Use Case 1: Unlock

Related Requirem pts: REQ1, REQ2, REQ3 and REQ4

Initiating Actor: Tenant, Landlord

Goal: Unlock and enter, the space automatically lights up

Participating Actors: LockDevice, LightSwitch, Timer, Database and Mobile Phone

Preconditions:

The set of valid Bluetooth MAC addresses stored in the system database is not empty

The sensor on the locking device is always active

Postconditions: The sensor on the locked device is always active

Flow of Events for Main Success Scenario:

The tenant / landlord arrives at the door and puts the Bluetooth phone near the lockdevice

Include::AuthenticateUser (UC-7)

The system (a) sends a lock status signal to the tenant/landlord, for example, "unlock", (b) sends a signal to unlock the locked device, and (c) sends a signal to turn on the light to LightSwitch

The system signals the timer to start the auto lock timer countdown

The tenant/landlord opens the door and enters the house [close the door and lock it

Lockdevice allows the tenant / landlord to try again when pairing fails (for example, the MAC address cannot be found in the database).

When the maximum pairing attempts are reached (for example, three failed attempts), the locked device will notify the landlord.

Use Case 4: RetireUser

Related Requirem pts: REQ7

Initiating Actor: Landlord

Goal: Exit an existing tenant account and disable access.

Participating Actors: Database

Preconditions:

The set of valid tenant accounts stored in the system database is non-empty.

Each tenant account has additional information like his/her Mobile Phone number

Postconditions: The account of the tenant is removed from database.

Flow of Events for Main Success Scenario:

The landlord queries the tenant account in the database.

The landlord removes the target tenant's account.

Acceptance Test Case for UC-1 Unlock

Identifier: TC-1

Use Case Tested: UC-1, main success scenario and alternate scenario

Pass/fail Criteria: The test passes if the user put the Mobile Phone whose Bluetooth Mac

Input Data: MAC address

Test Procedure:

Step1. Put a Mobile Phone whose Mac address is not in the database.

System beeps to indicate failure;records unsuccessful attempt in the database;prompts the user to try again

Step 2. Put a Mobile Phone whose Mac address is in the database.

:System flashes a green light to indicate success;records successful access in the database

Acceptance Test Case for UC-1 Unlock

Identifier: TC-2

Use Case Tested: UC-1, main success scenario and alternate scenario

Pass/fail Criteria: The test passes if the maximum attempts is reached, the landlord will be noticed.

Input Data: Mobile Phone Bluetooth MAC addres

Test Procedure:

Step1. Put a Mobile Phone whose Mac address is not in the database before reaching the maximum attempts.

System beeps to indicate failure;records unsuccessful attempt in the database;prompts the user to try again

Step2. Put a Mobile Phone whose Mac address is not in the database again.

System beeps to indicate failure;ecords unsuccessful attempt in the database;sensor shuts down;

Acceptance Test Case for UC-4 RetireUser

Identifier: TC-3

Use Case Tested: UC-4, main success scenario

Pass/fail Criteria: The test passes if the landlord retrieve the target tenant account and delete it

Input Data: The key word for the target tenant

Test Procedure:

Step1. Make a query for the target tenant.

Database returns the tenant’s account information including his/her phone number

Step2. Delete the target tenant in the database.

Database remove the tenant’s account including his/her Bluetooth MAC address.

Step3. Put the removed tenant’s Mobile Phone.

System beeps to indicate failure;records unsuccessful attempt in the database;

prompts the user to try again