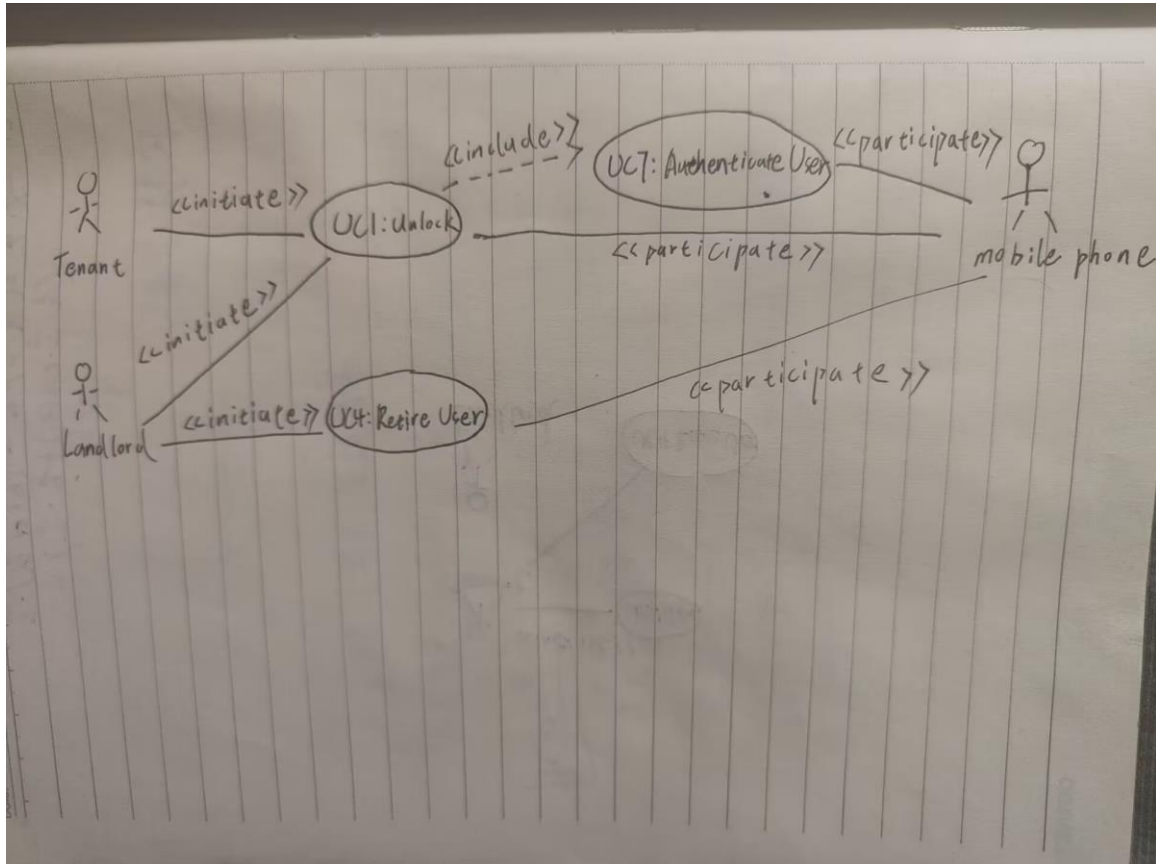


## Case diagram



## Case schemas

**Use Case UC-1:           Unlock**

**Related Requirem'ts:**   REQ1, REQ2, REQ3, REQ4 and REQ5 stated in the table of REQs

**Initiating Actor:**           Any of: Tenant, Landlord

**Actor's Goal:**           To disarm the lock and enter, and get keypad lighted up automatically.

**Participating Actors:**   Mobile phone

**Preconditions:**

- The mobile devices stored in the database are not empty.
- The system displays the menu of available functions; at the door keypad the menu choices are "Lock" and "Unlock."

**Postconditions:**           The auto-lock timer has started countdown from autoLockInterval.

**Flow of Events for Main Success Scenario:**

- 1. Landlord/Tenant arrives at the entrance
- 2. Landlord/Tenant matches the door lock on their phone
- ← 3. The system searches for mobile devices in the database and opens the door if it can be found
- ← 4. Door open,automatic door closing timer activated
- 5. Landlord/Tenant Entry

**Use Case UC-4:        RetireUser**

**Related Requirem'ts:**    REQ7

**Initiating Actor:**        Any of: Landlord

**Actor's Goal:**            To remove tenants who no longer rent houses

**Participating Actors:**    Mobile phone

**Preconditions:**

- This tenant exists in the database
- The tenant's lease term has arrived

**Postconditions:**        The tenant's information has been removed from the database

**Flow of Events for Main Success Scenario:**

- 1. The tenant's lease term has arrived
2. Tenant no longer renews lease
- ← 3. The system searches for mobile devices in the database and opens the door if it can be found

<b>Use Case UC-7:</b>	<b>AuthenticateUser</b> (sub-use case)
<b>Related Requirements:</b>	REQ3, REQ4 stated in the table of REQs
<b>Initiating Actor:</b>	Any of: Tenant, Landlord
<b>Actor's Goal:</b>	To be positively identified by the system.
<b>Participating Actors:</b>	Mobile phone, Police
<b>Preconditions:</b>	<ul style="list-style-type: none"> <li>• User information in the database</li> <li>• The counter of authentication attempts equals zero.</li> </ul>
<b>Postconditions:</b>	Identity confirmation successful, further action required
<b>Flow of Events for Main Success Scenario:</b>	
→	1. Landlord/Tenant successfully matched the door lock on their phone
←	2. There is user information in the database, waiting for further action
<b>Flow of Events for Extensions (Alternate Scenarios):</b>	
2a.	<b>Tenant/Landlord</b> enters an invalid identification key
←	1. Adversary's phone matches the door lock
→	2. Enemy's phone is not in the database.
←	3. After multiple matching failures, the user's phone receives a message

## acceptance tests

### UC1

<b>Test-case Identifier:</b>	TC-1		
<b>Use Case Tested:</b>	UC-1, main success scenario, and UC-7		
<b>Pass/fail Criteria:</b>	The test passes if the user's phone successfully matched in no more than the maximum number of attempts		
<b>Input Data:</b>	User's mobile phone authentication information		
<b>Test Procedure:</b>	<b>Expected Result:</b>		
Step 1. Using a phone that is not in the database to match the door lock	System beeps to indicate failure; records unsuccessful attempt in the database; prompts the user to try again		
Step 2. Matching door locks with mobile phones used in the database	System flashes a green light to indicate success; records successful access in the database; disarms the lock device		

## UC4

<b>Test-case Identifier:</b>	TC-2
<b>Use Case Tested:</b>	UC-4
<b>Pass/fail Criteria:</b>	The test passes if the user retires an existing user account and the system do remove it or disable it
<b>Input Data:</b>	User's information in the database
<b>Test Procedure:</b>	<b>Expected Result:</b>
Step 1. Remove a person who is not in the database	The system prompts that this person is not in the database
Step 2. Remove tenants whose lease terms have not yet arrived	The system prompts the tenant that their lease term has not expired
Step 3. Remove a tenant whose lease term has expired that exists in the database	The system prompts for successful removal