Software Engnieering Lab 3

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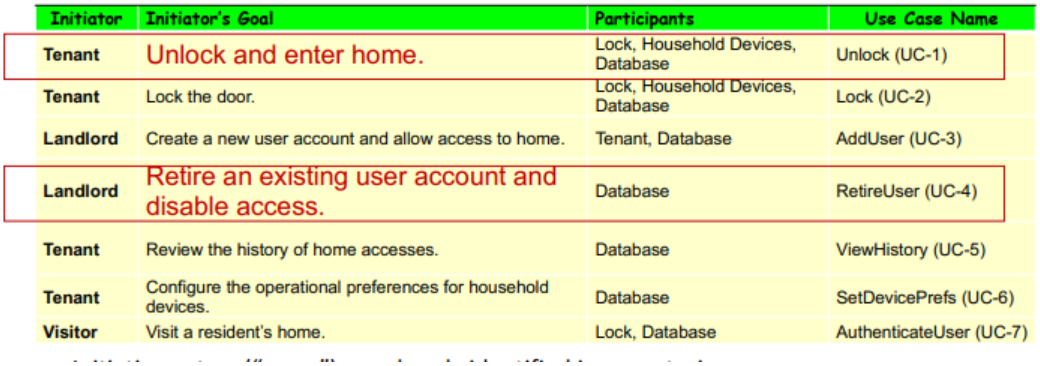
Course Assignment 1



Initiator	Initiator's Goal	Participants	Use Case Name
Tenant	Unlock and enter home.	Lock, Household Devices, Database	Unlock (UC-1)
Tenant	Lock the door.	Lock, Household Devices, Database	Lock (UC-2)
Landlord	Create a new user account and allow access to home.	Tenant, Database	AddUser (UC-3)
Landlord	Retire an existing user account and disable access.	Database	RetireUser (UC-4)
Tenant	Review the history of home accesses.	Database	ViewHistory (UC-5)
Tenant	Configure the operational preferences for household devices.	Database	SetDevicePrefs (UC-6)
Visitor	Visit a resident's home.	Lock, Database	AuthenticateUser (UC-7)

• Derive UC-1 (Unlock) and UC-4 (RetireUser)

The orange characters are the supplement of participants.

The crossed out charactors are deleted

Initiator	Initiator'Goal	Participants	Use Case Name
Tenant	Unlock and enter home.	Lock, ~~Household Devices~~, Database, Landlord	Unlock(UC-1)
Landlord	Retire an existing user account and disable access.	Database, Lock	RetireUser(UC-4)

• Give the use case schemas of UC-1 and UC-4

Schema for Use Case 1:

Use Case UC-1:		Unlock
Related Requirements:		Tenant, Lock, Database, Landlord
Initiating Actor:		Tenant
Actor's Goal:		Unlock and enter home.
Participating Actors:		Lock, Database, Landlord
Preconditions:		Door locked
Postconditions:		Door unlock
Flow of Events for Main Success Scenario:		
→	1.	Tenant sends unlock request to lock.
←	2.	Lock sends request to database to access.
←	3.	Access was confirmed, door unlocked.
Flow of Events for Extensions (Alternate Scenarios): What could go wrong? List the exceptions to the routine and describe how they are handled		
→	1a.	Tenant enter the wrong password. (Request rejected)
←	2a.	Lock failed to access to database. (check the network/enter password again)

Schema for Use Case 4:

Use Case UC-4:		Retire account & Disable access
Related Requirements:		Landlord, Database, Lock
Initiating Actor:		Landlord
Actor's Goal:		Retire an existing user account and disable access.
Participating Actors:		Database, Lock
Preconditions:		Account exist & Can be accessed
Postconditions:		Account being retired & Access disabled
Flow of Events for Main Success Scenario:		
→	1.	Landlord send request to retire the existed account.
←	2.	Database received the request and delete the account.
→	3.	Database send command to lock that the account has been deleted.
←	4.	When using the account that was deleted, can't access to database.
Flow of Events for Extensions (Alternate Scenarios): What could go wrong? List the exceptions to the routine and describe how they are handled		
→	1a.	Database didn't received the request(send request again).
→	2a.	Database failed to delete the account(try again).
←	3a.	Lock didn't received the command from database.

• Give the acceptance tests for UC-1 and UC-4

Acceptance tests for UC–1:

Test-case Identifier:	TC-1
Use Case Tested:	UC-1
Pass/fail Criteria:	Pass Criteria: Door unlock Fail Criteria: Door still locked
Input Data:	Numeric keycode, door identifier
Test Procedure:	**Expected Result:**
Step 1: Type in the correct keycode and door identifier	System beeps to indicate failure; System flashes a green light to indicate success; records successful access in the database; disarms the lock device

Acceptance tests for UC–4:

Test-case Identifier:	TC-4
Use Case Tested:	UC-4
Pass/fail Criteria:	Pass Criteria: Account being retired & Access disabled Fail Criteria: Account still exist/Access success
Input Data:	Management of account device, Account Numeric keycode, door identifier
Test Procedure:	**Expected Result:**
Step 1: Using the device to send request to retire the existed account.	If the device shows [account has been deleted], it is successful, if the account still in the account list, the test is failed.

Step 2: Unlock the door with the deleted account	If the door is unlocked, the test failed; if the door is not unlocked, the test success.