Course Assignment 1

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

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| Initiator | Initiator’s goal | Participants | Use Case Name |
| Tenant | Unlock and enter home | Lock, Household Device, Database, Phone | Unlock(UC-1) |
| Landlord | Retire an existing user phone number and disable access. | Database  Phone | Retire User(UC-4) |

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

[UC-1]

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| Use Case UC-1 | | Unlock |
| Related Requirements: | | REQ-1/2/3/4/5 |
| Initiating Actor: | | Tenant, Landlord |
| Actor’s Goal: | | To disarm the lock and enter, and get space lighted up automatically. |
| Participating Actors: | | Lock, Switch, Phone or Bluetooth |
| Preconditions: | | The set of valid phone number stored in the system database is non-empty. |
| Postconditions: | | Lock keeps associated with phone,starts timing when needed |
| Flow of Events for Main Success Scenario: | | |
| → | 1.Tenant/Landlord arrives at the door and blue teeth find the signal. | |
| ← | 2.System send “success enter” message to the phone of tenant/landlord | |
| ← | 3. System tells timer to start timing | |
| → | 4. Tenant/Landlord enters the home and close doors | |

[UC-4]

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| Use Case UC-4: | | RetireUser |
| Related Requirements: | | REQ-7 |
| Initiating Actor: | | Landlord |
| Actor’s Goal: | | To remove departed residents’ account |
| Participating Actors: | | Lock, Phone |
| Preconditions: | | None |
| Postconditions: | | The modified data is stored into the database |
| Flow of Events for Main Success Scenario: | | |
| → | 1. Landlord identification and rewrite authority | |
| ← | 2. System displays the options of activities to the Landlord | |
| → | 4. Landlord selects “Remove ” and delete the chosen ID in the database | |
| ← | 5. System delete the data and send “success delete” to landlord | |

• Give the 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 | |
| Pass/fail Criteria | The phone’s ID recognized when approaching door | |
| Input data | Blue tooth’s message to the Lock | |
| Test procedure: | | Expected Result: |
| Step 1: Use a wrong phone’s ID to approach the door | | No response |
| Step 2: Use a correct phone’s ID to approach the door | | Respond with the data in the database and begin to work |

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| Test-case Identifier | TC-2 | |
| Use Case Tested | UC-4, | |
| Pass/fail Criteria | No unlock when a phone’s ID was deleted | |
| Test procedure: | | Expected Result: |
| Step 1: landlord has removed a phone’s ID from database | | System delete the data and send “success delete” to landlord |
| Step 2: Approach the door with a phone whose phone’s ID has been deleted | | System No response |