Use Case UC-1:	**Unlock**

Related Requirem'ts:	REQ1, REQ2, REQ4, REQ5 and REQ9 stated in the table of REQs
Initiating Actor:	Any of: Tenant, Landlord
Actor's Goal:	To disarm the lock by phone and enter, and get space lighted up automatically.
Participating Actors:	LockDevice, Light, Timer
Preconditions:	The tenant has set up the unlocking way in advance; The set of valid keys stored in the system database is non-empty.
Postconditions:	The system displays the menu of available functions; at the door keypad the menu choices are "Lock" and "Unlock." The auto-lock timer has started countdown from auto Lock Interval.

Flow of Events for Main Success Scenario:

→   1. **Tenant/Landlord** arrives at the door and selects the menu item "Unlock"

     2. include::*AuthenticateUser* (UC-7)

←   3. **System** (a) signals to the **Tenant/Landlord** the lock status, e.g., "disarmed," (b) signals to **LockDevice** to disarm the lock, and (c) light is
←   on when dark for visibility,

→   4. **System** signals to the **Timer** to start the auto-lock timer countdown

     5. **Tenant/Landlord** opens the door, enters the home [and shuts the door and locks]

Identifier

User Story

REQ-1 As a user, I can be sure that the doors by default will be locked.

REQ-2 As a user, I will be able to unlock the doors using a mobile phone

REQ-3 An intruder will not be able to unlock the doors by using his own mobile phone; the system will block when it detects multiple lock-phone pairing failures

REQ-4 As a user, I can be sure that the doors will be automatically locked at all times.

REQ-5 The door keypad will be backlit when dark for visibility.

REQ-6 Anyone will be able to lock the doors on demand.

REQ-7 As a user, I will be able to manage additional user accounts (by user mobile device info, e.g., phone number)

REQ-8 As a user, I will be able to view the history of accesses to my home.

REQ-9 As a user, I will be able to configure the preferences for how my household devices will be activated on my arrival

Use Case UC-4:   RetireUser

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Related Requirem'ts:	REQ3, REQ7 and REQ9 stated in the table of REQs
Initiating Actor:	Landlord,System
Actor's Goal:	Retire an existing user account and disable access.
Participating Actors:	Database ,Tenant
Preconditions:	Tenant/Landlord is logged in the system and is shown a hyperlink "Manage Accounts".
Postconditions:	The tenant lose access to home.

Flow of Events for Main Success Scenario:

→   1.   **Landlord** clicks the hyperlink "Manage Accounts"

←   2.   **System** prompts for the management page(e.g., account information,add accounts,retire accounts etc.) .

→   3.   **Landlord** clicks hyperlink " Retire Accounts"

←   4.   **System** prepares a query for all current accounts in database

→
↵   5.   **Database** returns the matching records

←   6.   **System** shows accounts for **Landlord** to choose.

→   7.   **Landlord** selects the account he wants to retire and cancels its access to home.

↵
←   8.   **System** (a) displays only the selected accounts and confirms the request; (b) archives the request in the **Database** and assigns it a tracking number; (c) notifies **Landlord** about the request; and (d) informs **Tenant/Landlord** about the tracking number

Acceptance tests for UC-1

Test-case Identifier:	TC-1
Use Case Tested:	UC-1 Unlock
Pass/fail Criteria:	The test passes if user's phone and lock match successfully, with less than a maximum allowed number of unsuccessful attempts
Input Data:	Numeric keycode, Phone signal

Test Procedure:	Expected Result:
Step 1. Type in the correct keycode or phone matching the lock	The system flashes the green light for success; recorded successful access to the database; and unlocked the device
Step2. Type in an incorrect keycode or phone not matching the lock	System beeps to indicate failure; records unsuccessful attempt in the database; prompts the user to try again

Use case diagram for
UC-1 (Unlock) and UC-4 (RetireUser)
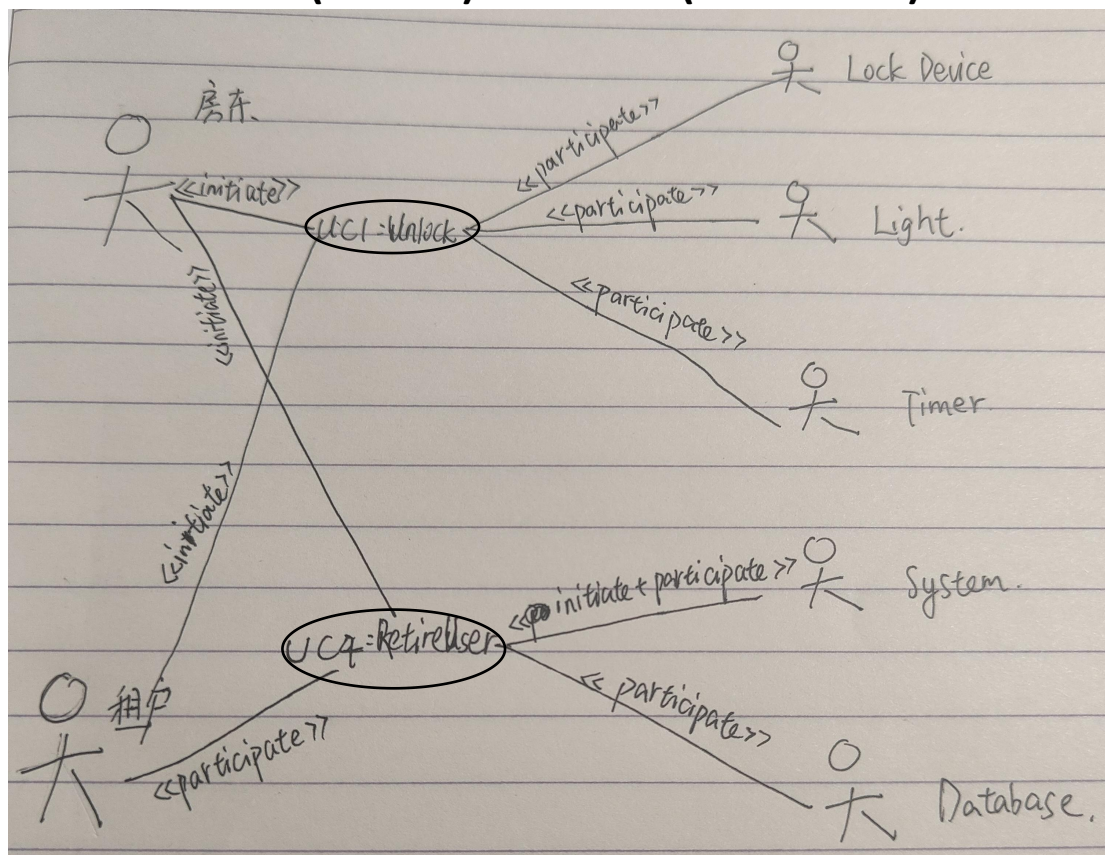
Acceptance tests for UC-4

Test-case Identifier:	TC-
Use Case Tested:	UC-4 RetireUser
Pass/fail Criteria:	The test passes if the tester can select the account from database, retire it and cancel the access to home
Input Data:	User's account ID

Test Procedure:	Expected Result:
Step 1. Select the"Retire Account" option in the account management system	The system presents the account information in the database to the tester
Step2. Enter and select the target account	System displays the specific information of the account and confirms whether to activate and cancel access
Step3.Confirm the operation	In the database, the status of the account becomes "retired" and loses access to the house