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| Initiator | Initiator’s goal | participants | Use Case Name |
| Tenant | Unlock and enter home,when initiator uses his own phone and use the Bluetooth to ensure he is nearby. | Lock,Household Devices.Database,  Bluetooth in the user’s phone. | UC-1(Unlock) |
| Landlord | Retire an existing user account and disable access by deleting his mobile device info | Database | UC-4  (RetireUser) |

Use case schemas of UC-1 and UC-4:

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| Use Case UC-1: Unlock |
| **Related Requirements:**  REQ-1,2,3,4,5  **Initiating Actor:**  Any of:Tenant,Landlord  **Actor’s goal:**  To disarm the lock and enter.Besides,getting space lighted up automatically  **Participating Actors:**  LockDevice,LightSwitch,Timer,Bluetoooth in the phone  **Preconditions:**  • The set of valid keys stored in the system database is non-empty.  • The system displays the menu of available functions; at the door keypad the menu choices are “Lock” and “Unlock.”  • The bluetooth of user’s has already opend,meanwhile,system detects that you are nearby.  **Postconditions:**  The auto-lock timer has started countdown from autoLockInterval.  **Flow of Events for Main Success Scenario:**  ->1 Tenant/Landlord/visitors arrives at the door and select the menu item “Unlock”  <-2. System:  (a) signals to the Tenant/Landlord the lock status, e.g., “disarmed,”  (b) signals to LockDevice to disarm the lock,  (c) signals to LightSwitch to turn the light on  (d)signals to the the Tenant/Landlord the distance status e.h “out of range ,can’t disarmed”  <-3. System signals to the Timer to start the auto-lock timer countdown  ->4. Tenant/Landlord opens the door, enters the home [and shuts the door and locks] |

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| Use Case UC-4: RetireUser |
| **Related Requirements:**  REQ-2,7,8  **Initiating Actor:**  Landlord  **Actor’s goal:**  Retire an existing user account and disable access  **Participating Actors:**  Landlord,database  **Preconditions:**  • Only Landlord has access to use this function in the sysytem.  • The system displays who have access to unlock the door.(database)  • The system allows Landlord to retire and disable users’access whenever he wants.  **Postconditions:**  Users who have been forbiddened authority by Landlord can’t unlock the door.  **Flow of Events for Main Success Scenario:**  ->1 Landlord opens the system.  <-2. System:  (a) show user list  ->3. Landlord decides to retire one’s access  <-4. System get rid of the user who is chosed by Landlord from the database. |

Acceptance tests for UC-1 and UC-4:

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| **Test-case Identifier:** TC-1  **Use Case Tested:** UC-1, main success scenario, and UC-7  **Pass/fail Criteria:**  The test passes if the user enters a key that is contained in the database, with less than a maximum allowed number of unsuccessful attempts as well as his bluetooth nearby.  **Input Data:**  Numeric keycode, door identifier | |
| **Test procedure:** | **Expected Result:** |
| Step 1.  Type in an incorrect keycode and a valid door identifier  Step 2.  Type in the correct keycode and door identifier  Step 3  Do Step 2 with user’s bluetooth out of range  Step 4:  Do Step 2 with user’s bluetooth nearby | System beeps to indicate failure; records unsuccessful attempt in the database; prompts the user to try again  System flashes a green light to indicate success; records successful access in the database; disarms the lock device  System beeps to indicate failure; records unsuccessful attempt in the database; prompts the user to ensure the bluetooth is nearby.  System flashes a green light to indicate success; records successful access in the database; disarms the lock device |

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| **Test-case Identifier:** TC-4  **Use Case Tested:** UC-4,  **Pass/fail Criteria:**  Assure that the user is the Landlord before disable one’s access.Besides,Landlord must retire one’s access when he is in the database  **Input Data:**  Landlord identifier,Retiring name list | |
| **Test procedure:** | **Expected Result:** |
| Step 1.  Log in as a tenant and try to remove one’s access  Step 2.  Log in as a Landlord and try to remove one’s access | System will remind you that you don’t have authority to remove  System will follow your orders and disable one’s access |