SAFEHOME PROJECT

SOFTWARE REQUIREMENT SPECIFICATION

[version 2.0]

TEAM4

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Document Version

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1.0	First SRS	2015/04/25
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1. Introduction

1.1 Purpose

Safehome is a system which combined with software and hardware for people who want to sensing house with various sensors, surveillance with camera and control electronics, lights easily. Safe home contains a Hardware with control panel and web control system. In this SRS we will discuss security function, surveillance function and home management function of Safehome.

1.2 Project Scope

In Safehome system there are 3 big functions security, surveillance and home management. First in security function users can check invasion of outsiders, fire and water status check with sensors. Second in surveillance function users can monitoring their house. Third in management function, users can make floor plan, make mode for particular situation and managing stand orders.

1.3 Definitions, acronyms, and abbreviations

- SRS : Software Requirements Specification
- HAVC : Heating, Ventilation and Air Conditioning
- UC : User Case
- LED : Light Emitting Diode
- CO : Carbon Monoxide
- Wi-fi : Wireless Fidelity

1.4 References

- "Software Engineering: A Practitioner's Approach (SEPA)" by R. S. Pressman, McGraw-Hill, Eighth Edition
- "Software Engineering: A Practitioner's Approach (SEPA)" by R. S. Pressman, McGraw-Hill, fifth Edition

- "IEEE Recommended Practice for Software Requirements Specifications

2. Overall Description

2.1 Product Perspective

Safehome system include both hardware software, cameras and various sensors. Hardware with contains control panel is a center of system. Inside, outside and other cameras are connected with hardware. So hardware manage camera`s setting and camera send recorded data to hardware. Motion, windoor, smoke, waterlevel Sensor is also connected with hardware. Hardware manage sensor`s enable/disable settings and sensors send data to hardware. Also user can manage sensors and cameras easily with mode settings. Some sets of sensor/camera setting is recorded and user can use this mode with one button click. Hardware send sensor data and camera record to server and user can see this information by web service. All data is send with wi-fi connection.

2.2 Product functions

Home security function: By alarming and monitoring system, Home security function gives the security to homeowner. Homeowner can activate or deactivate the system, for example when he doesn't want check co levels, he just click disable box of co level system. So Login system is very important. These functions are kinds of home security function.

- Standard window/door/motion sensor monitoring for unauthorized access(break-ins)

- Monitoring for fire, smoke, and CO levels
- Monitoring for water levels in basement(flood or broken water heater)
- Monitoring for outside movement
- doggie angst sensor(if the dog barks for more than, say a minute, the sensor sets a special alarm mode that calls the owner on his or her cell phone)

Home surveillance function: By using camera, it is monitoring the specific area of house. Homeowner can control camera such as zoom, tilt, pan, activating, deactivating etc. Through thumbnail view and recording, they can improve their Surveillance. These functions are kinds of home surveillance functions.

- Connect to one or more video cameras placed inside/outside house
- Control pan/zoom for cameras
- Define camera monitoring zones
- Display camera views on PC
- Selectively record camera output digitally
- Replay camera output

Home management function : By controlling lights, appliance, electric devices, home management function make home owner can control outside of house. And also with this function

- Control lighting
- Control appliances
- Control HVAC
- Control all visual device.
- Control video/audio equipment throughout house
- Ability to set house for "vacation/travel mode" with one button sets(home management function

- control all visual device.
- overnight travel, extended travel, the system should turn light on and off random intervals.(to make it look like someone inside)
- Set appliances/lighting/HVAC accordingly
- Set answering machine message
- Contacts vendors to stop paper, mail, etc.
    - administration function. do new set-up or edit an existing set-up.

2.3 User characteristics

- Homeowner: Homeowner is main user of this system. So owner's authority is very high. He can manage all of things that System has.
- Visitor: Visitor is person who sometimes visit house. So their authority is low. If homeowner give some authority, they can use more function.

2.4 Constraints

- All communication is using wi-fi
- User must use 2 password with more than 8 digits
- If more than 5 times wrong password system is block
- Movie file is recorded by 1 hour long
- Movie file will be save as .avi format
- Every Sensor has a own threshold, do not manage threshold in Safehome service

2.5 Assumptions and dependencies

- All Sensors and Camera is good working.
- ID's information is correct, if something is changed, the owner changed information immediately.

- Login system always prevents hacking from other people.
- If someone enters wrong id/PW at 5th times, login system is locked automatically.
- All sensor and camera are deployed perfectly.
- If user quit the webpage without logout, Id is logged off automatically.
- During creating ID, user must do Floor plan perfectly.
- During using ID, if someone login the same id, reject the login and log off the id, and send the message to the owner.
- Threshold is enough to prevent dangerous situation.
- Camera has the ability about zoom, pan, tilt.
- Camera can record some view.
- Database has enough capacity to record file.
- Each sensor and camera existed in house. (At least one)
- If concurrent requests from a control panel and web access happen, system stop the web access and pop up that ask to user "Control panel is using now, So you can't use it. If you want to stop control panel and use web access, Fill in owner's ID card number" is shown to web-user . If web-user fill in owner's ID card number, control panel is stopped and when access is accepted.
- Service center must give the admin code to customer, admin code is very important to make admin account. If customer lost admin code, customer must go to service center to reissue the admin code.
- To creating homeowner, administrator's accept is needed
- Connection of internet is always perfect although program is turn down
- Sensor and camera are safe-home company product. If sensor and camera are not safe-home company product, system may not operate correctly.
- All devices including cameras, sensors, and the SafeHome main system communicate using IEEE 802.11x protocol
- Homeowner can't control sensor or camera. Homeowner only see sensor's output or camera's output.
- In web access, Administrator and Homeowner password type is Alphabets and digits.
- In web access, Administrator and Homeowner password Length is at least 8 characters.

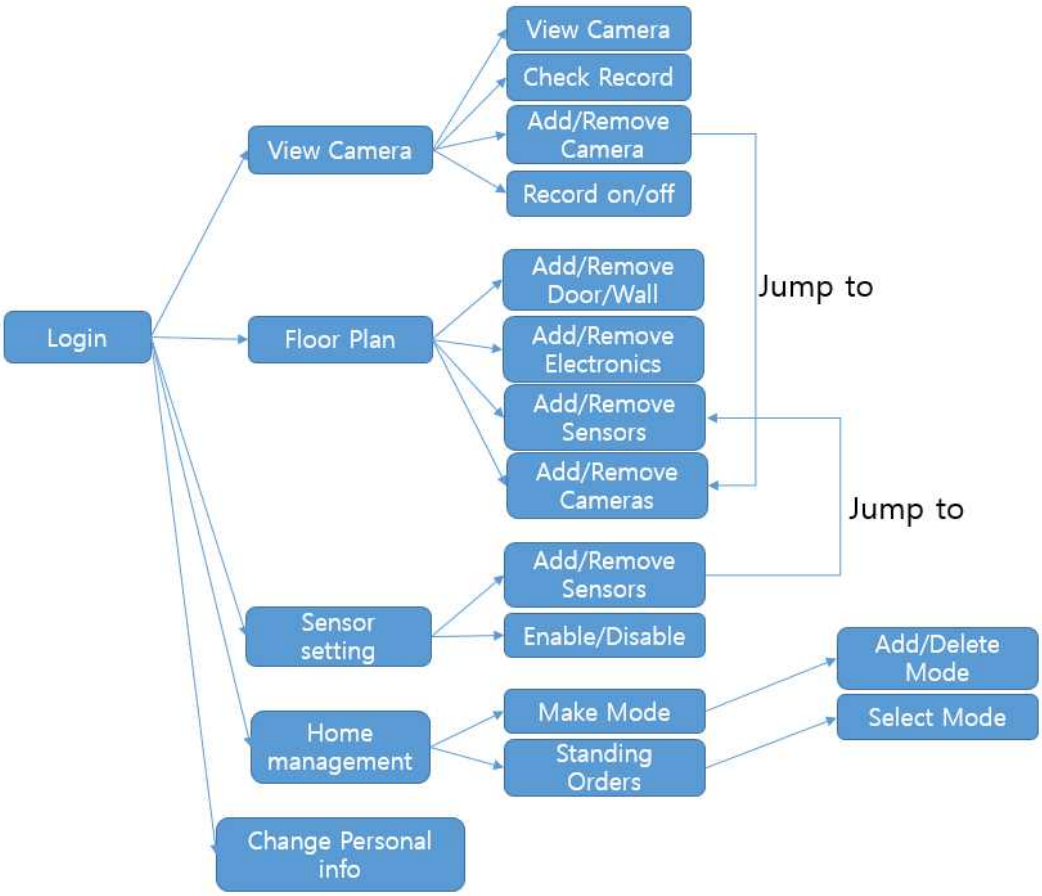
- In web access, if User's motion is not detected during 30min, User is logged out automatically.
- Sensor's output is binary. True or False.
- When Power off happen, Without window/door/motion sensor and Alarm sensor, All sensor is turned down.
- Enable, Disable mean that Alarm, disalarm.
- Alarm sensor always turn on.

3. Specific Requirements

3.1 External Requirements

3.1.1 User Interfaces

Safehome web service`s User Interface will be intuitive. All functions names are write over the button. Safehome web service`s UI Structure is look like below diagram. Special point is in security function and surveillance function, when adding sensor or camera program jump to floor plan screen and do same job as floor plan do.



3.1.2 Hardware Interfaces

Before using Safehome hardware, user must turn on the Safehome hardware with red switch. Safehome hardware is look like a cube and behind of control panel there is a red switch. If user

turn off the switch then all monitoring and sensing activity will be stopped

Hardware will be look like a rectangular parallelepiped. In front of this hardware there will be control Panel look like below image.

- Number Dial : User can input number when login and set mode
- Red LED(Armed) : In emergency situation red led will be on and alarm to homeowner
- Green LED(Power) : When hardware is working green light is on.
- On : If hardware is off, user can on hardware by click this button.
- Off : If hardware is on, user can off hardware by click this button.
- Reset : If click this button hardware will be reboot.
- Zone : If click this button camera in security zone is on and start record and sensor is on.
- Away : If click this button all sensor and camera is on and record data
- Stay : If click this button All sensor and camera is off
- Code : If click this button "Input mode number" dialog is appear and user input the number of mode then saved mode setting(Vacation mode.....) is on
- Panic : If click this button call 119 and 112

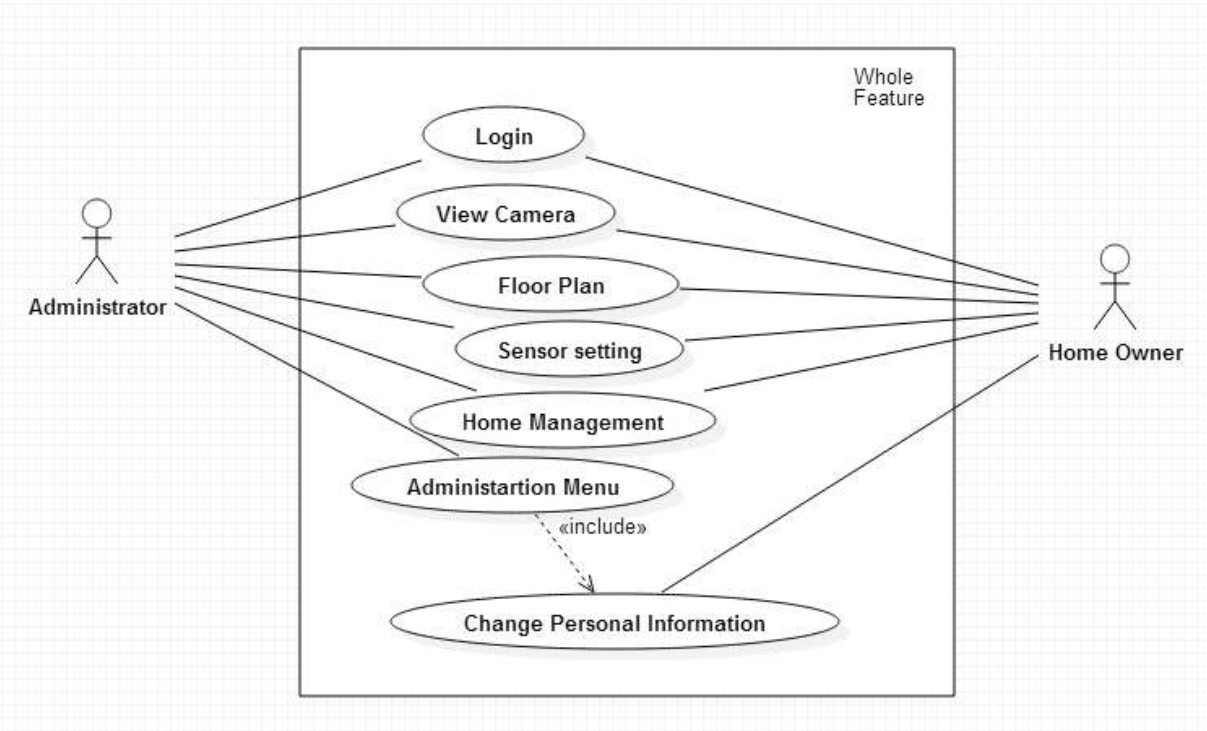
3.1.3 Software Interfaces

Software Interface will be posted at Appendix A. UI

3.1.4 Communication Interfaces

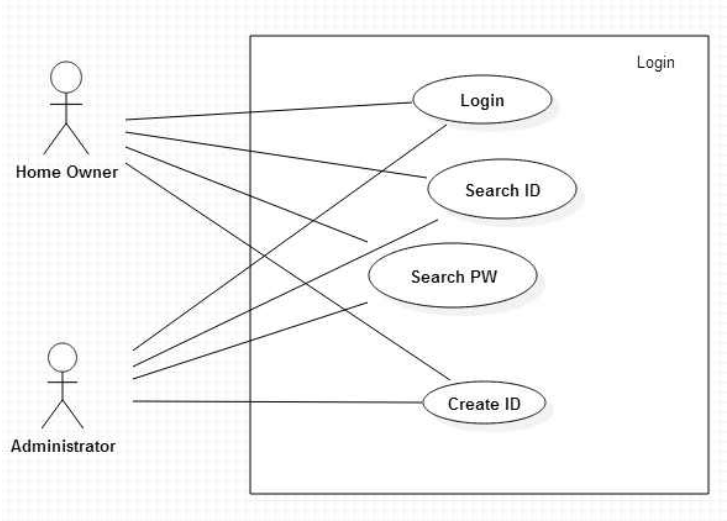
- Safehome hardware and sensor will communicate with WIFI
- Safehome hardware and camera will communicate with WIFI
- Safehome hardware and web-server will communicate with WIFI
- Safe homehardware and Web or App will communicate with Internet

3.2 Functional Requirements



<Figure 1. Whole Feature of Safehome Project>

3.2.1 Login



<Figure 2. Use-Case Diagram of "Login">

3.2.1.1 Login: This is very important function. From this function, The system distinguish that user who entered ID/PW is correct owner. if you enter wrong ID/pw at 5th times, then user can't login before accept of homeowner of message which is sent by system.

No.	UC1
Use-case	Login
Primary-actor	Homeowner, administrator
Goal-in context	If Homeowner, administrator want to use safe-home software, check person who is entered ID,PW is Homeowner, administrator of this service
Precondition	At least, one account is existed in safe-home database.
Trigger	Homeowner, administrator wants to use safe-home software.
Scenario	1. Access the safe-home web page. 2. Enter ID, Password1, Password2 3. Click Enter button.
Exception	1. If homeowner or administrator enters wrong information 5 times, send the message to homeowner or administrator. 2. Before homeowner's or administrator's respond, login system is stopped. 3. During using ID, if someone login the same id, reject the login and log off the id, and send the message to the homeowner or administrator.

Priority	highest		
Open issue			
Connected UI	UI1	Swimlane Diagram	4.1.1

3.2.1.2 Create admin ID: administrator can do all of thing in Safe-home system. To use the Safe-home, administrator must have account. So if administrator use this system for the first time, Create admin ID.

No.	UC2		
Use-case	Create admin ID		
Primary-actor	administrator		
Goal-in context	Make admin ID for using safe-home.		
Precondition	Administrator must have Admin key.		
Trigger	Administrator wants to use and set safe-home software.		
Scenario	1. Access the safe-home web page. 2. Click Create Account button. 3. Click Admin button. 4. Fill in the basic information. 5. Click create button. 6. Then floor plan page is shown 7. You make your house blueprint. 8. After making floor plan, click Finish button. 9. Then Pop-up about success of Create ID is shown to you		
Exception	1. Admin account is only one. If admin account is existed, creation is rejected.		
Priority	highest		
Open issue	1. How many account is allowed to make for using service. 2. Should we make the constraint about Password to prevent hacking.		
Connected UI	UI1,UI31,UI32	Swimlane Diagram	

3.2.1.3 Create Homeowner ID: To use the safe-home, Homeowner must have account. So if Homeowner use this system for the first time, Create ID.

No.	UC3
Use-case	Create Homeowner ID

Primary-actor	Homeowner		
Goal-in context	Make ID for using safe-home.		
Precondition	Homeowner want to create ID.		
Trigger	Homeowner wants to use safe-home software.		
Scenario	1. Access the safe-home web page. 2. Click Create Account button. 3. Click Homeowner button. 4. Fill in the basic information. 5. Click create button.		
Exception	1. If new ID is already existed, reject create ID and Notice about that.		
Priority	highest		
Open issue	1. How many account is allowed to make for using service. 2. Should we make a Priority of authority among accounts. 3. Should we make the constraint about Password to prevent hacking.		
Connected UI	UI1,UI31,UI33	Swimlane Diagram	

3.2.1.4 Change administrator's information: For security or change of information, administrator sometimes need to change administrator's information. From this function, administrator can change administrator's information such as phone number, Password, address etc.

No.	UC4
Use-case	Change administrator information
Primary-actor	Homeowner
Goal-in context	Change administrator information.(password, Question etc).
Precondition	Administrator must enter correct Id/Password.
Trigger	Administrator wants to change information.
Scenario	1. Administrator login safehome successfully. 2. When user-interface is shown, Click Administration menu. 3. Fill in password for security. 4. Click Change Admin's information. 5. Then change information. 6. Click "Save".
Exception	
Priority	highest

Open issue	1. Should administrator change password periodically?		
Connected UI	UI1,UI2,UI41,UI42,UI44	Swimlane Diagram	4.1.2

3.2.1.5 Change Homeowner's information: For security or change of information, Homeowner sometimes need to change Homeowner's information. From this function, Homeowner can change Homeowner's information such as phone number, Password, address etc.

No.	UC5		
Use-case	Change Homeowner information		
Primary-actor	Homeowner		
Goal-in context	Change Homeowner information.(password, Question etc).		
Precondition	Homeowner must enter correct Id/Password.		
Trigger	Homeowner wants to change information.		
Scenario	1. Homeowner login safehome successfully. 2. When user-interface is shown, Click Change Personal Information. 3. Fill in password for security. 4. Then change information. 5. Click "Save".		
Exception			
Priority	highest		
Open issue	1. Should Homeowner change password periodically?		
Connected UI	UI1,UI2,UI43	Swimlane Diagram	4.1.3

3.2.1.6 Search administrator's ID: When administrator forgot Id, administrator can find administrator's ID by using this function.

No.	UC6
Use-case	Search administrator ID
Primary-actor	Administrator
Goal-in context	If administrator forget administrator's ID, administrator can find ID through some questions.
Precondition	Admin is existed in safe-home database.
Trigger	Administrator forget Homeowner's ID.
Scenario	1. Access the safe-home web page. 2. Click Forgot ID/PW? button(administrator must click ID part).

	3. Fill the administrator's phone number. 4. Click Enter. 5. Then Message is sent the ID to phone which is in the information of account.		
Exception			
Priority	highest		
Open issue			
Connected UI	UI1,UI34	Swimlane Diagram	4.1.4

3.2.1.7 Search administrator's PW: When administrator forgot PW, administrator can find administrator's PW by using this function. For Preventing from hacking, To find PW, administrator must fill in administrator's private information when administrator wrote down at create ID

No.	UC7		
Use-case	Search administrator PW		
Primary-actor	Administrator		
Goal-in context	If administrator forget administrator's PW, administrator can find PW through some questions.		
Precondition	Admin is existed in safe-home database.		
Trigger	Administrator forget Homeowner's ID.		
Scenario	1. Access the safe-home web page. 2. Click Forgot ID/PW? button(administrator must click PW part). 3. Fill the administrator's information 4. Click Enter. 5. Then Message is sent the PW to phone which is in the information of account.		
Exception			
Priority	highest		
Open issue			
Connected UI	UI1,UI35	Swimlane Diagram	4.1.4

3.2.1.8 Search Homeowner's ID: When Homeowner forgot Id, Homeowner can find Homeowner's ID by using this function.

No.	UC8
Use-case	Search Homeowner ID

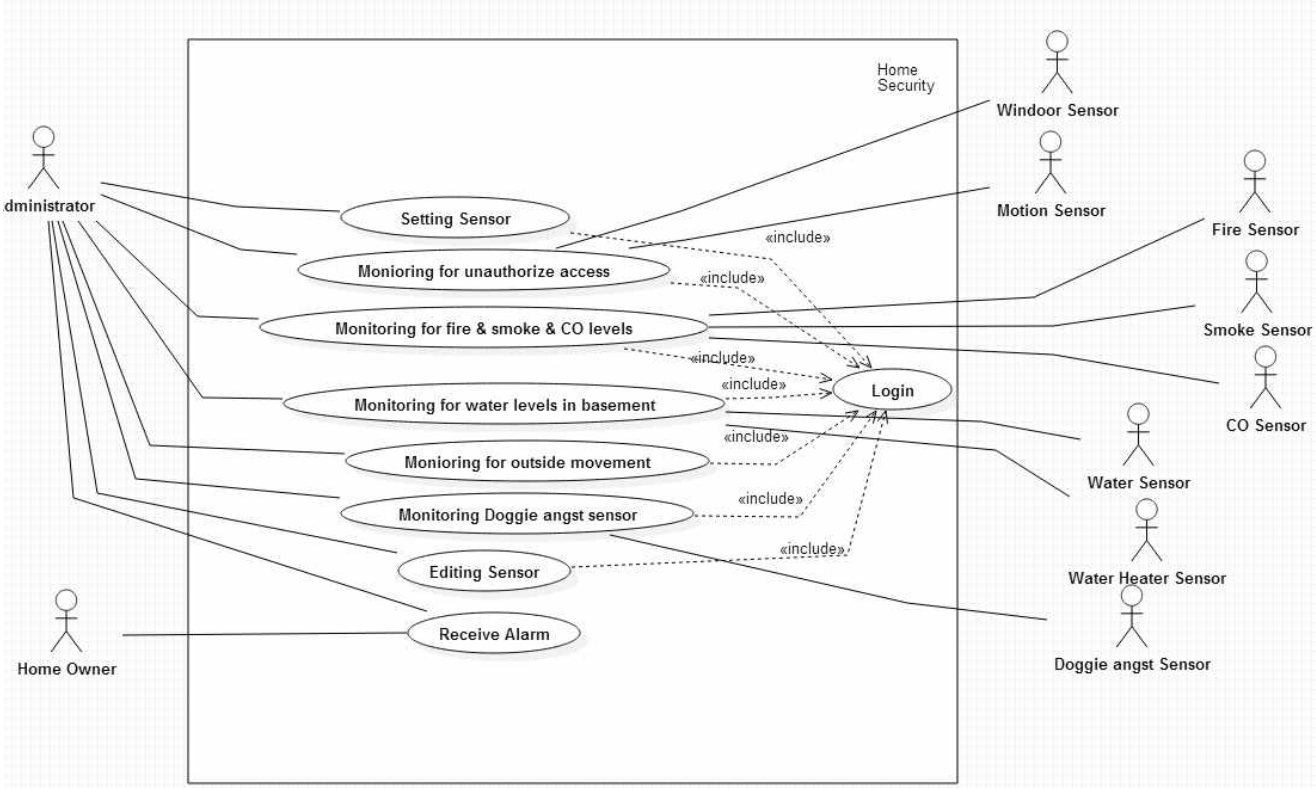
Primary-actor	Homeowner		
Goal-in context	If Homeowner forget Homeowner's ID, Homeowner can find ID through some questions.		
Precondition	At least, one account is existed in safe-home database.		
Trigger	Homeowner forget Homeowner's ID.		
Scenario	1. Access the safe-home web page. 2. Click Forgot ID/PW? button(Homeowner must click ID part). 3. Fill the Homeowner's phone number. 4. Click Enter. 5. Then Message is sent the ID to phone which is in the information of account.		
Exception			
Priority	highest		
Open issue			
Connected UI	UI1,UI34	Swimlane Diagram	4.1.4

3.2.1.9 Search Homeowner's PW: When Homeowner forgot PW, Homeowner can find Homeowner's PW by using this function. For Preventing from hacking, To find PW, Homeowner must fill in Homeowner's private information when Homeowner wrote down at create ID

No.	UC9
Use-case	Search Homeowner's PW
Primary-actor	Homeowner
Goal-in context	If Homeowner forget Homeowner's, Homeowner can find PW through some questions.
Precondition	At least, one account is existed in safe-home database.
Trigger	Homeowner forget Homeowner's PW.
Scenario	1. Access the safe-home web page. 2. Click Forgot ID/PW? Button(Homeowner must click PW part). 3. Fill the Homeowner's information 4. Click Enter. 5. Then Message is sent the PW to phone which is in the information of account.
Exception	
Priority	highest
Open issue	

Connected UI	UI1,UI35	Swimlane Diagram	4.1.4

3.2.2 Home Security Function



<Figure 3. Use-Case Diagram of "Home Security">

3.2.2.1 Setting sensor(active or disactive) : This is Sensor setting function. When administrator stops the sensor, or operate the sensor, administrator can manipulate easily from this function.

No.	UC10
Use-case	Setting sensor(active or disactive)
Primary-actor	Administrator, Homeowner
Goal-in context	Administrator can set sensor to active or disactive. By controlling the sensor, administrator can manipulate the Safehome. Homeowner can see the sensor's setting, but can't handle sensor's setting.
Precondition	Administrator must enter correct Id/Password.

	Each sensor are connected to house.		
Trigger	Administrator want to set the sensor's activity. Homeowner want to see the sensor's activity.		
Scenario	1. Administrator logins safehome successfully. 2. When user-interface is shown, Click Sensor Setting 3. If Administrator or Homeowner wants to see all sensor, click All in the first menu button. 4. If Administrator or Homeowner wants to see specific kind of sensor, Click the correct menu button. 5. After click the kind of sensor, administrator, Homeowner can see sensor name, Enable, Disable part. 6. If administrator wants to use the sensor, check the Enable box. 7. If administrator wants to stop the sensor, check the disable box. 8. If administrator wants to check to enable all sensor which is shown, click Enable All. 9. If administrator wants to check to disable all sensor which is shown, click Enable All. 10. Then if administrator reflects administrator's change of sensor setting to Safehome, administrator must click refresh.		
Exception	1. If administrator don't click refresh and exit the sensor setting interface, administrator's change of sensor setting is not reflected to program. 2. If administrator changes the kind of sensor(All ,Thief, Water, Fire, Etc)without Refresh, administrator's change of sensor setting is not reflected to program. 3. Homeowner can't control sensor's activity, so Homeowner can't see refresh button and checking box.		
Priority	highest		
Open issue			
Connected UI	UI2,UI18,UI41	Swimlane Diagram	4.2.1, 4.2.2

3.2.2.2 Window/door/motion sensor monitoring for unauthorized access: Safe-home system protect the house from unauthorized access. System has window, door, motion sensor. From this sensor, System monitor the house. When unauthorized access is occurred System alarm to Administrator and Homeowner

No.	UC11
Use-case	window/door/motion sensor monitoring for unauthorized access

Primary-actor	Sensor		
Goal-in context	For security, Detect unauthorized access all the time by using window/door/motion sensor		
Precondition	Connection of internet is perfect. All sensors are good working. Threshold is set appropriately		
Trigger	Unauthorized access is detected.		
Scenario	When Sensor recognizes some value that is against the threshold of sensor, Alarm sensor alarms to Administrator and Homeowner about it.		
Exception	1. If Sensor is broken, Alarm sensor alarms to Administrator about that situation.		
Priority	highest		
Open issue	1. Is it possible that Administrator can change the threshold of sensor?		
Connected UI	UI41,UI19	Swimlane Diagram	4.2.3

3.2.2.3 Monitoring for fire, smoke, and CO levels : Safe-home system protect the house from occurring fire in house. Moreover, Safe people's life by alarming about fire. The system always check the fire, smoke, and CO levels. Among those, if something is exceed the threshold, system alarm immediately.

No.	UC12
Use-case	Monitoring for fire, smoke, and CO levels
Primary-actor	Sensor
Goal-in context	For security, Detect fire, smoke, and Co levels If something is not good, By alarming to Administrator and Homeowner, prevent dangerous situation.
Precondition	Connection of internet is perfect. All sensors are good working. Threshold is set appropriately
Trigger	fire, smoke is detected or CO levels is exceed the threshold
Scenario	When Sensor recognizes fire or smoke or Co levels that exceed the threshold of sensor, Alarm sensor alarms to Administrator about it.
Exception	1. If Sensor is broken, Alarm sensor alarms to Administrator about that situation.
Priority	highest
Open issue	1. Is it possible that Administrator can change the threshold of sensor?

Connected UI	UI41,UI21	Swimlane Diagram	4.2.3

3.2.2.4 Monitoring for water levels in basement(flood or broken water heater) : From this function, Administrator can check flood or broken water heater. If something is detected, sensor alarms to Administrator. So Administrator can fix it.

No.	UC13		
Use-case	Monitoring for water levels in basement(flood or broken water heater)		
Primary-actor	Sensor		
Goal-in context	Alarm when flood or broken water heater happen.		
Precondition	Connection of internet is perfect. All sensors are good working. Threshold is set appropriately		
Trigger	Water heater's condition is not good.		
Scenario	1. When Sensor recognizes some value that is against the threshold of sensor, Alarm sensor alarms to Administrator about it.		
Exception	1. If Sensor is broken, Alarm sensor alarms to Administrator about that situation.		
Priority	highest		
Open issue	1. Is it possible that Administrator can change the threshold of sensor?		
Connected UI	UI41,UI20	Swimlane Diagram	4.2.3

3.2.2.5 Monitoring for outside movement: From this function, Administrator can check without going outside if someone visit and knock your door.

No.	UC14
Use-case	Monitoring for outside movement
Primary-actor	Camera, sensor
Goal-in context	By showing outside, Administrator can see outside without going outside,
Precondition	Connection of internet is perfect. All camera are good working. Alarm sensor is working.
Trigger	Something is in outside of home.
Scenario	By some camera, monitor for outside movement.

Exception	1. If camera is broken, Alarm sensor alarms to administrator about that situation.		
Priority	highest		
Open issue			
Connected UI		Swimlane Diagram	4.2.3

3.2.2.6 Doggie angst sensor: It's for Administrator who leave pets home in apartments or condos or houses that are close to one another. Alarm mode that calls the Administrator's cell phone when something happens to Administrator's pet cares pets

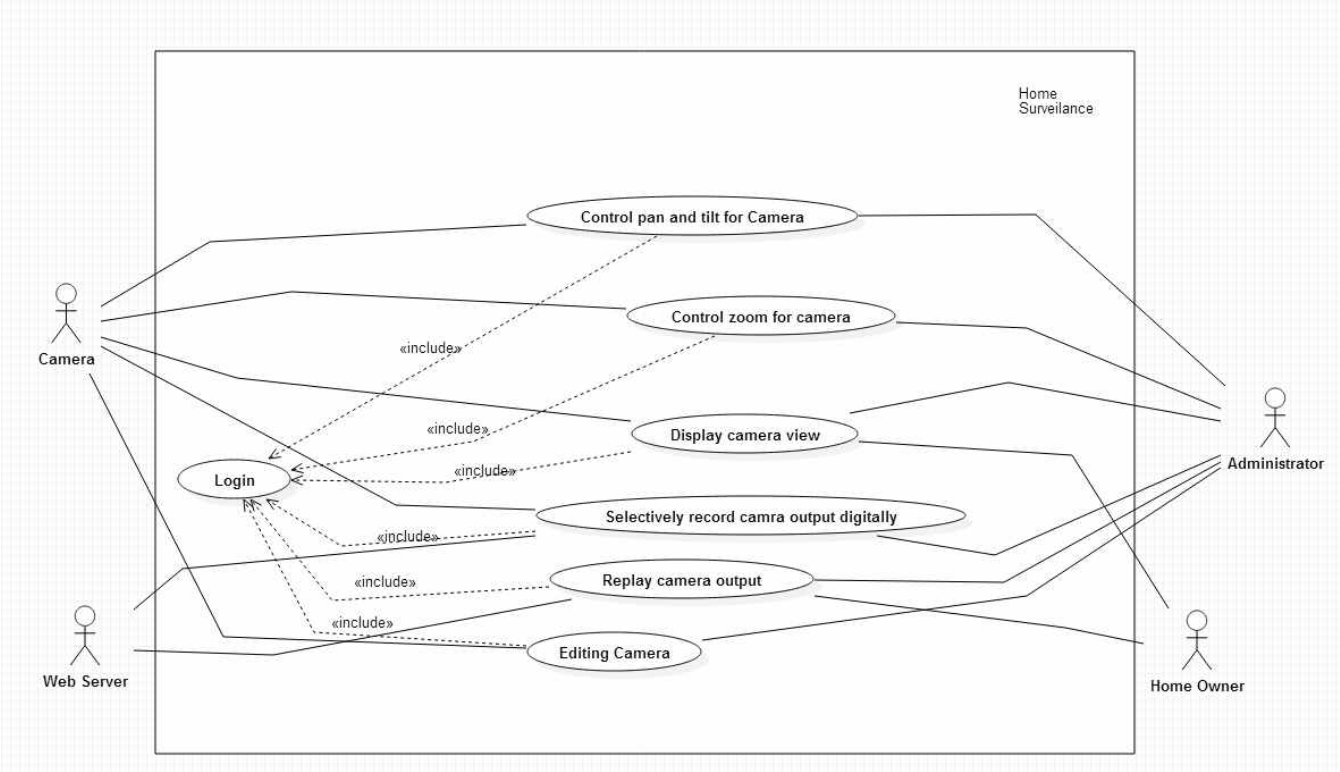
No.	UC15		
Use-case	Monitoring doggie angst sensor		
Primary-actor	Sensor		
Goal-in context	By alarming to Administrator, Administrator can attention Administrator's pet, when Administrator is in outside.		
Precondition	Connection of internet is perfect. All Sensor are good working. Threshold is set appropriately		
Trigger	Administrator's pet is exceed the threshold(number of barks/minute)		
Scenario	If sensor detect the specific situation (Ex the dog barks for more than ,say ,a minute) the sensor sets a special alarm mode that calls the Administrator's cell phone		
Exception	1. If Sensor is broken, Alarm sensor alarms to Administrator about that situation.		
Priority	highest		
Open issue	1. Is it possible that Administrator can change the threshold of sensor?		
Connected UI	UI41,UI22	Swimlane Diagram	4.2.3

3.2.2.7 Editing Sensor : From this function, Administrator can add sensor instruction easily. When Administrator wants to add or delete some sensor. Click button then do anything Administrator wants.

No.	UC16
Use-case	Editing Sensor(Add, Remove)
Primary-actor	Administrator
Goal-in	To add or remove Sensors

context			
Precondition	Administrator must enter correct Id/Password.		
Trigger	1. If Administrator want to create or delete the sensor		
Scenario	1. Administrator login safe-home successfully. 2. Click button without "Sensor setting". 3. When Administrator wants to use edit sensor, Click ⚙ button. 4. Administrator will jump to floor plan and can edit sensors		
Exception			
Priority	highest		
Open issue			
Connected UI	UI41, UI18, UI19, UI20, UI21,UI22	Swimlane Diagram	4.2.4

3.2.3 Home Surveillance Function.



<Figure 4. Use-Case Diagram of "Home Surveillance">

3.2.3.1 Control pan and tilt for camera : when Administrator see the view of camera, Administrator wants to move camera to see another position. So By adding the pan, tilt ability, Administrator can use camera widely.

No.	UC17		
Use-case	Control pan and tilt for camera		
Primary-actor	Administrator		
Goal-in context	When Administrator wants to see left or right or up or down side, Administrator can control pan for camera. By changing camera position, Administrator can acquire broad view		
Precondition	Camera must be connected to inside/outside house. Administrator must enter correct Id/Password. Camera's condition is good and activate.		
Trigger	Administrator decides to pan or tilt camera to change camera's position.		
Scenario	1. Administrator logins safehome successfully. 2. When user-interface is shown, Click view camera. 3. Select camera Administrator wants to change the position. 4. when t Administrator click camera, Administrator see → ↓ ↑ ← at right side. 5. If Administrator wants to move camera to the left, click ← button. 6. If Administrator wants to move camera to the up, click ↑ button. 7. If Administrator wants to move camera to the down, click ↓ button. 8. If Administrator wants to move camera to the right, click → button.		
Exception	1. When Administrator clicks button if the result of position is exceed the range of position Administrator can move, Notice to player that Administrator can't move camera position. 2. If Homeowner can't use it		
Priority	Medium		
Open issue	1. Should we make basic position? Should we make default position preparation for When Administrator wants to go back to the default position. 2. Should we make view of position of camera? Administrator can't know about where is the end of range.		
Connected UI	UI41,UI3,UI5,UI6	Swimlane Diagram	4.3.1, 4.3.2

3.2.3.2 Control zoom for camera : when Administrator closes up or close out the view of camera, Administrator uses zoom function. In range of zoom, Administrator can zoom out or zoom

in the camera.

No.	UC18		
Use-case	Control zoom for camera		
Primary-actor	Administrator		
Goal-in context	According Zoom in or Zoom out, Administrator can see camera zone in detail.		
Precondition	Camera must be connected to inside/outside house. Administrator must enter correct Id/Password. Camera's condition is good and activate.		
Trigger	Administrator decides to zoom camera to see detailed thing		
Scenario	1. Administrator logins safehome successfully. 2. When user-interface is shown, Click view camera. 3. Select camera Administrator wants to change 4. When Administrator clicks camera, Administrator sees zoom scroll bar at down side. 5. If Administrator wants to zoom in the camera, scroll button to zoom in. 6. If Administrator wants to zoom out the camera, scroll button to zoom out.		
Exception			
Priority	medium		
Open issue			
Connected UI	UI41,UI3,UI5,UI6	Swimlane Diagram	4.3.3

3.2.3.3 Display camera views on PC : It is very inconvenience that Administrator can only monitor the view of camera through recorded file. By displaying camera view immediately, Administrator can monitor home.

No.	UC19
Use-case	Display camera views on PC
Primary-actor	Administrator, Homeowner
Goal-in context	When camera is working, Administrator, Homeowner can see each camera views on PC.
Precondition	Camera must be connected to inside/outside house. Administrator, Homeowner must enter correct Id/Password. Camera's condition is good and activate.

Trigger	Owner want to see thumbnail view each camera.		
Scenario	1. Administrator, Homeowner logins safehome successfully. 2. When user-interface is shown, Click view camera. 3. Then 4 camera view is shown. 4. If Administrator, Homeowner wants to see another view click ◁ or ▷ 5. If Administrator, Homeowner wants to see detailed view, click the camera.		
Exception	1. If next page is not existed, ◁ or ▷ is not working. 2. Pages is constructed cycle. Ex) 1▷2▷3▷1▷2▷3….		
Priority	highest		
Open issue	1. Which one is better all camera's view is in one page OR divide to several page.		
Connected UI	UI2,UI3,UI41	Swimlane Diagram	4.3.4

3.2.3.4 Selectively record camera output digitally : By recording, Administrator can monitor when Administrator are not in front of pc. From this, Administrator can prevent or catch from thief.

No.	UC20
Use-case	Selectively record camera output digitally
Primary-actor	Administrator
Goal-in context	Administrator can record selected camera view.
Precondition	Camera must be connected to inside/outside house. Administrator must enter correct Id/Password. Camera's condition is good and activate. Data capacity is enough to save the record file.
Trigger	Owner want to record the view
Scenario	1. Administrator logins safehome successfully. 2. When user-interface is shown, Click view camera. 3. Select camera Administrator wants to record 4. When Administrator clicks camera, Administrator can see recoding button right-bottom side 5. When Button is "Recording On", camera is working record. 6. When Button is "Recording Off". Camera is not working record. 7. Administrator can change the state of recording, Click the "Recording On" or "Recording off" button.
Exception	1. When record is working, if data capacity is not enough to save file,

	quit record and save file.		
Priority	medium		
Open issue	1. Should we make reservation of record? When Administrator wants to record specific time, what should we do		
Connected UI	UI41,UI3,UI5,UI6	Swimlane Diagram	4.3.5

3.2.3.5 Replay camera output : By replaying the recorded file, Administrator can monitor the situation that Administrator couldn't monitor.

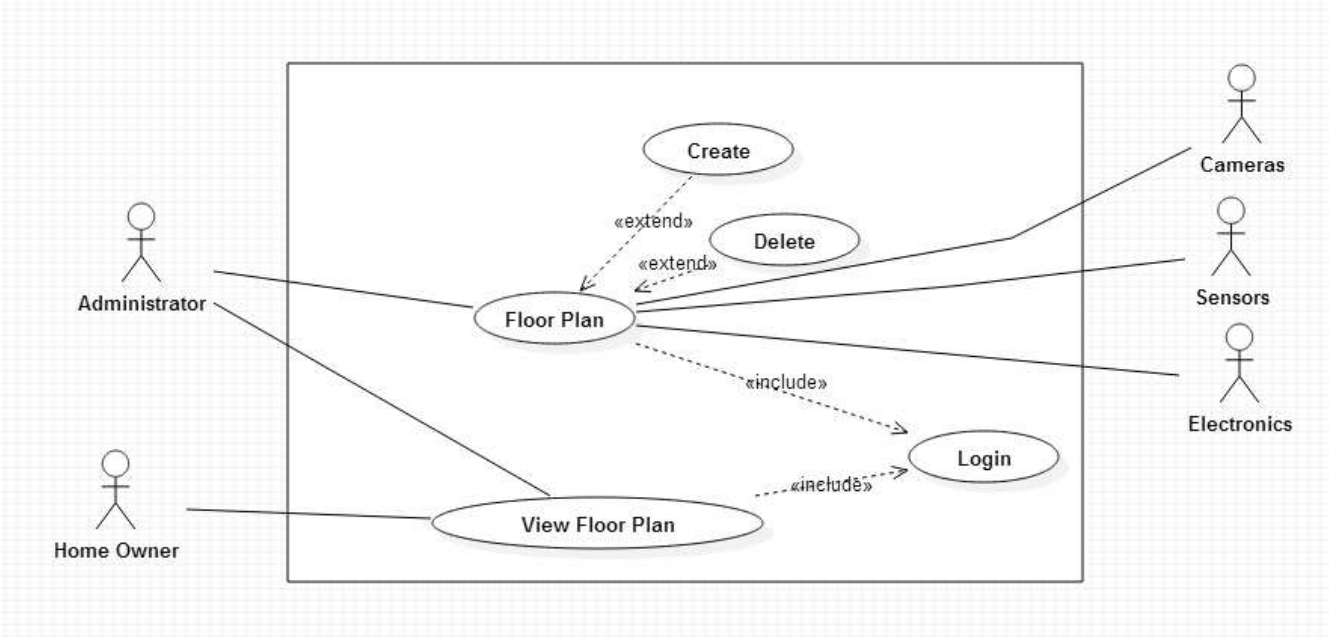
No.	UC21		
Use-case	Replay camera output		
Primary-actor	Administrator		
Goal-in context	Show record file on PC.		
Precondition	Administrator must enter correct Id/Password. File is not broken.		
Trigger	Administrator wants to see record file.		
Scenario	1. Administrator logins safehome successfully. 2. When user-interface is shown, Click view camera. 3. Click Check Record in down side. 4. Administrator can see file name, Camera name, Start Time, End Time. 5. If Administrator wants to see record file, Click the name of file.		
Exception			
Priority	Medium		
Open issue	1. Can't Administrator see more than one record file concurrently?		
Connected UI	UI41,UI3,UI4	Swimlane Diagram	4.3.6

3.2.3.6 Editing Camera : From this function, Administrator can add camera instruction easily. When Administrator wants to add or delete some camera. Click button then do anything Administrator want.s

No.	UC22
Use-case	Editing Camera(Add, Remove)
Primary-actor	Administrator
Goal-in context	To add or remove Cameras

Precondition	Administrator must enter correct Id/Password.		
Trigger	1. If Administrator wants to create or delete the Camera		
Scenario	1. Administrator logins safe-home successfully. 2. Click button without "View Camera". 3. When Administrator wants to use edit sensor, Click ⚙ button. 4. Administrator will jump to floor plan UI and can edit sensors		
Exception			
Priority	highest		
Open issue			
Connected UI	UI41,UI3,UI5,UI6	Swimlane Diagram	4.3.7

3.2.4 Home management(Floor Plan)



<Figure 5. Use-Case Diagram of "Home Management(Floor Plan)">

3.2.4.1 Use Floor Plan to make house : To use safe-home, Administrator must build the house's blueprint of Structure of home. So when Administrator use this system for the first time, Administrator meets floor plan page automatically.

No.	UC23		
Use-case	Use floor plan to make house.		
Primary-actor	Administrator		
Goal-in context	Through Floor Plan, make house's blueprint of Structure of home		
Precondition	Administrator must enter correct Id/Password.		
Trigger	Administrator wants to make house's blueprint.		
Scenario	1. Administrator logins safe-home successfully. 2. When user-interface is shown, Click Floor Plan. 3. Fill in Administrator's home size. 4. Click the first button in menu bar in the right side 5. If Administrator makes the wall, Click the wall Icons among 4 design. Then Click the correct position on the floor plan. 6. If Administrator makes the Door, Click the Door Icons among 4 design. Then Click the correct position on the floor plan. 7. If Administrator don't want to make anything, click Default. Then click the correct position on the floor plan. 8. After make Floor plan, Click "Save change".		
Exception	1. If Administrator doesn't click "Save change", Administrator's results is not recorded.		
Priority	highest		
Open issue	1. If Administrator wants to extend the home size during working floor plan, what should we do?		
Connected UI	UI41,UI7,UI8	Swimlane Diagram	4.4.1

3.2.4.2 Use floor plan to make Electronics. : When Administrator makes a house's blueprint, Administrator must use electronic icon to indicate electronics of home. Using this function is very easy. Click Icon, then Click the position.

No.	UC24
Use-case	Use floor plan to make Electronics
Primary-actor	Administrator
Goal-in context	Through Floor Plan, make house's blueprint of Electronics
Precondition	Administrator must enter correct Id/Password. Administrator made house's blueprint of Structure of home
Trigger	Administrator wants to make house's blueprint.

Scenario	1. Administrator logins safe-home successfully. 2. When user-interface is shown, Click Floor Plan. 3. Click the second button in menu bar in the right side. 4. If Administrator wants to put Light, Click Light button(L). Then Click the correct position on the floor plan. 5. If Administrator wants to put Appliance, Click appliance button(A). Then Click the correct position on the floor plan. 6. If Administrator wants to put HVAC, Click HVAC button(H). Then Click the correct position on the floor plan. 7. If Administrator wants to put Visual Device, Click Visual Device button(V). Then Click the correct position on the floor plan. 8. If Administrator wants to put Video/Audio Equipment, Click Video/Audio Equipment button(E). Then Click the correct position on the floor plan. 9. After make Floor plan, Click "Save change".		
Exception	1. If Administrator doesn't click "Save change" button, result is not reflected.		
Priority	highest		
Open issue			
Connected UI	UI41,UI7,UI8	Swimlane Diagram	4.4.2

3.2.4.3 Create new Electronics : When Administrator uses Floor Plan, Administrator encounters that new concept of electronics is needed to indicate new things. If Administrator wants to create new electronic, click the add button and fill in the information. Then Administrator can see new icon that Administrator creates.

No.	UC25
Use-case	Create new Electronics
Primary-actor	Administrator
Goal-in context	If Administrator wants to make new electronics, Create new Electronic in safe-home
Precondition	Administrator must enter correct Id/Password. Administrator made house's blueprint of Structure of home
Trigger	Administrator wants to create new electronic
Scenario	1. Administrator logins safe-home successfully. 2. When user-interface is shown, Click Floor Plan. 3. Click the second button in menu bar in the right side.

	4. Click "+ Add Electronics" 5. Fill in Name, Category, Icon and Click "Save".		
Exception	1. If the Button letter is same in another electronics, reject add electronics. 2. If Administrator doesn't click Save button, result is not reflected.		
Priority	highest		
Open issue	1. Could the Letter of sensor be same with letter of Sensors		
Connected UI	UI41,UI7,UI9,UI10	Swimlane Diagram	4.4.3

3.2.4.4 Delete Electronics : Sometimes Administrator awakes that No more need the some electronic. To make short electronics list, Click delete button. Then click the X button.

No.	UC26		
Use-case	Delete Electronics.		
Primary-actor	Administrator		
Goal-in context	Through Floor Plan, make house's blueprint of Electronics		
Precondition	Administrator must enter correct Id/Password. Administrator made house's blueprint of Structure of home		
Trigger	Administrator want to make house's blueprint.		
Scenario	1. Administrator logins safe-home successfully. 2. When user-interface is shown, Click Floor Plan.. 3. Click the second button in menu bar in the right side. 4. Click "- Delete Electronics" 5. If Administrator wants to delete specific sensor, Click "X" beside Electronic name. 6. Click "Save"		
Exception	1. If Administrator doesn't click Save button, result is not reflected.		
Priority	highest		
Open issue			
Connected UI	UI41,UI7,UI9,UI11	Swimlane Diagram	4.4.4

3.2.4.5 Use floor plan to make Sensor : When Administrator makes a house's blueprint, Administrator must use sensor icon to indicate your sensors of home. Using this function is very easy. Click Icon, then Click the position.

No.	UC27		
Use-case	Use floor plan to make Sensor		
Primary-actor	Administrator		
Goal-in context	Through Floor Plan, make house's blueprint of Sensor		
Precondition	Administrator must enter correct Id/Password. Administrator made house's blueprint of Structure of home		
Trigger	Administrator want to make house's blueprint.		
Scenario	1. Administrator logins safe-home successfully. 2. When user-interface is shown, Click Floor Plan. 3. Click the third button in menu bar in the right side 4. If Administrator wants to put Thief, Click Thief button(T). Then Click the correct position on the floor plan. 5. If Administrator wants to put Water, Click Water button(W). Then Click the correct position on the floor plan. 6. If Administrator wants to put Fire, Click Fire button(F). Then Click the correct position on the floor plan. 7. If Administrator wants to put Other, Click Other button(O). Then Click the correct position on the floor plan. 8. After make Floor plan, Click "Save change".		
Exception	1. If Administrator doesn't click "Save change" button, result is not reflected.		
Priority	highest		
Open issue			
Connected UI	UI41,UI7,UI12	Swimlane Diagram	4.4.2

3.2.4.6 Create new Sensor : When Administrator uses Floor Plan, Administrator encounters that new concept of sensors is needed to indicate new things. If Administrator wants to create new sensor, click the add button and fill in the information. Then Administrator can see new icon that you create.

No.	UC28
Use-case	Create new Sensor
Primary-actor	Administrator
Goal-in context	Create New Sensor to use in Floor plan.

Precondition	Administrator must enter correct Id/Password. Administrator made house's blueprint of Structure of home		
Trigger	Administrator wants to create new sensor in floor plan.		
Scenario	1. Administrator logins safe-home successfully. 2. When user-interface is shown, Click Floor Plan.. 3. Click the third button in menu bar in the right side 4. Click "+ Add Sensor" 5. Fill in Name, Category, Icon and Click "Save".		
Exception	1. If the Button letter or Sensor is same in another Sensor, reject add sensor.. 2. If Administrator doesn't click Save button, result is not reflected.		
Priority	highest		
Open issue	1. Could the Letter of sensor be same with letter of Electronics		
Connected UI	UI41,UI7,UI12,UI13	Swimlane Diagram	4.4.5

3.2.4.7 Delete no use Sensor : Sometimes Administrator awakes that No more need the some sensor. To make short sensors list, Click delete button. Then click the X button.

No.	UC29		
Use-case	Delete no use Sensor		
Primary-actor	Administrator		
Goal-in context	Through Floor Plan, make house's blueprint of Sensor		
Precondition	Administrator must enter correct Id/Password. Administrator made house's blueprint of Structure of home		
Trigger	Administrator wants to make house's blueprint.		
Scenario	1. Administrator logins safe-home successfully. 2. When user-interface is shown, Click Floor Plan. 3. Click the third button in menu bar in the right side 4. Click "- Delete Sensor" 5. If Administrator wants to delete specific sensor, Click "X" beside sensor name. 6. Click "Save"		
Exception	1. If Administrator doesn't click Save button, result is not reflected.		
Priority	highest		
Open issue			
Connected UI	UI41,UI7,UI12,UI14	Swimlane Diagram	4.4.6

3.2.4.8 Use floor plan to make Camera : When Administrator makes a house's blueprint, Administrator must use camera icon to indicate your cameras of home. Using this function is very easy. Click Icon, then Click the position.

No.	UC30		
Use-case	Use floor plan to make Camera		
Primary-actor	Administrator		
Goal-in context	Through Floor Plan, make house's blueprint of Cameras.		
Precondition	Administrator must enter correct Id/Password. Administrator made house's blueprint of Structure of home		
Trigger	Administrator wants to make house's blueprint.		
Scenario	1. Administrator logins safe-home successfully. 2. When user-interface is shown, Click Floor Plan. 3. Click the last button in menu bar in the right side 4. If Administrator wants to put Camera, Click Icon(it indicate specific camera). Then Click the correct position on the floor Plan. 5. After make Floor plan, Click "Save change"		
Exception	1. If Administrator doesn't click "Save change" button, result is not reflected.		
Priority	highest		
Open issue			
Connected UI	UI41,UI7,UI15	Swimlane Diagram	4.4.2

3.2.4.9 Create Camera : When Administrator uses Floor Plan, Administrator encounters that new icon is needed to indicate new camera. If Administrator wanst to create new camera icon, click the add button and fill in the information. Then Administrator can see new icon that you create

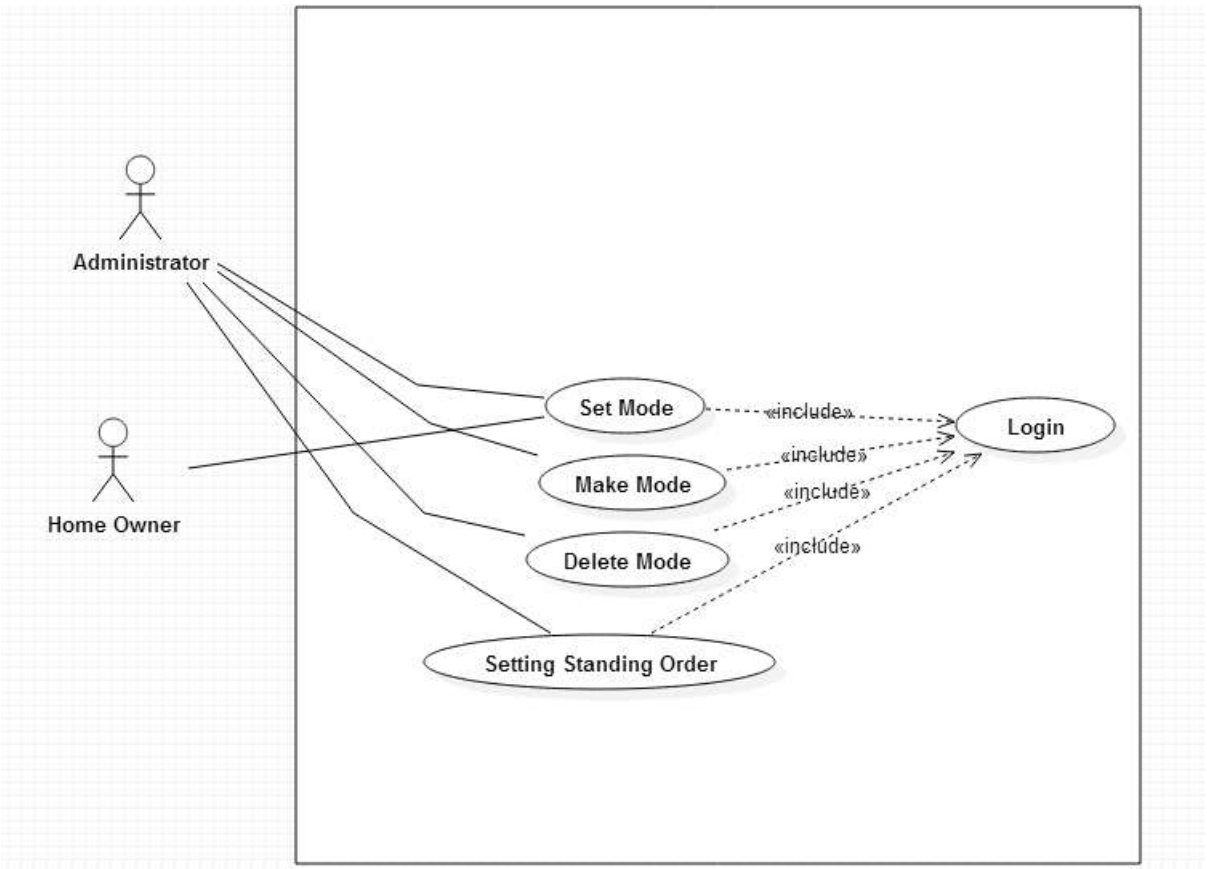
No.	UC31
Use-case	Create Camera
Primary-actor	Administrator
Goal-in context	Create Camera to use Floor Plan.
Precondition	Administrator must enter correct Id/Password. Administrator made house's blueprint of Structure of home

Trigger	Administrator wants to add new camera		
Scenario	1. Administrator logins safe-home successfully. 2. When user-interface is shown, Click Floor Plan. 3. Click the last button in menu bar in the right side 4. Click "+ Add Camera" button. 5. Then, if Add camera page, Fill in name and Click Save button.		
Exception	1. If camera's name is existed in list, reject the result. 2. If Administrator doesn't click Save button, result is not reflected.		
Priority	highest		
Open issue	1. Is it possible that Administrator only have one camera icon? Is it better to make more icon to distinguish cameras.		
Connected UI	UI41,UI7,UI15,UI16	Swimlane Diagram	4.4.7

3.2.4.10 Delete Camera : Sometimes Administrator awakes that No more need the some cameras. To make short cameras list, Click delete button. Then click the X button.

No.	UC32		
Use-case	Delete Camera		
Primary-actor	Administrator r		
Goal-in context	Delete specific Camera in Floor Plan.		
Precondition	Administrator must enter correct Id/Password. Administrator made house's blueprint of Structure of home		
Trigger	Administrator wants to delete no use camera		
Scenario	1. Administrator logins safe-home successfully. 2. When user-interface is shown, Click Floor Plan. 3. Click the last button in menu bar in the right side 4. Click "- Camera" 5. Click "X" button to delete camera, and Click "save" button.		
Exception	1. If Administrator doesn't click Save button, result is not reflected.		
Priority	highest		
Open issue			
Connected UI	UI41,UI7,UI15,UI17	Swimlane Diagram	4.4.8

3.2.5 Home Management(Others)



<Figure 6. Use-Case Diagram of "Home Management(Others)">

3.2.5.1 Set/make mode(vacation mode, Travel mode etc) : During vacation or Travel, by setting all device of activity, Administrator controls sensor and electronics. For example, By turning on and off at random time gap, the system can make phantom people in house. Also system can control the heating and air conditioning system

No.	UC33
Use-case	Set/make mode(vacation mode, Travel mode etc)
Primary-actor	Administrator, Homeowner
Goal-in context	Set the specific mode that is set sensor's condition such as Vacation mode or Travel mode
Precondition	Administrator, Homeowner must enter correct Id/Password. All sensor's condition is good.
Trigger	Administrator wants to make mode for specific situation.

	Administrator, Homeowner wants to use specific mode.		
Scenario	1. Administrator logins safe-home successfully. 2. When user-interface is shown, Click Home management. 3. Click Set Mode button. 4. If Administrator, Homeowner want to use specific mode, Click the name of mode. 5. If Administrator wants to create new mode, Click + Add Mode 5.1 enter mode name, Comment for information. 5.2 Then, Click "Press button" for set sensor's condition. 5.3 Check the Enable or Disable box about each sensor. Then click enter 5.4 if Administrator checks all requirement, click enter button.		
Exception	1. If Administrator doesn't fill in information, reject the enter. 2. Homeowner can only use the set mode. Homeowner can't make the mode.		
Priority	Medium		
Open issue	1. Should we set the maximum number of mode?		
Connected UI	UI2,UI23,UI24,UI26,UI27,UI41	Swimlane Diagram	4.5.1, 4.5.2

3.2.5.2 Delete mode(vacation mode, Travel mode etc) : Delete the useless mode. If many mode in list, it is very inconvenience to deal with the mode list.

No.	UC34
Use-case	Delete mode(vacation mode, Travel mode etc)
Primary-actor	Administrator
Goal-in context	Delete useless mode. Make the mode list shortly and clearly.
Precondition	Administrator must enter correct Id/Password. All sensor's condition is good.
Trigger	Administrator wants to delete useless mode
Scenario	1. Administrator logins safe-home successfully. 2. When user-interface is shown, Click Home management. 3. Click Set Mode button. 4. Click "- Delete Mode" 5. Click "x" button beside mode Administrator want to delete
Exception	
Priority	highest

Open issue			
Connected UI	UI41,UI23,UI25	Swimlane Diagram	4.5.3

3.2.5.3 Standing Order : To use this function, Administrator can Subscribe or not subscribe the Standing Orders easily. If Administrator does not want to subscribe, click the button to change the subscription's state. The important thing is company's phone number is correct.

No.	UC35		
Use-case	Standing Order		
Primary-actor	Administrator		
Goal-in context	Subscribe or Not subscribe the Standing Orders easily.		
Precondition	Administrator must enter correct Id/Password. Administrator fills in the correct information.		
Trigger	Administrator wants to change Standing Order.		
Scenario	1. Administrator logins safe-home successfully. 2. When user-interface is shown, Click Home management. 3. Click Standing orders. 4. If Administrator don't want to Standing Order, click "Want Subscribe" so make "Want Not Subscribe" 5. If Administrator wants to Standing Order, click "Want Not Subscribe" so make "Want Subscribe"		
Exception	1. The important thing is company's phone number is correct. 2. Homeowner can only see the state of Standing Orders. Homeowner can't change state of Standing Orders.		
Priority	Medium		
Open issue	1. What are we do if the company's phone number is changed.		
Connected UI	UI41,UI23,UI28	Swimlane Diagram	4.5.4

3.2.5.4 Add Standing Order : If Administrator subscribes new Standing Order, Administrator makes new Standing Order button.

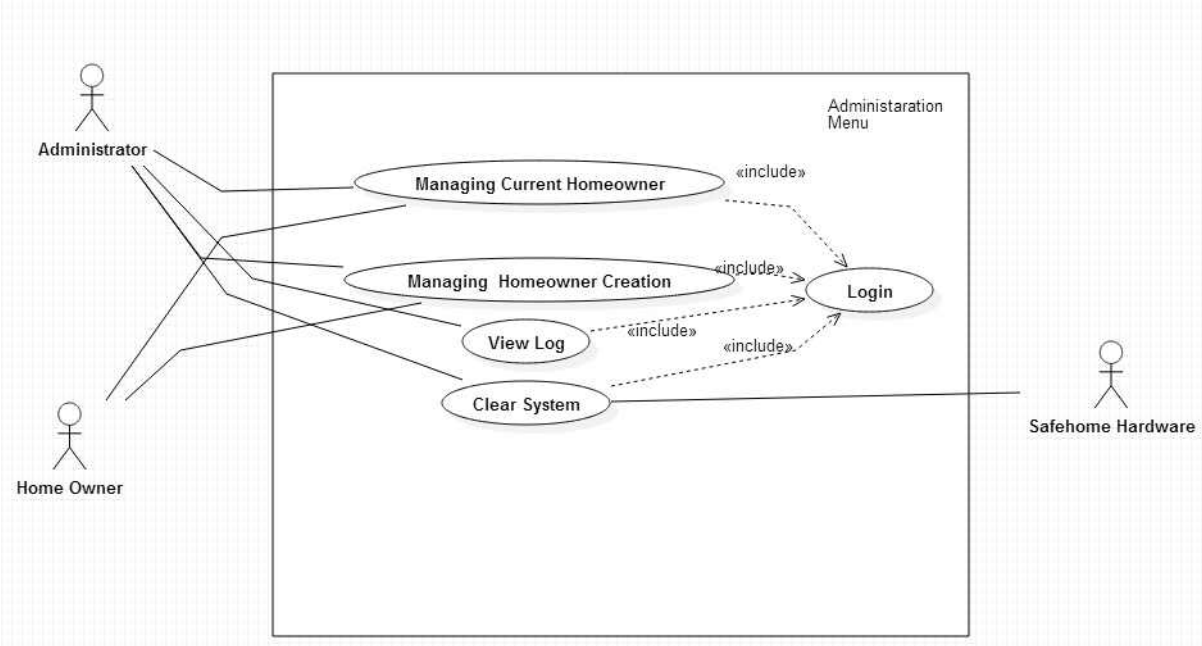
No.	UC36
Use-case	Add Standing Order
Primary-actor	Administrator
Goal-in	Add the new Standing Orders

context			
Precondition	Administrator must enter correct Id/Password. Administrator fills in the correct information.		
Trigger	Administrator wants to add new standing order		
Scenario	1. Administrator logins safe-home successfully. 2. When user-interface is shown, Click Home management. 3. Click Standing orders. 4. If Administrator wants to add new type Standing Order, Click "+ Add New" 5. Fill in Order Name, Telephone number, E-mail then Click enter.		
Exception	1. If new name is same with existed Standing order in list, reject the results and require the change.		
Priority	highest		
Open issue			
Connected UI	UI41,UI23,UI28,UI29	Swimlane Diagram	4.5.5

3.2.5.5 Delete Standing Order : If owner decided that he never subscribe specific Standing Order, then delete it to make list shortly and clearly

No.	UC37		
Use-case	Delete Standing Order		
Primary-actor	Administrator		
Goal-in context	delete the Standing Orders make list shortly and clearly		
Precondition	Administrator must enter correct Id/Password. Administrator fills in the correct information.		
Trigger	Administrator wants to delete Standing Order		
Scenario	1. Administrator logins safe-home successfully. 2. When user-interface is shown, Click Home management. 3. Click Standing orders. 4. Click "- Delete" 5. Click "x" button beside mode Administrator wants to delete.		
Exception			
Priority	highest		
Open issue			
Connected UI	UI41,UI23,UI28,UI30	Swimlane Diagram	4.5.6

3.2.6 Administration Menu



<Figure 7. Use-Case Diagram of "Administration Menu">

3.2.6.1 Managing Current Homeowner: Sometimes, Administrator forget how many homeowners exist in Administrator's System. Also Administrator may want to delete some Homeowner. This function can delete homeowner and check homeowner.

No.	UC38
Use-case	Managing Current Homeowner
Primary-actor	Administrator
Goal-in context	Check all of Homeowners. If Administrator wants to delete specific Homeowner, Delete specific Homeowner.
Precondition	Administrator must enter correct Id/Password.
Trigger	Administrator wants to delete or check homeowner.
Scenario	1. Administrator logins safe-home successfully. 2. When user-interface is shown, Click Administration Menu. 3. Click Managing Home Owners. 4. Administrator can check account of Homeowners in Current User.

	5. If Administrator wants to delete some Homeowners, Click the 'X' button besides the name of Homeowner 6. After managing Homeowner, Click 'Save' button.		
Exception	1. If no Homeowner is existed, then "No Homeowners" is shown to Administrator. 2. If Administrator doesn't click 'Save' button, results are not reflected to the system.		
Priority	medium		
Open issue			
Connected UI	UI41,UI45	Swimlane Diagram	4.6.1

3.2.6.2 Managing Homeowner Creation: It's very bad idea that Homeowner creation is done without Administrator's accept. For security, if Homeowner creation happens, Administrator's accept is needed. This function is managing Homeowner creation.

No.	UC39		
Use-case	Managing Homeowner Creation		
Primary-actor	Administrator		
Goal-in context	Administrator can handle the Homeowner creation. By rejecting or accepting, Administrator manage Homeowner creation.		
Precondition	Administrator must enter correct Id/Password.		
Trigger	Homeowner create ID and wait the Administrator's conclusion.		
Scenario	1. Administrator logins safe-home successfully. 2. When user-interface is shown, Click Administration Menu. 3. Click Managing Home Owners. 4. Administrator can see Homeowner creation in New User. 5. If Administrator want to accept, Click 'Accept' button. 6. If Administrator want to reject, Click 'Reject' button. 7. After managing Homeowner creation, Click 'Save' button.		
Exception	1. If no Homeowner creation is existed, then "No Homeowner creation" is shown to Administrator. 2. If Administrator doesn't click 'Save' button, results are not reflected to the system.		
Priority	highest		
Open issue			
Connected UI	UI41,UI45	Swimlane Diagram	4.6.2

3.2.6.3 View Log : Administrator must know who use the system, and when someone use it, what is someone doing for security. By this function, Administrator can do all of thing.

No.	UC40		
Use-case	View Log		
Primary-actor	Administrator		
Goal-in context	Check Login, Logout, User Check What user is doing.		
Precondition	Administrator must enter correct Id/Password.		
Trigger	Administrator wants to check the log of system.		
Scenario	1. Administrator logins safe-home successfully. 2. When user-interface is shown, Click Administration Menu. 3. Click View Log. 4. Then Administrator can see Login log, Change Mode log 5. If Administrator finish check log, Click Back button.xa		
Exception			
Priority	highest		
Open issue			
Connected UI	UI41,UI46	Swimlane Diagram	4.6.3

3.2.6.4 Clear System : If Administrator wants to clear system, Administrator fills in the HW number and Admin-Key. As a result System is initialized and Administrator can use system like first state. No data and information is remained.

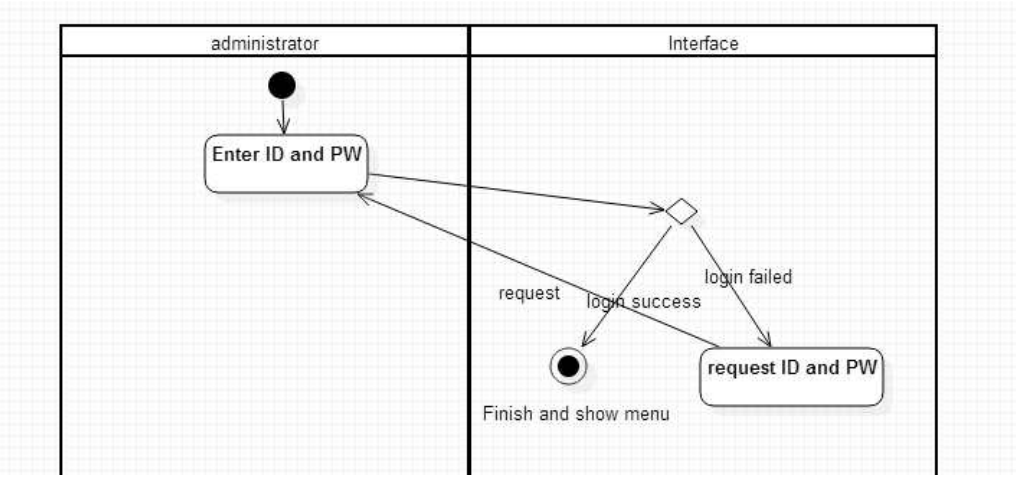
No.	UC41
Use-case	Clear System
Primary-actor	Administrator
Goal-in context	By clearing System, system state become initial state. All data and information is deleted.
Precondition	Administrator must enter correct Id/Password.
Trigger	Administrator wants to initialize the system.
Scenario	1. Administrator logins safe-home successfully. 2. When user-interface is shown, Click Administration Menu. 3. Click Clear System, 4. Fill in HW Number and Admin Key.

	5. If you want to initialize the system, Click Accept. 6. If you want to cancel the clear, Click Cancel.		
Exception			
Priority	highest		
Open issue			
Connected UI	UI41,UI47	Swimlane Diagram	4.6.4

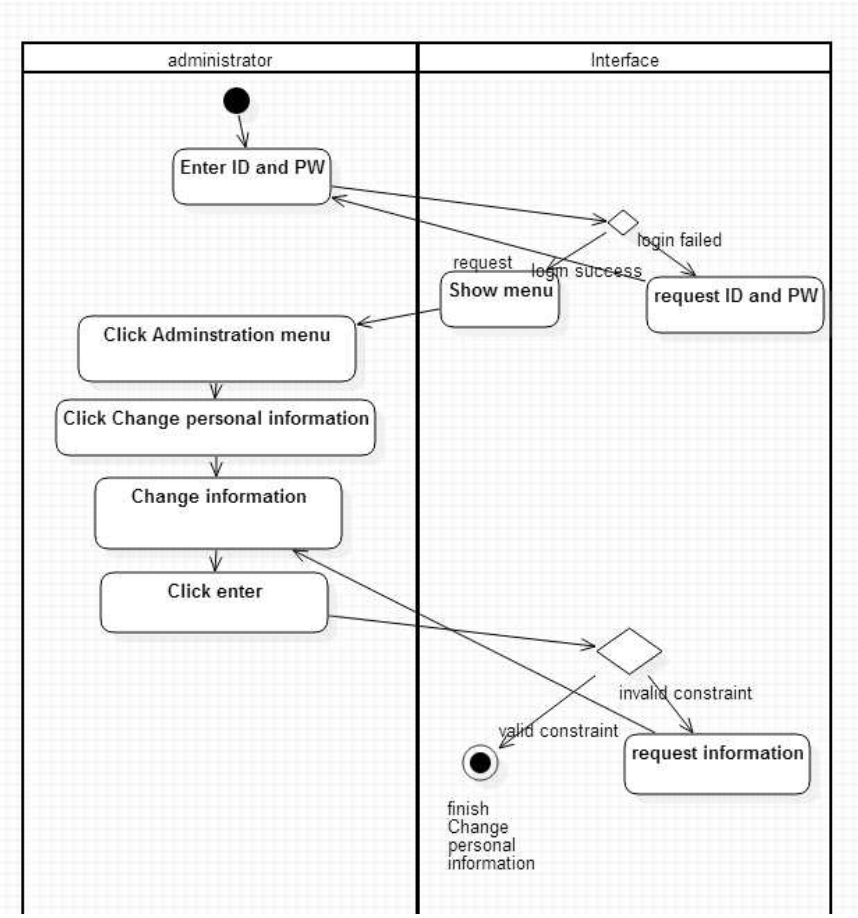
4. Swimlane Diagram

4.1 Login

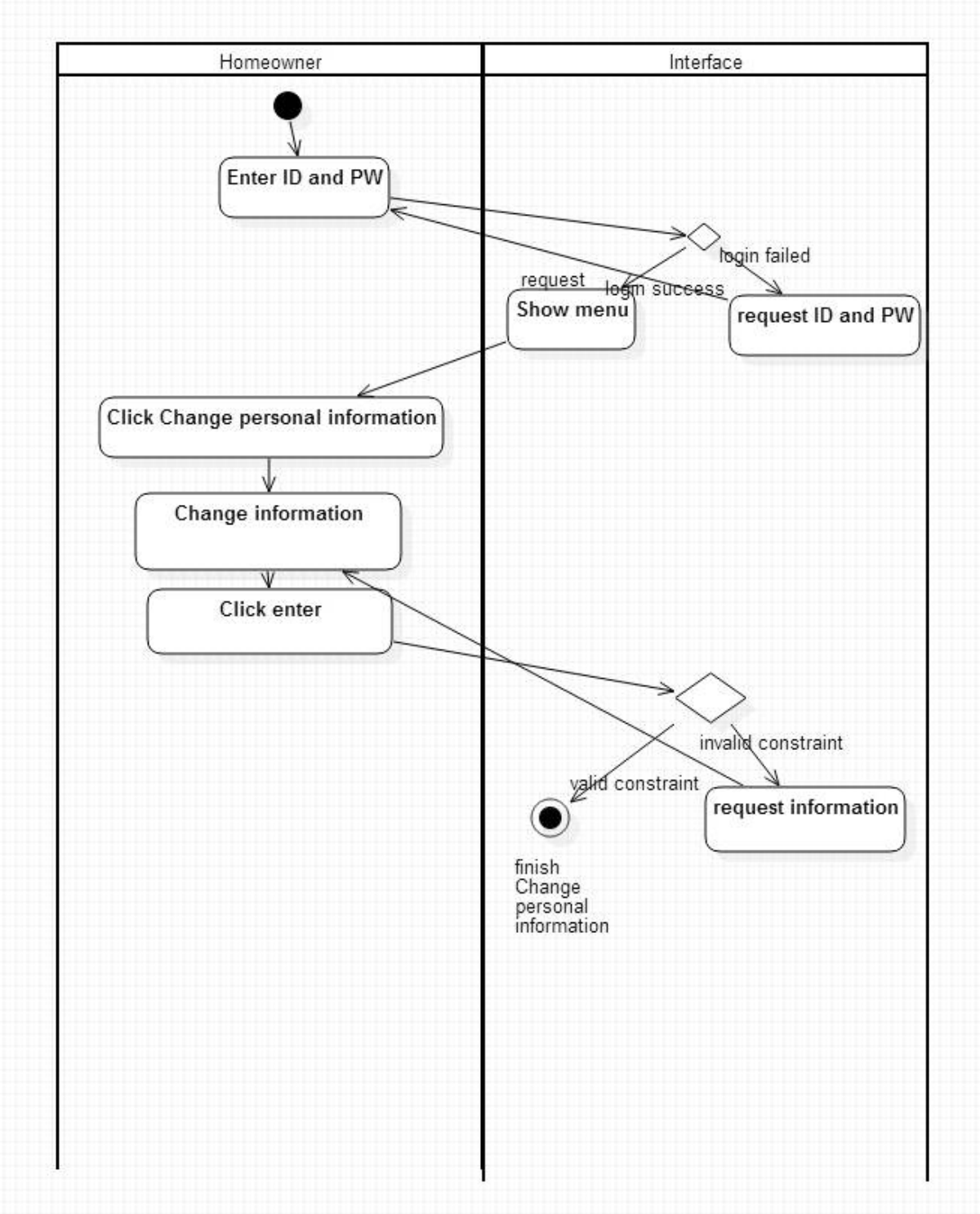
4.1.1 Login



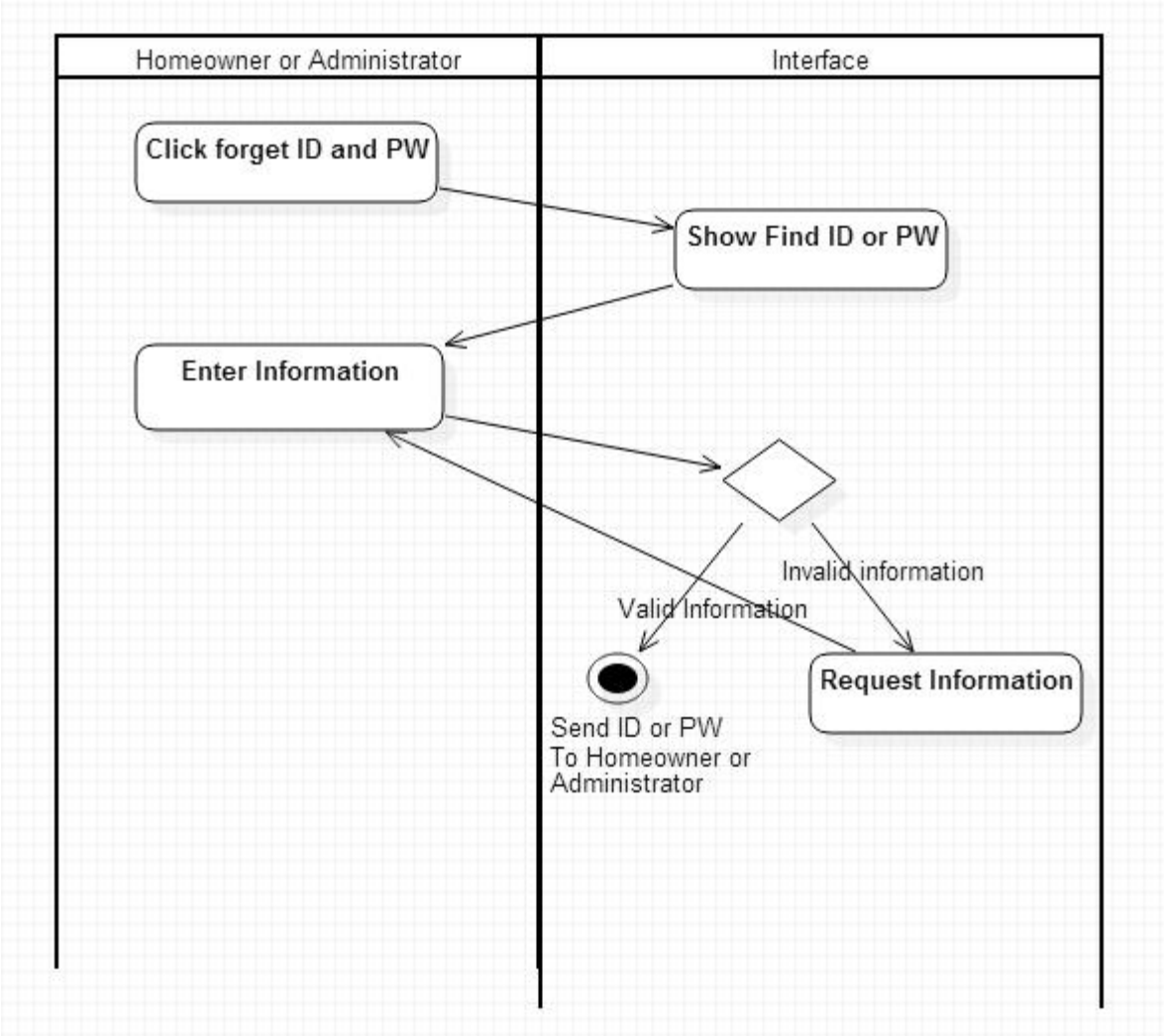
4.1.2 Change Information (Admin)



4.1.3 Change Information (Home Owner)

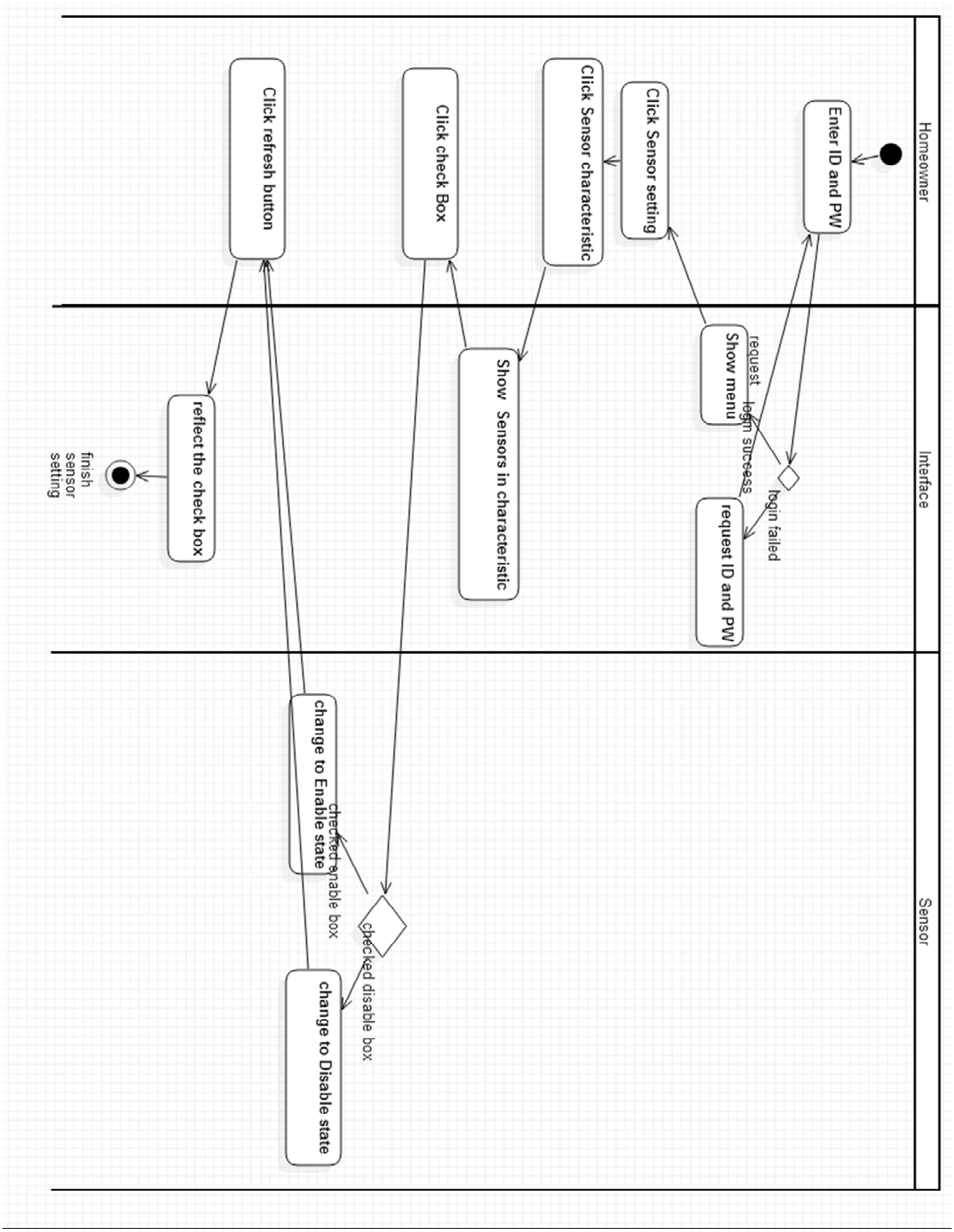


4.1.4 Find ID or PW

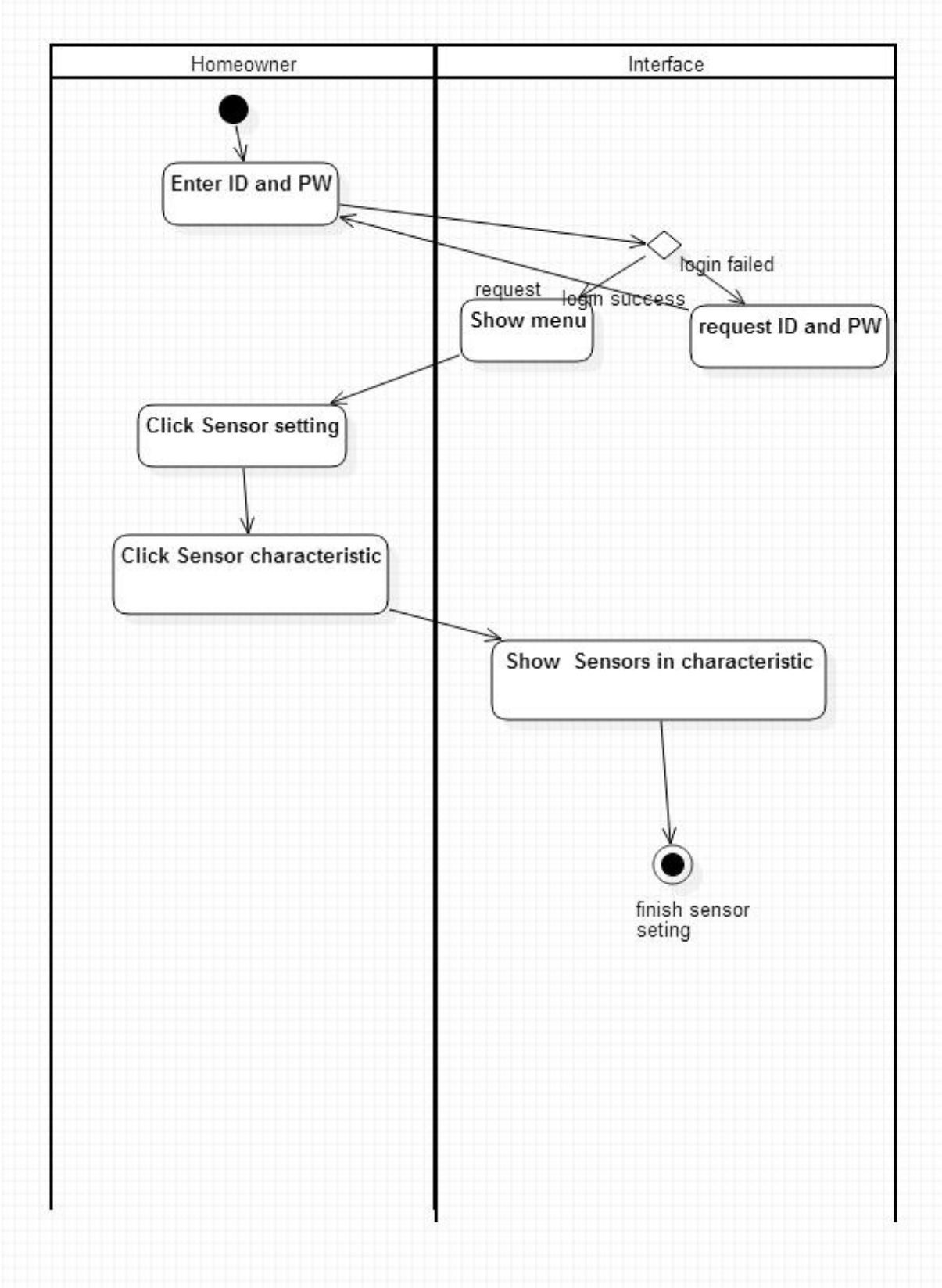


4.2 Home Security Function

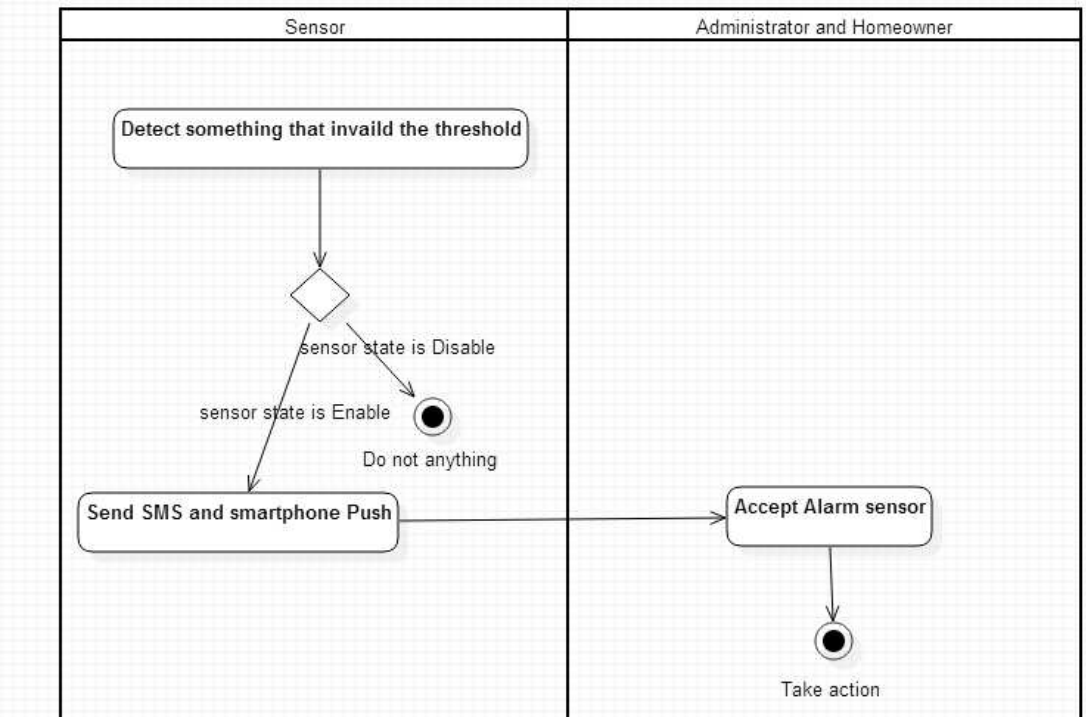
4.2.1 Setting Sensor (Admin)



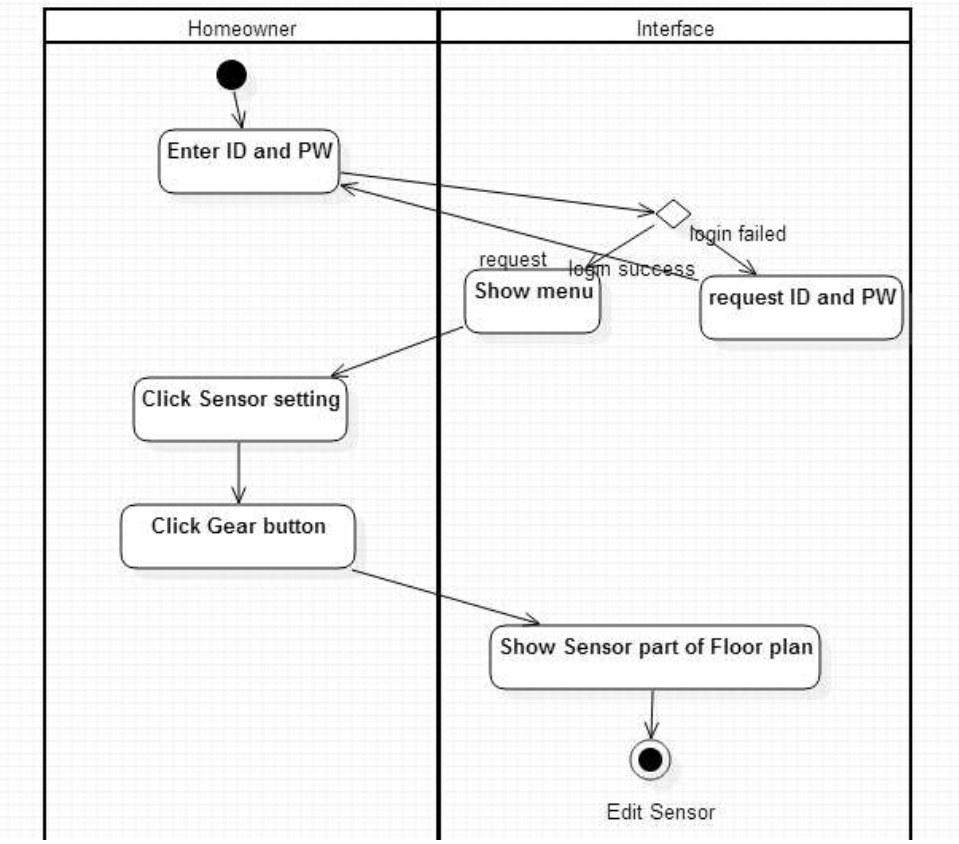
4.2.2 Setting Sensor (Home Owner)



4.2.3 Monitoring

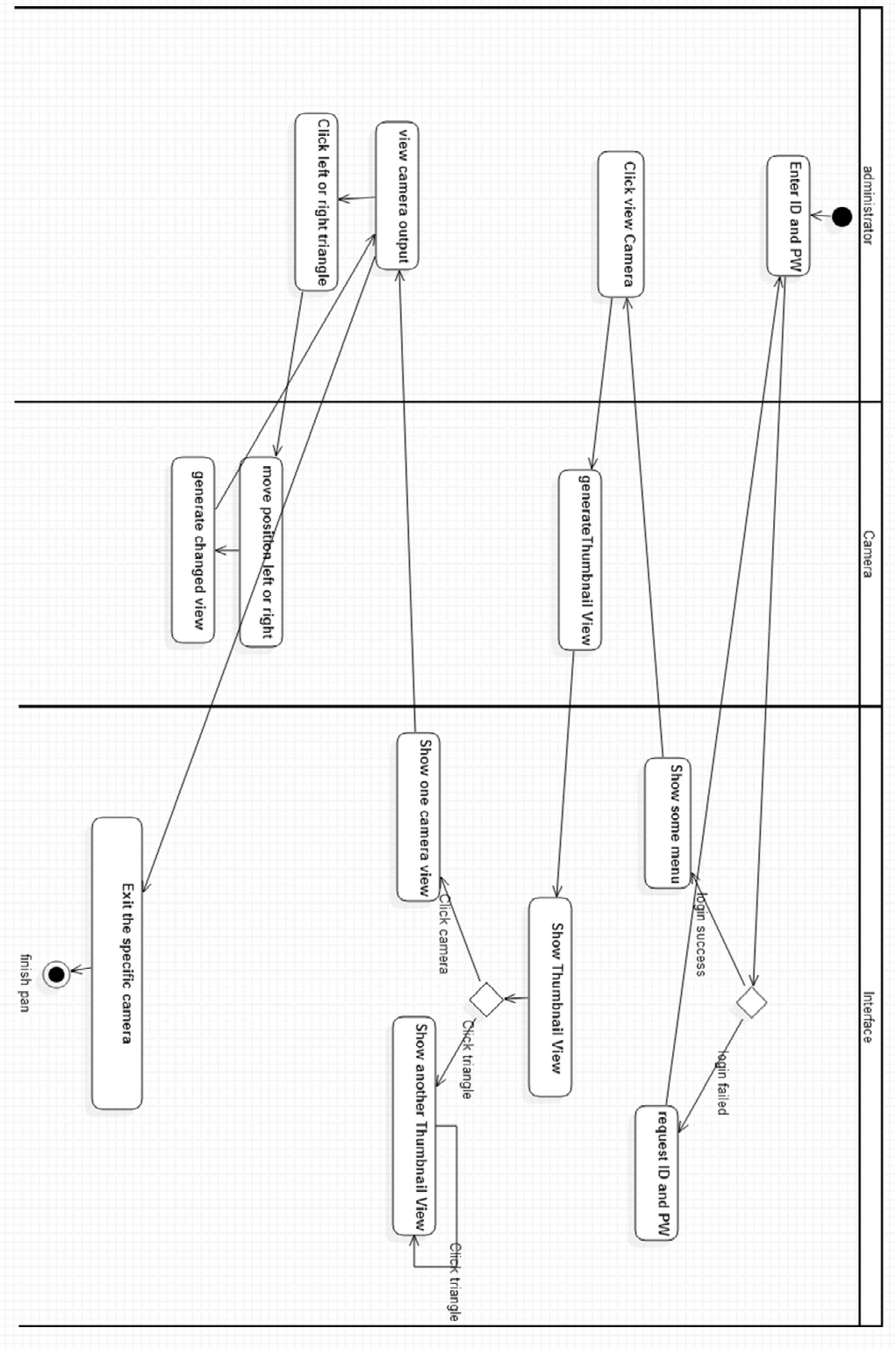


4.2.4 Editing Sensor

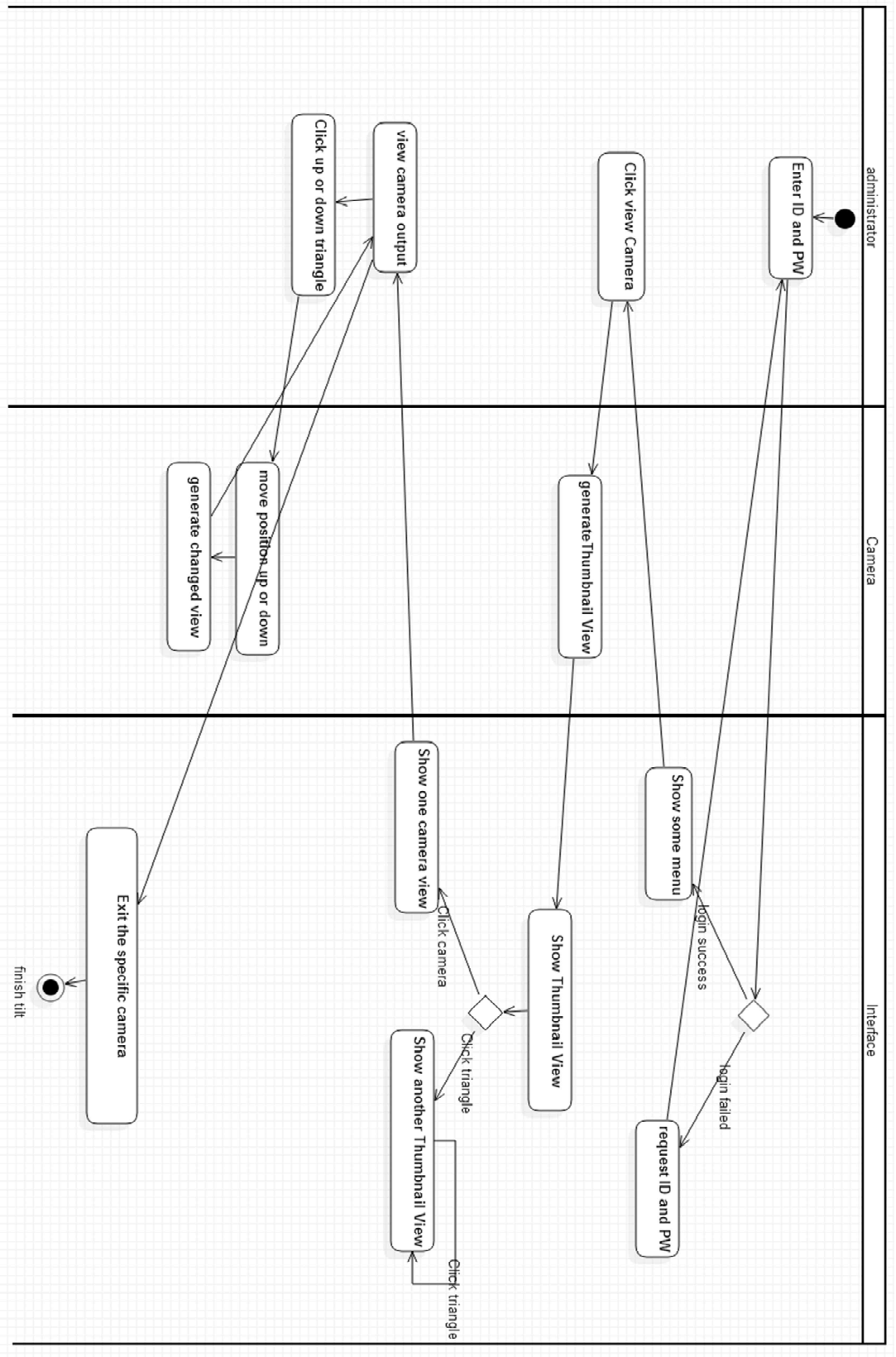


4.3 Home Surveillance Function

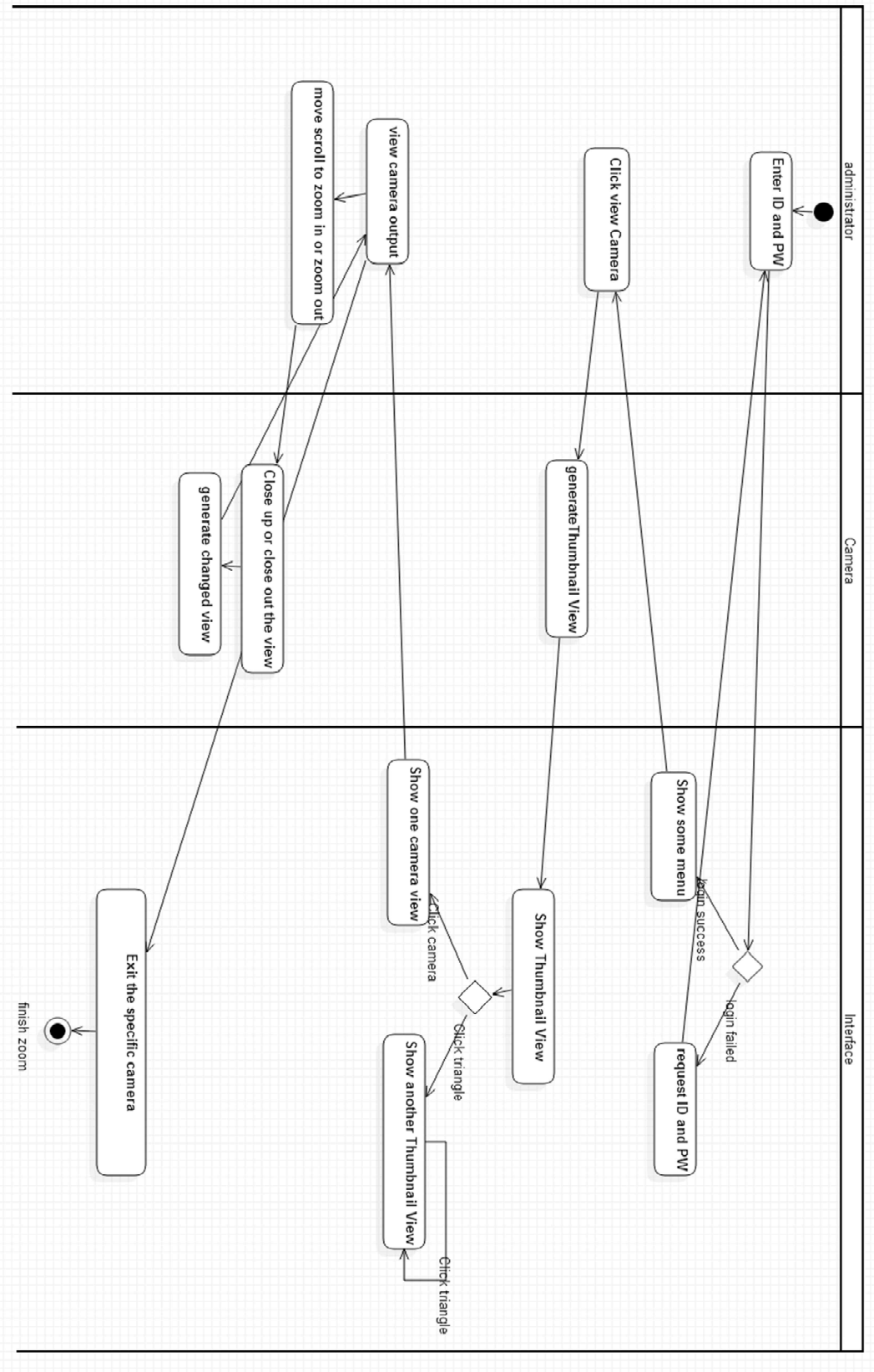
4.3.1 Control Camera(Panning)



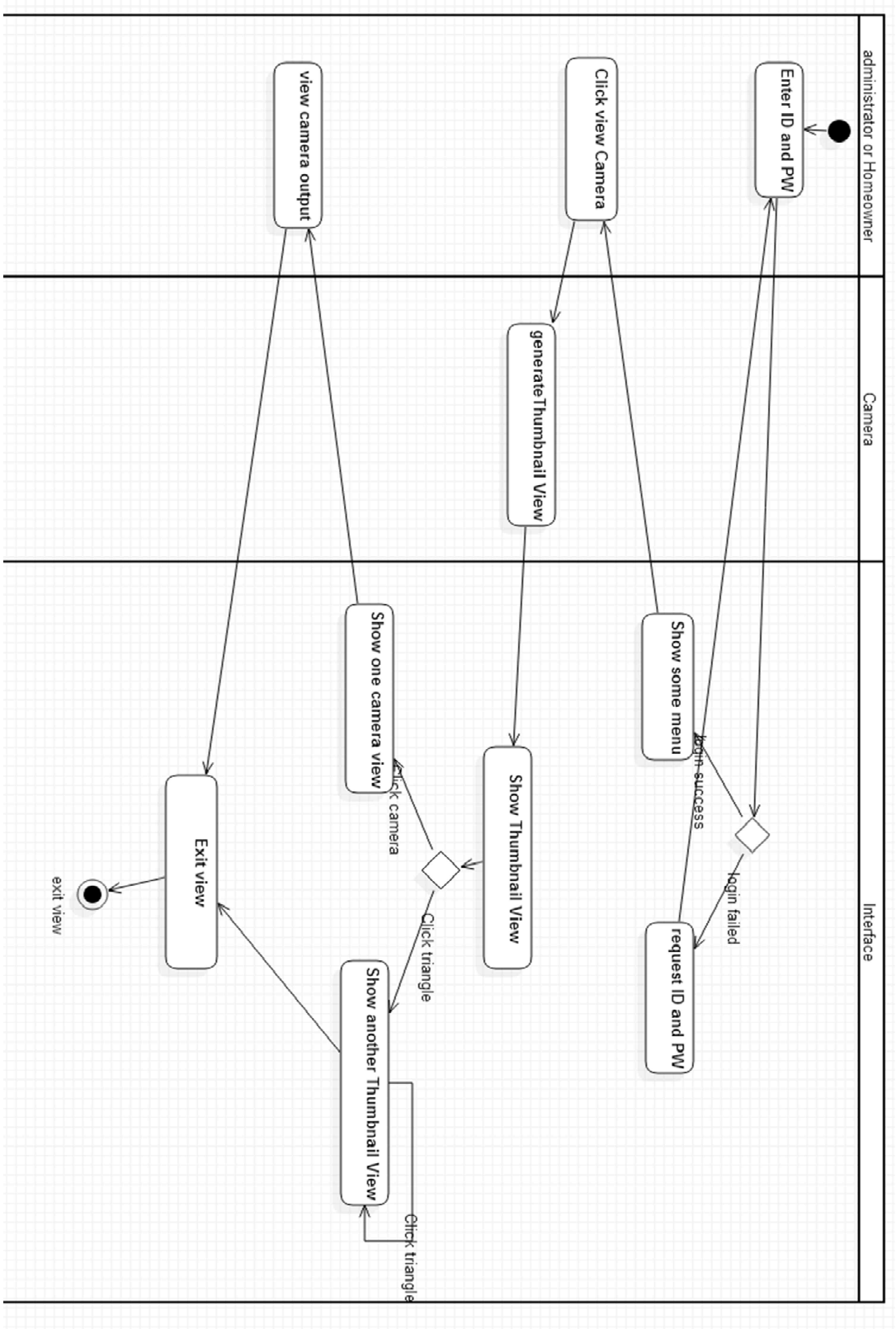
4.3.2 Control Camera(Tilting)



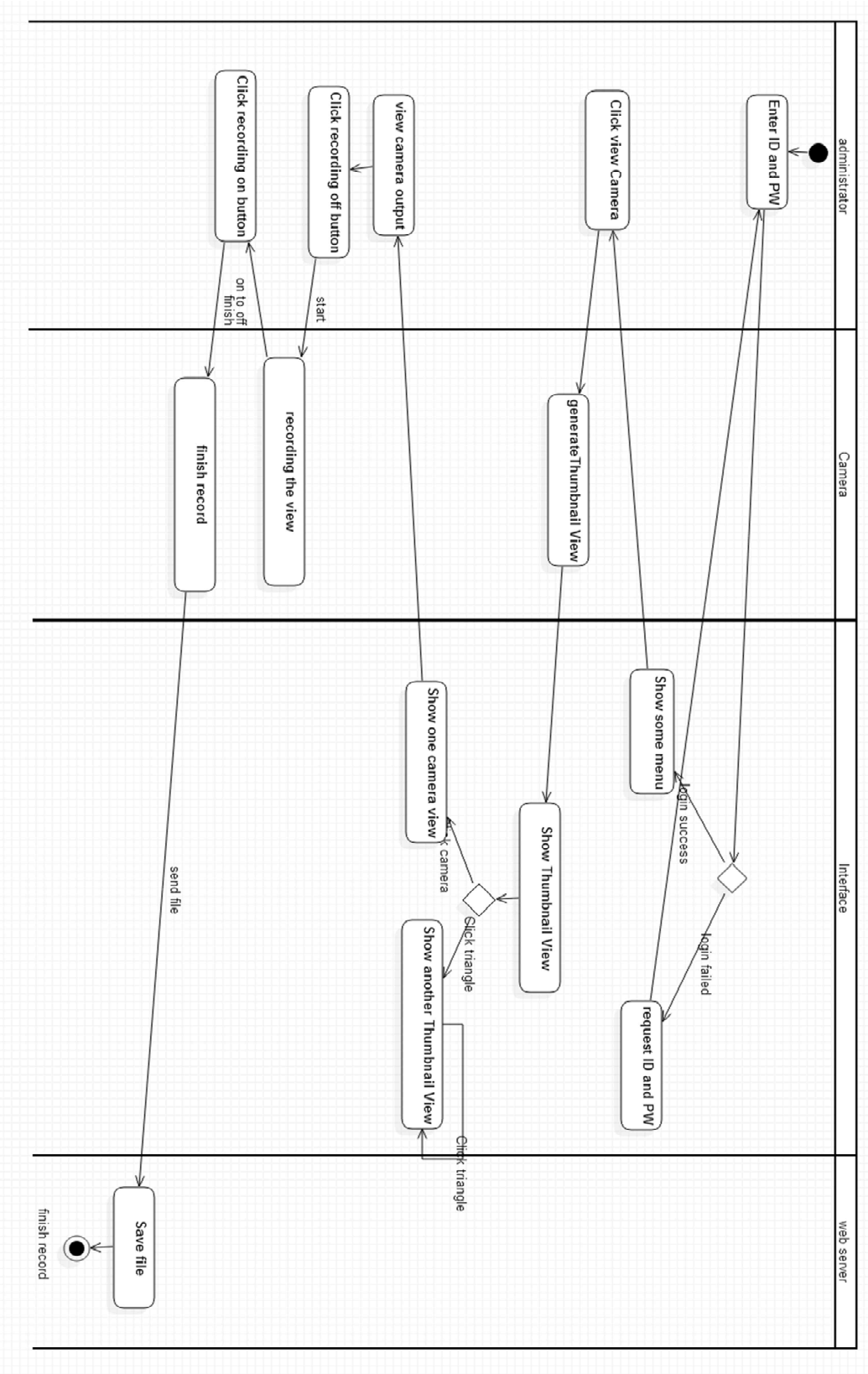
4.3.3 Control Camera(Zooming)



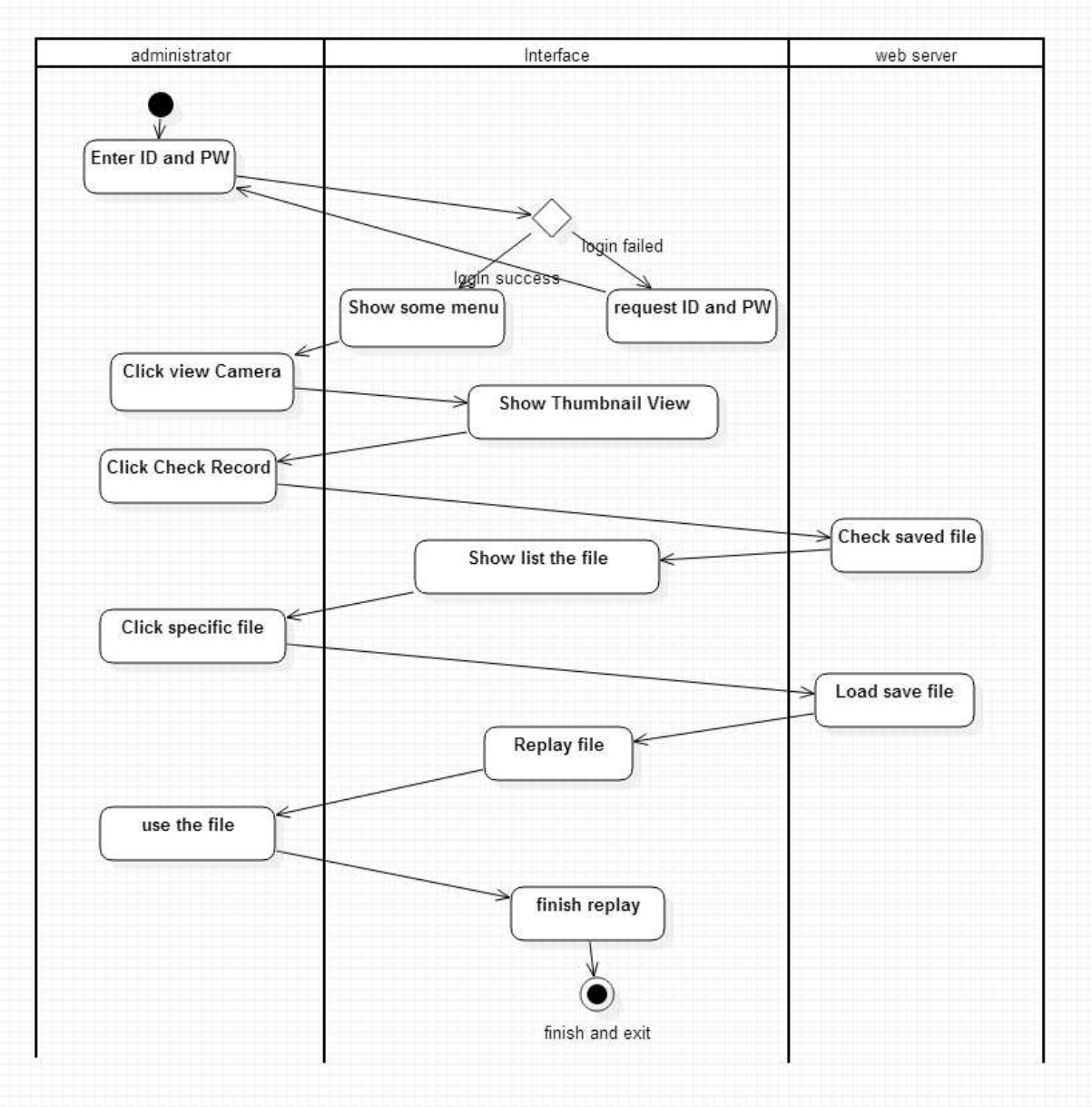
4.3.4 Display Camera View



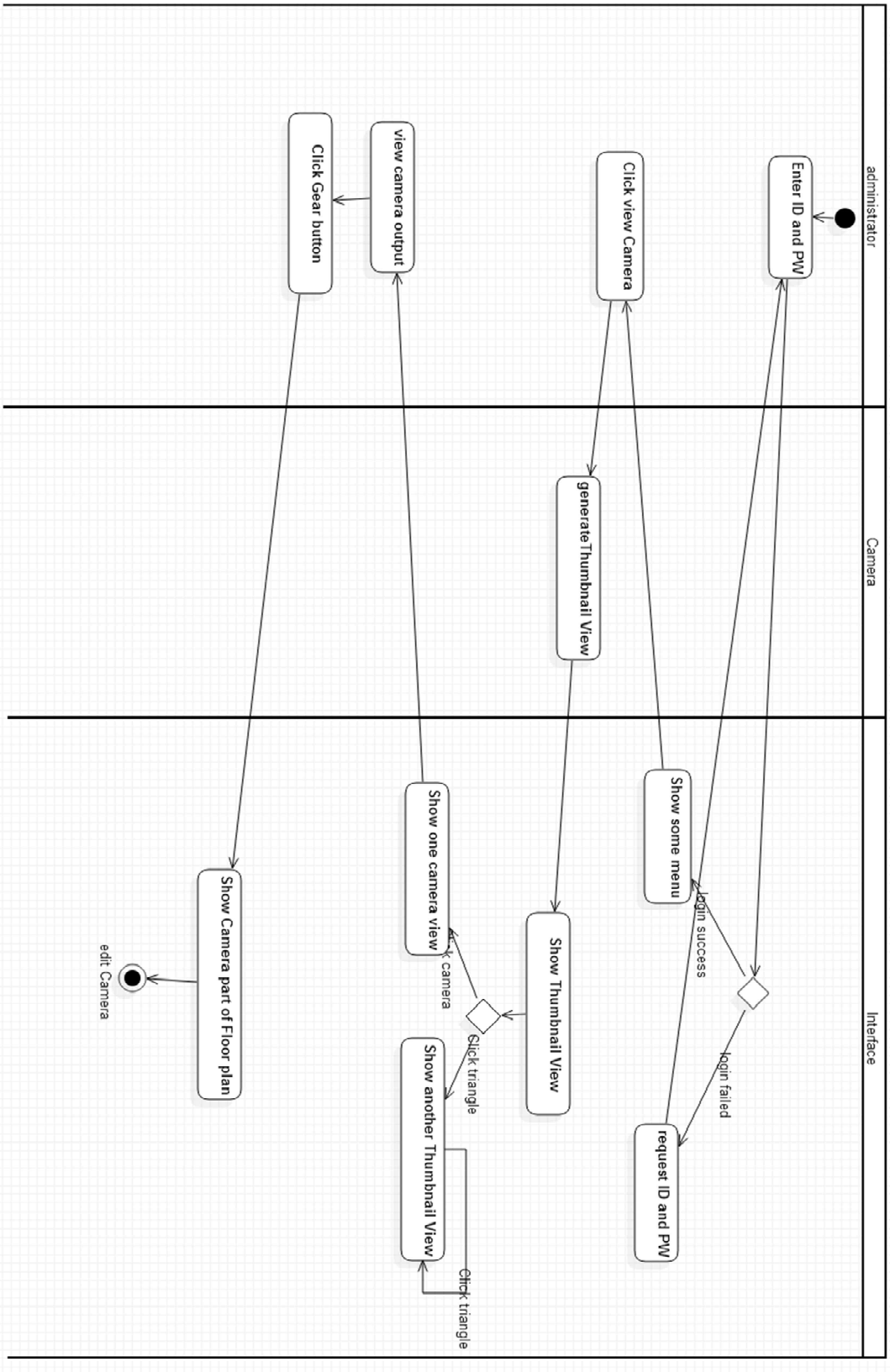
4.3.5 Selectively Record Camera Output



4.3.6 Replay Camera Output

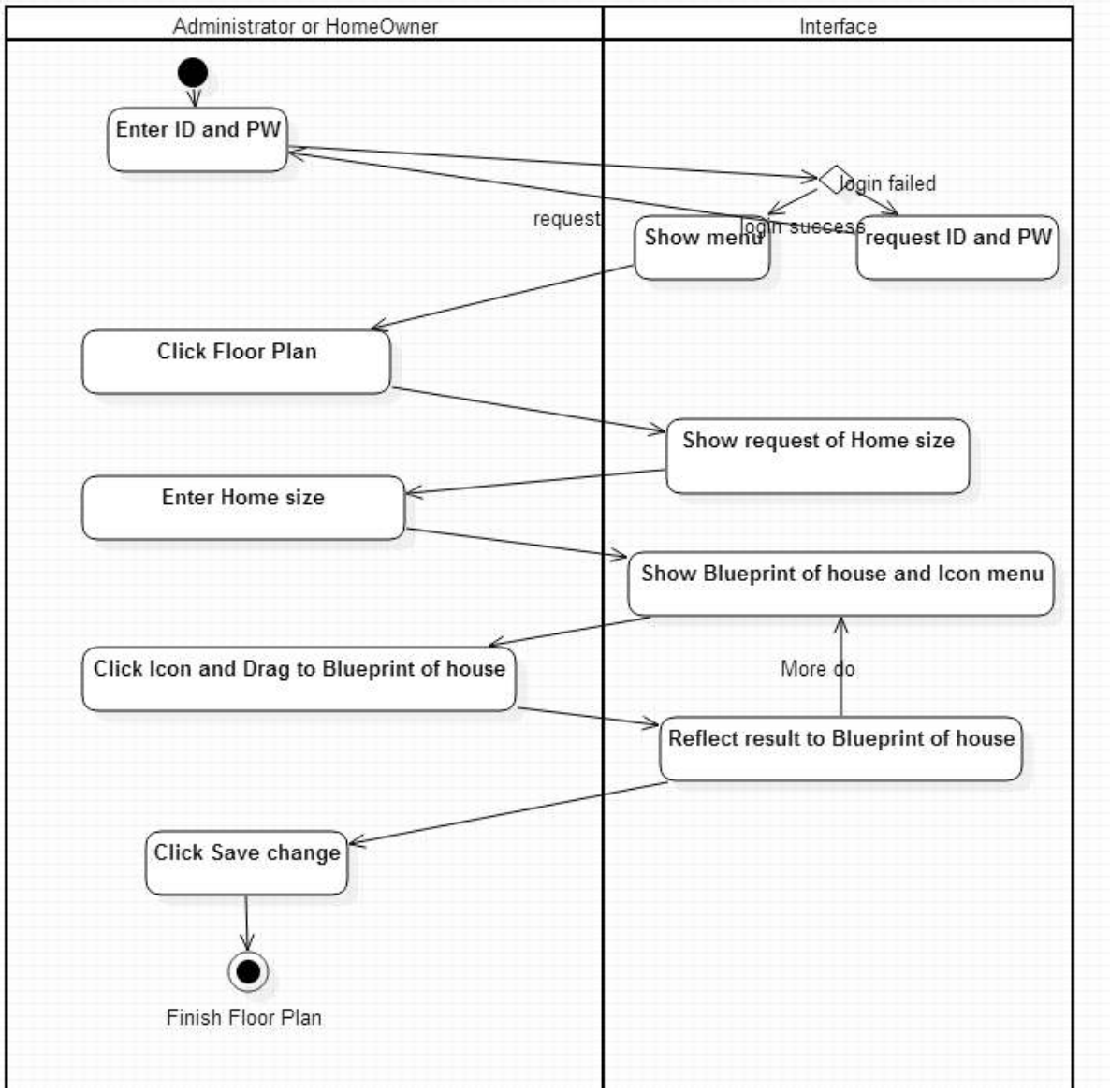


4.3.7 Editing Camera

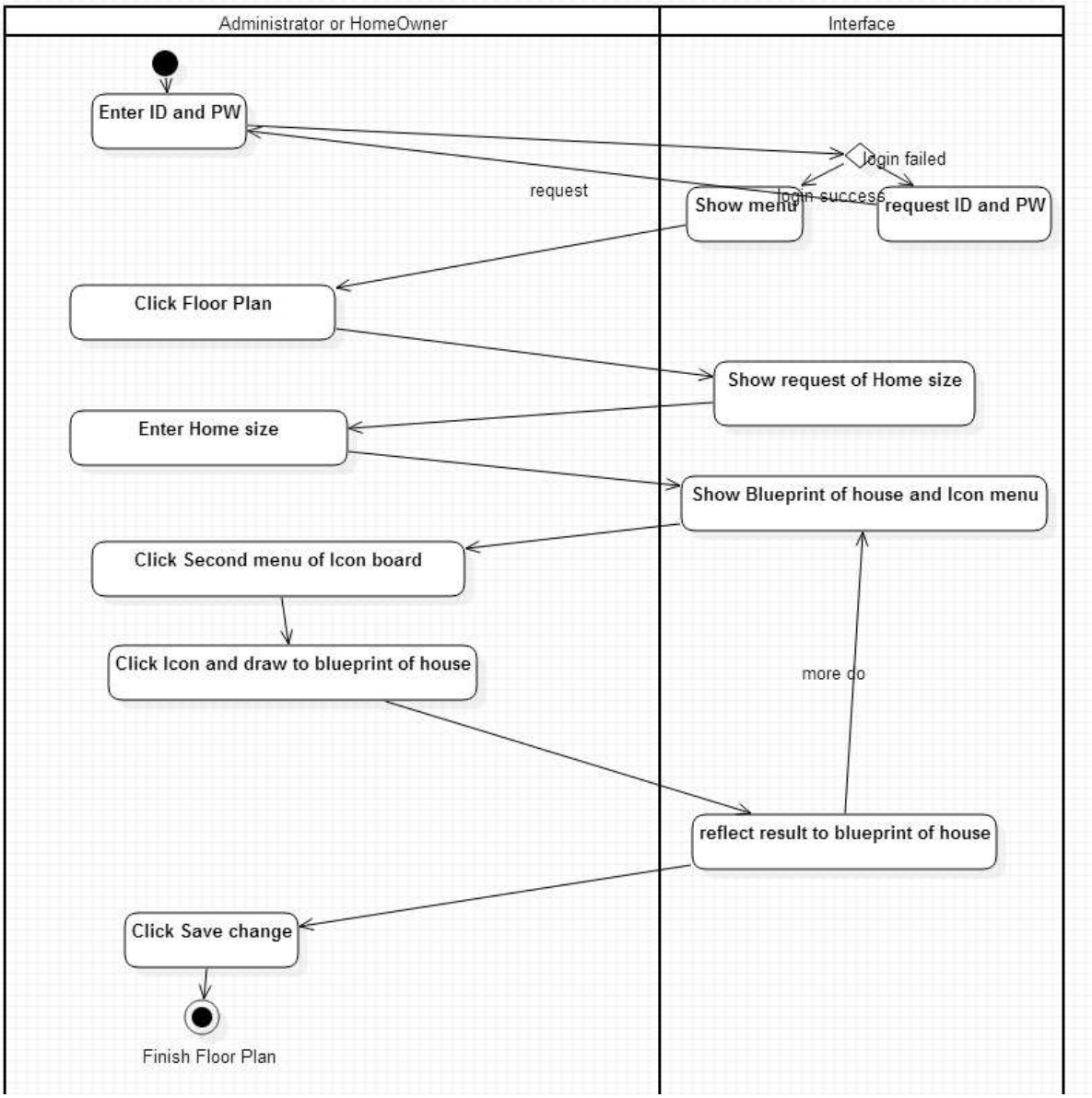


4.4 Home Management(Floor Plan)

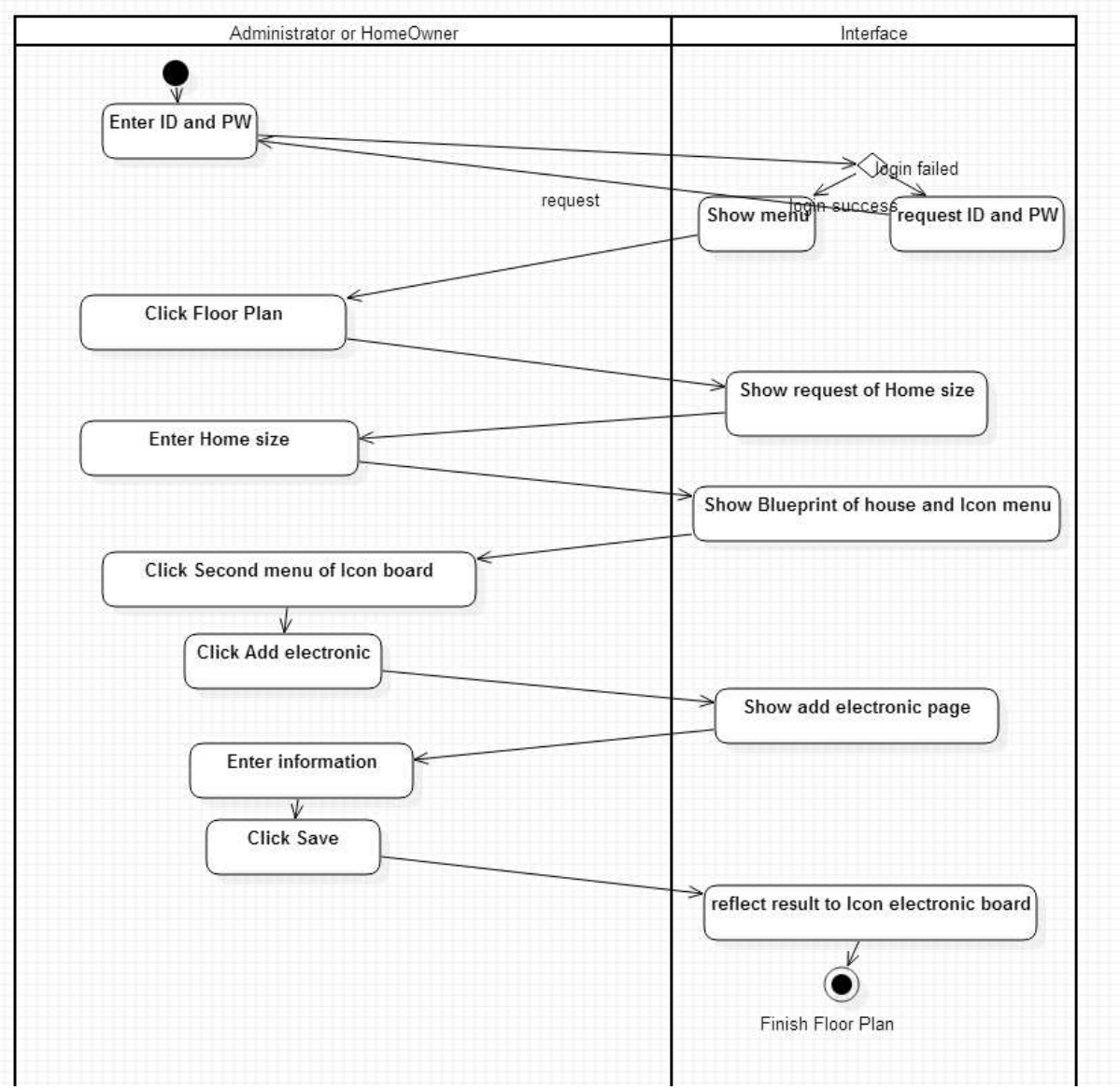
4.4.1 Make House Floor Plan



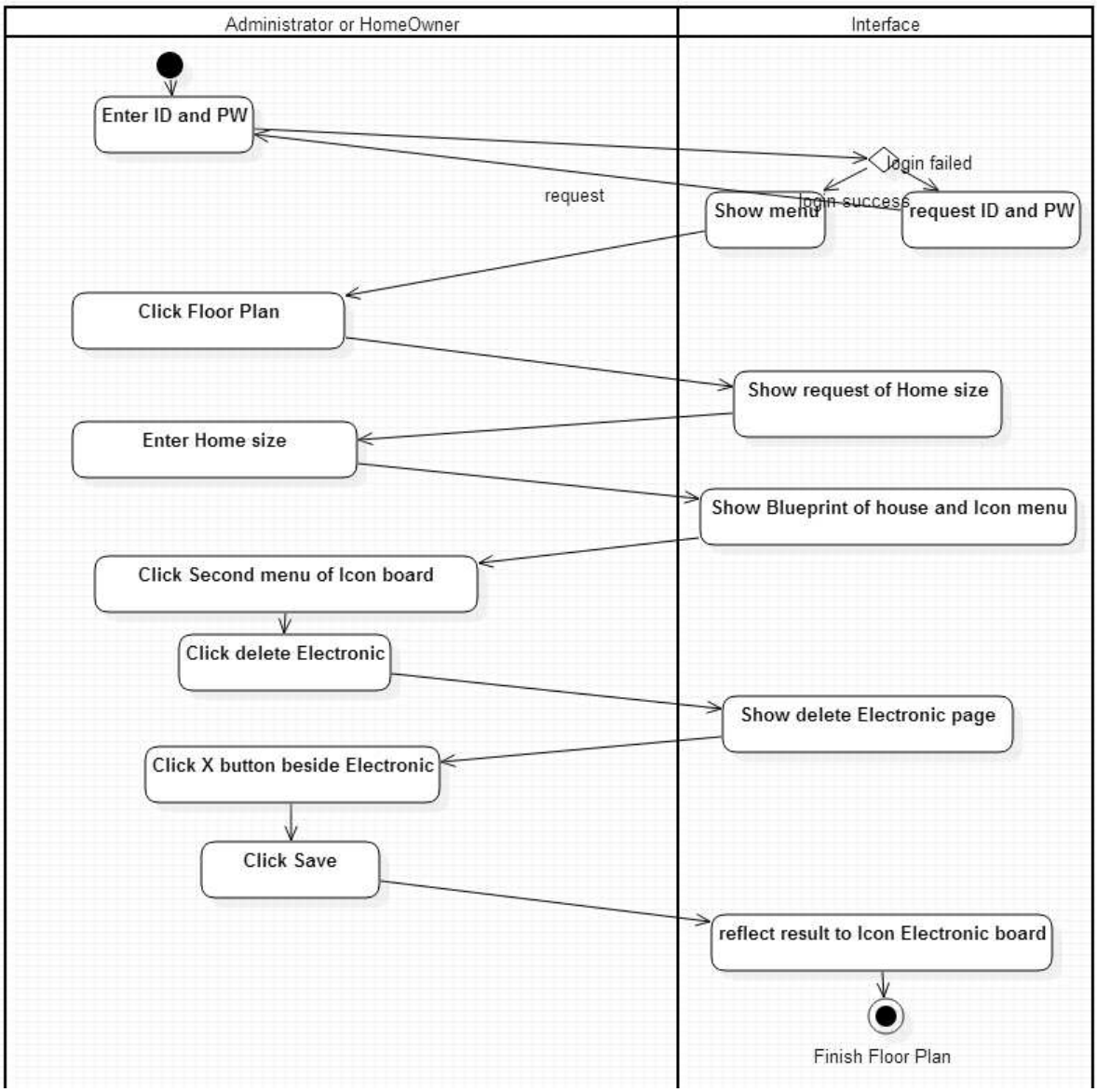
4.4.2 Set Electronics/Sensor/Camera



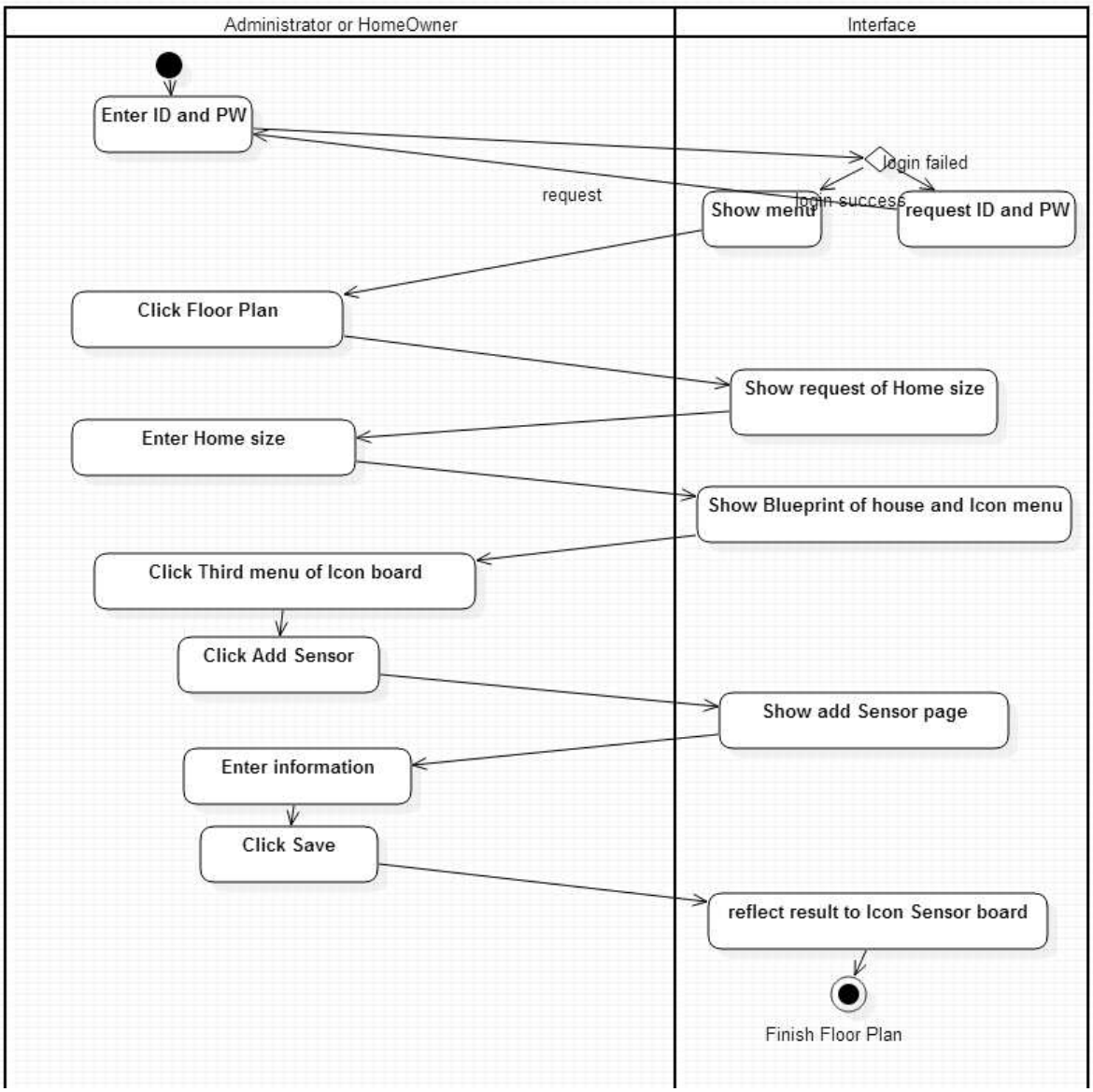
4.4.3 Add Electronics



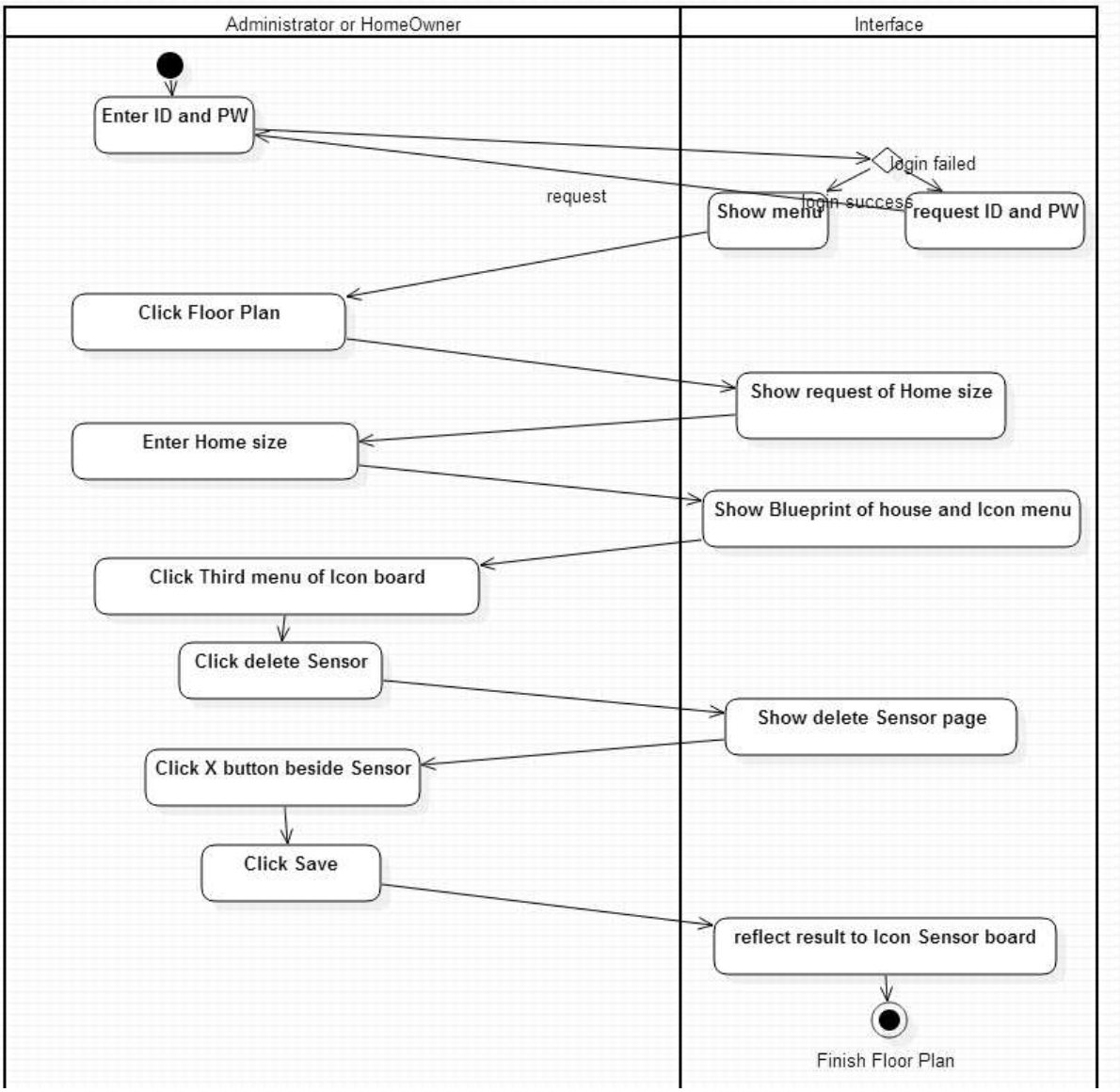
4.4.4 Delete Electronics



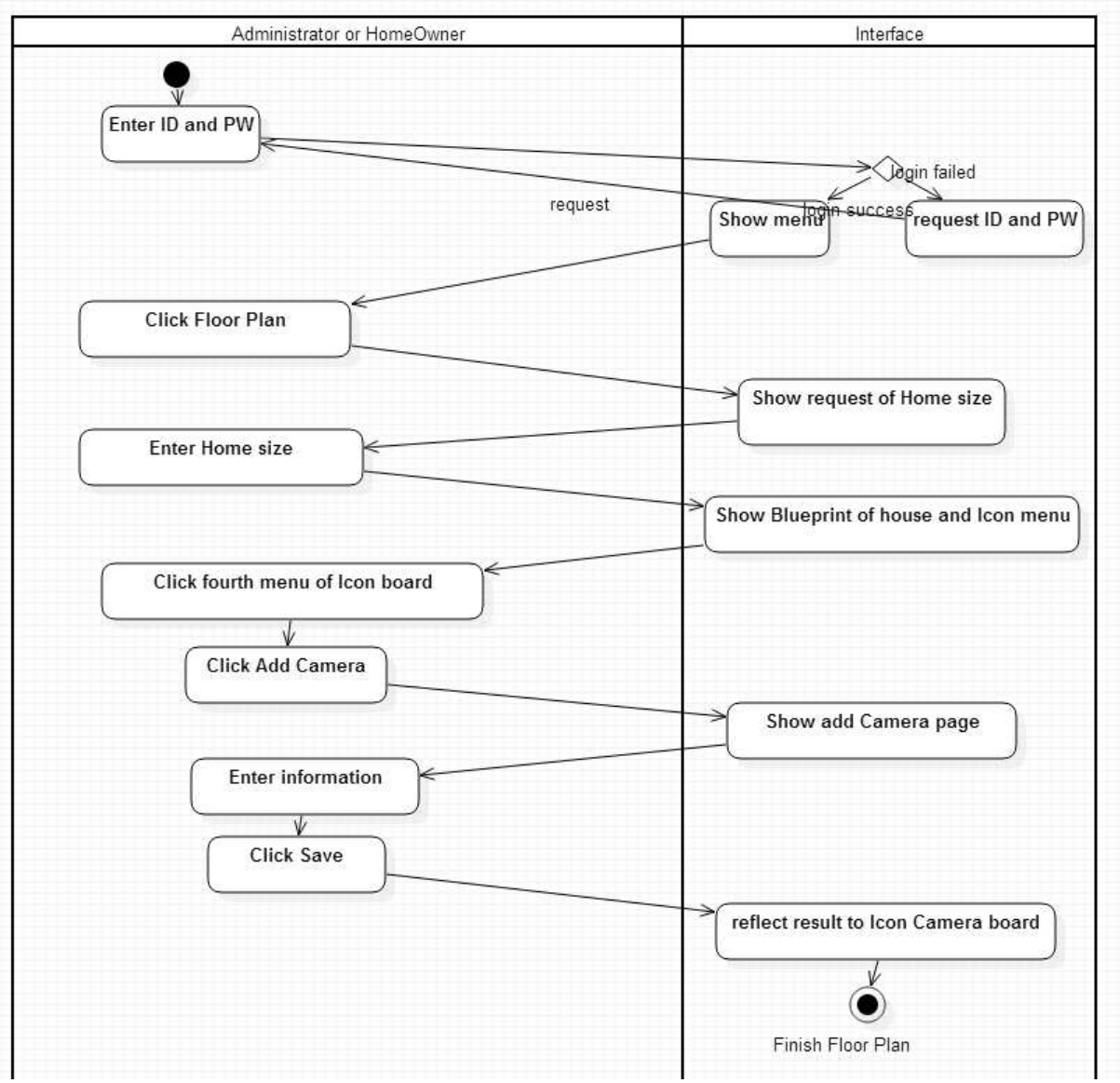
4.4.5 Add Sensor



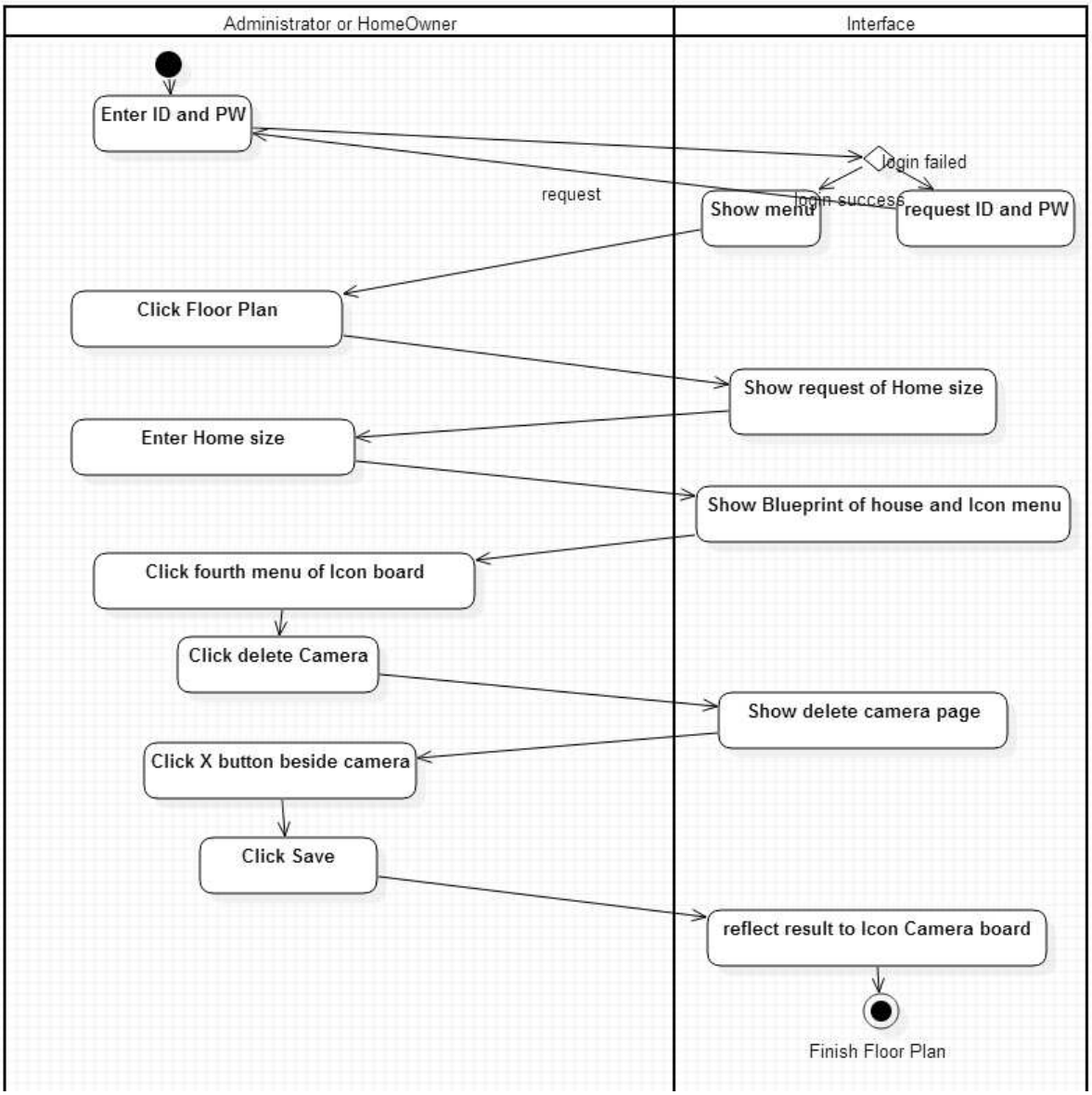
4.4.6 Delete Sensor



4.4.7 Add Camera

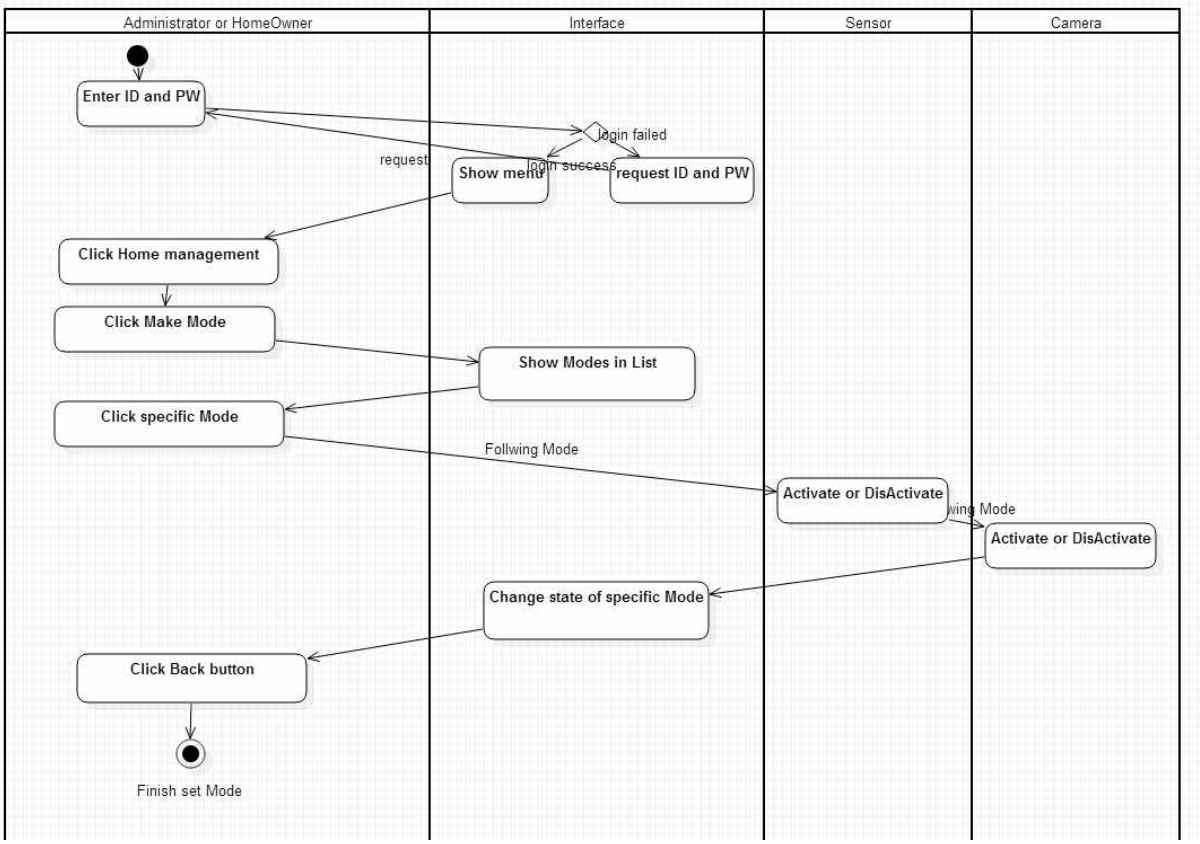


4.4.8 Delete Camera

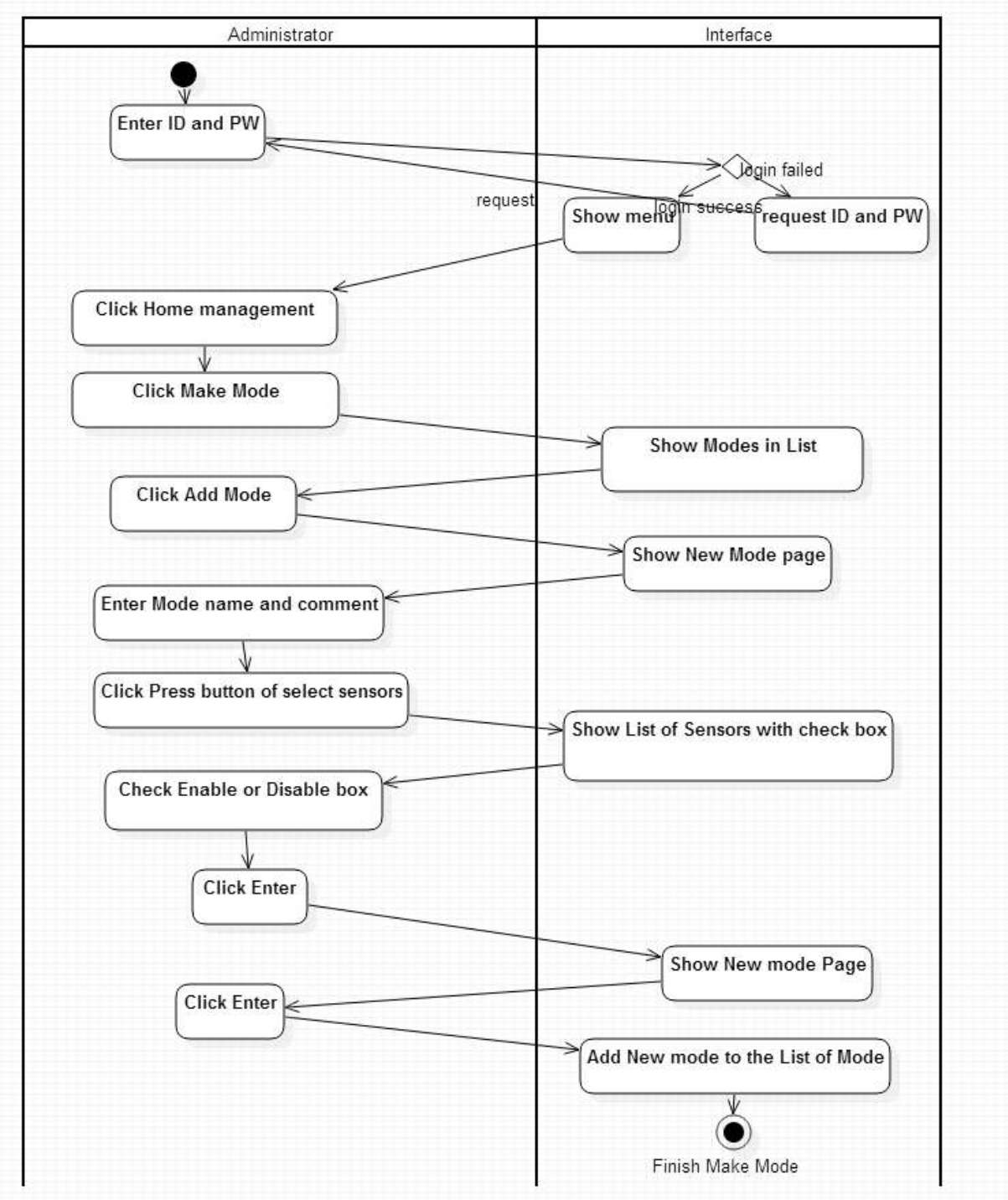


4.5 Home Management(Others)

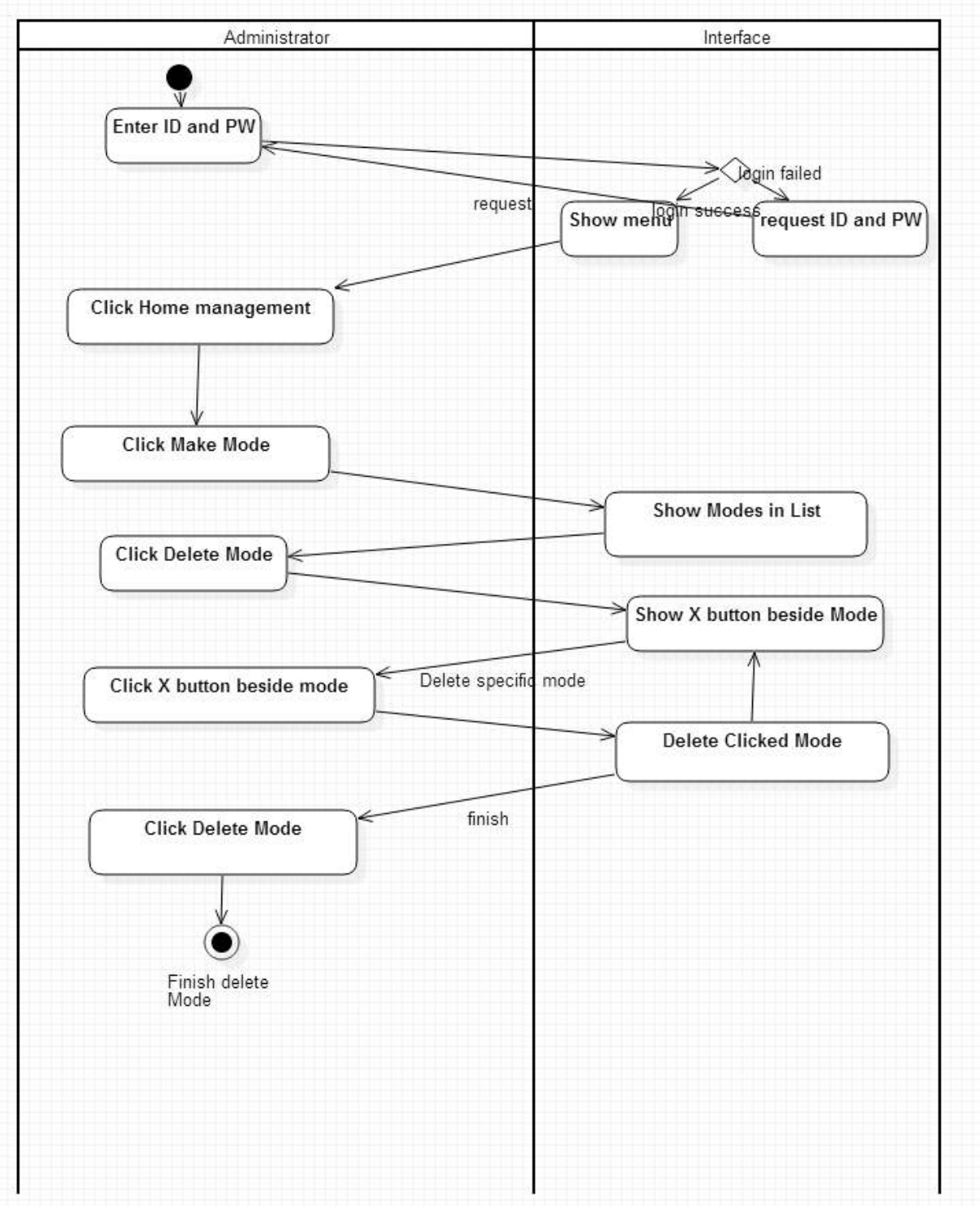
4.5.1 Set Mode



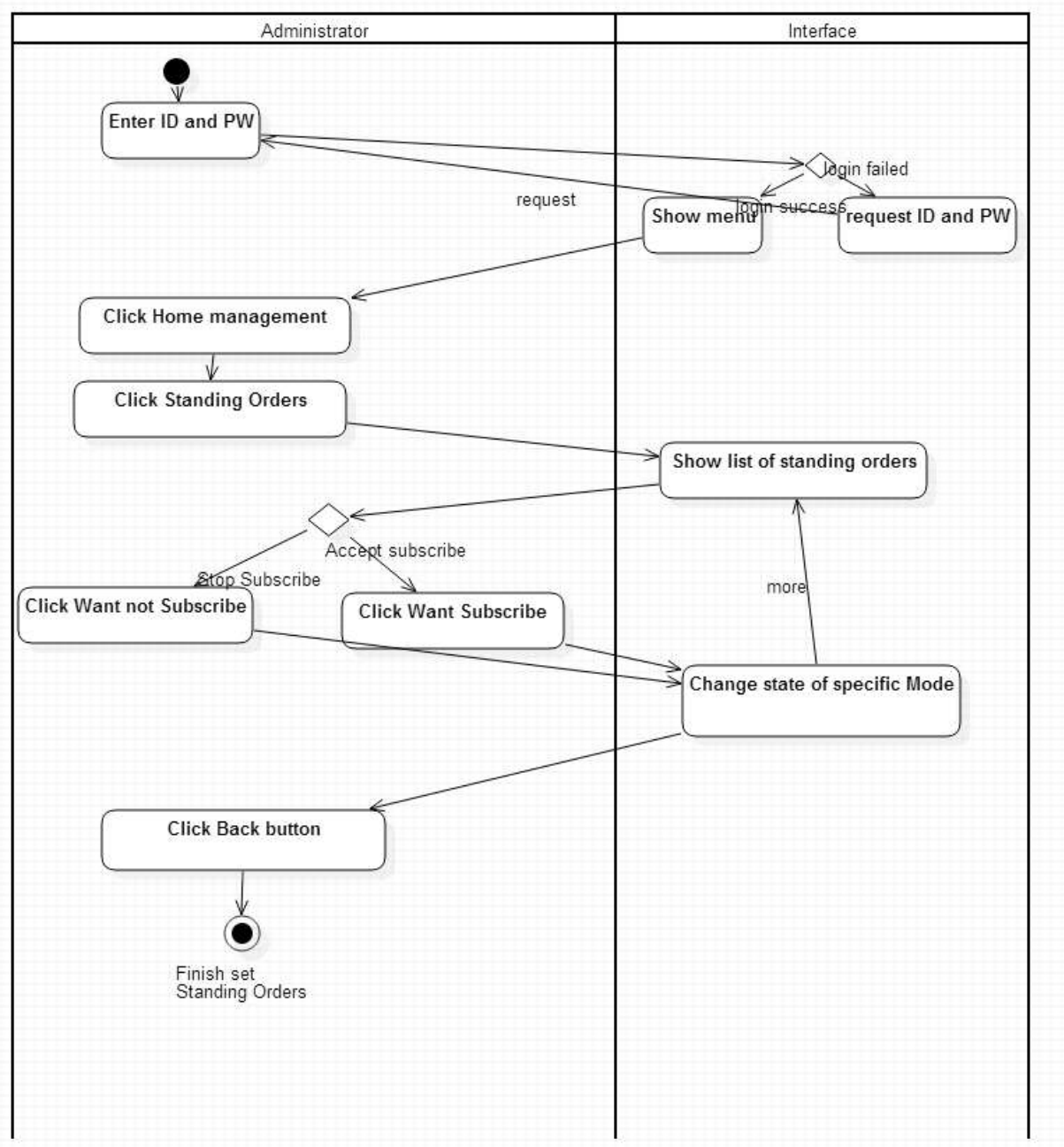
4.5.2 Make Mode



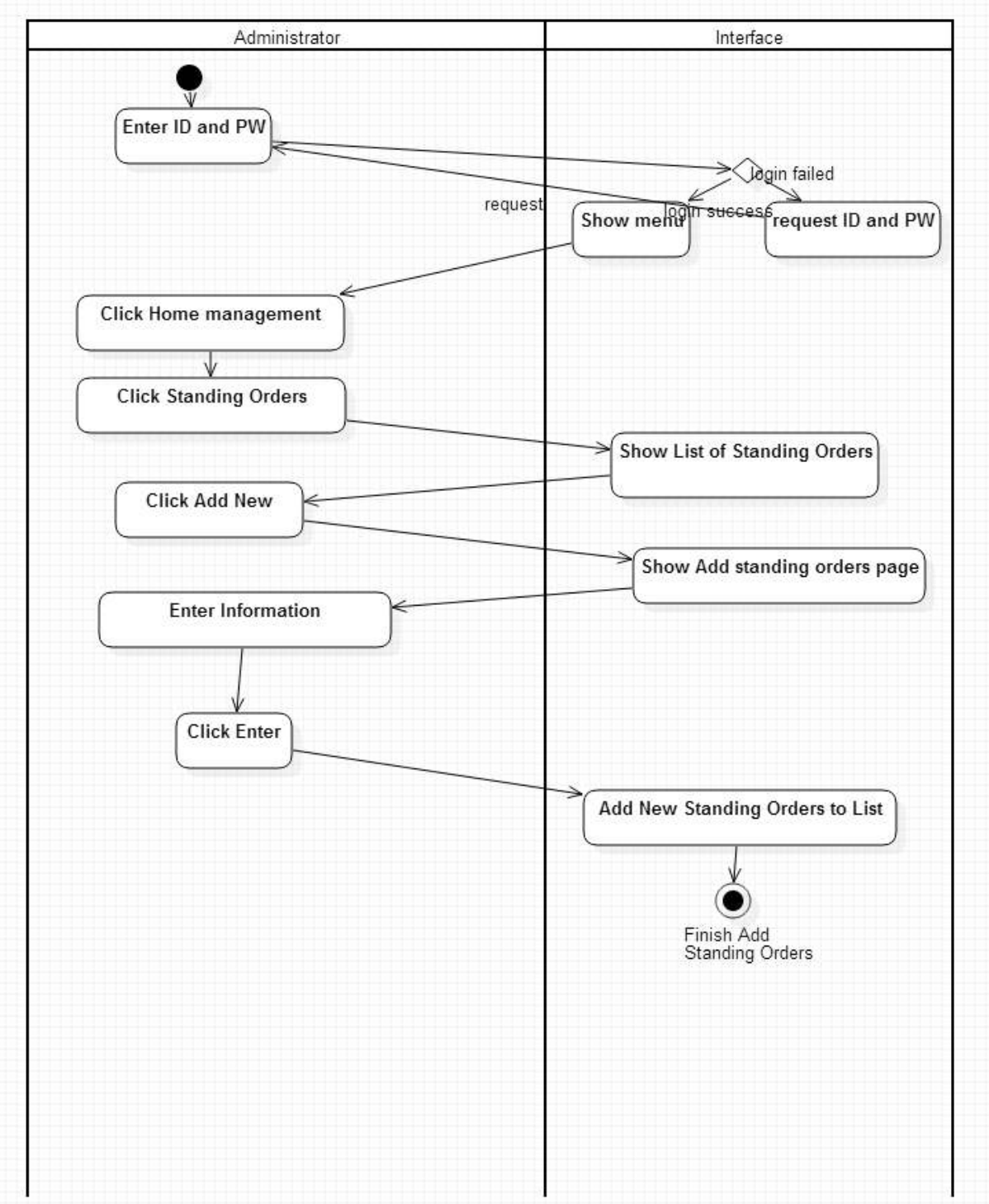
4.5.3 Delete Mode



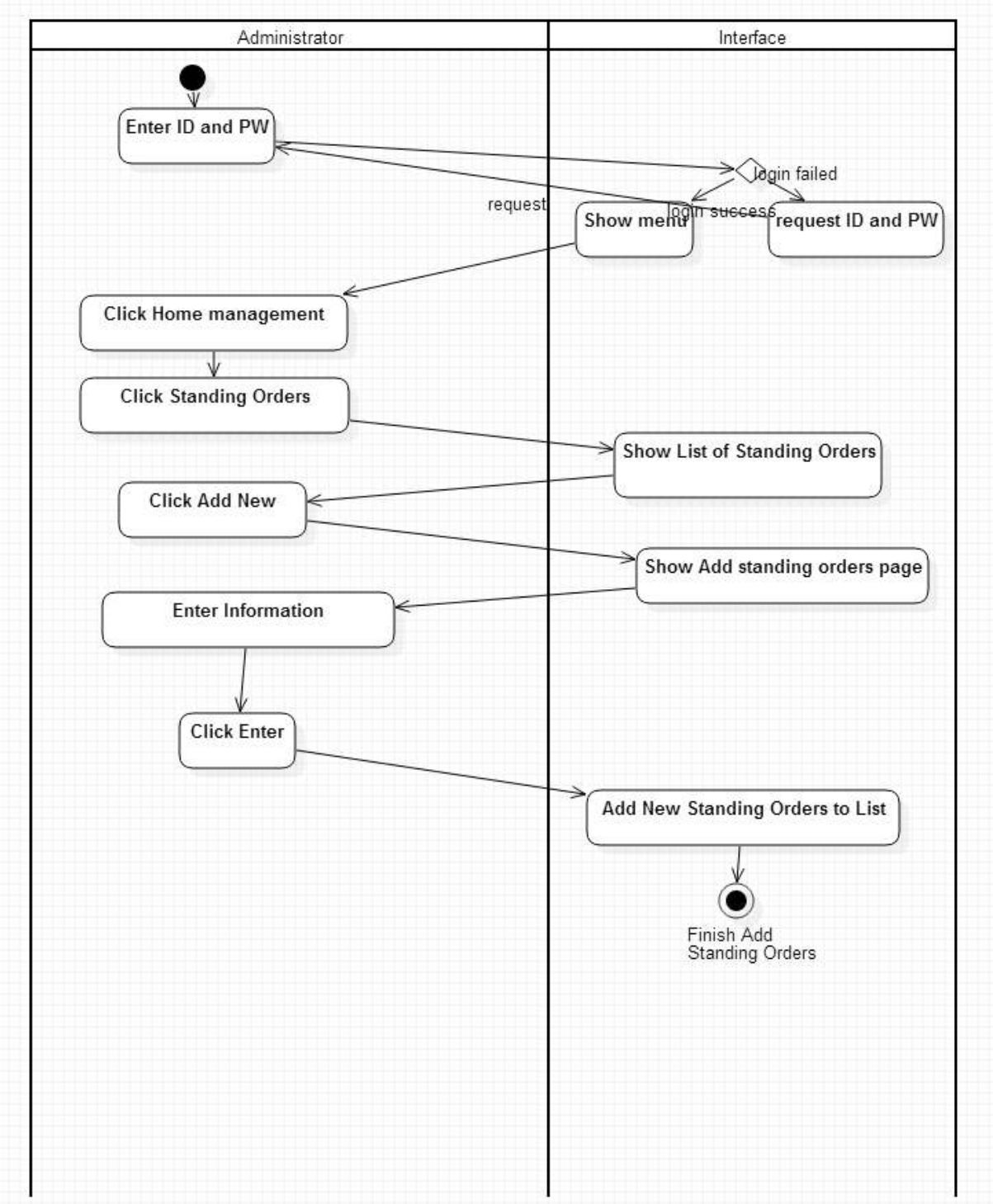
4.5.4 Set Standing Orders



4.5.5 Add Standing Orders

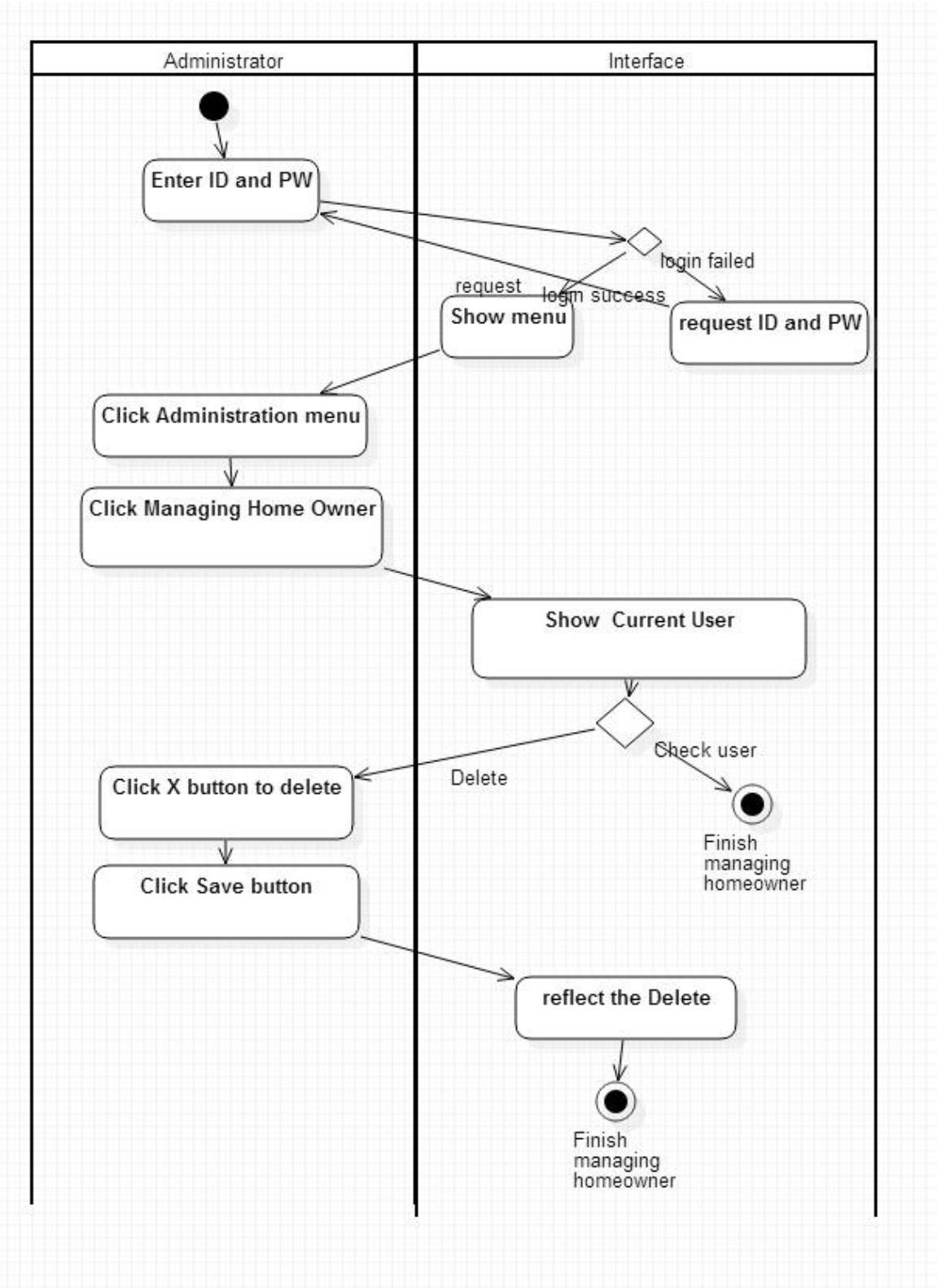


4.5.6 Delete Standing Orders

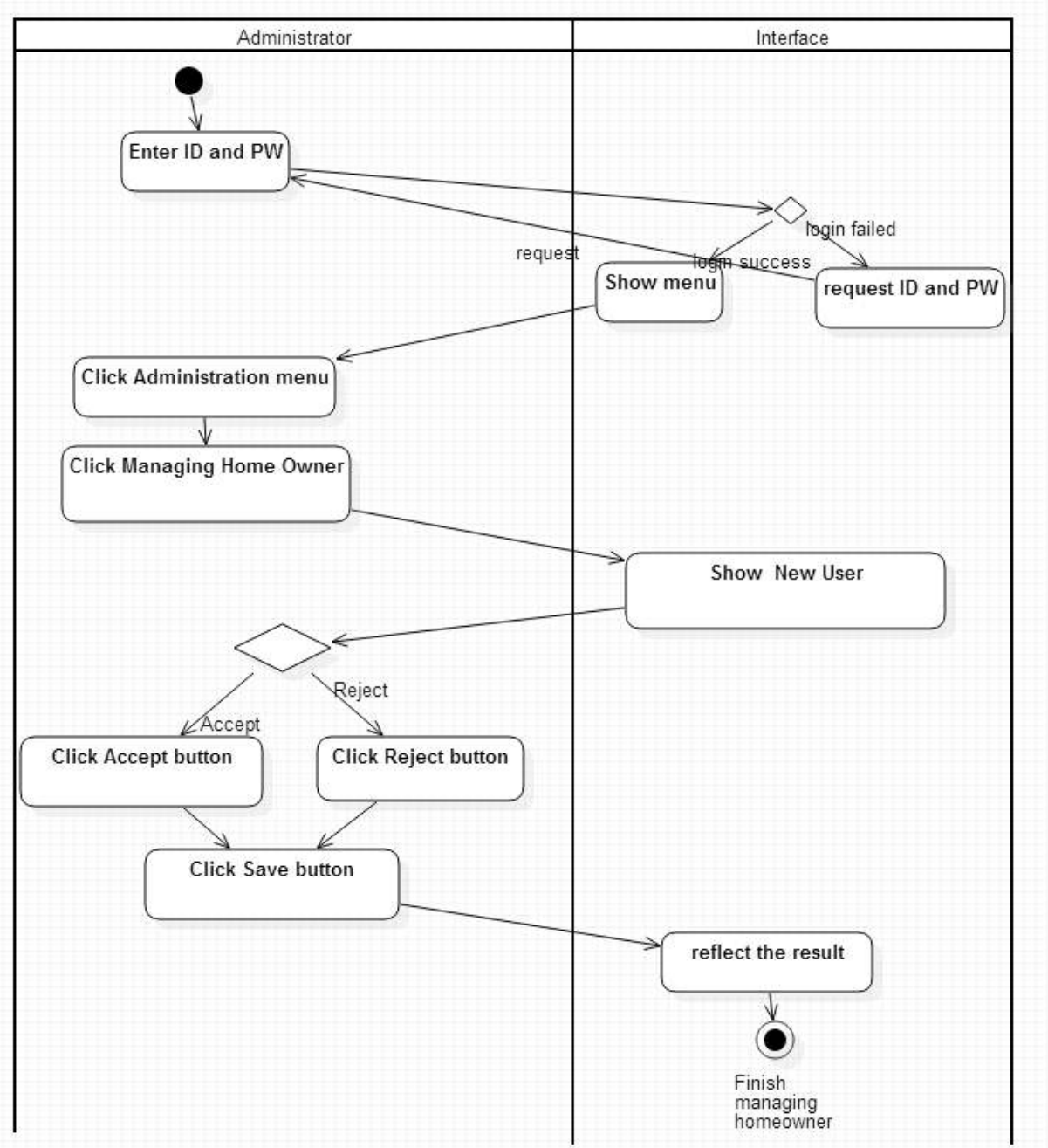


4.6 Administration Menu

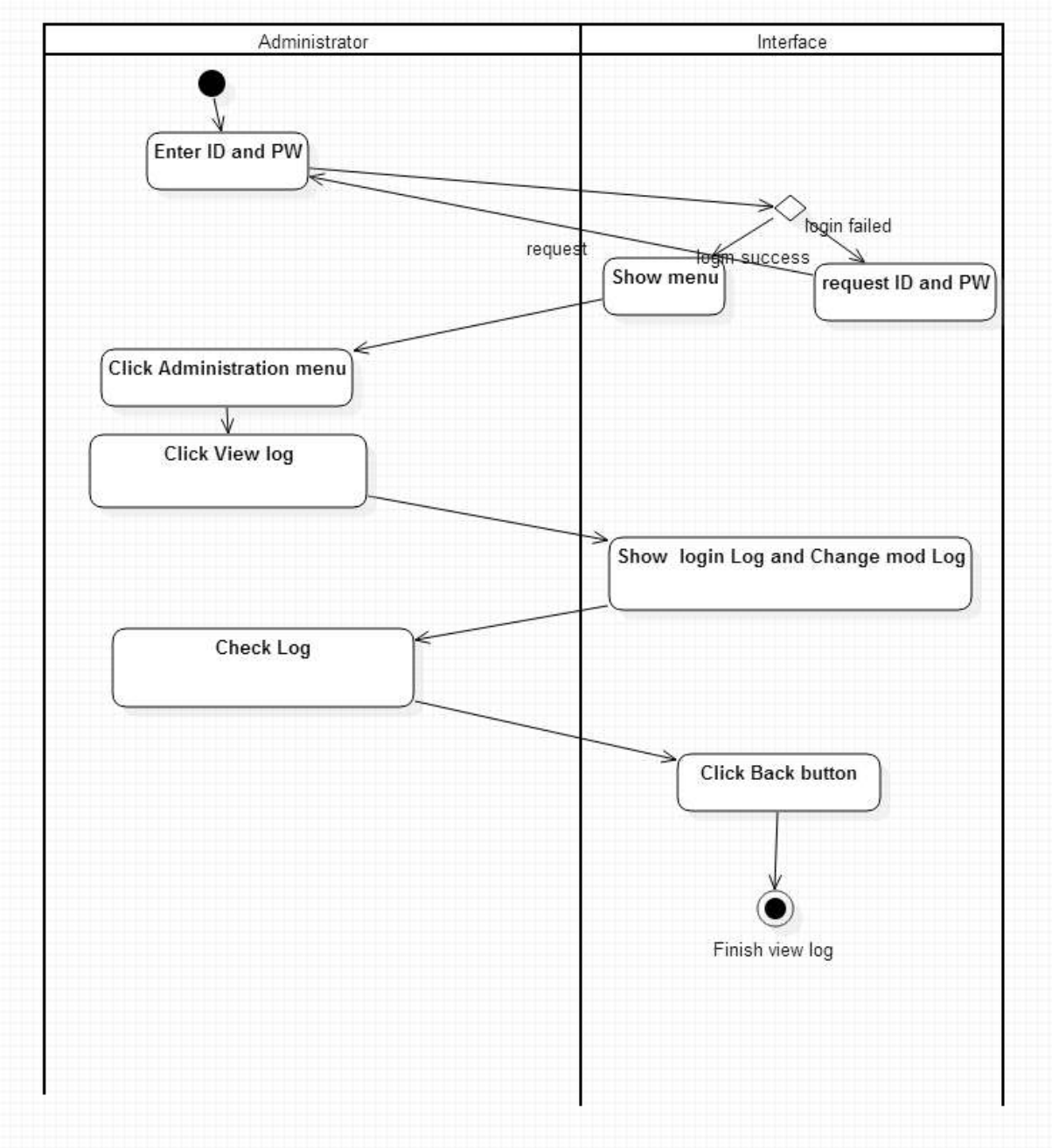
4.6.1 Managing Current Home Owner



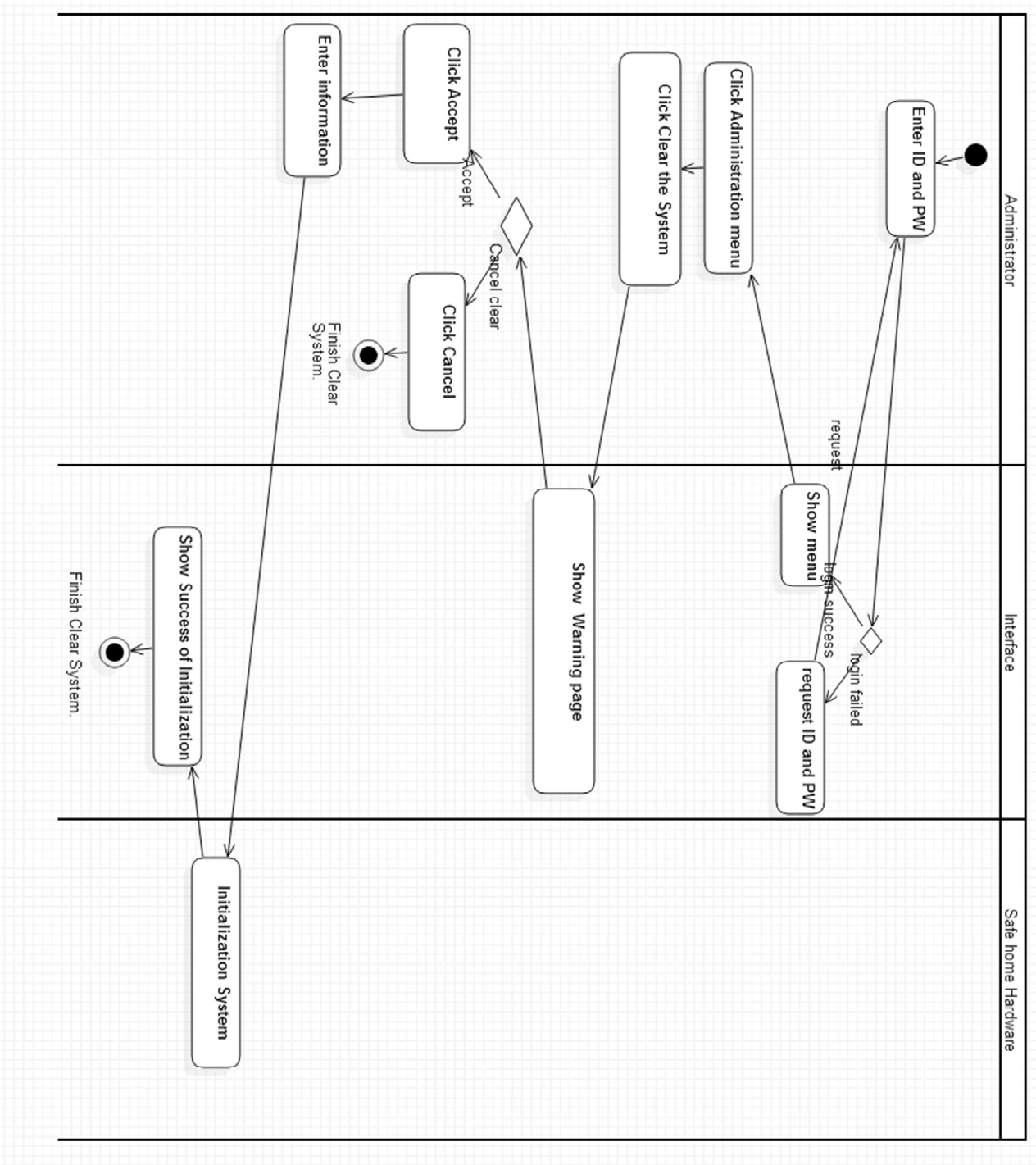
4.6.2 Managing New Home Owner



4.6.3 View Log


Administrator
Interface
Enter ID and PW
login failed
request
login success
Show menu
request ID and PW
Click Administration menu
Click View log
Show login Log and Change mod Log
Check Log
Click Back button
Finish view log

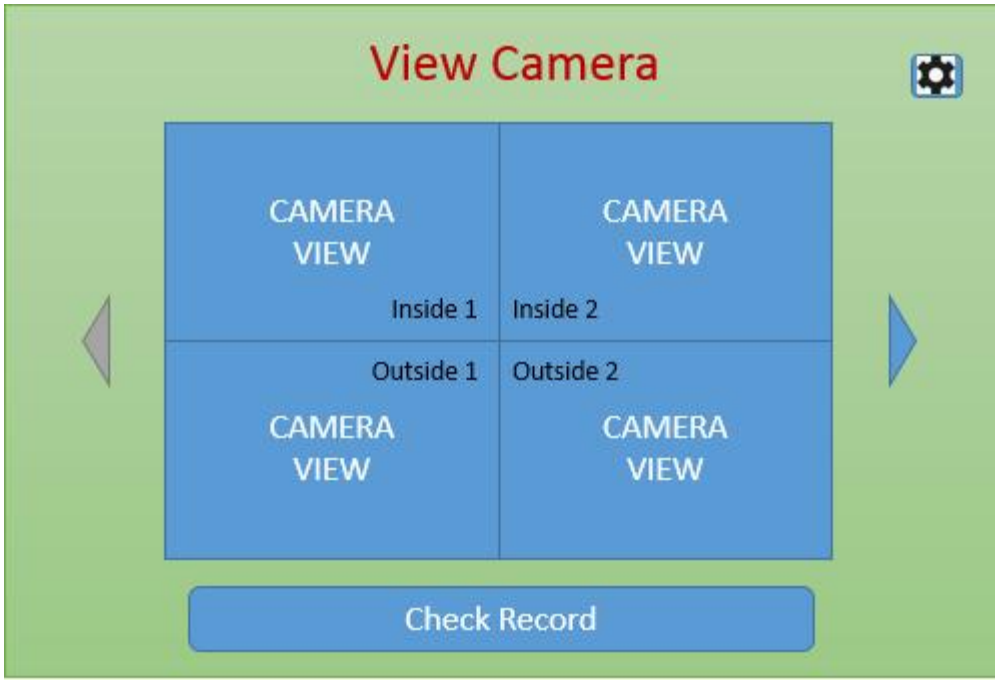
4.6.4 Clear System



5. User Interface

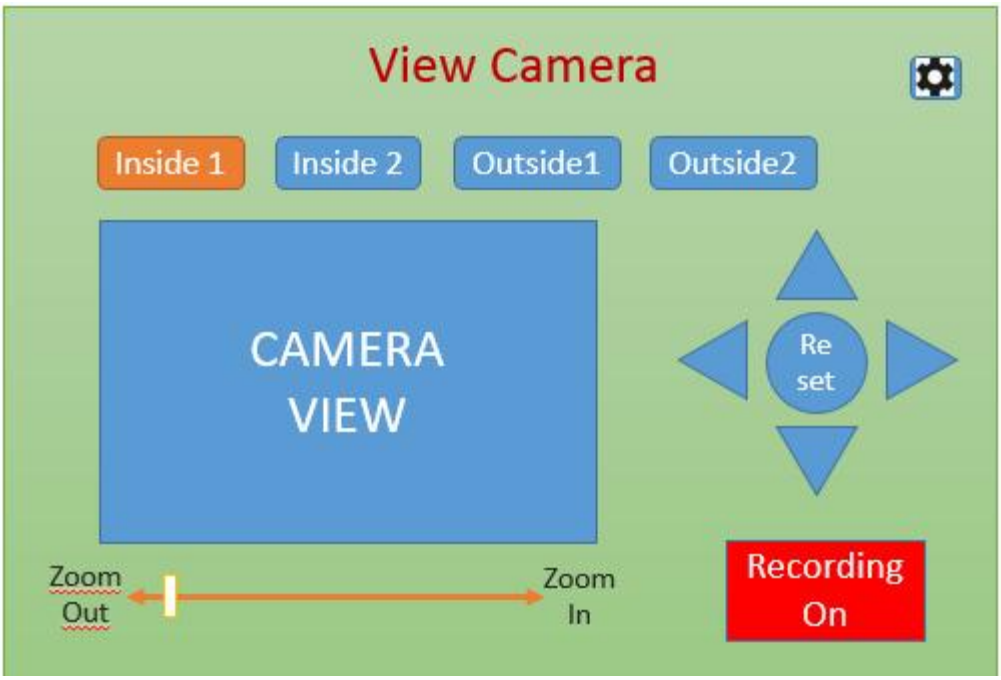
[UI1. Login]

[UI2. Samehome Mainscreen]

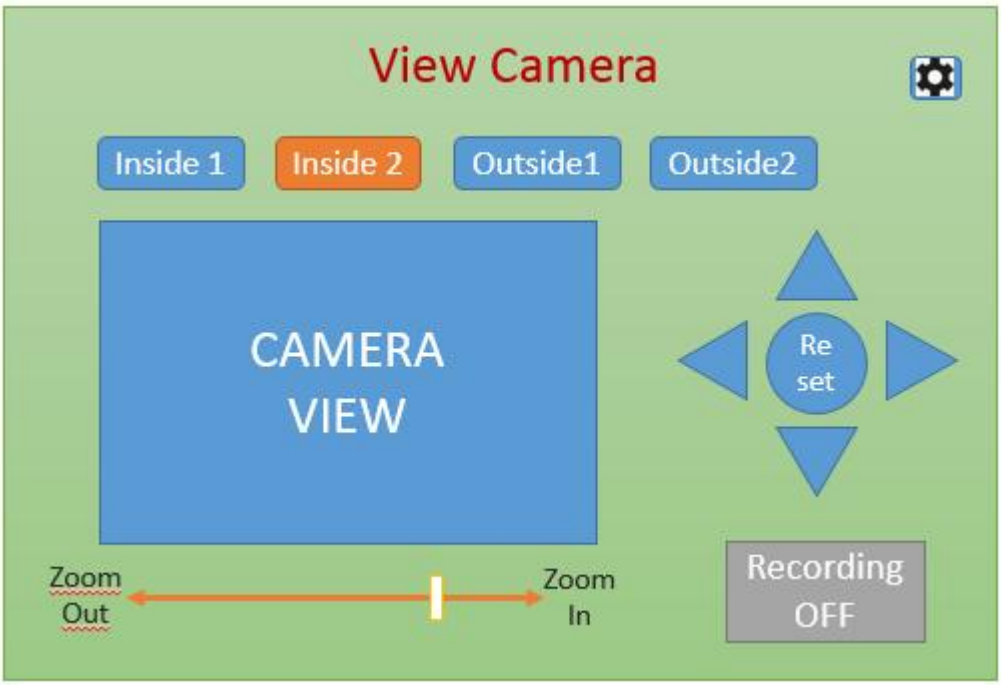


[UI3. View Camera]

[UI4. Check Record]

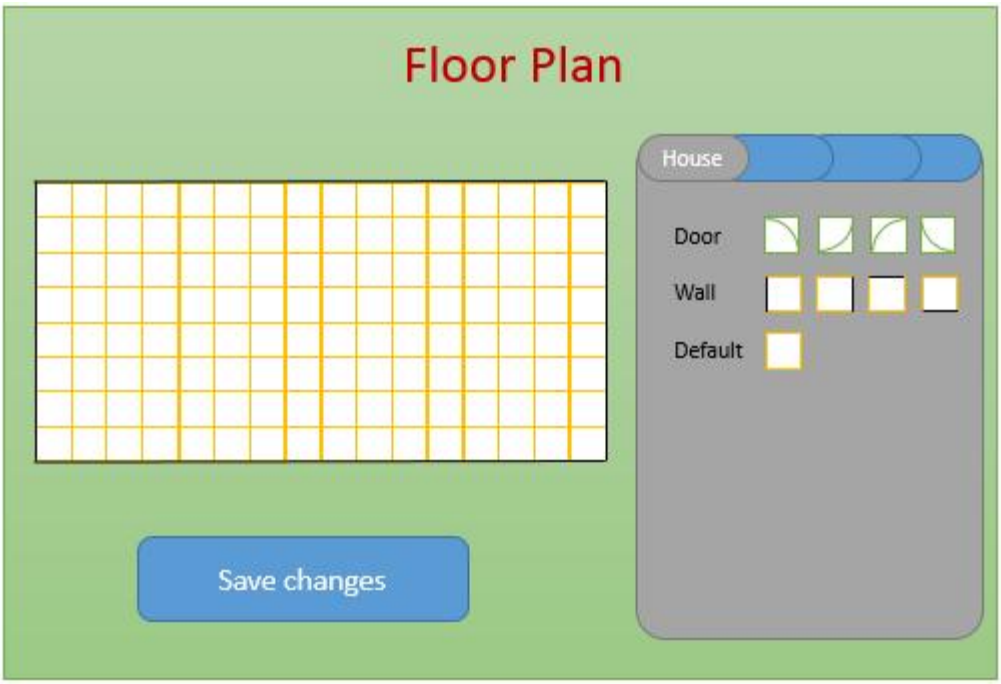


[UI5. Example of Camera, Recording is On]

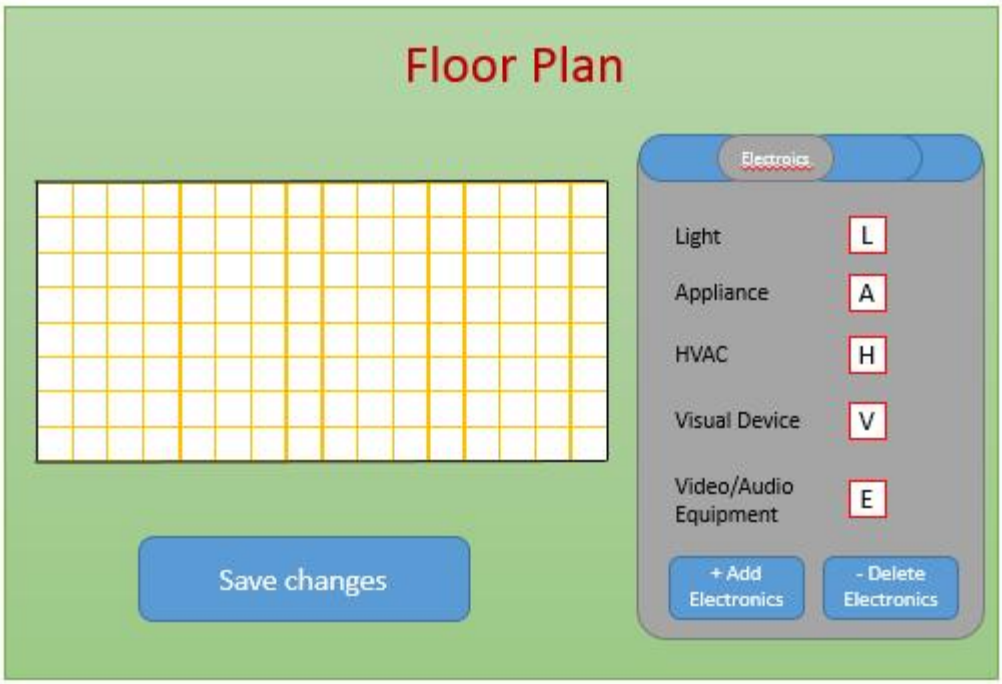


[UI6. Example of Camera, Recording is Off]

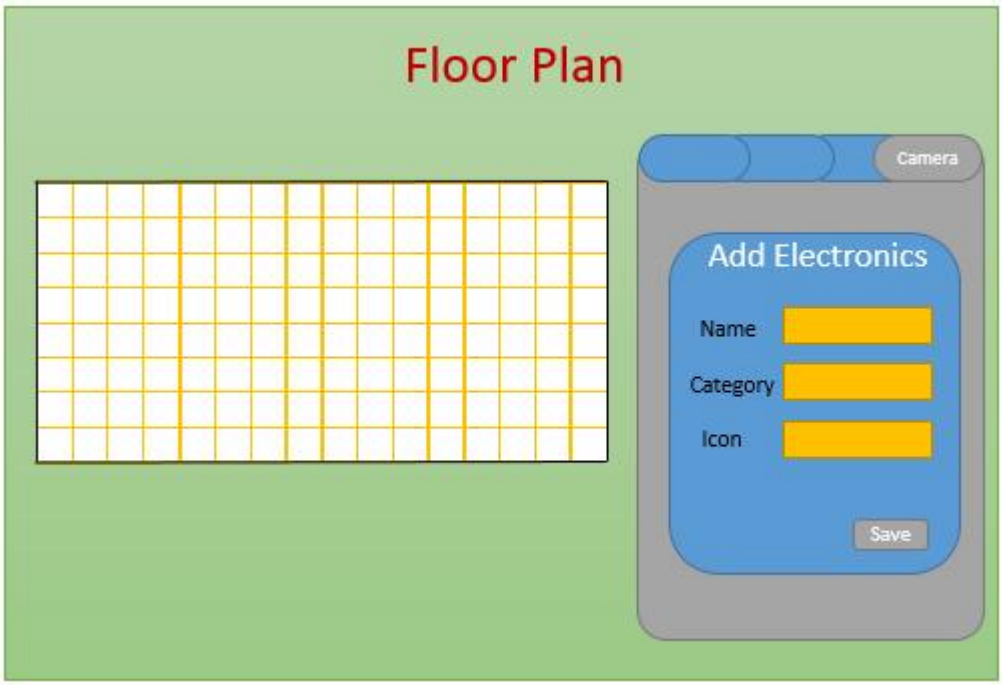
[UI7. Make Floor Plan]



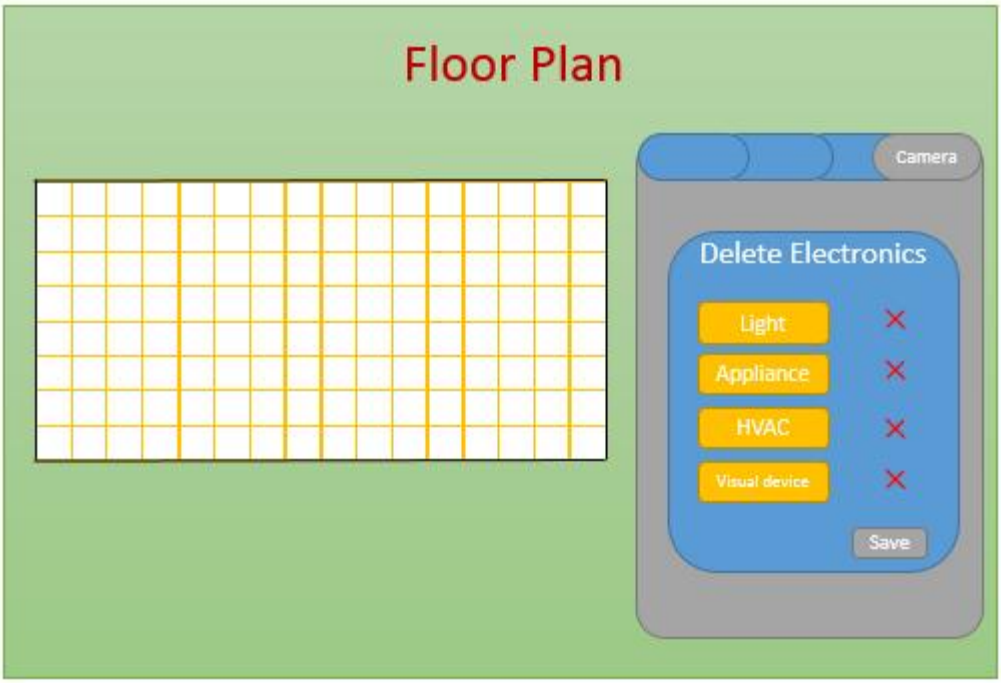
[UI8. Floor Plan, add, remove wall and door]



[UI9. Floor Plan, add and delete Electronics]

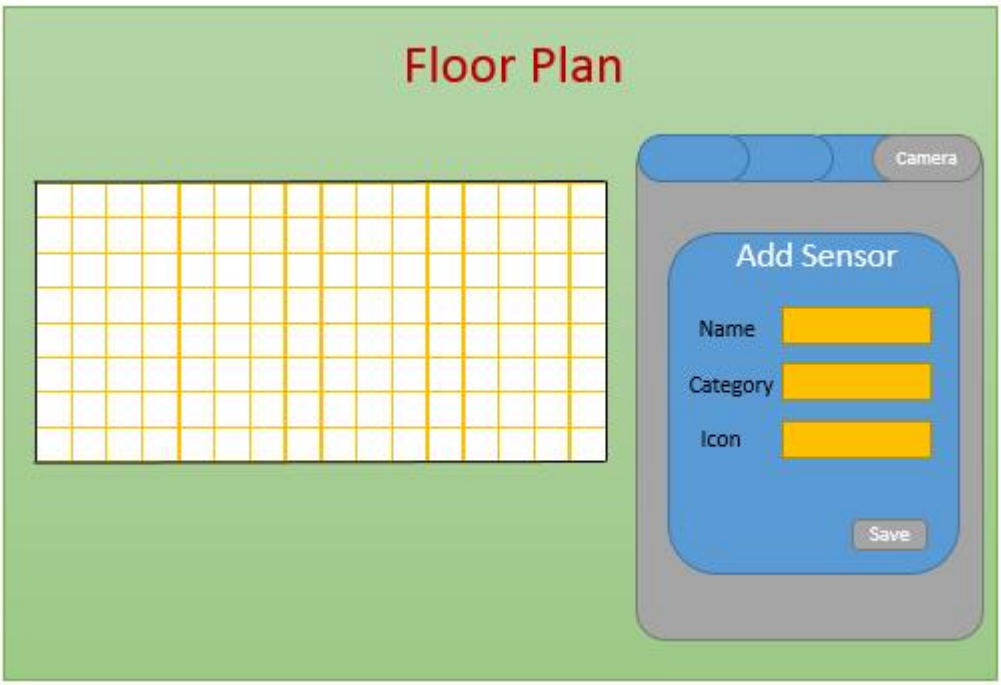


[UI10. Floor Plan, Adding Electronics Detail shot]

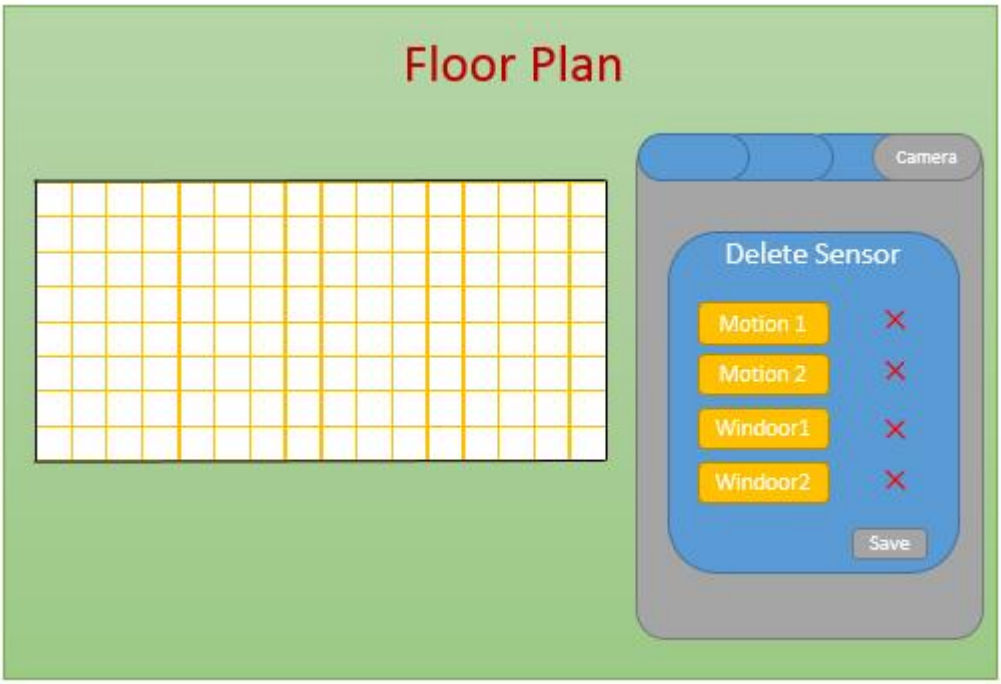


[UI11. Floor Plan, Deleting Electronics Detail shot]

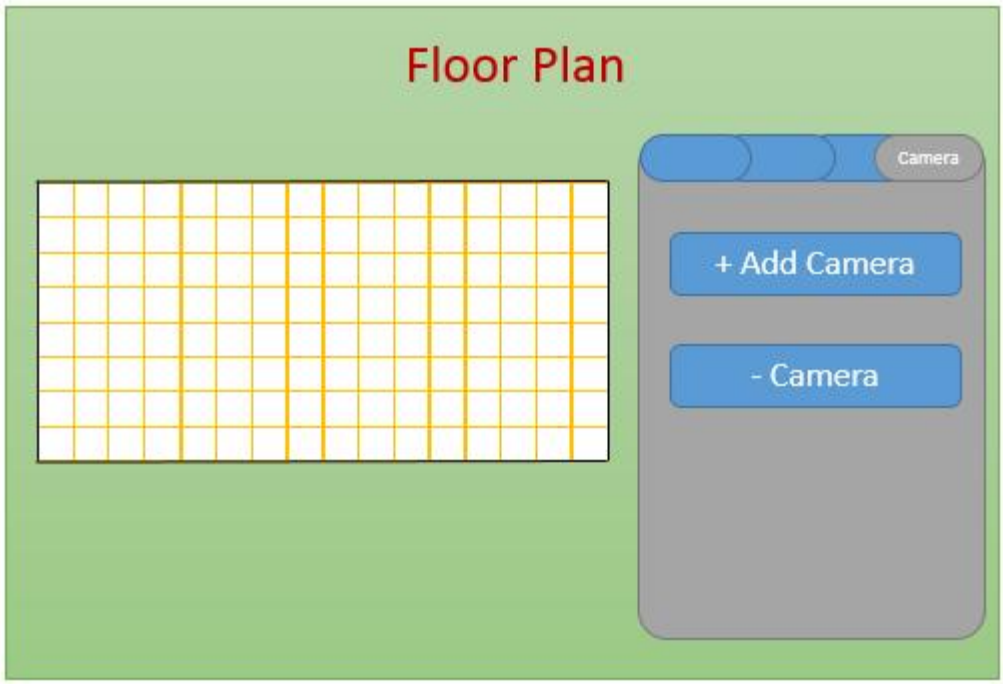
[UI12. Floor Plan, add and delete Sensor]



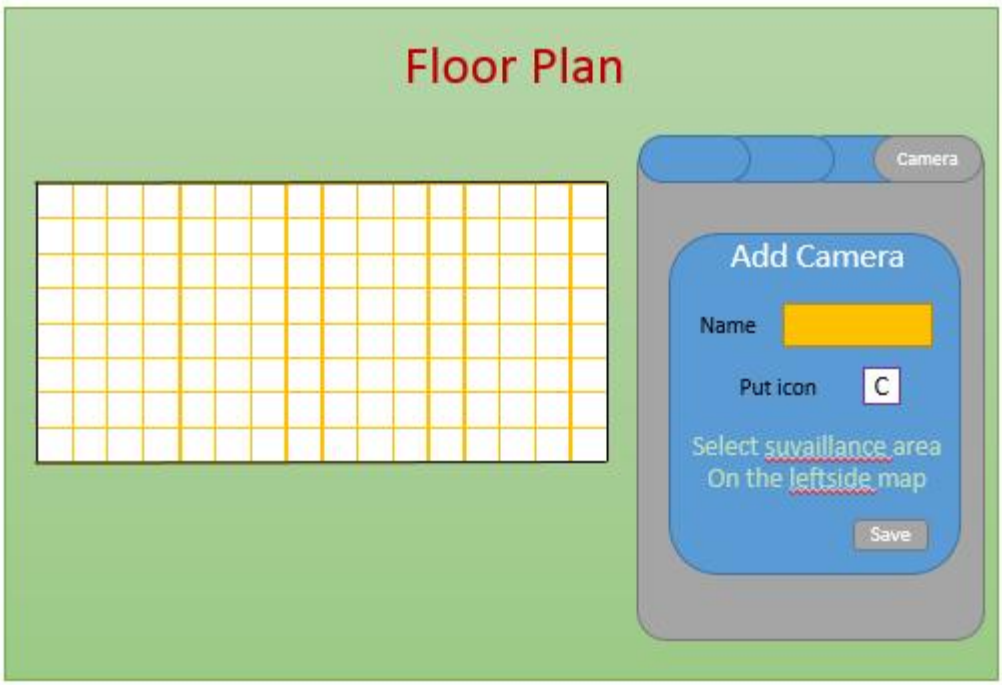
[UI13. Floor Plan, Adding Sensor Detail shot]



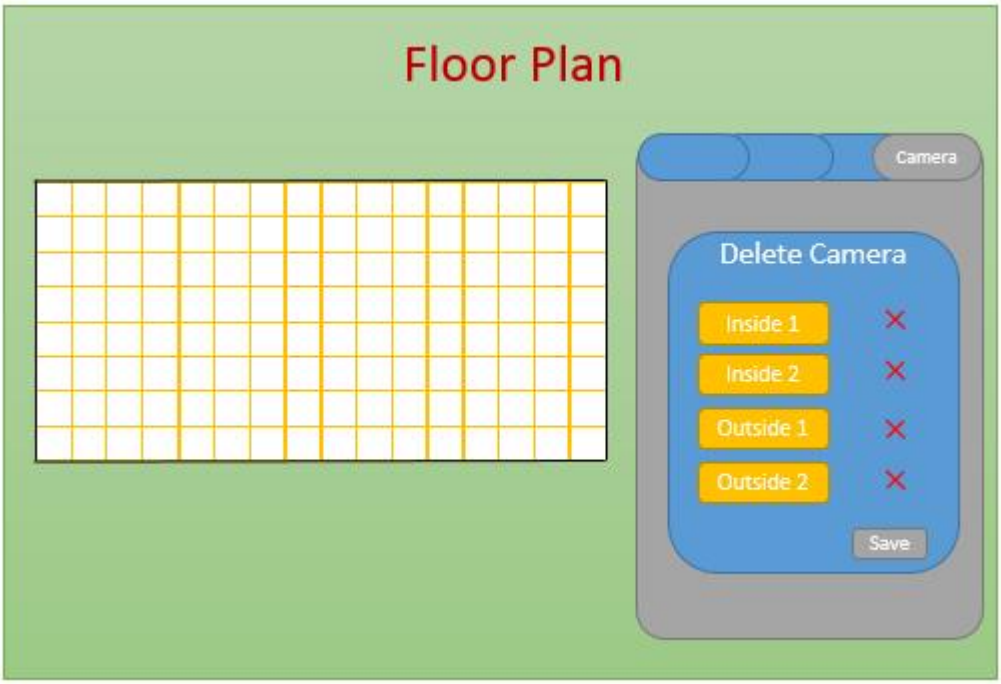
[UI14. Floor Plan, Deleting Sensor Detail shot]



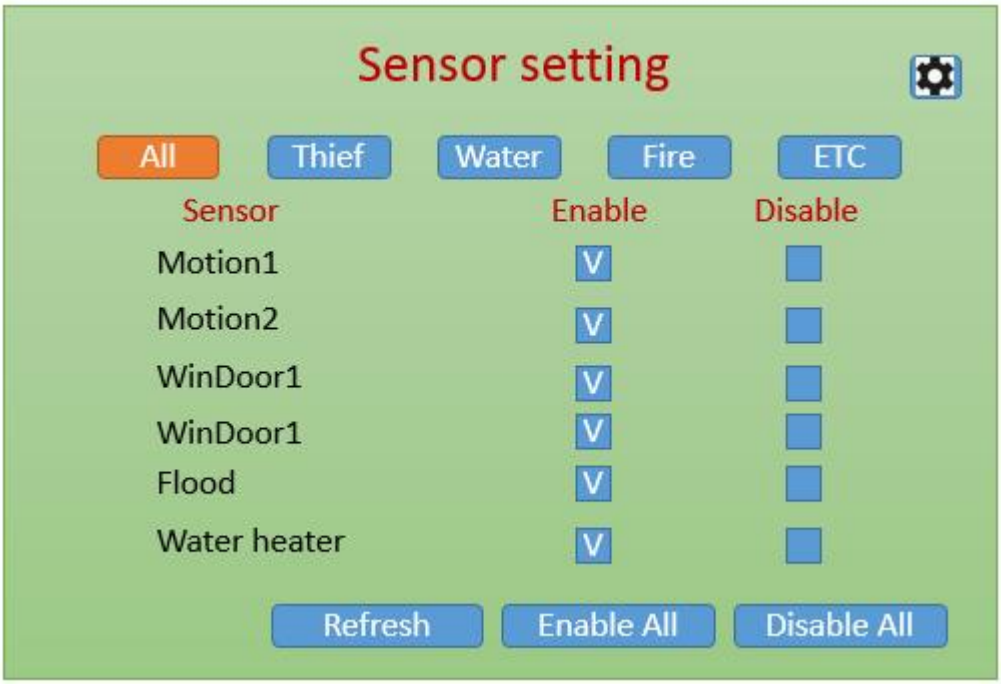
[UI15. Floor Plan, add and delete Camera]



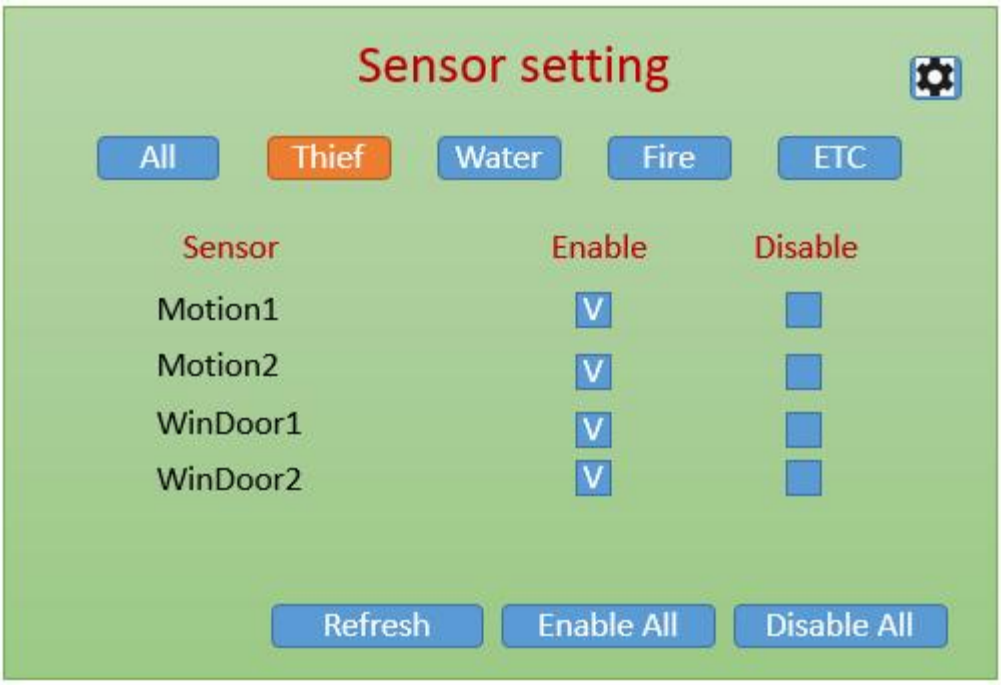
[UI16. Floor Plan, Adding Camera Detail shot]



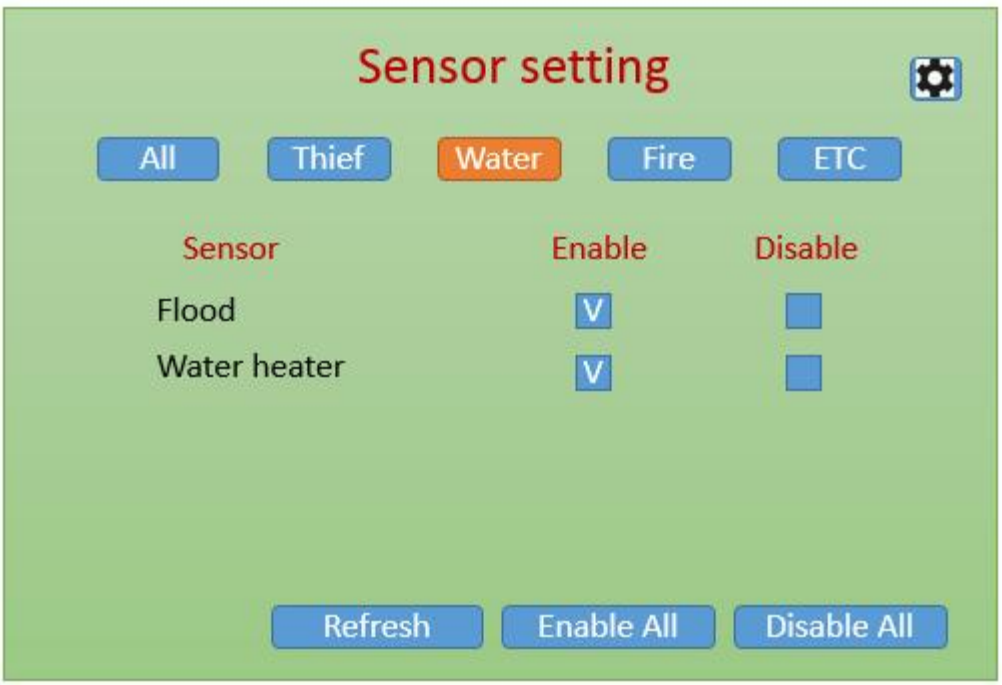
[UI17. Floor Plan, Deleting Camera Detail shot]



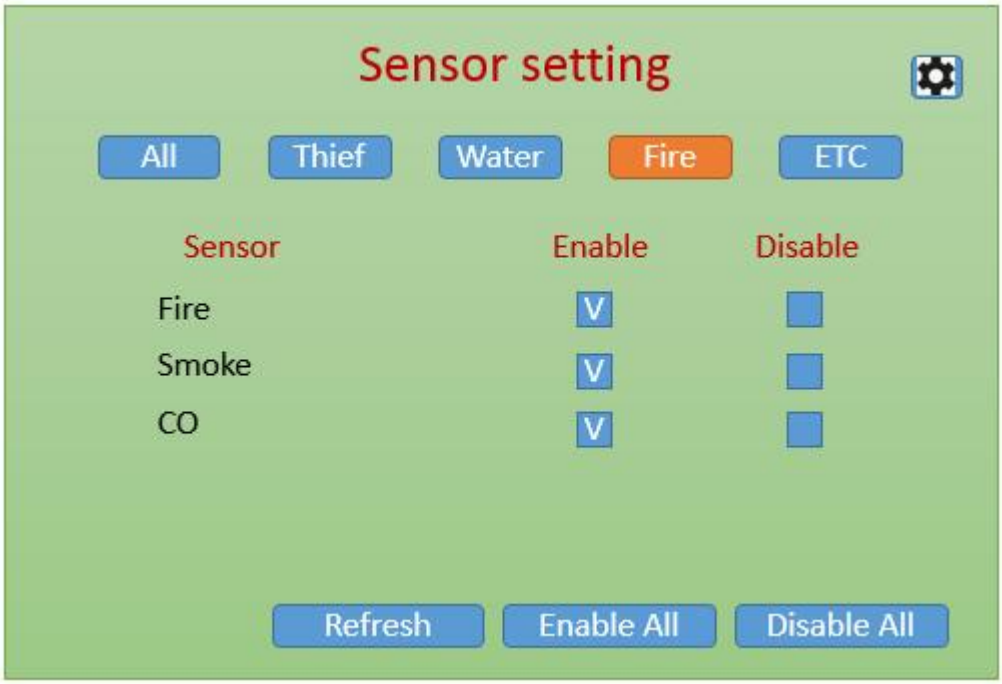
[UI18. View All sensors, Enable/Disable]



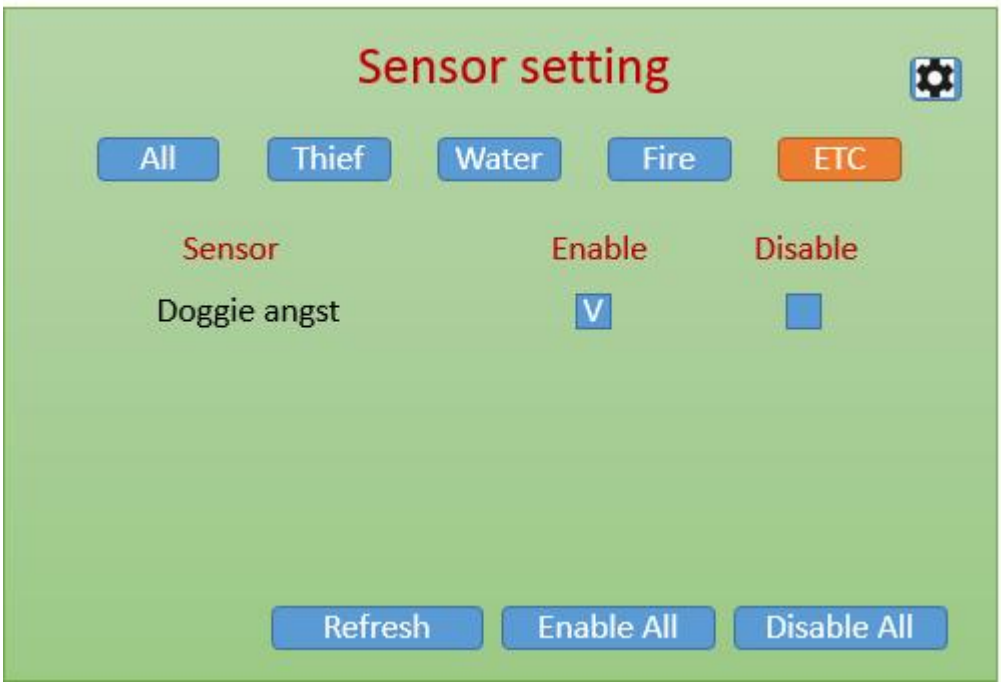
[UI19. View All Thief sensors, Enable/Disable]



[UI20. View All Water sensors, Enable/Disable]

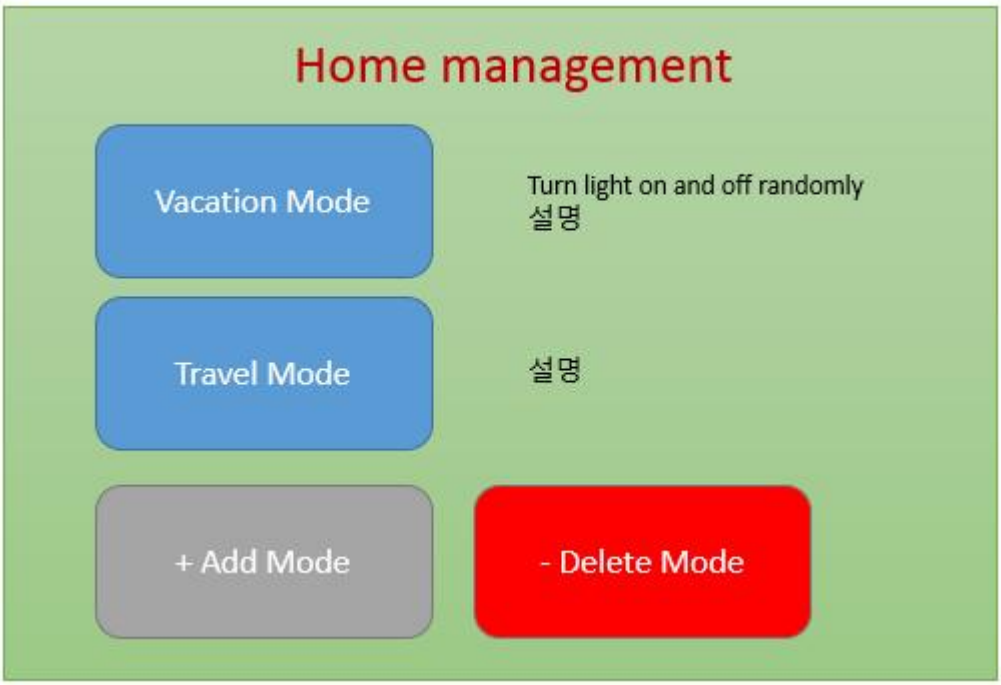


[UI21. View All Fire sensors, Enable/Disable]

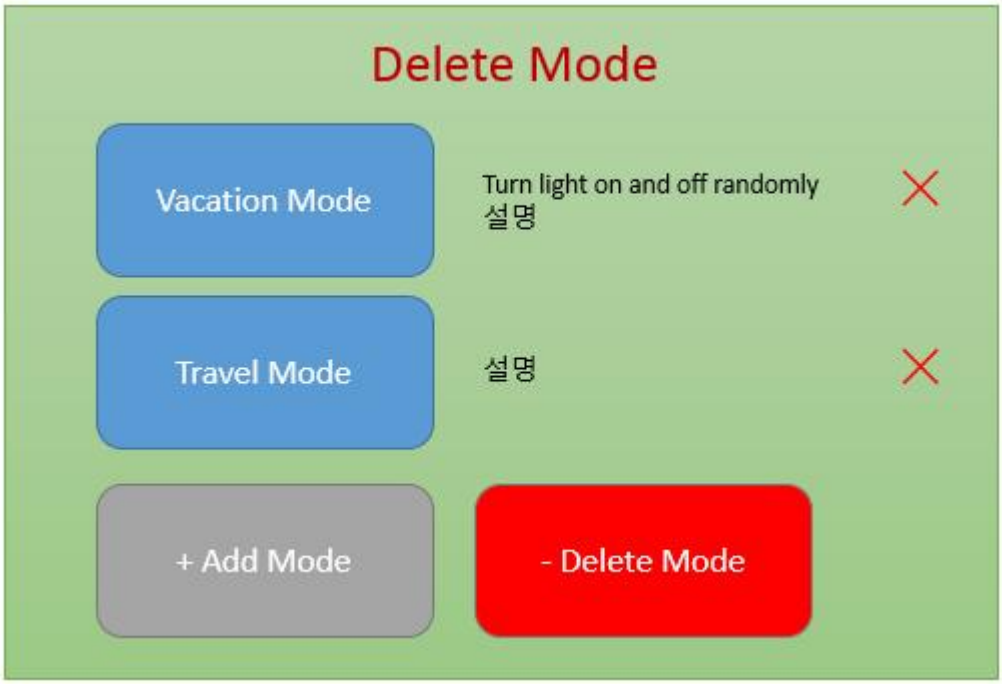


[UI22. View All ETC sensors, Enable/Disable]

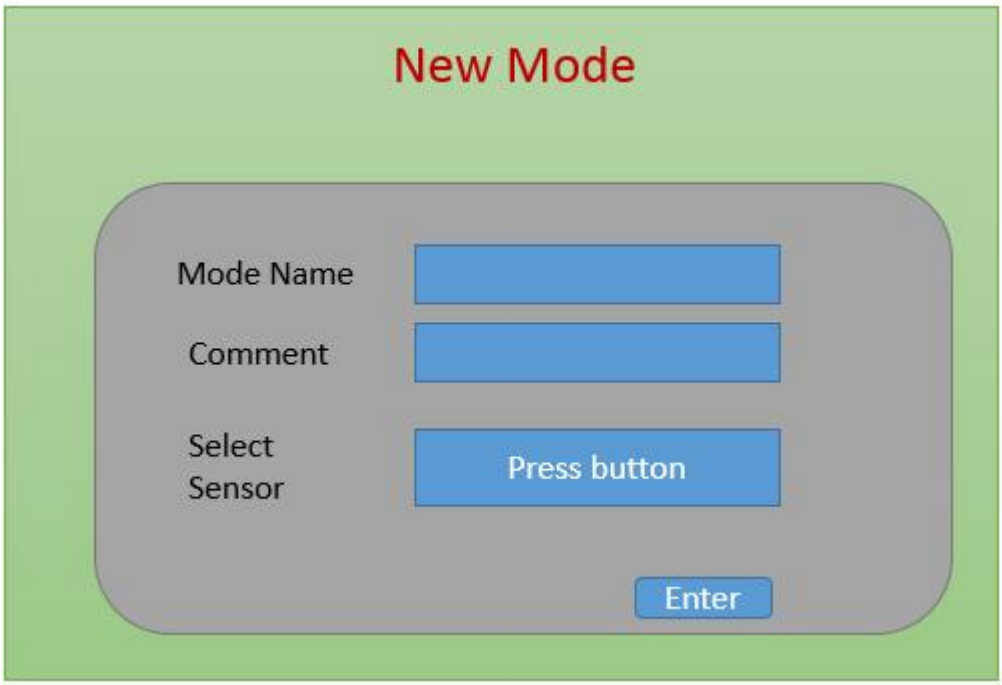
[UI23. View Home management]



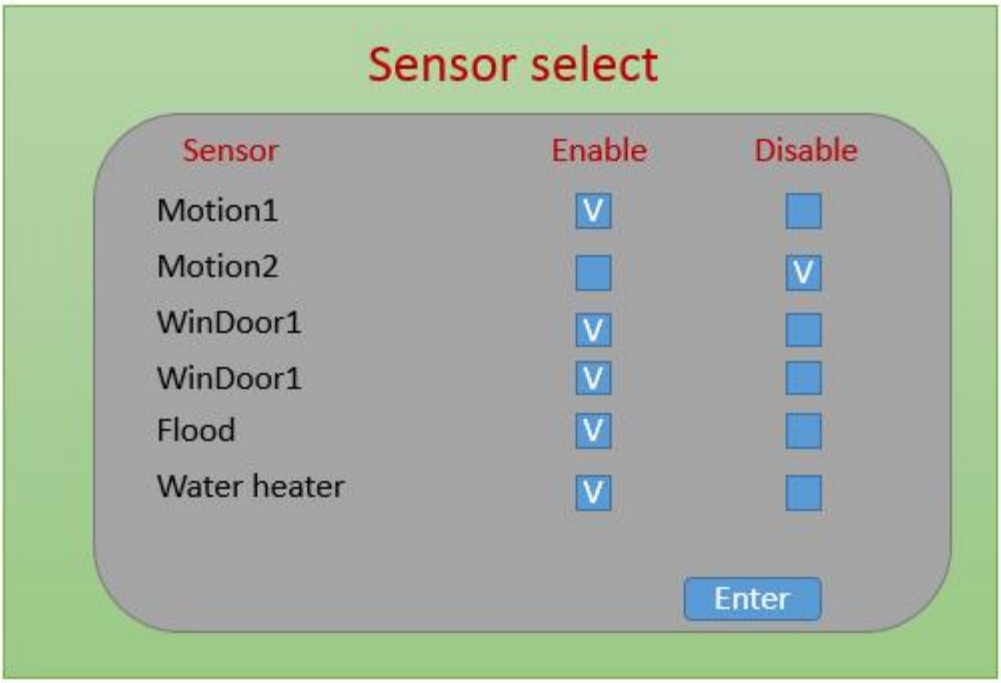
[UI24. Make mode]



[UI25. Deleting mode]



[UI26. Adding mode]

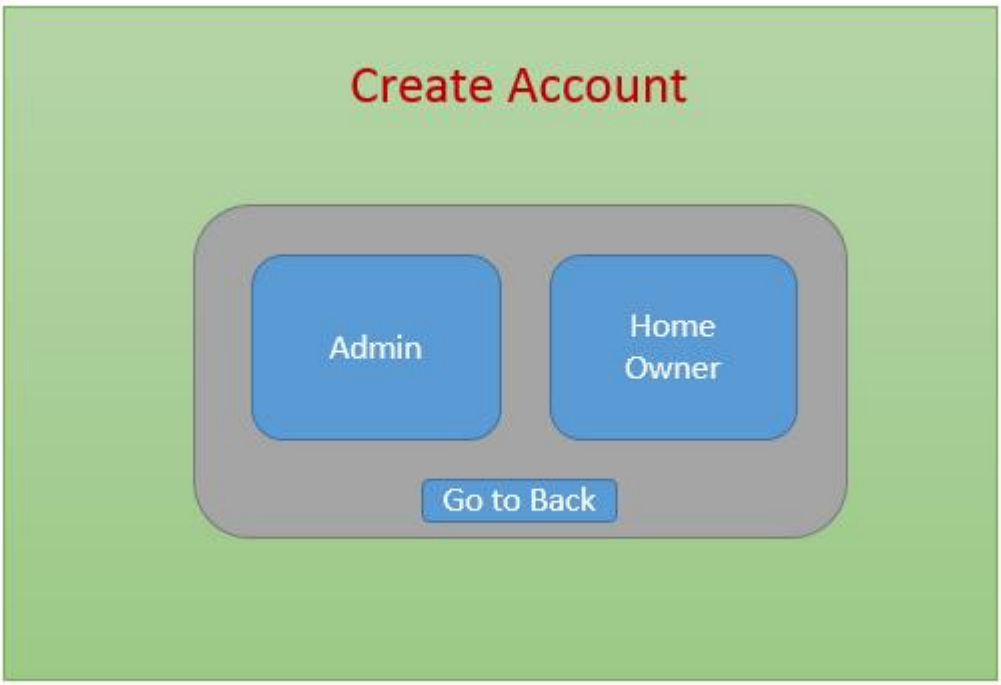


[UI27. Adding mode, sensor select]

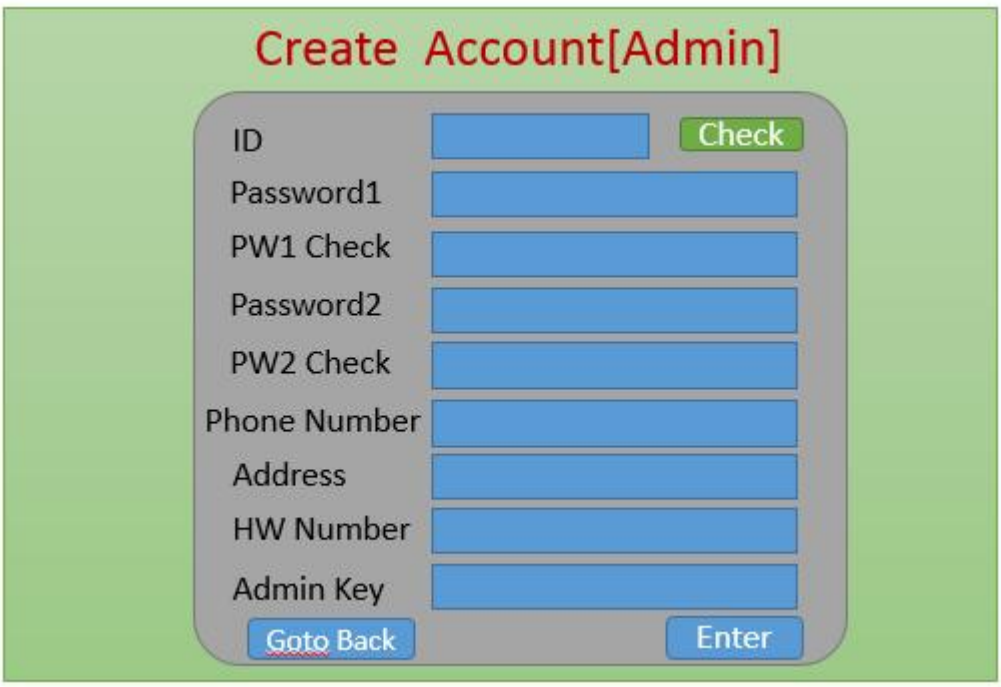
[UI28. Standing orders]

[UI29. Make new stand orders]

[UI30. Delete stand orders]

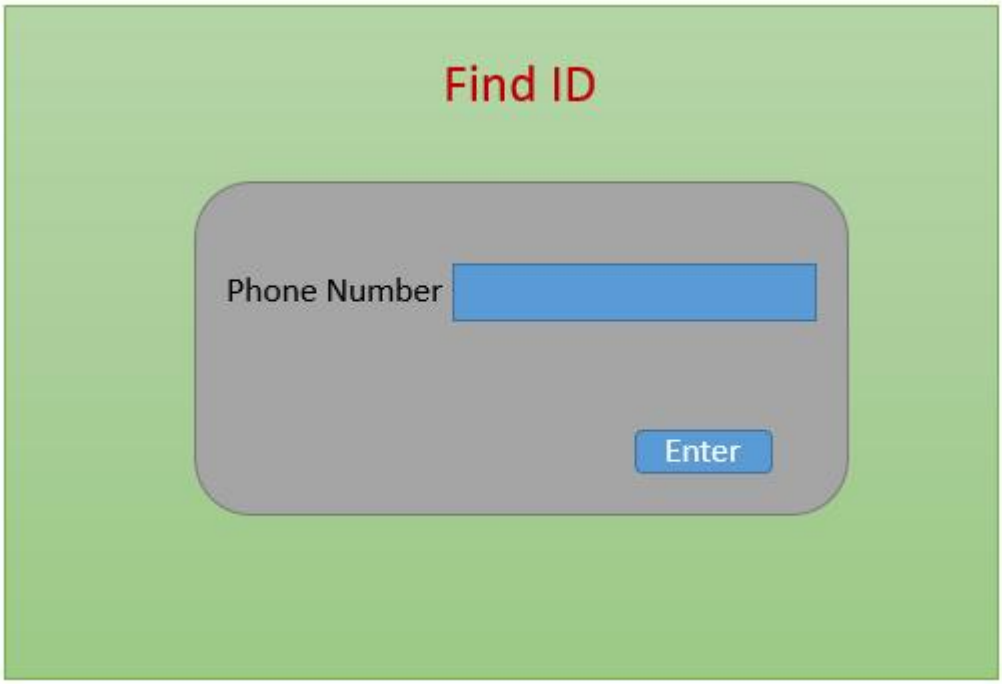


[UI31. Select Account Type]



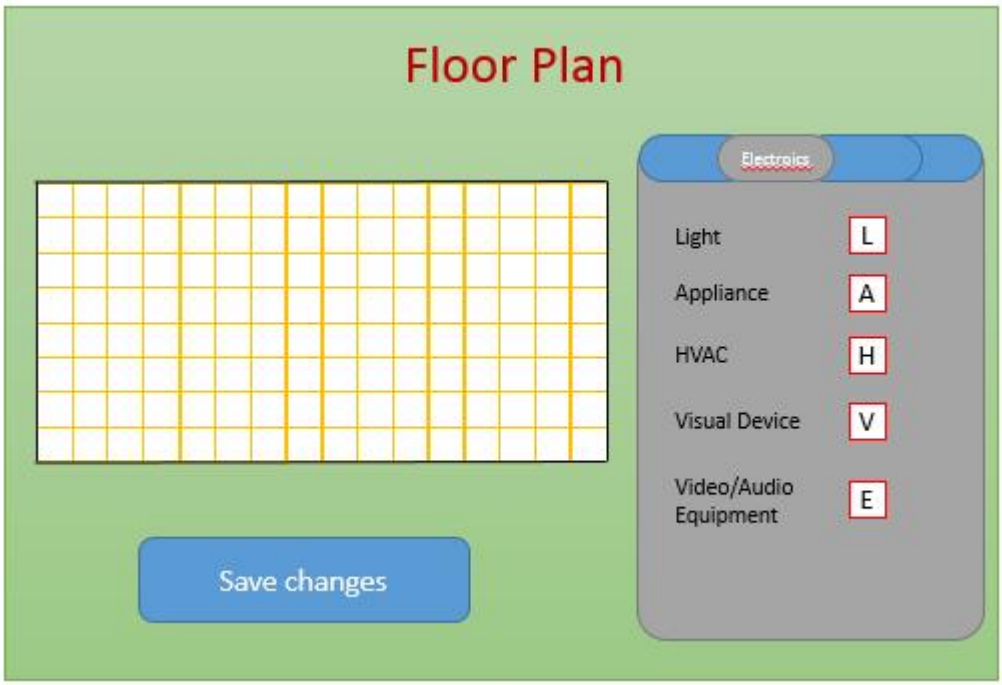
[UI32. Create Account(Admin)]

[UI33. Create Account(Home Owner)]



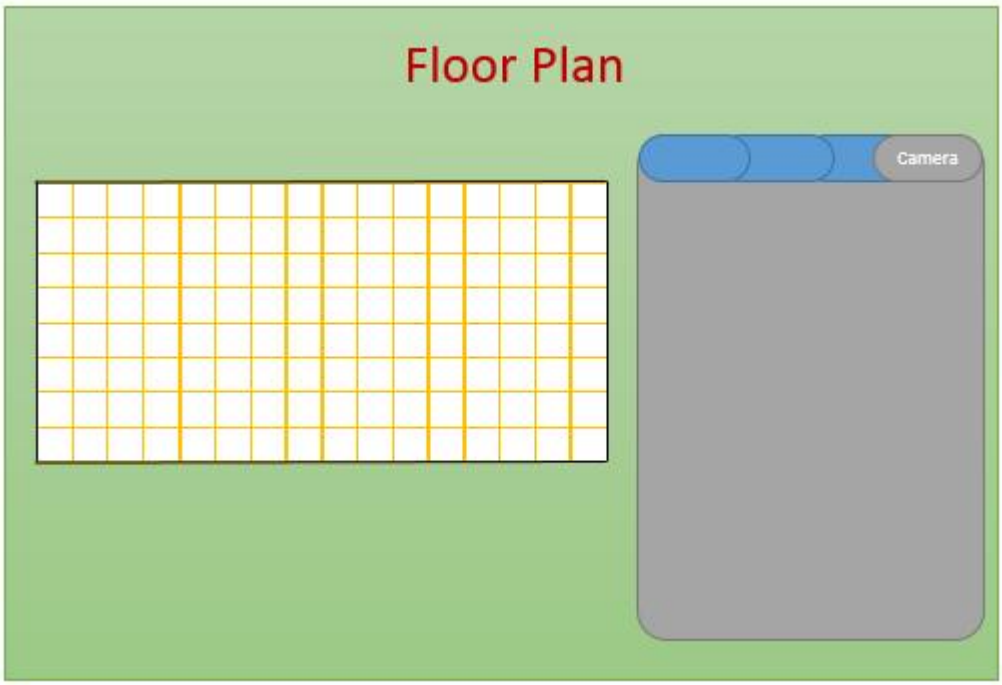
[UI34. Find ID]

[UI35. Find PW]



[UI36. Floor Plan-View Electornics(Home Owner)]

[UI37. Floor Plan-View Sensor(Home Owner)]



[UI38. Floor Plan-View Camera(Home Owner)]

[UI39. View Mode(Home Owner)]

[UI40. View Standing Orders(Home Owners)]

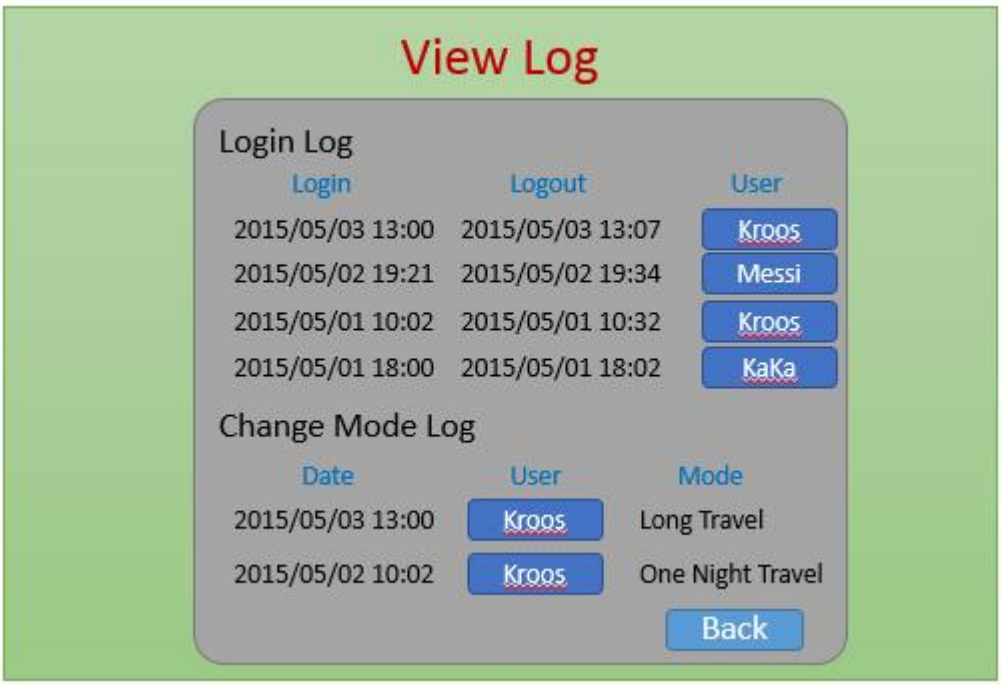
[UI41. Safehome Mainscreen(Admin)]

[UI42. Administration Menu]

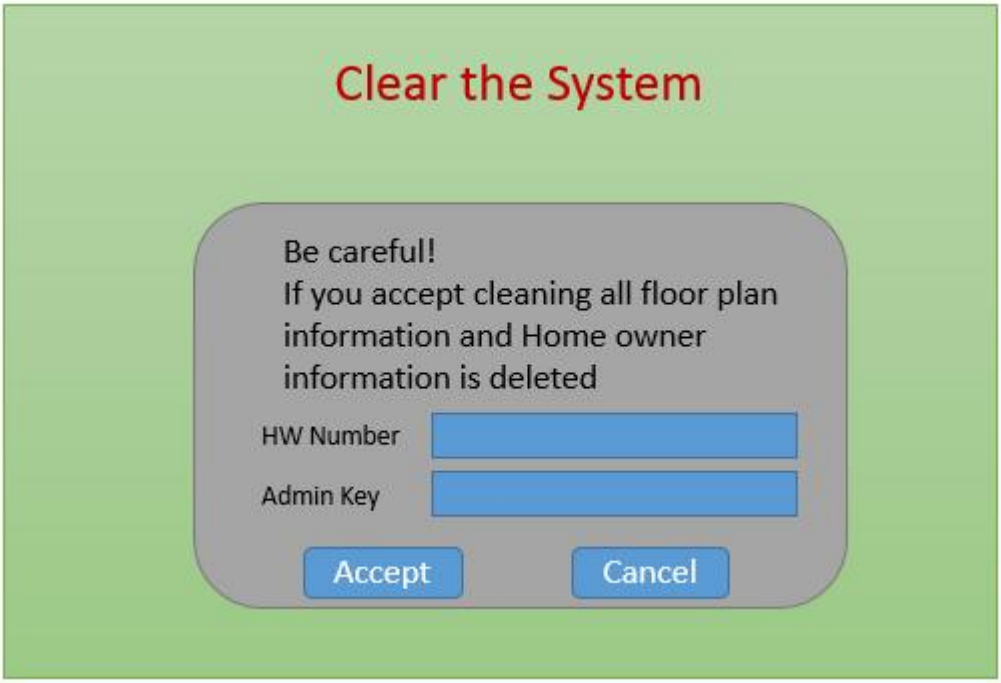
[UI43. Change Personal Information(Home Owner)]

[UI44.Change Personal Information(Admin)]

[UI45. Managing Home Owners]



[UI46. View Log]



[UI47. Clear the System]

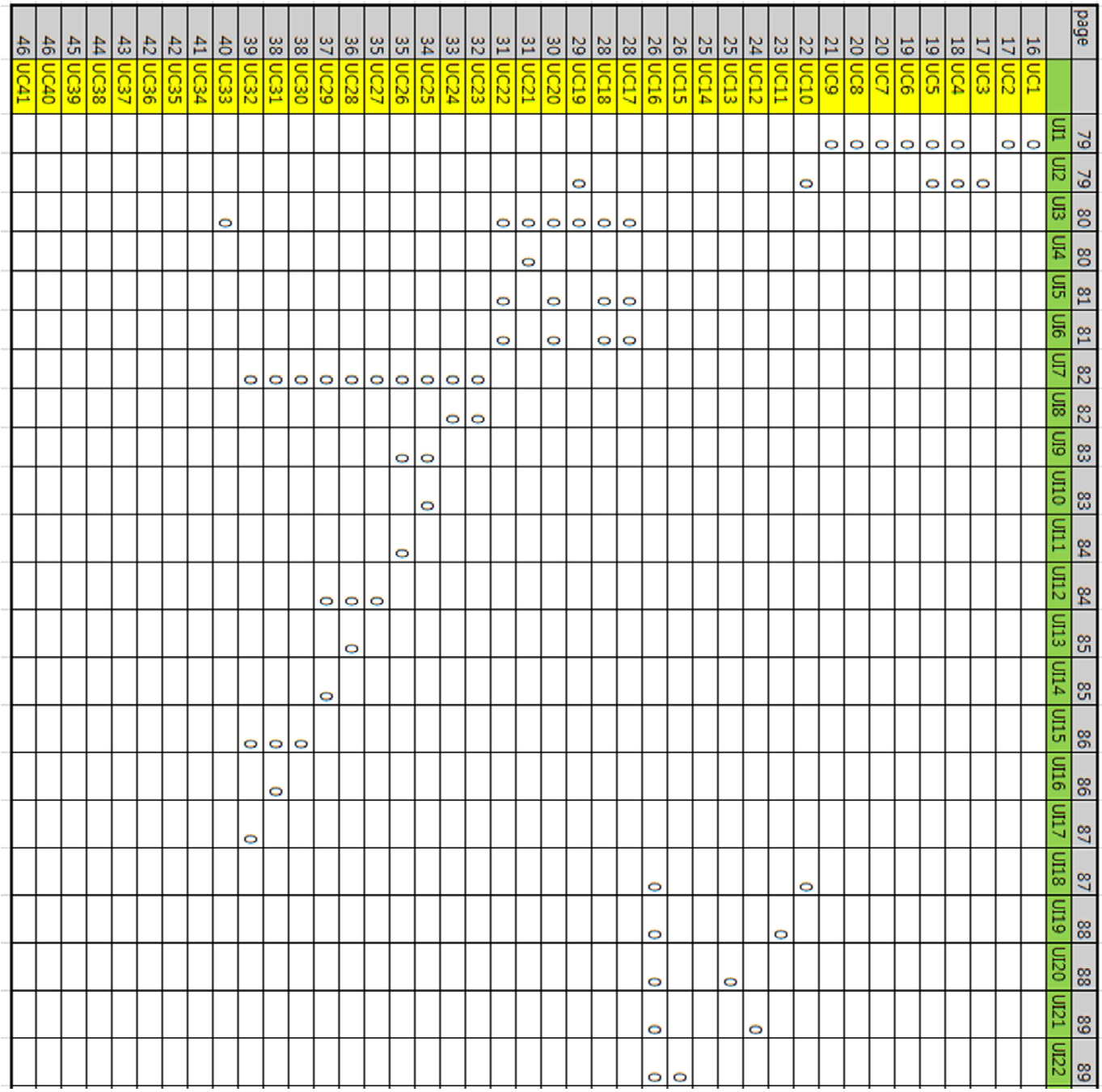
Appendix A. Glossary

- Camera: device that record the situation or send the view.
- Sensor: device that detect some condition by setting threshold.
- Thumbnail: small windows that show views from camera
- Priority: Order of job which should be made by programmer
- Homeowner: person of the master of the system. He is owner of house so He has all authority.
- Floor plan: make the house blueprint by using some Icon such as wall, sensor, camera etc. if this step is not completed, owner can't use safe-home.
- Trigger: It is situation that people want to use use-case.
- Monitoring Zone: It is area that owner want to monitor every time.
- Pan: move the camera position right or left
- Tilt: move the camera position up or down
- Standing order: pay the some money at regular intervals to company.
- Doggie angst sensor: It's for people who leave their pets home in apartments or condos or houses that are close to one another. alarm mode that calls the owner on his or her cell phone when some thing happens to their pet.

Appendix B. Word Index

- Blueprint : 13,23,24,25,26,27,28
- CO : 5,7,15,16,26
- Doggie angst sensor : 7,18,49
- Electronics : 5,24,27,30
- HAVC : 5
- LED : 5,11
- Monitoring Zone :7,49
- Pan : 7,9,19,49
- Record : 6,7,8,9,11,15,20,21,22,23,49
- Smoke : 6,7,16
- Standing Orders 31,32,33,47
- Surveillance : 5,7,9,11,19
- Threshold : 8,9,16,17,49
- Thumbnail : 21,49
- Tilt ; 9,19,49
- User interface : 9,11,34
- Water level : 7,17
- Web-server : 12
- Wi-fi : 5,8
- Zoom : 20

Appendix C. Link between feature



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Appendix D. Who did what list

- Lim Seunghwan :

(1) Discuss whole Use-Cases

(2) Make a whole UI prototype with PPT

(3) Make a whole Use-Case Diagram

(4) Feedback Use-case diagram Table

(5) Feedback Swimlane-Diagram

(6) Write SRS Section 1.1~2.1, 3.1, Appendix A,D,E

- So Kyungmin :

(1) Discuss whole Use-Cases

(2) Make a whole Use-case diagram Table

(3) Make a whole Swimlane-Diagram

(4) Feedback UI prototype and do comment

(5) Feedback Use-Case Diagram and do comment

(6) Write SRS Section 2.2~2.5, 3.2, Appendix B,C,F

Appendix E. Meeting record

DATE/TIME : 2015.04.11/ 6PM
Participants : Lim seunghwan, So kyungmin
Writer : Lim seunghwan
Location : N13 1103
Discussion :

1. Making google docs
2. Share with Professor and TAs

To-do :

1. Study exam

DATE/TIME : 2015.04.18 /10PM~ 2015.04.19/2AM
Participants : Lim seunghwan, So kyungmin
Writer : So kyungmin
Location : N13 1103
Discussion :

1. Read the Safe Home PPT 1~33 page.
2. Discuss about ppt to understand.
3. plan meeting time to do project.

To-do :

1. read ppt until 44page.
2. draw use-case diagram

DATE/TIME : 2015.04.23 /10PM~ 2015.04.24/12AM(midnight)
Participants : Lim seunghwan, So kyungmin
Writer : Lim seunghwan
Location : N13 1103
Discussion :

1. Read example of SRS in course homepage
2. Discussed what we do for project(TOC,glossary,index, link betwee feature,overview)
3. Make a plan of this week
   3.1 Friday : Find whole Use - case
   3.2 Saturday : Check Use-case and Write Use-case in template
   3.3 Sunday : Do other work for SRS(TOC,glossary,index, link between feature, overview)

To do:

1. Read whole ppt until 4.am

DATE/TIME : 2015.04.24 /4AM~ 2015.04.24/5AM
Participants : Lim seunghwan, So kyungmin
Writer : So kyungmin
Location : N13 1103
Discussion :

1. according to ppt, make use-case.
2. divide use-case part (home security function, home surveillance function, home management function, Communication management functions)
3. discuss about what we write down for use-case template.
   -use_case, primary actor, goal in contest, precondition, Trigger, scnerio, exceprion,
   priority

To do:

1. make use-case template for each part until 4/24 4PM (Lim seunghwam: home security function, So kyungmin: home surveillance).

DATE/TIME : 2015.04.24 /2PM~ 2015.04.24/3PM
Participants : Lim seunghwan, So kyungmin
Writer : Lim seunghwan
Location : Online(Emergency)
What did :

1. Lim seunghwan : make a UI(User Interface) of login and Sensor setting with powerpoint
2. So kyungmin : make a 2 user- scenario in surveillance function

Discussion :

1. Cancel meeting at 4pm
2. Change plan, make a prototype UI of Safahome first
3. Next meeting is dinner time, eating together and discuss more about Safehome

To do:

1. Lim seunghwan : make a UI(User Interface) of whole Safehome
2. So kyungmin : make whole user- scenario in surveillance function.

DATE/TIME : 2015.04.24 /7PM~ 2015.04.24/9PM
Participants : Lim seunghwan, So kyungmin
Writer : So kyungmin
Location : N13 1103
Discussion :

1. Check the UI(user Interface) and feedback.
2. Check the user-scenario in surveillance function and feedback.
3. discuss what we do(add more UI, use-case, plan etc).

To do:

- Lim seunghwan : make a UI(User Interface) of “login” and “create of account”
  make whole user - scenario in Control- panel.
- So kyungmin : make whole user- scenario in Home security function and home management function.

DATE/TIME : 2015.04.25 /4PM~ 2015.04.24/5PM
Participants : Lim seunghwan, So kyungmin
Writer : Lim seunghwan
Location : N13 1103
Discussion :

1. Check the complete UI(user Interface) and feedback.

2. Make a outline of SRS
3. Check the whole Use-case scenario and find missing case
   3.1 refresh sensor
   3.2 adding sensor in sensor setting
   3.3 removing sensor in sensor setting
   3.4 adding camera in camera view
   3.5 removing camera in camera view
   3.6 remove electronics in floor plan
   3.7 remove camera in floor plan
   3.8 remove sensor in floor plan

To do:

1. Lim seunghwan : make a User Senario of missing part
2. So kyungmin : Fill Overview of SRS

DATE/TIME : 2015.04.26 /1AM~ 2015.04.26/4AM
Participants : Lim seunghwan, So kyungmin
Writer : So kyungmin
Location : N13 1103
Discussion :

1. Discuss the UI
   - Some function is missed, so add the function.(“Save change” button in Camera)
2. Discuss what we do and divide the part

To do:

1. Lim seunghwan : 1.1Purpose, 1.2 Scope, 1.3 Definitions, acronyms, and abbreviations, 1.4 References, APPENDIX without Glossary
2. So kyungmin : Constraint, Assumptions and dependencies, User Characteristic,Glossary

DATE/TIME : 2015.04.26 /7PM~ 2015.04.26/11:50PM
Participants : Lim seunghwan, So kyungmin
Writer : So kyungmin
Location : N13 1103
Discussion :

1. Discuss What we did, divide “who did what list”
2. Combine everything and make SRS file.
3. Check SRS and submit SRS.

To do:

1. Think about Analysis model
   -How to draw Use-case diagram.
2. Study about UML(Use-case diagram, Swimlane diagram)
3. Think about what we missed in our first SRS

Team name : Team4
DATE/TIME : 2015.04.30 /10PM~ 2015.04.30/11:00PM

Participants : Lim seunghwan, So kyungmin
Writer : Lim Seunghwan
Location : N13 1103
Discussion :

1. Until 5/1 Fixing SRS
2. Time Scheduling

1. 5/1 : Fixing SRS
2. 5/2 : Meeting and Feedback Previous work + Divide SRS part
3. 5/3~5/5 : Make Use-case diagram and Swimlane diagram
4. 5/6 : Write with Analysis Model format

To do:

1. Read all related matrial with Safehome and find missing part in SRS

Team name : Team4
DATE/TIME : 2015.05.03 /5:00PM~ 2015.5.3/6:00PM
Participants : Lim seunghwan, So kyungmin
Writer : Lim Seunghwan
Location : N13 1103
Discussion :

1. Find missing part in SRS
   (1) control over telephone answering machine
   (2) can`t hack into the system
   (3) disarm/arm
   (4) rob the place or worce
   (5) if iwas away from home and i had to let someone into the house
   (6) I'd select the home security function. The system might request that I verify who I am, say by asking for my address or phone number or something.
   arm the system, disarm the system, disarm one or more sensors
   (7) storage place of recorded video
   (8) Also want to be able to block access to one or more cameras with a specific password

To do:

1. Seunghwan : make UI of finding password, Sign in and missing part
2. Kyungmin : Fill in the Use case table of missing part

Team name : Team4
DATE/TIME : 2015.05.04 /2:30PM~ 2015.05.04/5:00PM
Participants : Lim seunghwan, So kyungmin
Writer : So kyungmin
Location : W8 third floor.
Discussion :

1. Talk about Feedback about first SRS.
   - Modify the grammer.

2. Consider and determine the UI
   - Make administrator mode
   - For security, create account of administrator needs more information.
   - Add the address part in create account of homeowner.
3. Add assumption
   - service center must give the administrator code to customer.
   - To creating homeowner, administrator's accept is needed
   - Connection of internet is always perfect
   - Sensor is our product which is sold by our company
4. Add usecase
   - Improving change information part by adding some menu such as management og personal information, deleting account, administrator mode(management of homeowner, set clear the system)
   - Making sensor to send message of unanswered call to adminor homeowner
   - when someone is entered the home without permission, admin can lock the all door , window and call to police.
   - For security about hacking, when admin is logged, message is sent to admin's phone to alarm about login of admin account.
   - Some usecase in sample SRS overview, not in our SRS.
5. make hyperlink

To do:
1. Seunghwan : make UI of admin's part
   Qusetion of our open issue through noah
   If UI is finished, make usecase
   draw usecase and swimlane diagram
2. Kyungmin : Modify the usecase and make admin's usecase
   add usecase and assumption
   draw usecase and swimlane diagram

Team name : Team4
DATE/TIME : 2015.05.05 /10:30PM~ 2015.05.05/11:30PM
Participants : Lim seunghwan, So kyungmin
Writer : Lim Seunghwan
Location : N13 1103
Discussion :
1. Finished fixing assumption in SRS
2. Finshed Making UI
3. Finished Make Usecases
4. Finished Use-Case Diagram

To do:
1. Seunghwan : Draw swimlane diagram
   Write more detail about Control Panel
   Make Hyperlink
2. Kyungmin : Draw swimlane diagram
   Make Hyperlink

Team name : Team4
DATE/TIME : 2015.05.06 /8:30PM~ 2015.05.06/10:00PM
Participants : Lim seunghwan, So kyungmin
Writer : So kyungmin
Location : N13 1103
Discussion :

1. Feedback the Swimlane diagram.
2. Checking what we missed.
3. discuss What we do for presentation.

To do:

1. Prepare Presentation.
   - make ppt the thing which is done by self.
2. Find what we missed.
3. Study the Design model for next homework.