
Software Requirements Specification

for

Safe Home

Version 4.0 approved

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Revision History

| Name | Date | Reason For Changes | Version |
|--------------|----------|--------------------------|---------|
| Zeemal Urooj | March 18 | Use cases amendment | 1.0 |
| Zeemal Urooj | March 21 | Use cases and wireframes | 2.0 |
| Zeemal Urooj | March 22 | Swimlane and crc models | 3.0 |
| Zeemal Urooj | April 2 | Class diagrams | 4.0 |

1. Introduction

1.1 Purpose

This system requirement specification document is about the functional and non-functional requirements for the safe home project. This project is carried out by the team of five members as our software engineering course semester project. The purpose behind writing this document is to describe our team planning for this project and overall description of the safe home. Safe home software is expected to bring the new evolution the home safety and ease.

1.2 Document Conventions:

The use case diagrams are derived from a stimulus sequence each diagram is describing the one use case. Functional requirements are describing the use case scenarios for the project.

1.3 Intended Audience and Reading Suggestions:

This document is written to help the team of five members who are actually developing safe home project. Document will help the team in the development phase to understand what project is actually about. This document is also written to help the teacher to evaluate the project. Along, with this a user manual will be given to owners to understand the safe home project and how to use it.

1.4 SRS structure overview:

The document organization is as follows,

- The document is actually written in five sections.
- The first section is about the introduction of the project.

- The second section is about the overall description of the project.
- The third section is describing the system features
- The fourth section is about the user interfaces
- The fifth and last section is describing the non-functional requirements of the project.
- Section 3, 4 and five is describing the technical overview of the project.

1.5 References:

- IEEE recommended template for the SRS document.
- “Software Engineering: A Practitioner’s Approach (SEPA)” by R. S. Pressman, McGraw-Hill, 6th Edition.
- Case diagrams UML
- Product description picture from t4srs.
(PDFhttp://smarthome.cs.iastate.edu/documents/SRS/SRS_3.pdf).
- Link for section 4 pictures is given.

1.6 Terminologies:

| Term | Description |
|------|------------------------------------|
| SH | Safe Home |
| SRS | Software requirement specification |
| CP | Central processor |

1.7 Project scope:

The product will mainly focus on the home security and surveillance features,

➤ **Home security:**

Functions like break in detection, high water levels and fires etc.

➤ **Home surveillance:**

This category includes the functions like observing the inside and outside activities of the house.

➤ **Home management functions:**

This category includes the functions like management of the electronic devices of the houses.

➤ **Communication functions:**

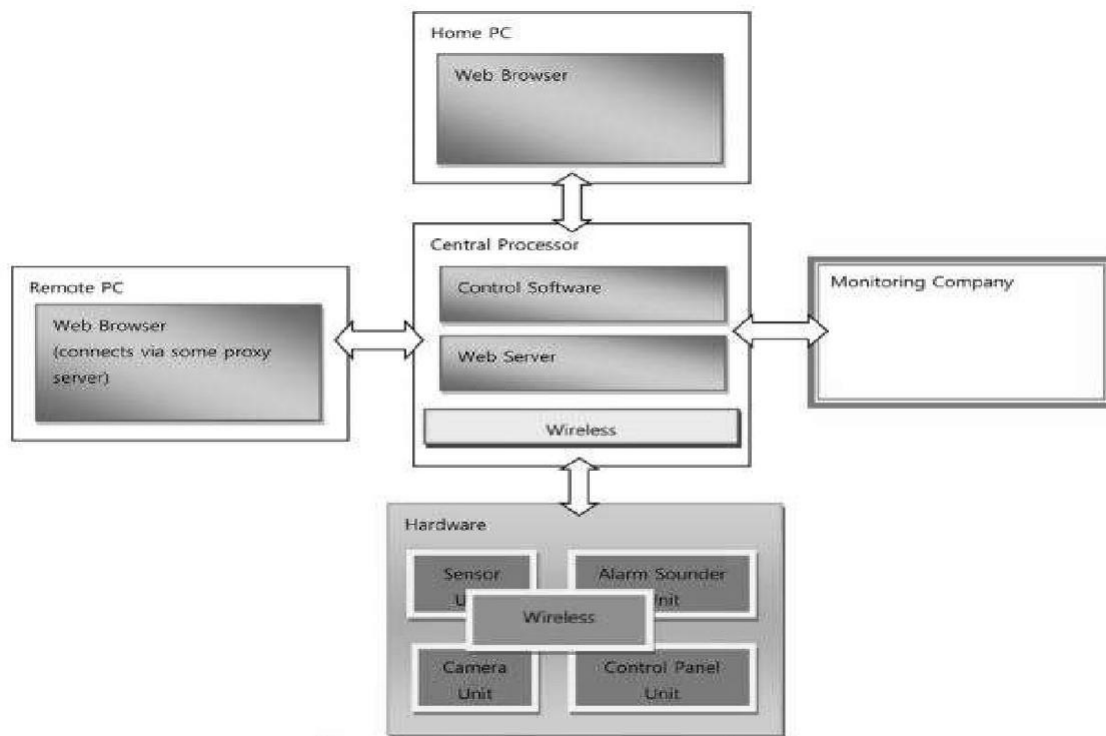
Functions like automatically receiving the calls will include in this category.

2 Overall Description

2.1 Product Perspective:

The product is about home safety. Safe home is innovation in the home technology. This product will be the first of its type and will bring the new ease to its user once developed. Safe home is composed of an innovative wireless box and a central processor. Every hardware devices in the houses are attached with wireless boxes. The central processor has the responsibility to perform all the system functions and web server to save the web related data and as well as web interface and control panel

interface. The software part of the safe home is the main goal of our team as we have to develop it.



Safe Home Product Description

2.2 Product Functions:

The safe home main features are focusing on home security and surveillance features. Home security features include the window, door, and sensors to detect any Unauthorized activity, monitoring for fire, smoke, and carbon dioxide excess, monitoring for water levels in the basement; and changings of all the settings through the internet. Surveillance features include the zooming of the cameras, recording of the videos, displaying the videos of cameras via internet, and connection of cameras with each other these are the main features of the safe home software.

2.3 User Classes and Characteristics:

Home Owner:

All the security related functions will be performed by the home owner because he has the control panel password.

Web User:

All of the system functions will be performed through web whether from home or from far he needs to login through an id and a password. Also a web user can play a role in configuration of the system.

Sensors and motion Detectors:

The sensors and motion detectors will alert the system alarms in case of any emergency. These devices use the system to support other functions as such they are not the physical users.

Monitoring personal:

The people who are monitoring the system will in case of any security incident they will have the responsibility to inform the home owner, police and respective company about the incident.

2.4 Operating Environment

The safe home system is actually the wireless box connected with different hardware e.g. sensors etc. through internet other than the operating system for the safe login mechanism. All devices of the system must have to communicate through a wireless protocol. The system will communicate with the safe home servers for a home owner's access to the control mechanism of the system. Home owner will have the remote access.

2.5 Hardware descriptions:

The general description about the basic hardware used in the system is given below,

- **Central Processor:**

The box which we are referring as the wireless will now be called as the central processor. The central processor will be connected to the home owner's pc and will be connected to the other hardware devices like sensors etc. and through internet connection it will be connected with the monitoring company. The central processor will need the 24 hours supply for the system to work properly.

- **Sensors and motion detectors:**

These sensors and motion detectors will detect the emergency situation or an incident in the house like fire alarm in case of smoke or fire.

- **Control Panels:**

These are the hardware devices each will have the keypad and a small display on which user will perform the basic operations of safe home system. User can also activate and de activates the basic functions of the safe home via control panel. More over all the commands sent through the control panel have the high priority over the commands sent from web.

- **Internet browser:**

To get access to the full functionality of the safe home user have to access through the web via its login id and password. The session will be timed out when there will be no action occurs within the five minutes.

2.6 Design and Implementation Constraints:

- **Space constraints:**

One must have to think about the size of the hardware once making because these sensors need to be hidden not be visible in the house so space will be matter.

- **User interfaces:**

The interface must be designed in such a way that it should be used by the person of all ages and interface must have the clear instructions of usage.

- **Language:**

The coding language must be good because it should be compatible to provide the proper interfaces for the system.

- **Security:**

The system must have to be secure so it is necessary to prevent it from any external hacking etc.

- **Memory:**

The developers must have to think about the memory as there will be huge memory required for the system of safe home as it has the video recording feature.

- **Internet:**

The system must have the uninterrupted supply of the internet for the smooth functioning.

- **Power:**

The system needs the 24 hours un disrupted power supply in case of electricity shortage a backup ups must provided to the system.

2.7 User Documentation:

- The user or home owner will be provided with the proper manual which has all the system guides.
- User manual will have the picture to picture guidance of all the features.
- User will be provided with complete setup guide.
- User will also be guided on how to activate and de-activates certain features.

2.8 Assumptions and Dependencies:

The system is dependent on many devices,

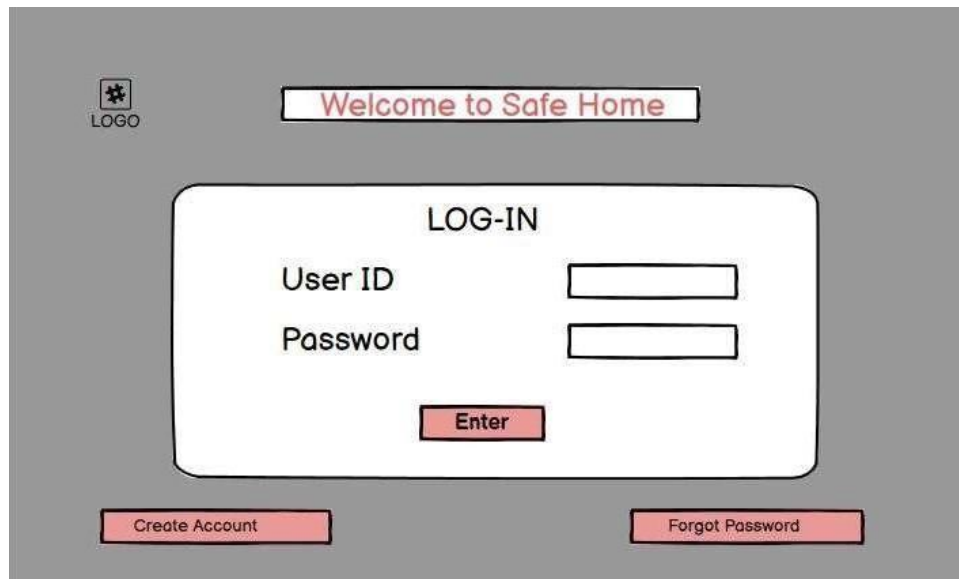
- The system must be updated through the internet in case of any require update or new feature installation.
- The boxes must be well-defined and ready to use.
- The sensors that performed the alarm operations must be turned on always.
- The system must be secure enough so it is prevented from the hacking.
- The house must have the backup for electricity in case of shortage.
- The memory must be enough to record video files and backup too.
- The cameras and sensors must be deployed at the reasonable places of the house.
- Internet must be provided 24 hours a day.
- The owner must be able to see the recording of the cameras.

3. External Interface Requirements

3.1 User Interfaces:

The safe home user can either use the software or hardware interface. The interface is very simple for users. They can use software interface via website. First they have to login a pop-up window will open and they have login with their provided credentials to access the control panel.





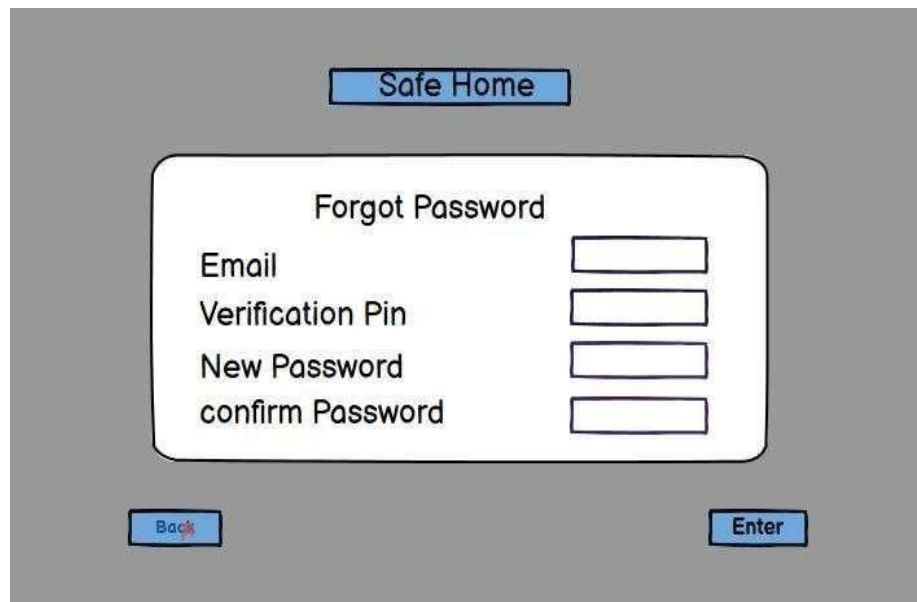
The login screen features a grey background. In the top left corner is a gear icon labeled 'LOGO'. At the top center is a white box with the text 'Welcome to Safe Home'. Below this is a white rounded rectangle titled 'LOG-IN'. Inside the 'LOG-IN' box are two input fields: 'User ID' and 'Password', each followed by a text box. Below these fields is a red 'Enter' button. At the bottom of the screen are two red buttons: 'Create Account' on the left and 'Forgot Password' on the right.

If the password is correct the user will connect to safe home. Otherwise the system has to reset itself to get input again and user will be able to create account and update password.



The create account screen features a grey background. At the top center is a white box with the text 'Welcome to Safe Home'. Below this is a white rounded rectangle titled 'Create Account'. Inside the 'Create Account' box are four input fields: 'Name', 'Email', 'Password', and 'confirm Password', each followed by a text box. Below these fields are two red buttons: 'Back' on the left and 'Enter' on the right.

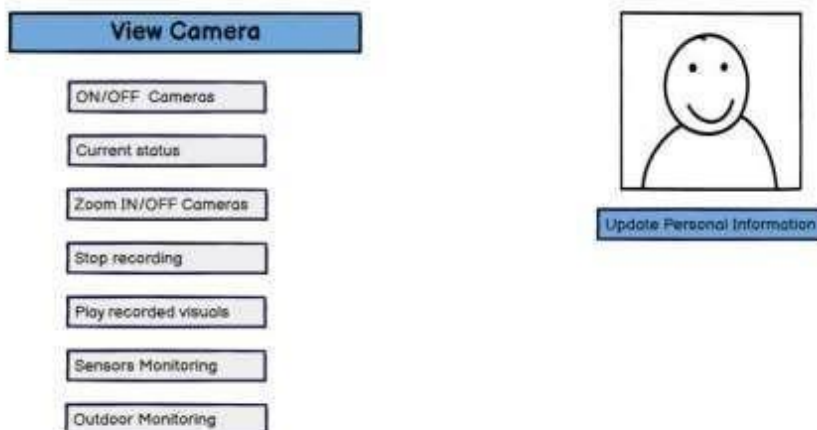
From the login screen you can create the new account for safe home.



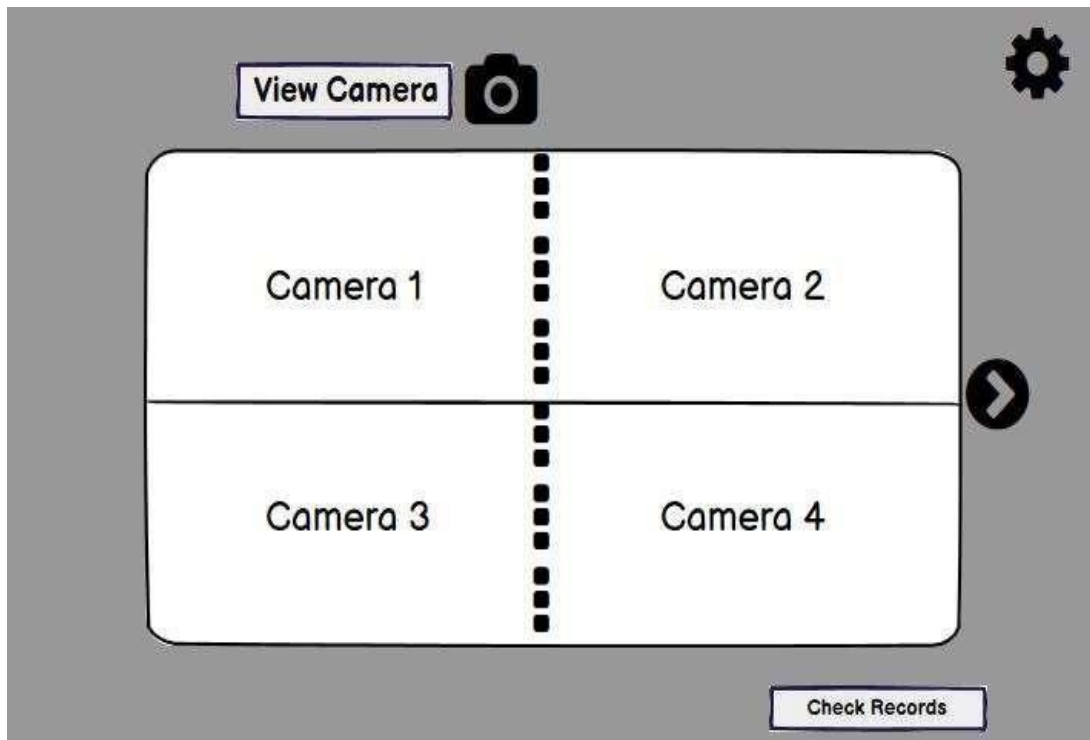
The image shows a 'Safe Home' application interface. At the top, there is a blue button labeled 'Safe Home'. Below it, a white rounded rectangle contains the text 'Forgot Password'. Underneath this, there are four input fields with labels: 'Email', 'Verification Pin', 'New Password', and 'confirm Password'. At the bottom of the white rectangle, there are two blue buttons: 'Back' on the left and 'Enter' on the right.

If the password is correct the user will connect to safe home and after successful login user will be shifted to the main screen of the safehome where he will be able to perform various functions. If user wants to check for camera, he will go to view tab, select the camera and the window will pop-up containing the video of camera. The controller of the camera zoom and pan is also available.

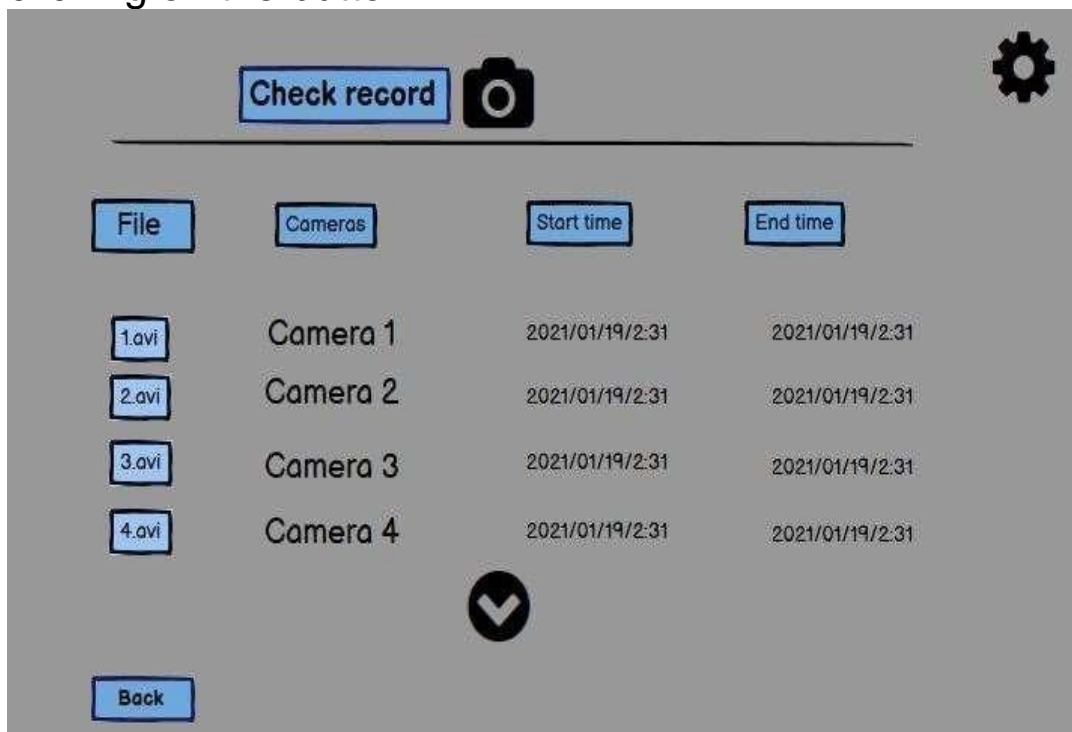
(Username)'s SAFE HOME



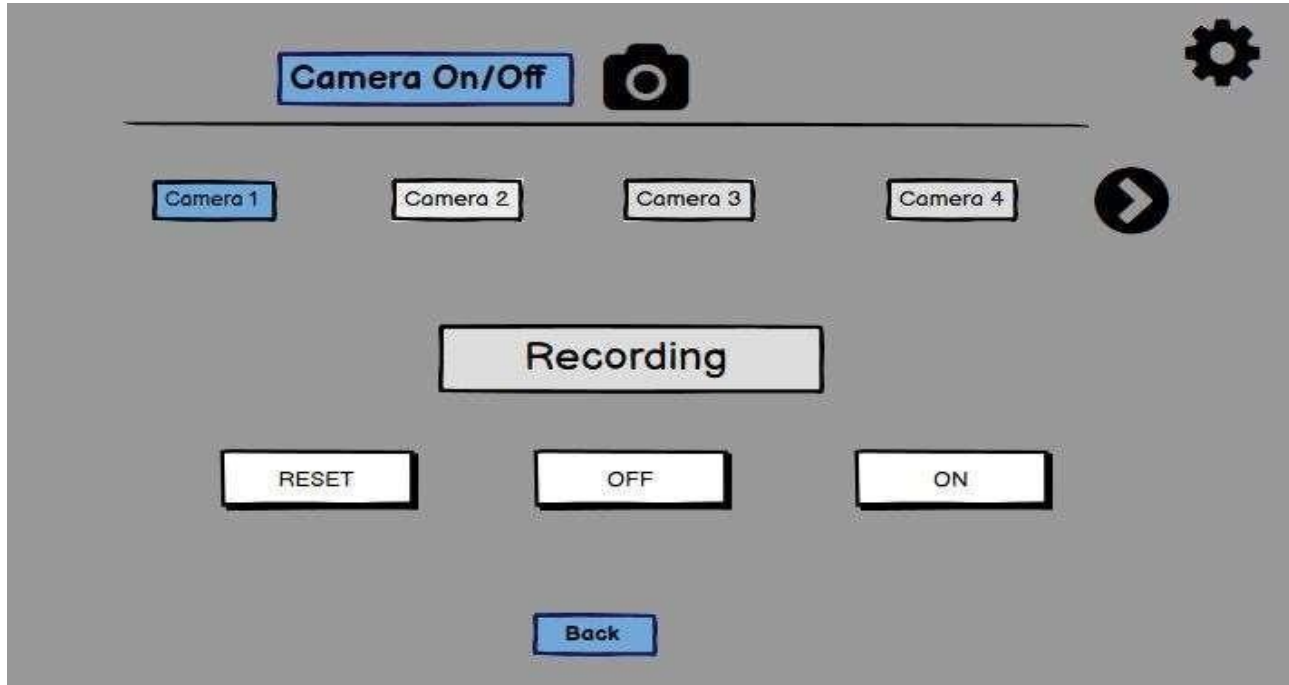
The image shows the main screen of the 'SAFE HOME' application for a user. On the left, there is a blue button labeled 'View Camera'. Below it, there is a vertical list of buttons: 'ON/OFF Cameras', 'Current status', 'Zoom IN/OFF Cameras', 'Stop recording', 'Play recorded visuals', 'Sensors Monitoring', and 'Outdoor Monitoring'. On the right, there is a square icon of a person's head and shoulders. Below this icon is a blue button labeled 'Update Personal Information'.



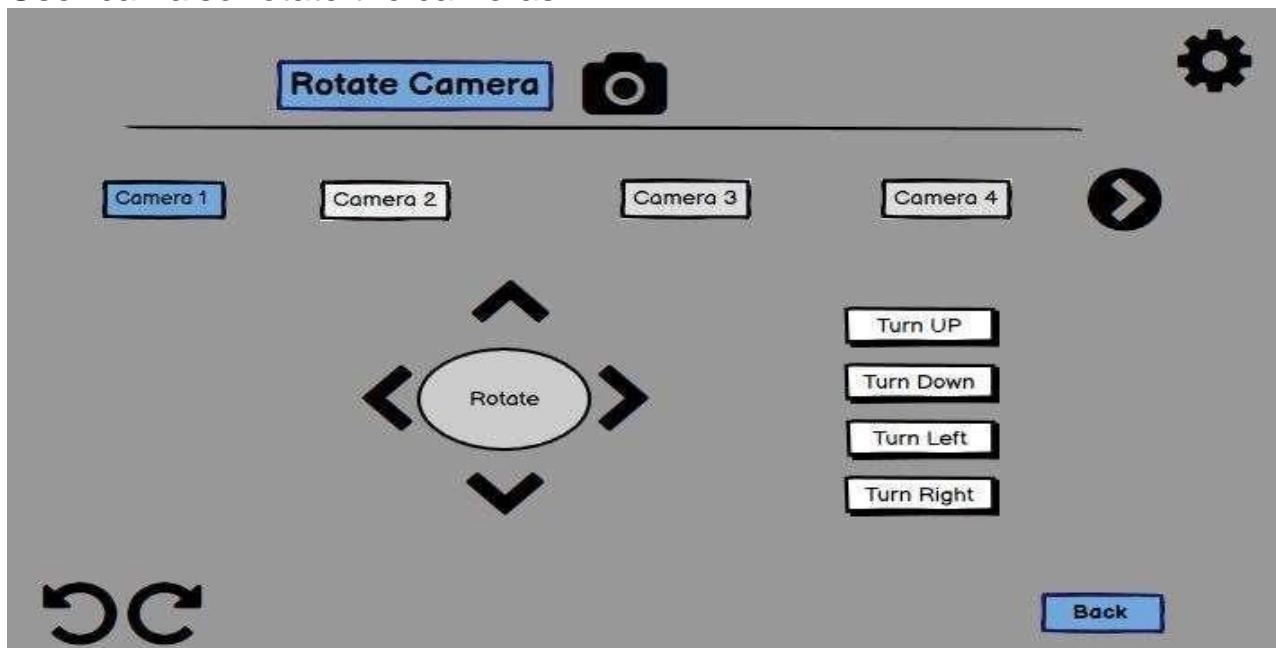
From the view camera the user will be able to check records by clicking on the button.



The user can also arm & disarm several sensors through web interface. The red sensor is set to arm and other are disarm. The user can also turn on / turn off camera by toggle.



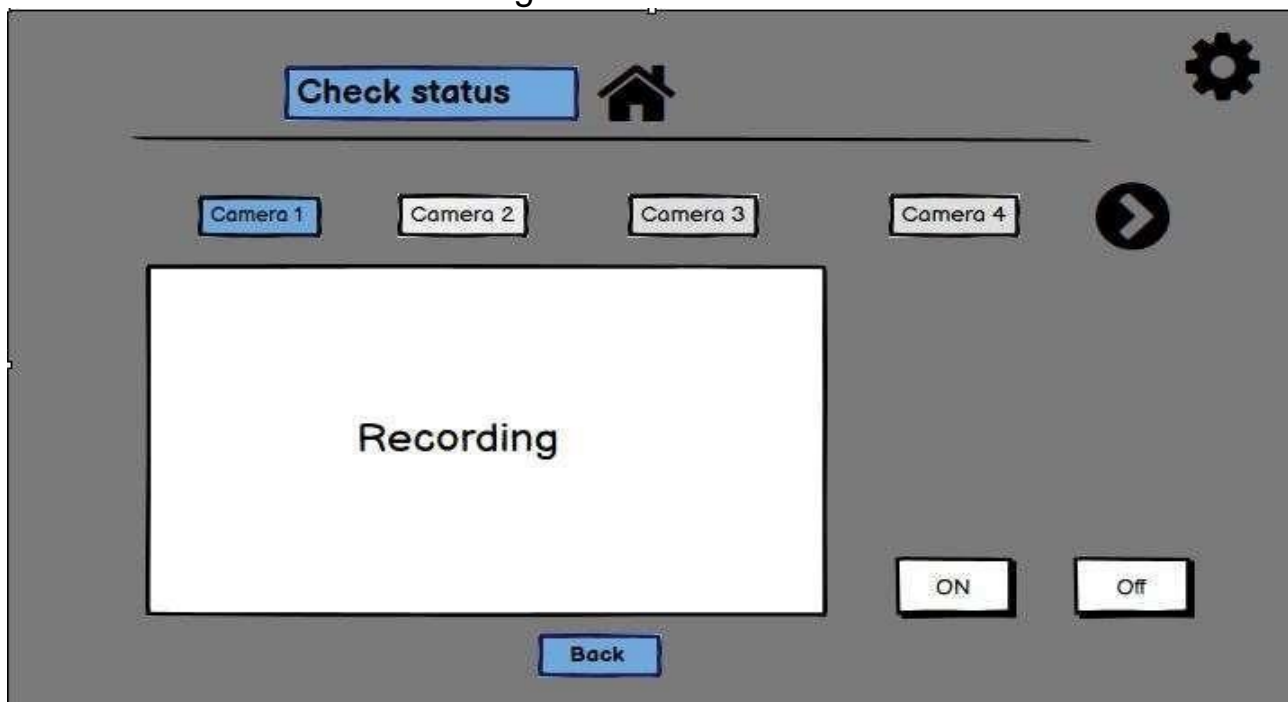
User can also rotate the cameras.



Safe home user will also be able to add zoom in and out the cameras recording.



User will also be able to check the current status of the house and the wireframe for this user case is given below.



User can also select and deselect some sensors to configure security zone

In case of an emergency the home owner will be able to contact the emergency services for further help.

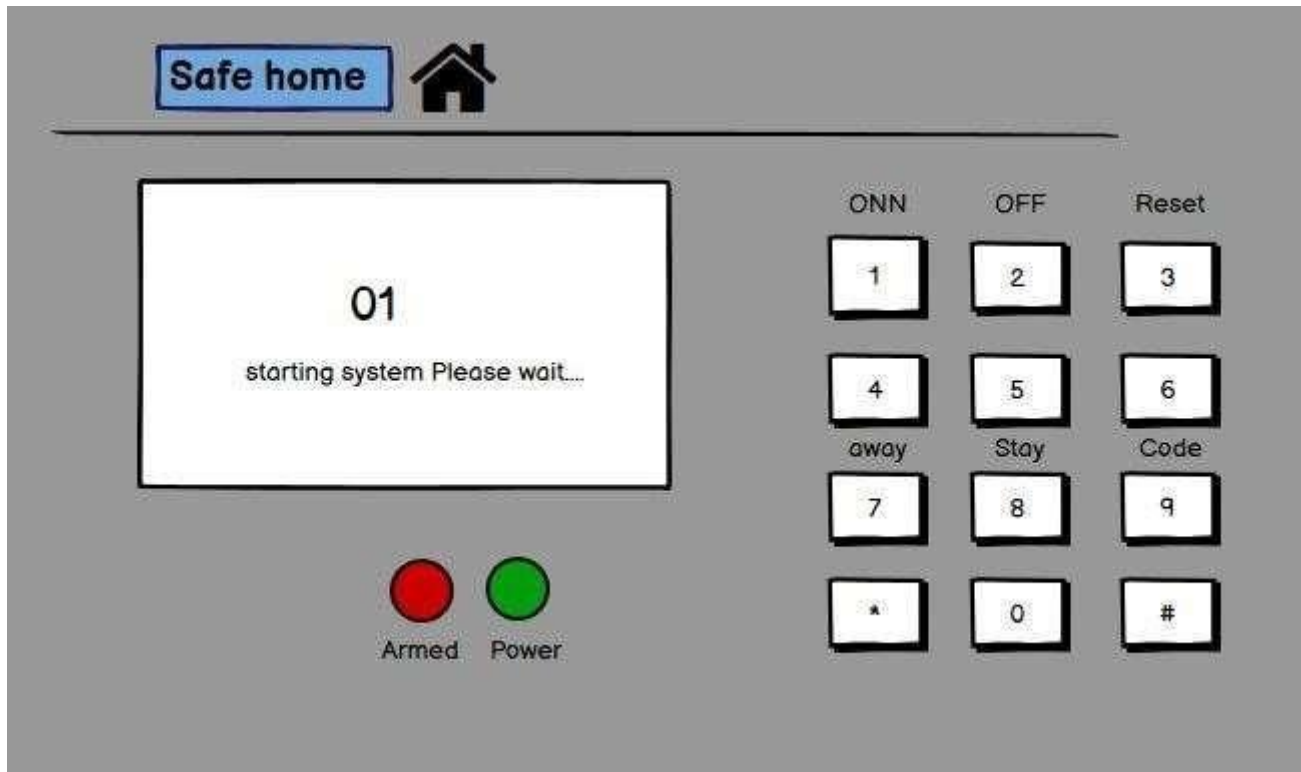


3.2 Hardware Interfaces

The hardware interface of the Safe home system is using a small LCD to display the information of safe home on screen. It also included a keypad which uses to control the safe home system. It also represents the state of system like arm and power.

The safe home owners observes the LCD if it is ready or not for the input. If the LCD is not ready for the input the user has to manually close the windows and doors. The keypad is used to enter the password and then compare to the stored password to check the validity. The home safe user can select arm and power to activate and deactivate the Home safe system.

The control panel of the safehome will look like this,



3.3 Communication Interfaces:

The system uses a WIFI or GPRS connection to connect to the database. The code itself though, does not specify direct the network to do any work. The safe home system shall use the HTTP protocol for communication over the internet or TCP/IP and to communicate with sensors and central processors it uses 802.11b.

3.4 Software Interfaces:

The software system should be able to communicate with the configurator to identify the available sensors and cameras. The software shall communicate with the hardware interface and able to accept the changes. The software of the system must be able to detect any ambiguity in the system. The software interface should be independent of the platform, so that it can smoothly on any operating system. It should run smoothly on any web browser.

3.5 Languages and Tools:

We suggested following languages and tools to be used in the development phase,

Objective C:

The Objective-C language is a simple computer language designed to enable sophisticated object-oriented programming. Objective-C is defined as a small but powerful set of extensions to the standard ANSI C language. Its additions to C are mostly based on Smalltalk, one of the first object-oriented programming languages. Objective-C is designed to give C full object-oriented programming capabilities, and to do so in a simple and straightforward way.

SQL server (2005/2008):

SQL server 2005 released in October 2005, in the successor to SQL server 2000. It includes the native support of managing the XML data, In addition to relational data. Specialized indexing methods were made available for XML data. XML data is queried using XQuery; common language Runtime (CLR) integration was a main feature with this edition.

Microsoft Visual Studio:

Microsoft Visual Studio is an IDE, it is used to develop console and graphical user interface applications along with Windows Forms applications, web sites, web applications with managed code for all platforms supported by Microsoft .Net framework and Microsoft Silverlight. Window (min 1 GB Ram): Internet access Home group requires a network and PC's running Windows.

4. System Features:

4.1 Secure the House

4.1.1 Description:

In secure home, all the controls are handled by the owner, owner must be able to switch on and switch off systems by verifying himself. If there is any mishap in house or any accident, the system should start alarm and send the current situation to the company owning whole control system. If there is any emergency in the house life there is any issue with the owner regarding his health, the sensors must detect and call the ambulance.

All the use cases are given below:

1.

Use case: Emergency Contact

Primary actor: Owner

Goal in context: To contact in case of emergency.

Preconditions: System has been programmed for a password and to recognize various sensors.

Trigger: Alarm beeps in case of an emergency.

Scenario: There is some sort of undesirable “situation” such as illegal entry, fire, flooding, carbon monoxide levels, or others.

Exceptions: System is not armed.

Priority: Essential, must be implemented

Frequency of use: Seldom

Secondary actors: monitoring Company

Channels to secondary actors: Cellphone

2.

Use case: Switch ON and OFF

Primary actor: Owner

Goal in context: To switch camera on or off.

Preconditions: System has been programmed for a password and to recognize various sensors.

Trigger: Switches cameras on or off.

Scenario: When owner wants to have some privacy.

Exceptions: System is not armed.

Priority: Essential, must be implemented

Frequency of use: Seldom

Secondary actors: System

3.

Use case: Check Status.

Primary actor: Owner

Goal in context: To check current condition of house

Preconditions: System has been programmed for a password and to recognize various sensors.

Trigger: Current situation of cameras is displayed through UI.

Scenario: When owner wants to check status of cameras.

Exceptions: System is not armed.

Priority: Essential, must be implemented

Frequency of use: Seldom

Secondary actors: System

4.

Use case: Windows motion monitoring.

Primary actor: Owner

Goal in context: To see a person coming from windows (restricted root).

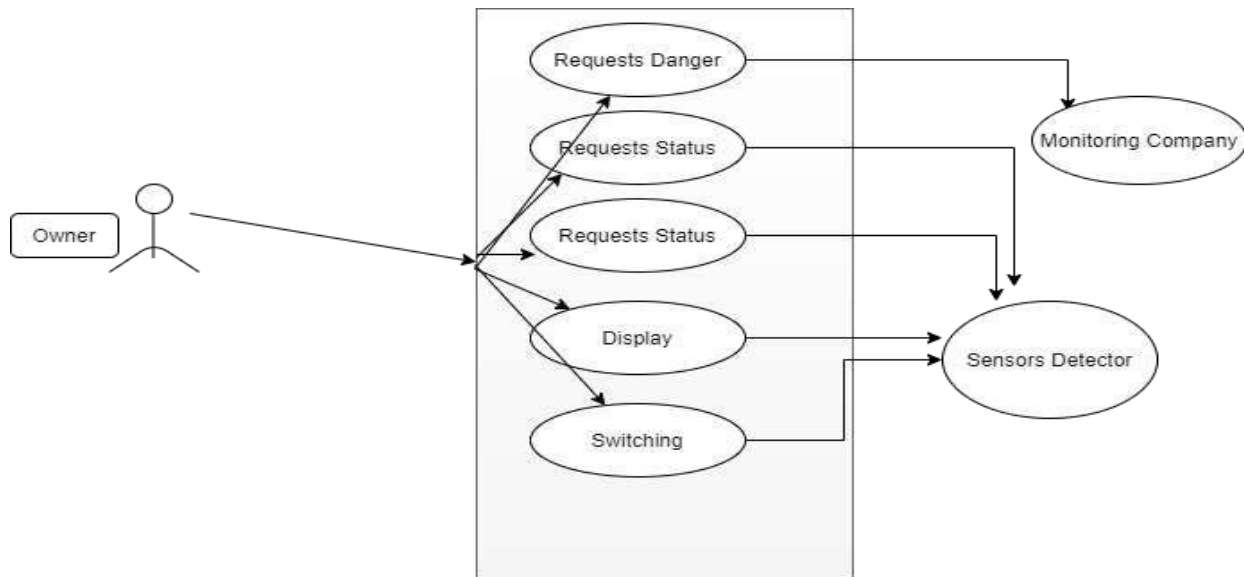
Preconditions: System has been programmed to check whether a human being is entering through door or window.

Trigger: Alarm sounds till the 4 digit password is entered by the owner.

Scenario: When owner wants to restrict the incoming route only door.

Exceptions: System is not armed.

Priority: Essential, must be implemented



Use case diagram:

Functional Requirements

Following are functional requirements:

Secure operation interface: The interface can be performed by control panel. But it must have both UI Control Panel and remote control support.

Secure operation display: The system should display current condition of house through display screen on control panel.

Secure check: The system should monitor the condition of house whenever any sensor is switching off and on.

Secure Password: The user must login to system through a 5 digit password. All digits can be number or either alphabets or combination of both for better security.

Secure error: if there is any sensor failure in the system then check for errors again and again until error is resolved or send report to monitoring company.

Secure mode: There must be two modes of security. When the owner is out of house the system is increases security and enables all the sensors and cameras of private rooms, and another mode when owner is in the house and private room sensors and cameras are switched off.

Secure mode password: The system ask for password for any change in mode by the owner.

Secure id save: The system should allow owner to save his user name and password.

Secure panic: The system allows the owner to report the danger in case he or she is panic due to any mishap.

Secure alarm: The system should alarm in case of any danger in house.

Secure alarm status: The status of alarm is displayed in control panel means the position and reason of alarm should be monitored by the owner.

Secure alarm off: The alarm must be switched off in case the owner solves the issue and requires the password to be switched off.

Secure Remote Control: The system should switch to remote control from ui control panel and allow owner to operate through remote control.

4.2 Observe the House:

4.2.1 Description:

The owner of home is able to observe the house. As his identity is verified so he can see what is happening inside and outside of house through cameras. All this must be visually displayed in UI display. Owner is also able to store the recordings which he can see any time he want.

All the use cases are given below:

1.

Use case: See the Visuals

Primary actor: Owner

Goal in context: See visual display of home through a UI.

Preconditions: System has been programmed for a password and to recognize various sensors.

Trigger: Shows visuals on screen.

Scenario: When owner wants to see his house in order to make sure safety.

Exceptions: System is not armed.

Priority: Essential, must be implemented

Frequency of use: Seldom

Secondary actors: Cameras

2.

Use case: Zoom In or Out.

Primary actor: Owner

Goal in context: To see the visuals in depth.

Preconditions: System has been programmed for a password and to recognize various sensors.

Trigger: when zoom in query runs the zoomed visual of home is displayed through UI.

Scenario: When owner wants to see the house clearly in case of any mishap or in case of something stolen.

Exceptions: System is not armed.

Priority: Essential, must be implemented

Frequency of use: Seldom
Secondary actors: Cameras

3.

Use case: Rotation of Camera.

Primary actor: Owner

Goal in context: To check house from different angles

Preconditions: System has been programmed for a password and to recognize various sensors.

Trigger: Visuals of sides which are focused by rotation are displayed through UI.

Scenario: When owner wants to see home from different angles.

Exceptions: System is not armed.

Priority: Essential, must be implemented

Frequency of use: Seldom

Secondary actors: Cameras

4.

Use case: Record The Visual.

Primary actor: Owner

Goal in context: To record the visuals to be played in future.

Preconditions: System has been programmed for a password and to recognize various sensors.

Trigger: Current visuals of cameras are recorded in web server.

Scenario: When owner wants to save current visuals of home.

Exceptions: System is not armed.

Priority: Essential, must be implemented

Frequency of use: Seldom

Secondary actors: Web server

5.

Use case: Play Recorded Visual.

Primary actor: Owner

Goal in context: To see the visuals which are recorded

Preconditions: System has been programmed for a password and to recognize various sensors.

Trigger: Displays visuals on screen which are recorded.

Scenario: When owner wants to see the saved visuals of home.

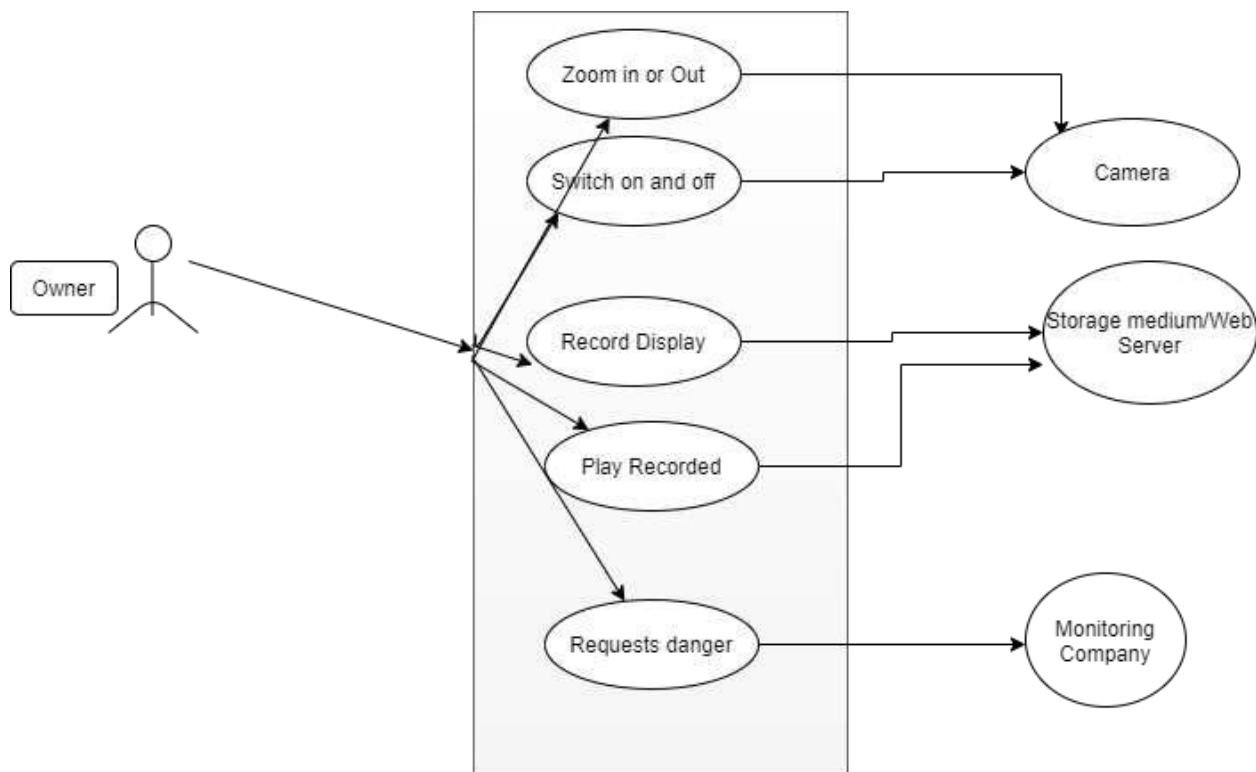
Exceptions: System is not armed.

Priority: Essential, must be implemented

Frequency of use: Seldom

Secondary actors: Web server

✚ Use case diagram:



Functional Requirements:

Following are the functional requirements of observe the house feature.

Observe Camera: The system should all the cameras whether they are connected to panel or not.

Observe Camera Status: The system should check that all cameras are on before user is going to use this feature.

Observe Password: The system must verify the identity of owner before logging in to this feature.

Observe Limit: The system should limit the users; there must be only one person who is using this feature at a time. This will help to prevent the overlap of queries.

Observe Order: The system should check which query is to be run done first. Means if owner is giving more than one query to the system the system should maintain the order of queries.

Observe Display: The system should give visual display of observed by camera and displayed on UI.

Observe Accident: The system should allow the owner to report the problem in case of any emergency viewed through camera.

Observe Encryption: While reporting the problem the data must be highly encrypted so that no one can decode it that is connected to the network.

Observe Wide Display: The system must give a wide picture of home when owner gives query to rotate the camera.

Observe Record: The system should record the video when owner wants to record the visual at any storage medium.

Observe Play: The system after recording visual must be able to view the playback visual which are present on the storage medium.

4.3 Configuring the system:

4.3.1 Descriptions:

After verifying owner's identity now owner is the one who can configure the system according to his desire. He can now change the security plan and passwords etc. He is now able to change the feature and timing of cameras and can modify the recording time. These activities can be done through UI.

The use cases of this feature are as follows:

1.

Use case: Change Password.

Primary actor: Owner

Goal in context: To change the password on system login.

Preconditions: System has been programmed for a password and to recognize various sensors.

Trigger: Verifies the owner identity and changes the entered new password.

Scenario: When password is leaked with someone else or any other security issue.

Exceptions: System is not armed.

Priority: Essential, must be implemented

Frequency of use: Seldom

Secondary actors: System

2

Use case: Change Recording Plans.

Primary actor: Owner

Goal in context: To change the recording timings of camera.

Preconditions: System has been programmed for a password and to recognize various sensors.

Trigger: Verifies the owner identity and implement new plan of recording.

Scenario: The owner wants to record the visual of a specific time.

Exceptions: System is not armed.

Priority: Essential, must be implemented

Frequency of use: Seldom

Secondary actors: System

3

Use case: Changes Security Area.

Primary actor: Owner

Goal in context: To make the sensors and cameras of assigned area on all the time.

Preconditions: System has been programmed for a password and to recognize various sensors.

Trigger: Verifies the owner identity and changes the security plan accordingly.

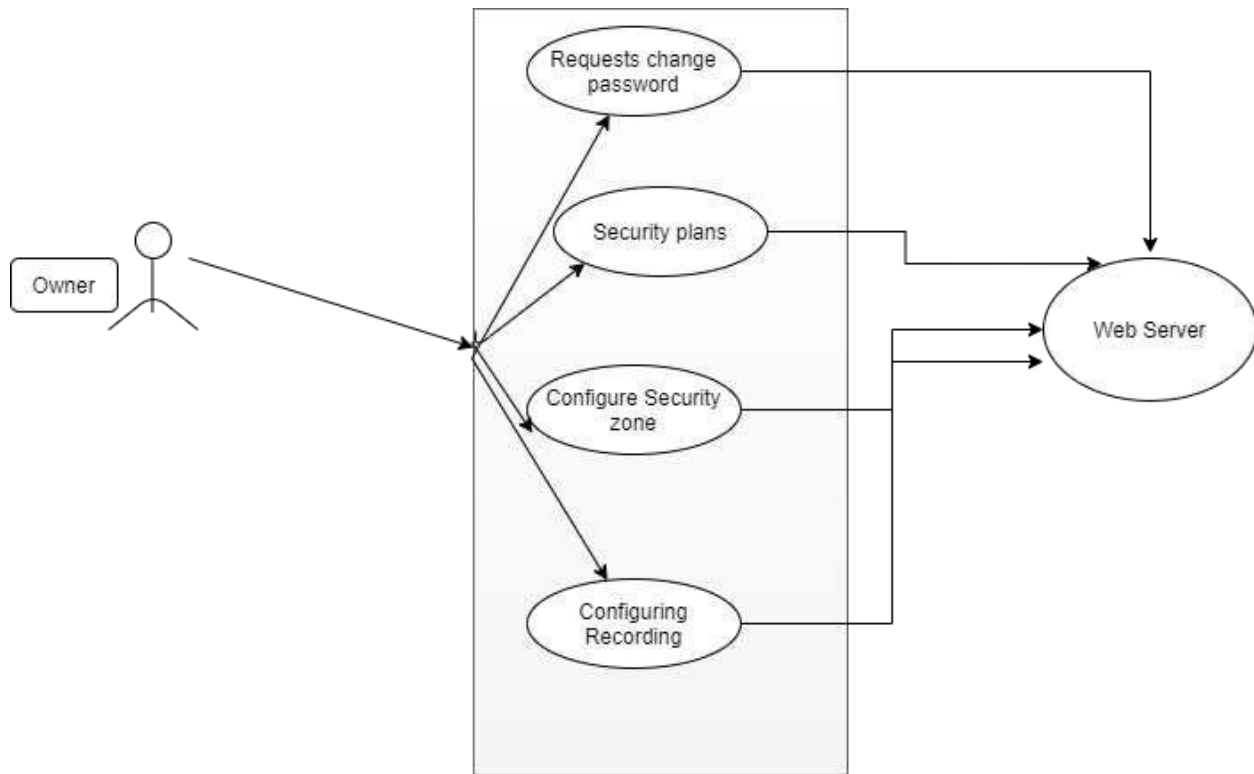
Scenario: The owner wants to focus on the visuals of a specific area which has security threat.

Exceptions: System is not armed.

Priority: Essential, must be implemented

Frequency of use: Seldom

Secondary actors: System



Use case diagram

Functional Requirements:

The functional requirements of this feature are as follows:

Configure Password:

The system shall verify the owner and changes the password.

Configure Security:

The system shall act upon the security plans as defined by the owner.

Configure Sensors:

The system shall change the mode of sensor as asked by owner.

Configure Camera:

The system shall configure the cameras switching on and off.

Configure Timing:

The system shall configure the timing of cameras timing.

Configure Recording:

The system shall manage the timing of recording the video.

Configure User:

The system shall manage user credentials like username, Id or password.

5. Nonfunctional Requirements:

5.1 Performance Requirements:

Static performance:

- The performance should be static. The software will require 30MB memory at a run time.
- The software will require the 100 MB of hard disk space for the installation.
- For recorded video files the hard disk space requires will be 20GB.

Dynamic performance:

- **Camera display** should not be late than more than 3 seconds. The delay between capturing image and displaying image must be less than 500 milliseconds.
- The system should reply to the user requests in not more than 3 seconds when connected to the local area network.
- The system shall be able to run 24 hours a day and seven days a week.
- The time band for detecting the incident or in case of emergency should be no more than 1 second.
- All web pages should be downloadable in less than 10 seconds when user accesses it through web.

- Security task must have the highest priority over the other tasks.

5.2 Safety Requirements:

- The system shall have the uninterrupted supply of the ups incase electric disruption occurs. The UPS must have the capacity and enough charging to run the system 24 hours long.
- The camera records must be backup at the end of every month to the secondary storage.

5.3 Security Requirements:

- We must have to follow the security protocols in networking communication.
- Remote control connection must lead through a reliable proxy server.
- The website of the system must be examined by some company.
- The website must be prevented from the web hacking.
- The data must be encrypted before transferring it to the Web.

5.4 Software Quality Attributes:

- User can request for any hardware and software changes or updates at any time.
- Control panel of safe home must be installed at many places of the house.
- The control panel must be installed at the front door.
- The web interface should be simple and easy to use with clear instructions.

- The control panel must have all the details to use safe home.
- The interface should be design as that it should be usable by all age members of home.
- When the internet disruption occur the system have the ability to signal the home owner about it.

5.5 Storage requirements:

- The system shall be able to record the 1000 hours of recording.
- For moving the old records the secondary storage shall always available.

5.6 External requirements:

Business Rules:

- There should be only one safe home installation per house.
- Floor plan will be changed according to the customer requirements if he/she asks for changes.

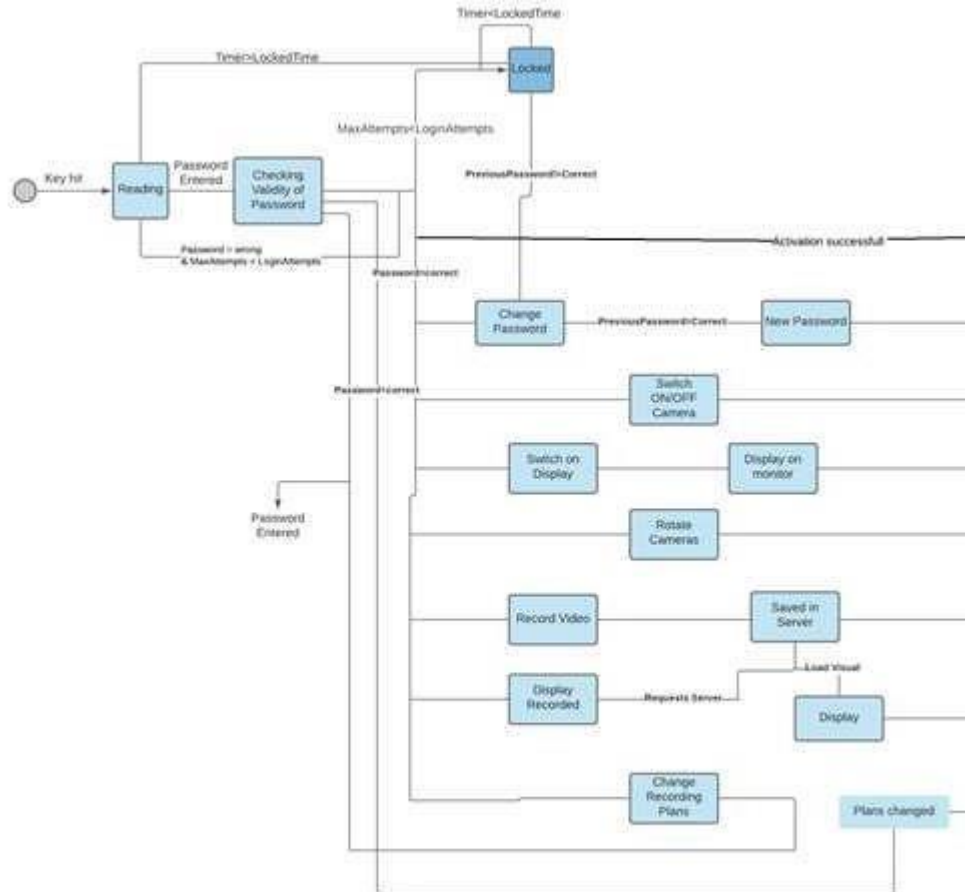
Legal constraints:

- There should be 24 hours monitoring of the homes who have safe home installed.
- The cameras installed indoors must have the indoor visibility.
- In case of any court orders or legal use of video the must seek permission from home owners first for video footage.

Interoperability Requirements:

- The home owner must be able to use the wall mounted control panel.
- The home owner must be able to activate and de activate some features.
- The person who monitors the safe home must use it through an app and have instant access in case of emergency.

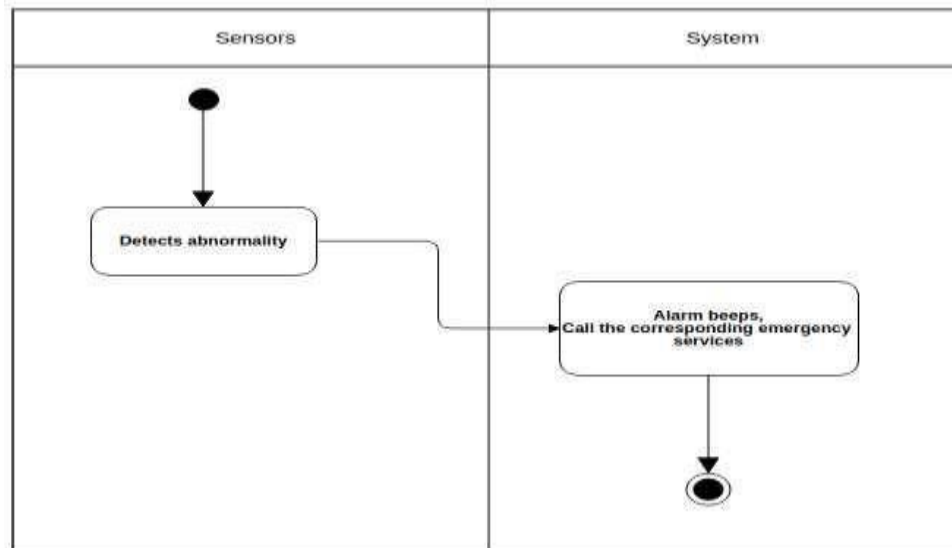
6. StateDiagram:



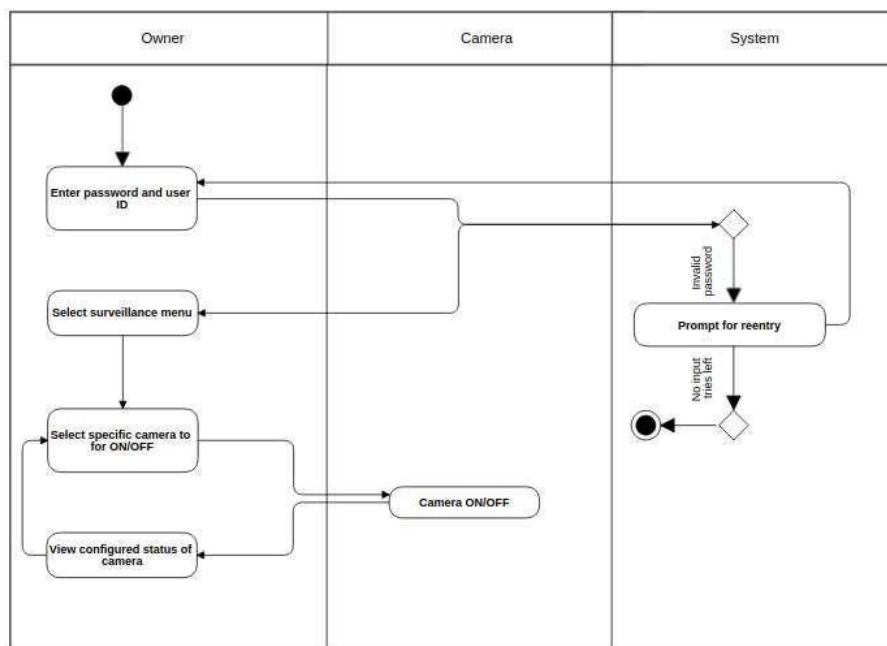
The above figure is the final version of the state diagrams of all use cases we have.

7. Swim lane Diagrams:

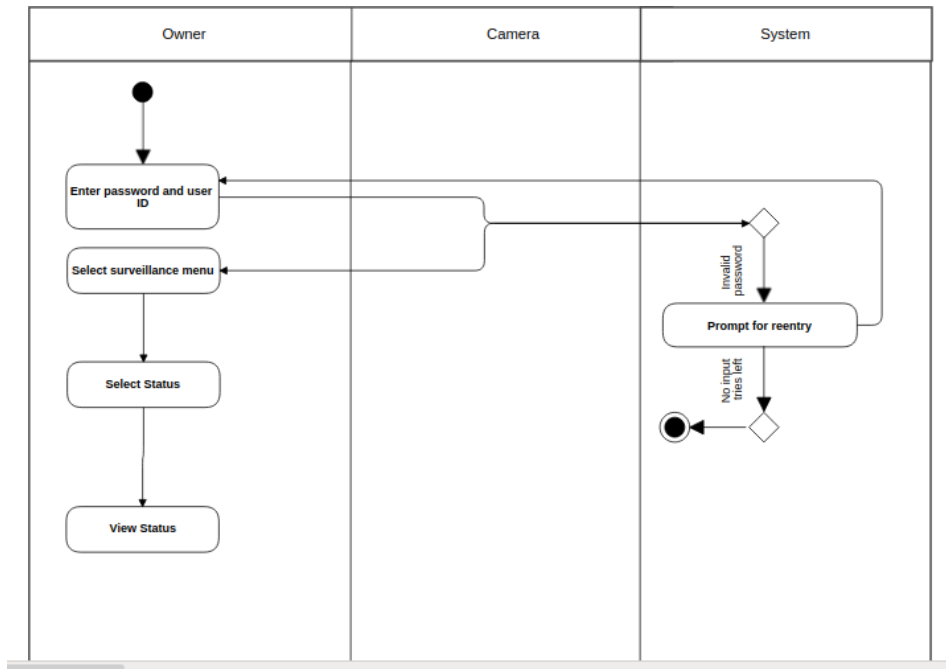
- Use case 1



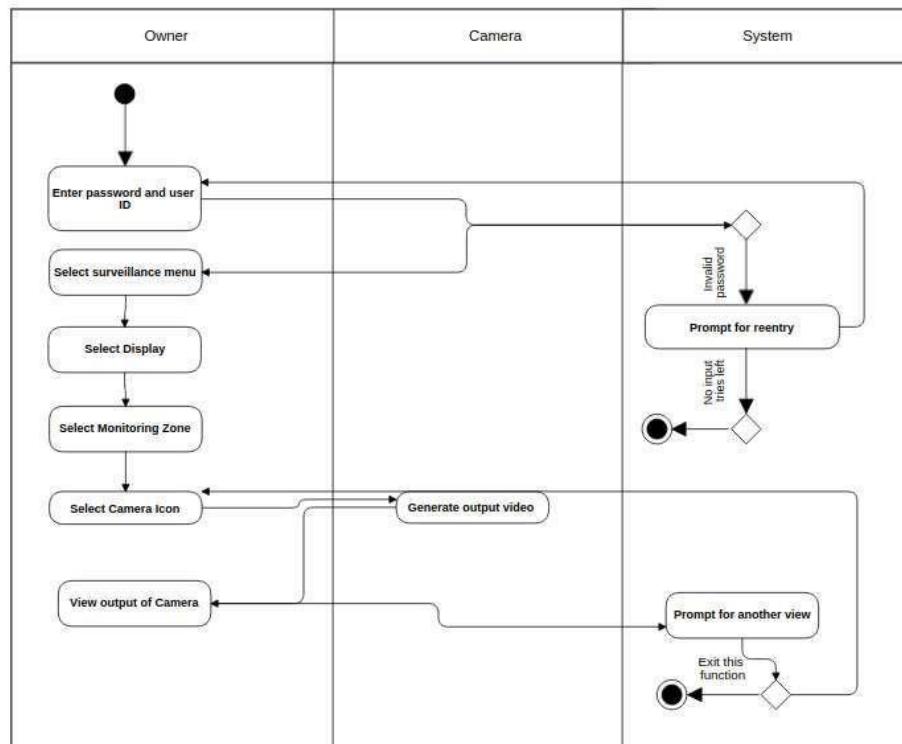
- Use case 2



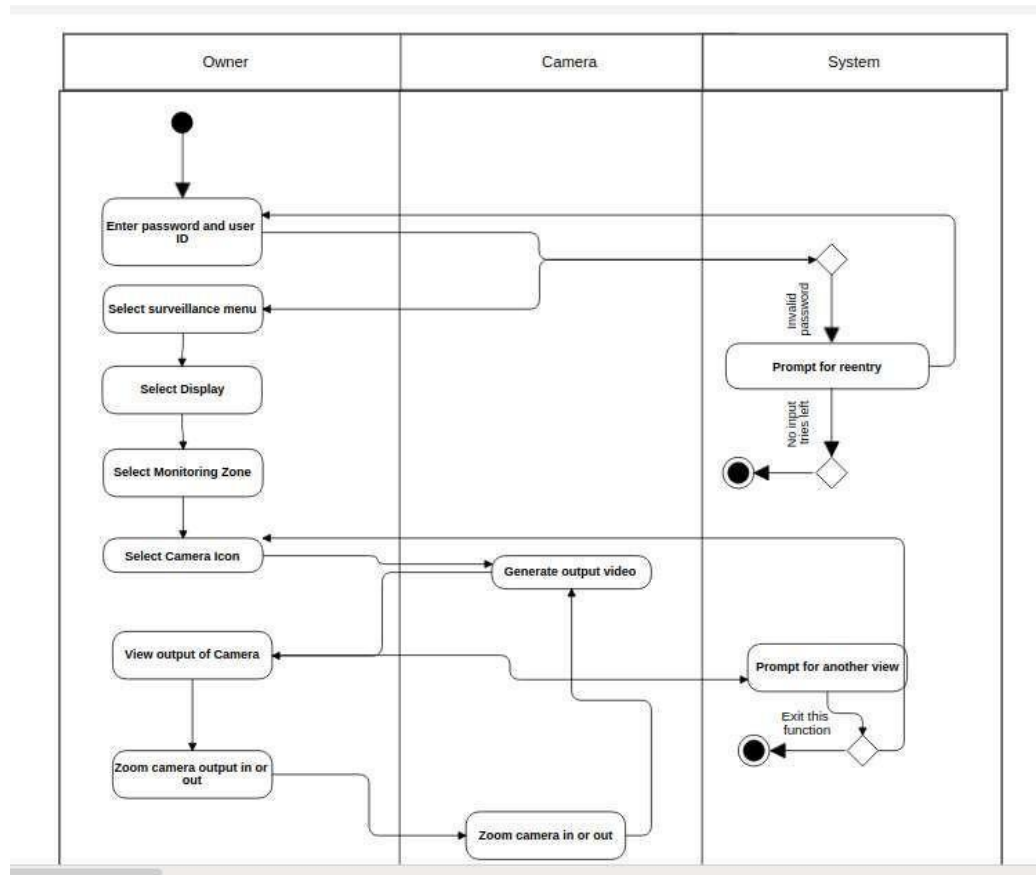
- Use case 3



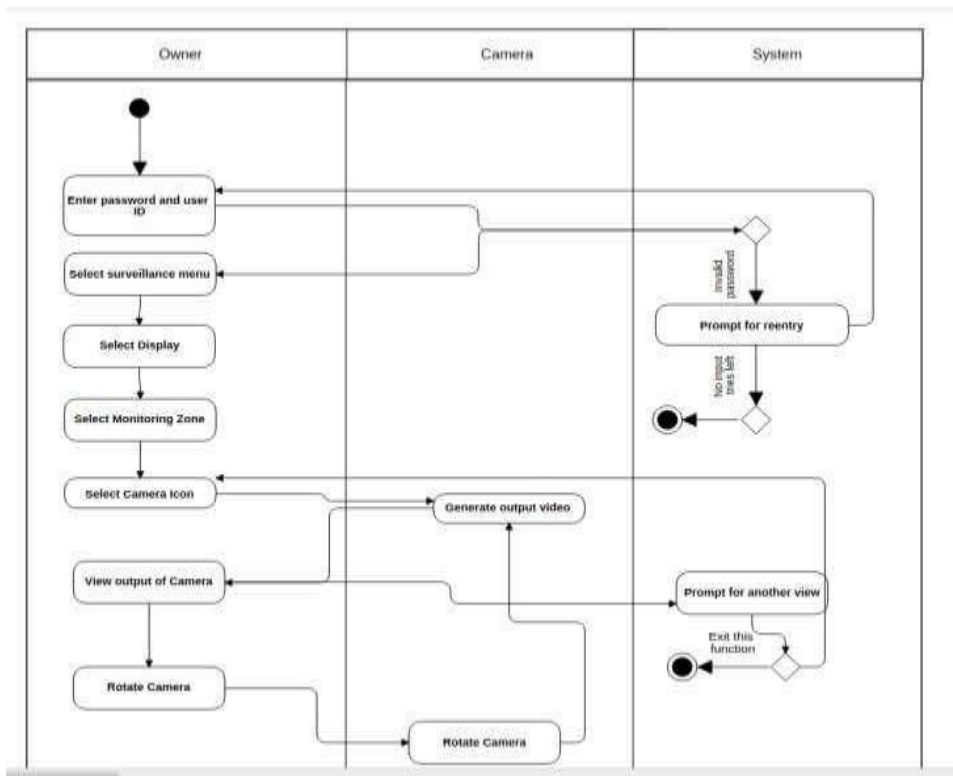
- Use case 4



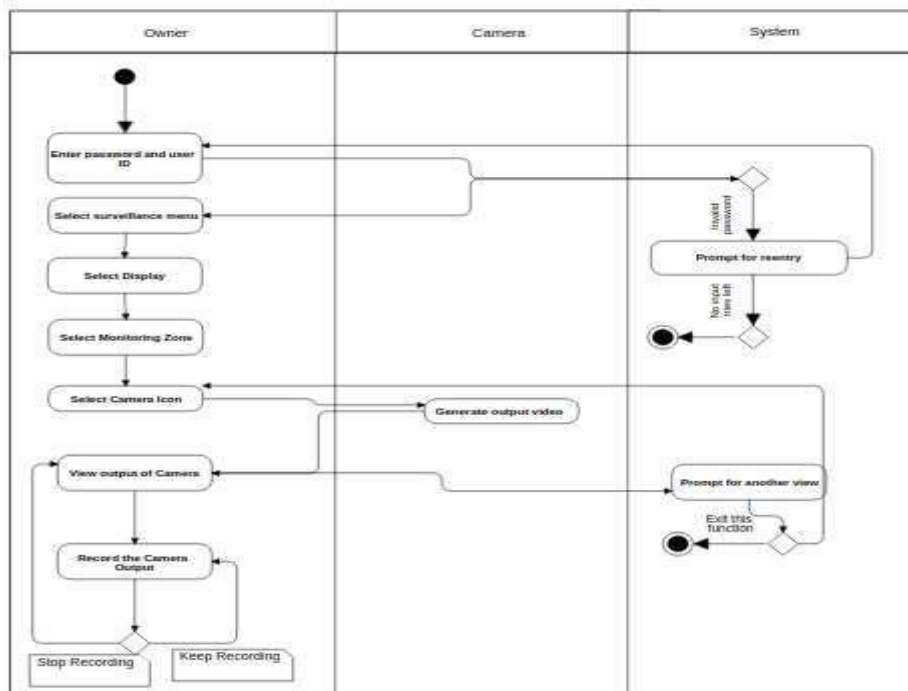
- Use case 5



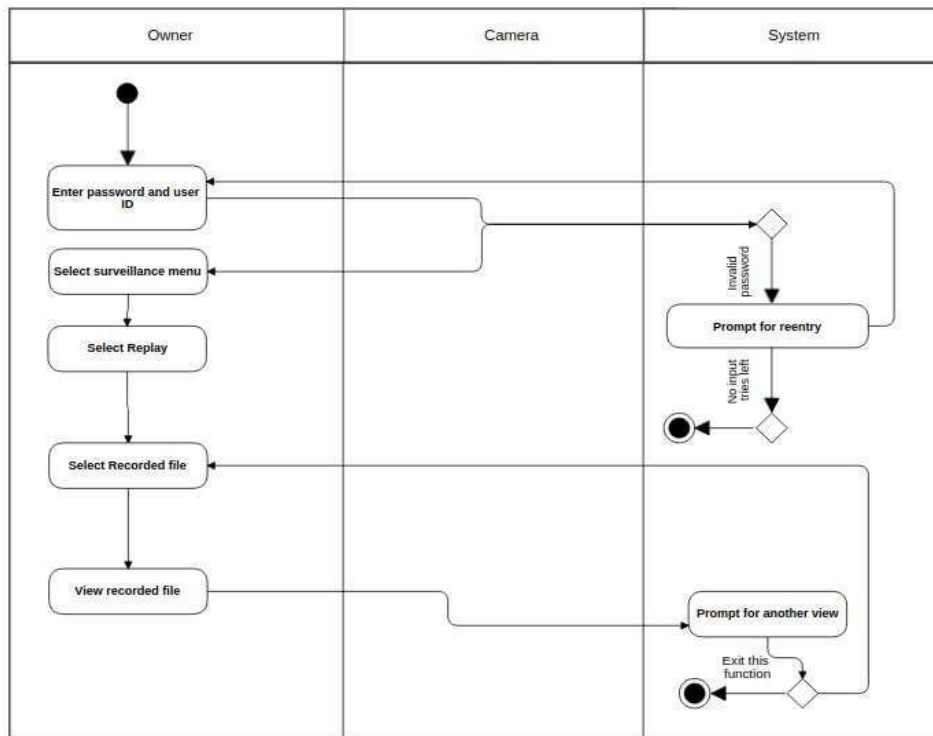
- Use case 6:



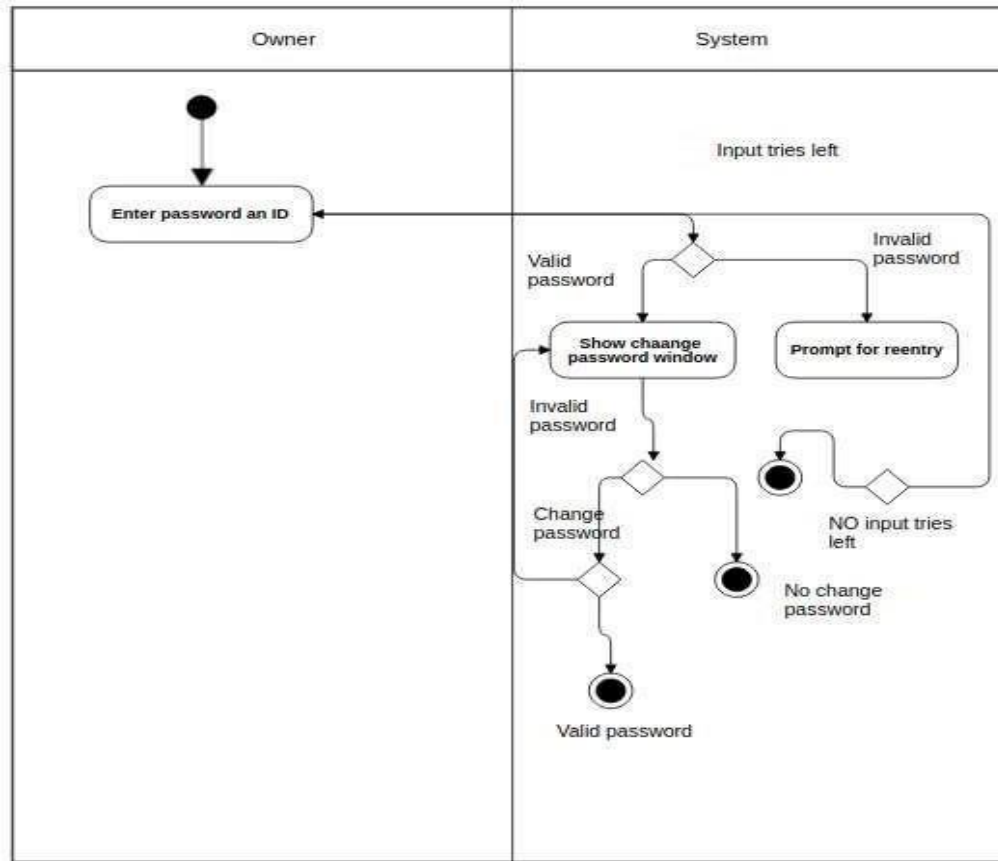
- Use case 7:



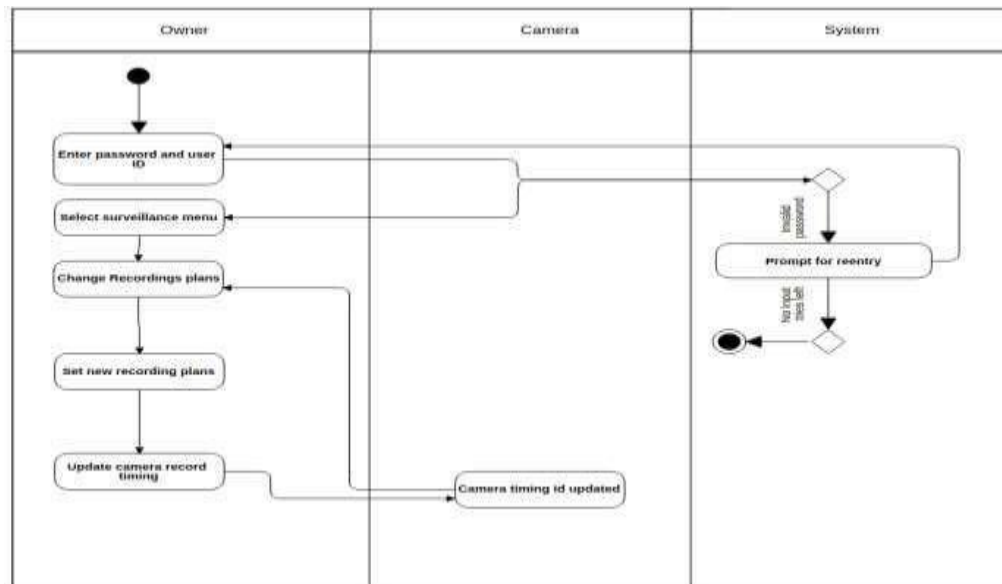
- Use case 8:



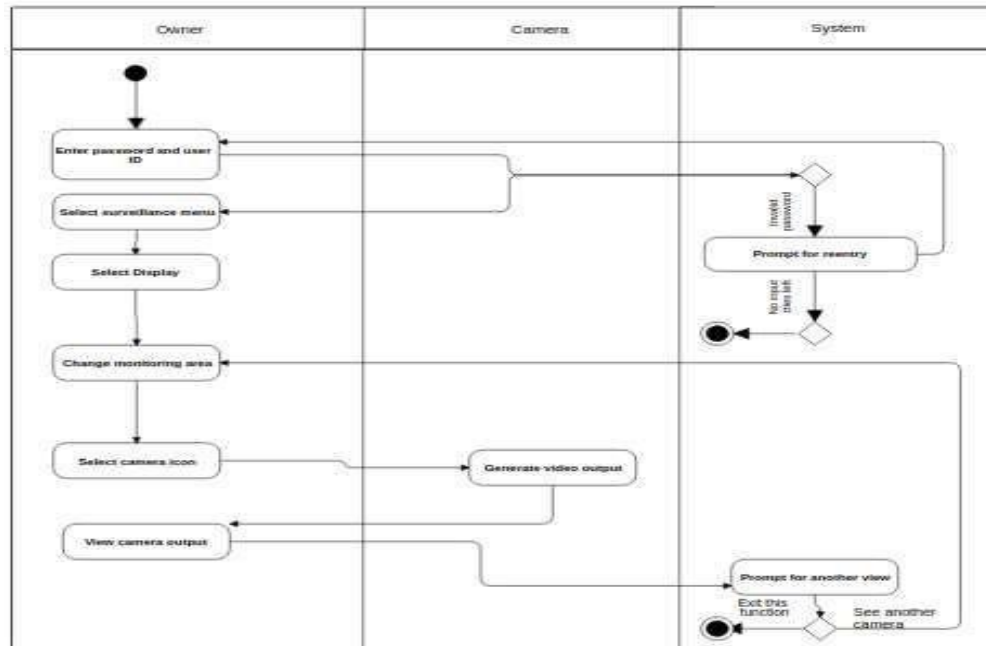
- **Use case 9:**



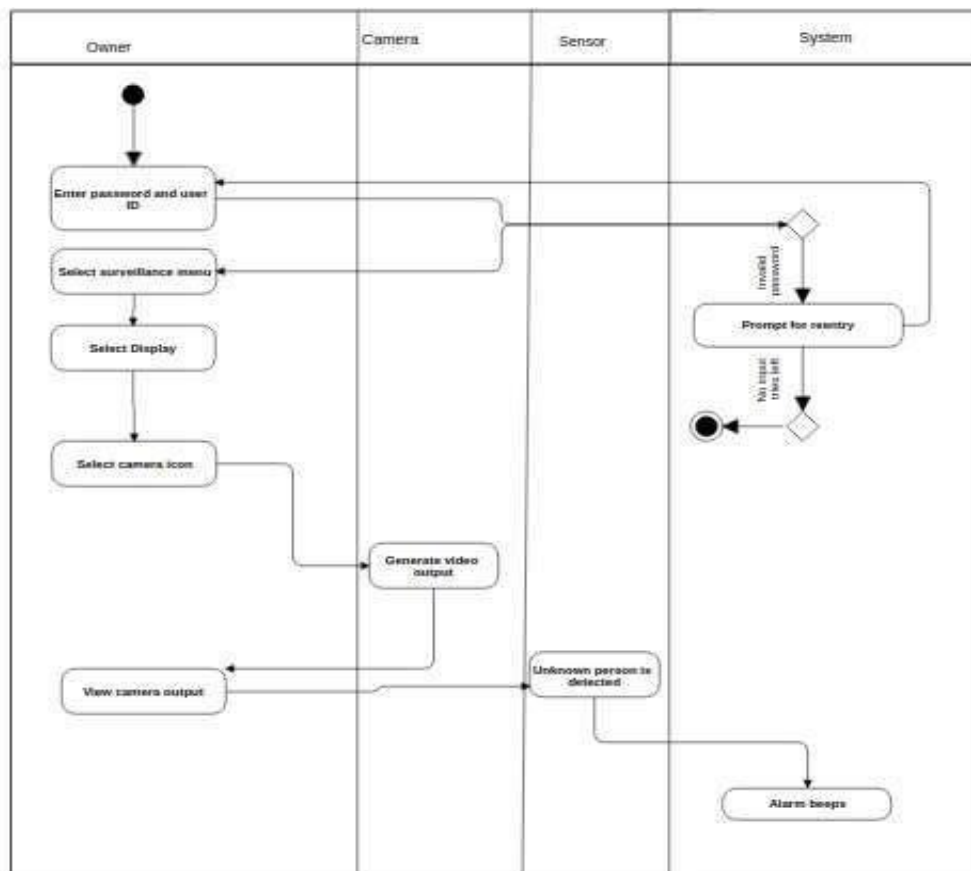
- Use case 10:



- Use case 11:



- Use case 12:



8. CRC Model:

| Class Cameras | |
|---|---------------|
| Responsibility | Collaboration |
| <ul style="list-style-type: none"> • Zoom In/out • Rotation of cameras • On/Off Cameras • Change Camera timing • | |

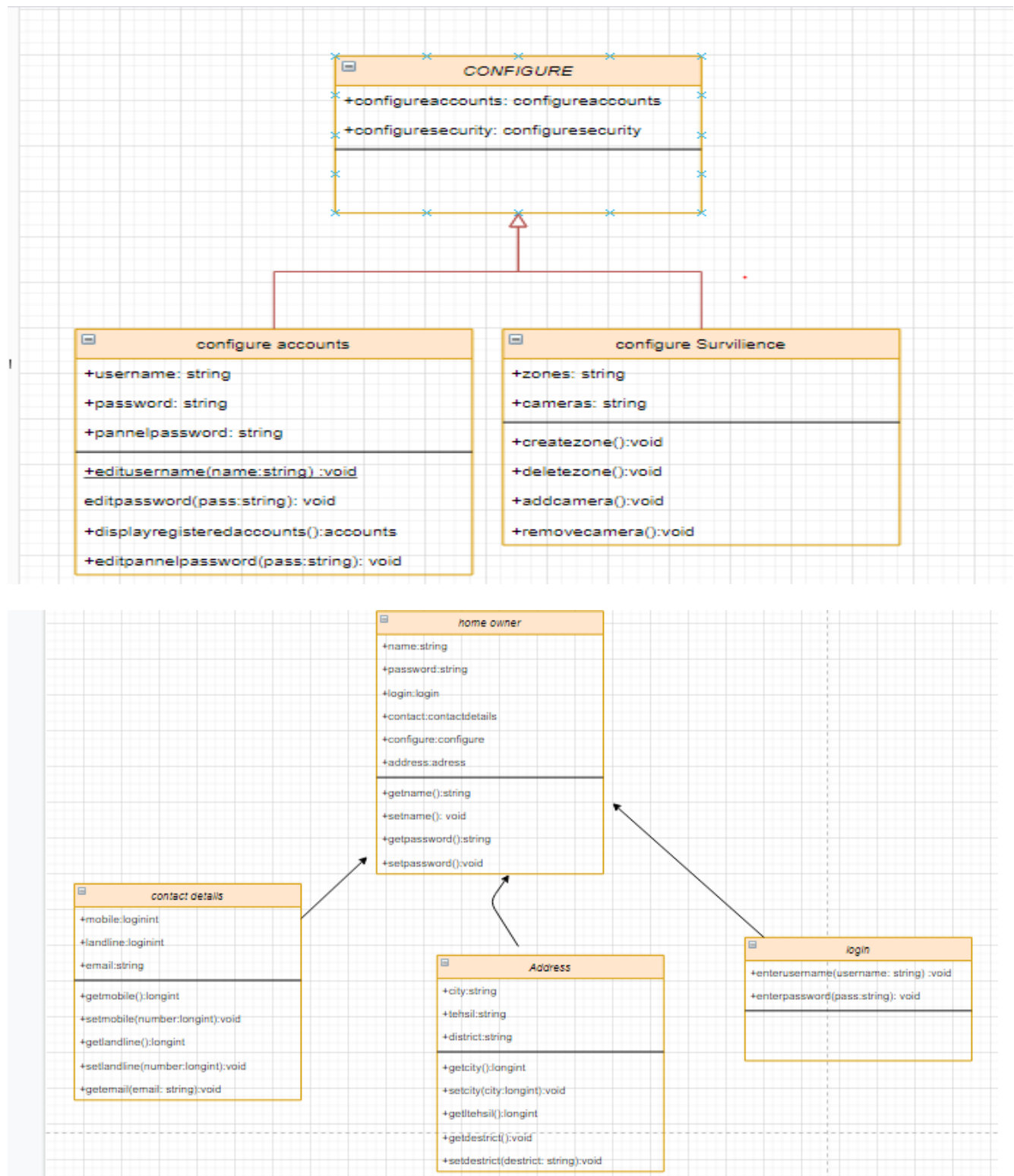
| Class Company | |
|--|---------------|
| Responsibility | Collaboration |
| <ul style="list-style-type: none"> • Fix the fail sensor • Call emergency services | |

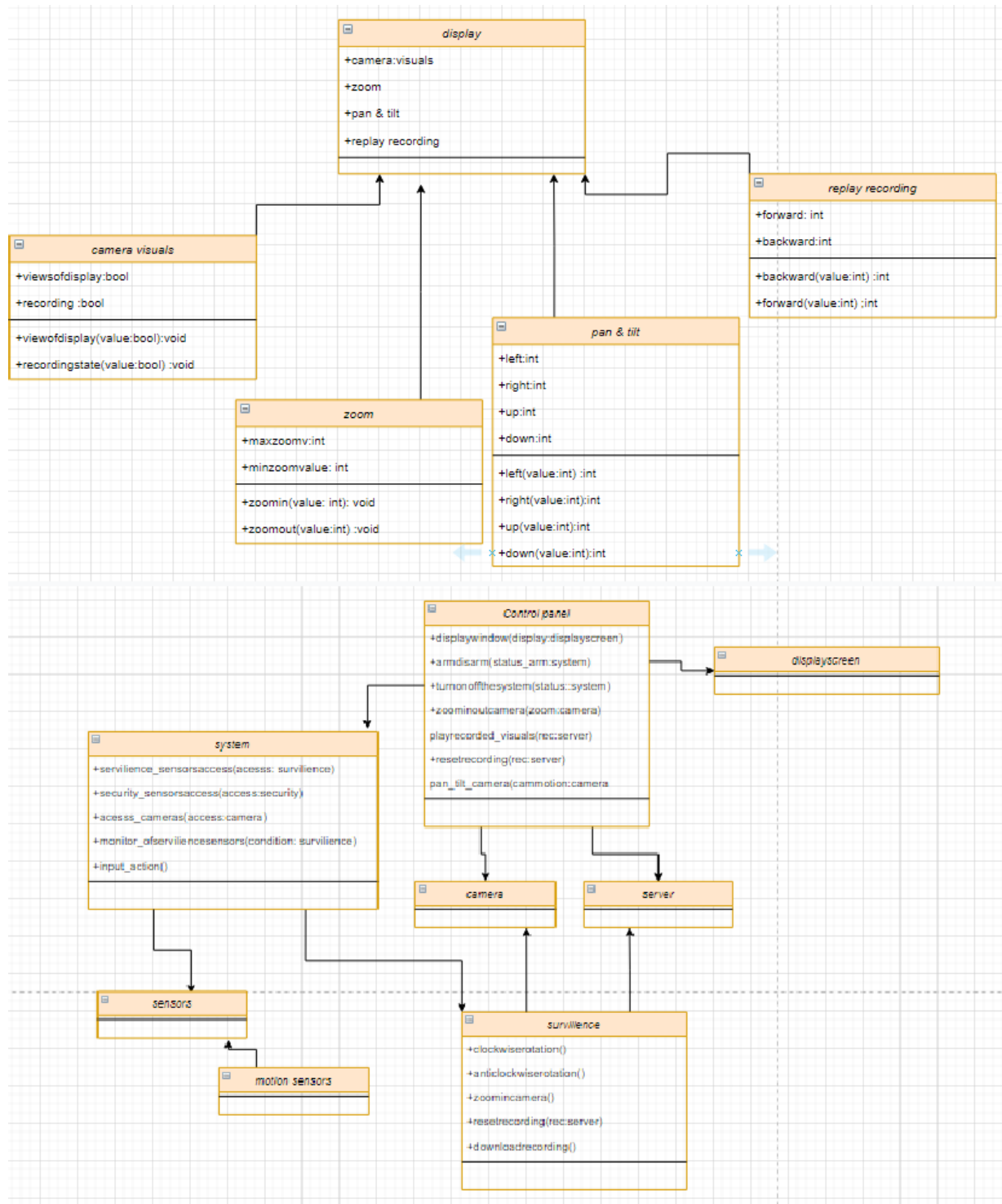
| Class owner | |
|--|--|
| Responsibility | Collaboration |
| <ul style="list-style-type: none"> • On/Off cameras • Check Status • View any camera • Set the alarms on/off • Status of Cameras • Zoom In/Out cameras • On/Off cameras recording • Rotation of cameras • Change password • Change recording timing of cameras • Change security zone (Sensors) | <ul style="list-style-type: none"> • System • Camera • Sensors • Company |

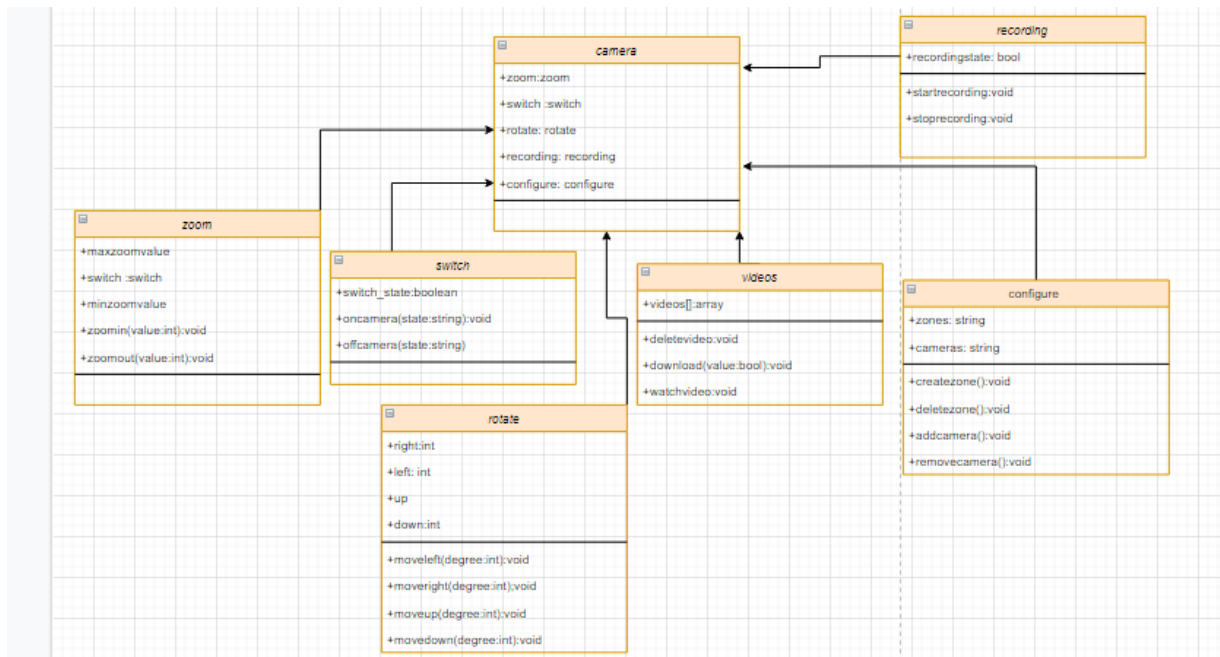
| Class Sensors | |
|---|---|
| Responsibility | Collaboration |
| <ul style="list-style-type: none">• Detect the critical situations• Detect unknown Person• Detect owner's health• Contact emergency services | <ul style="list-style-type: none">• Company |

| Class System | |
|---|---------------|
| Responsibility | Collaboration |
| <ul style="list-style-type: none">• Check valid password• beep the alarms• change password• prompt for retype password• prompt for another view of camera | |

9. Class diagrams:







10. Appendix A: Glossary

| | |
|-----------------------------|--|
| Away | It's a mode for the time when a home owner or her/his family goes out. All sensors are activated to detect intruders. |
| Control panel | This is a simple control panel for a home owner to use basic SafeHome functions |
| Stay | It's a mode for the time when a home owner or her/his family stays at home |
| Security Zone | This is a zone defined by a home owner by grouping window sensors, door sensors, and motion detectors. |
| SafeHome web service | This is a web service accessed via Internet. By accessing it, a home owner can utilize full functions such as monitoring cameras and configuring floor plan. |
| Off | It's a mode for the time when a home owner disarms the security system. It means all sensors are not working during this mode. |
| Panic | It's a mode for emergency. The control panel beeps until a home owner enters the correct 4 digits password. |

11. Appendix B: Meetings

10.1. First Meeting:

Time and Date: Dec 12 2020, 12:40PM-1:30PM, Zoom meeting

MEETING: Division of Labor on SRS

FACILITATOR: Salman Ali

ATTENDEES Hanan,Fateh,Wajeh,Zeshan

DOCUMENT PREPARED BY: Zeemal Urooj

DISCUSSION

- 1– Agreeing on Template for SRS, Use Case, Requirement
- 2– Division of Labor on SRS

10.2. Second meeting:

Time and Date: Dec 15 2020, 1:00PM-1:30PM, Zoom meeting

Tyoe of MEETING: Division of Labor on SRS

FACILITATOR: Salman Ali

ATTENDEES Hanan,Fateh,Wajeh,Zeshan

DOCUMENT PREPARED BY: Zeemal Urooj

DISCUSSION

- 1 – Agreeing on use cases
- 2 – Division of Labor on SRS phase 2

10.3. Third meeting:

Time and Date: Dec 17 2020, 1:00PM-1:30PM, Zoom meeting

Tyoe of MEETING: Division of Labor on SRS

FACILITATOR: Salman Ali

ATTENDEES Hanan,Fateh,Wajeh,Zeshan

DOCUMENT PREPARED BY: Zeemal Urooj

DISCUSSION

- 1 – Agreeing on functional and nonfunctional requirements
- 2 – Division of Labor on SRS phase 3

10.4. Forth Meeting:

Time and Date: Jan 16, 2020, 9:00 to 10:00 , Zoom meeting

Type of MEETING: Start working on diagrams

FACILITATOR: Salman Ali

ATTENDEES Hanan,Fateh,Wajeh,Zeshan

DOCUMENT PREPARED BY: Zeemal Urooj

DISCUSSION

- 1 – Agreeing on choosing only the surveillance features of the safe home.
- 2 – Division of Labor on SRS phase 4
- 3 – Start working on diagram.

12 Appendix C: Authorship

Section 1: Zeemal Urooj Section
2: Zeemal Urooj Section 3:
Zeemal Urooj Section 4: Zeemal
Urooj Section 5: Zeemal Urooj
Section 6: Zeemal Urooj Section
7: Hanan
Section 8: Hanan
Section 9: Zeemal Urooj