



Use Case UC-1: Unlock	
Related Requirements:	REQ2, EQ3, REQ7, REQ9
Initiating Actor:	Any of: Tenant, Landlord
Actor's Goal:	To disarm the lock and enter, and activate household devices
Participating Actors:	LockDevice, LightSwitch, Timer
Preconditions:	<ul style="list-style-type: none"> • 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 system provides household devices activation function
Postconditions:	The auto-lock timer has started countdown from autoLockInterval.
Flow of Events for Main Success Scenario:	
→	1. Tenant/Landlord arrives at the door and selects the menu item "Unlock"
	2. <u>include::AuthenticateUser (UC-7)</u>
←	3. System (a) signals to the Tenant/Landlord the lock status, e.g., "disarmed," (b) signals to LockDevice to disarm the lock, and (c) signals to LightSwitch to turn the light on
←	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]

Use Case UC-4: RetireUser	
R e l a t e d Requirements:	REQ7
Initiating Actor:	Landlord
Actor's Goal:	To retire an existing user account and disable access
P a r t i c i p a t i n g Actors:	Database
Preconditions:	• The database stores the accounts that allowed to unlock the lock.
Postconditions:	The removed accounts cannot unlock
Flow of Events for Main Success Scenario:	
→	1. Landlord access database
	2. <u>include::AuthenticateUser</u>
←	3. System shows existing accounts
→	4. Landlord retires an existing account
←	5. Database disable access

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 shows the mobile phone that is contained in the database, with less than a maximum allowed number of unsuccessful attempts	
Input Data:	keycode, door identifier	
Test Procedure:	Expected Result:	
Step 1. Show an incorrect mobile phone and a valid door identifier	System beeps to indicate failure; records unsuccessful attempt in the database; prompts the user to try again	
Step 2. Show an correct keycode and door identifier	System flashes a green light to indicate success; records successful access in the database; disarms the lock device	

Test-case Identifier:	TC-4
Use Case Tested:	UC-4, main success scenario
Pass/fail Criteria:	The test passes if the landlord retires an account that is contained in the database
Input Data:	existing user account
Test Procedure:	Expected Result:
Step 1. Retire a non-existent account	The system emits an error beep indicating that the account does not exist.
Step 2. Retire a non-existent account	The system asks for confirmation to delete the account and, upon receiving a second confirmation, proceeds to delete the account and close its access privileges.