If a key is in the lock, turn off fingerprint scanner, Bluetooth, and keypad at that door and go to the Unlock Door with Key use case.

2. User finishes authenticating

a. If it was successful, enable all devices and exit

b. If it was unsuccessful, go to the Failed Authentication use case

Exit Conditions:

User finished entering authentication method

**Unlock Door with Code:**

Entry Conditions:

User begins authentication by not using a key or fingerprint scanner

Flow of Events:

1. User enters code

a. If a previously paired Bluetooth device comes into contact, go to Enter Code over Bluetooth

b. If a key on the keypad is pressed, disable Bluetooth and go to Enter Code with Keypad

2. Compare received code with database

a. If code matches, exit with a success message

b. If code does not match, exit with an unsuccessful message

Exit Conditions:

User finishes entering code

Power loss

**Enter code over Bluetooth**:

Entry Conditions:

Flow of Events:

Exit Conditions:

**Enter code with keypad:**

Entry Conditions:

Flow of Events:

Exit Conditions:

**Unlock Door With Fingerprints:**

Entry Conditions:

Flow of Events:

Exit Conditions:

**Unlock Door with Key:**

Entry Conditions:

Flow of Events:

Exit Conditions:

**Failed Authentication:**

Entry Conditions:

An authentication method did not complete successfully

Flow of Events:

Exit Conditions:

**Lockdown All Doors:**

Entry Conditions:

There were 5 failed authentications in the past hour

Flow of Events:

Exit Conditions:

**Change Passcode:**

Entry Conditions:

The change passcode timer expired

The user initiated change passcode

Flow of Events:

Exit Conditions: