

# ZIB Smart Home



Teddy Photesri, Woo Hyun Chung

# Problem / Solution

## Problem

The system has many important functions.  
That makes the device too complicated and difficult  
for the user to access and control.

## Solution

Simplifying the design will make it easily access to  
the function that the user can easier control.

# Project Goal

Design luxurious smart home systems  
that provide services and contents  
according to user needs and experiences.

# Research

According to [cnbc.com](https://www.cnbc.com), As of the end of 2016, there were a record 10.8 million millionaires nationwide, and according to a new study from Spectrem Group's Market Insights Report 2017.

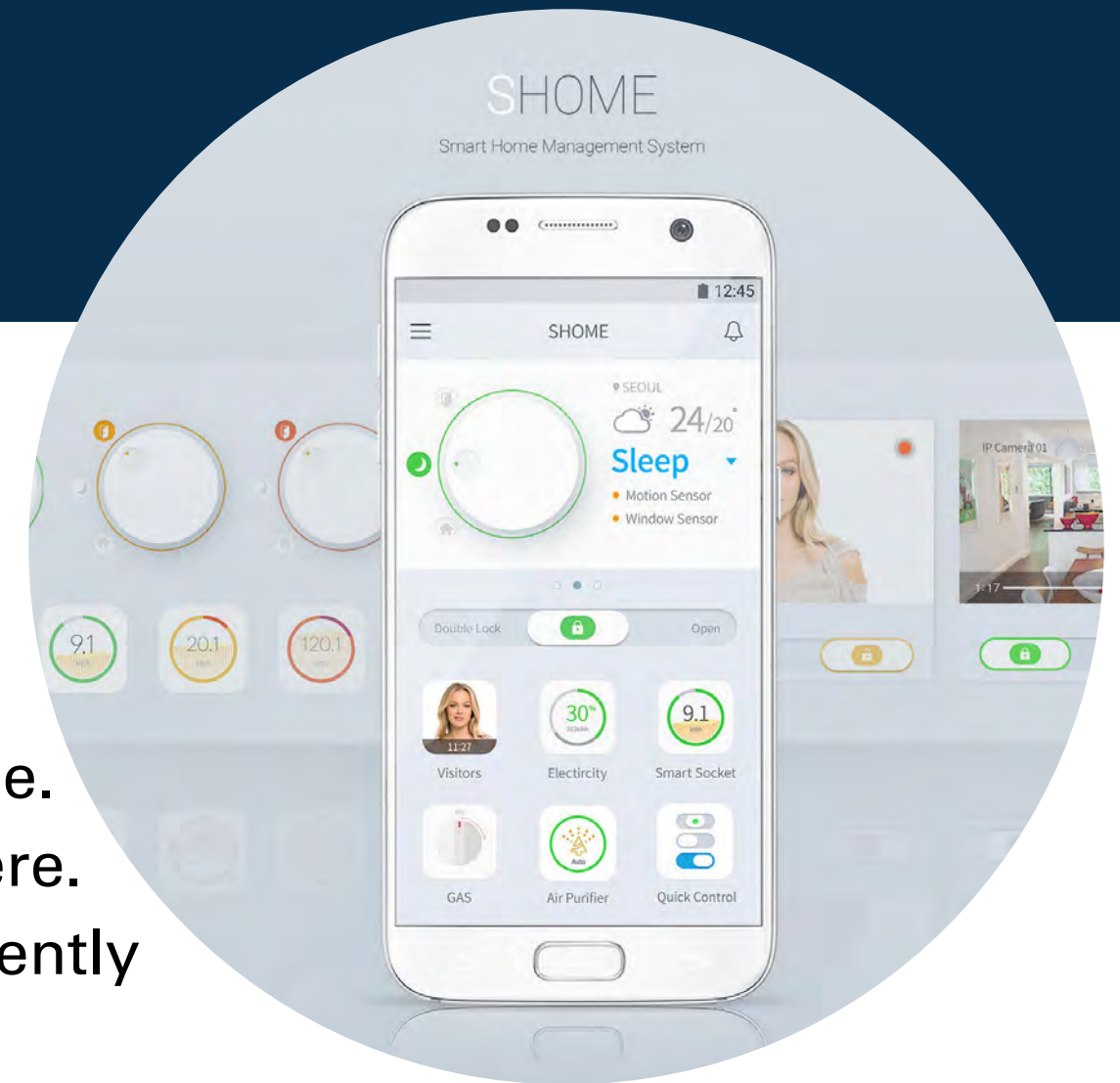
That's more than ever before and marks a 400,000 persons increase from the previous year.

There were 9.4 million individuals with net worth between \$1 million and \$5 million, 1.3 million individuals with net worth between \$5 million and \$25 million, and 156,000 households with more than \$25 million in net worth.

# Competitor Analysis

## SAMSUNG SMART Home

- Samsung provides many smart home devices such as well pads, door cameras, lobby phones, doorlocks and smart home appliances.
- The devices can be controlled by well unit and mobile app called sHome.
- You will be notified of movement inside your home when you aren't there.
- With the devices and app, users can protect family's safety and conveniently manage their home and visitors from anywhere.



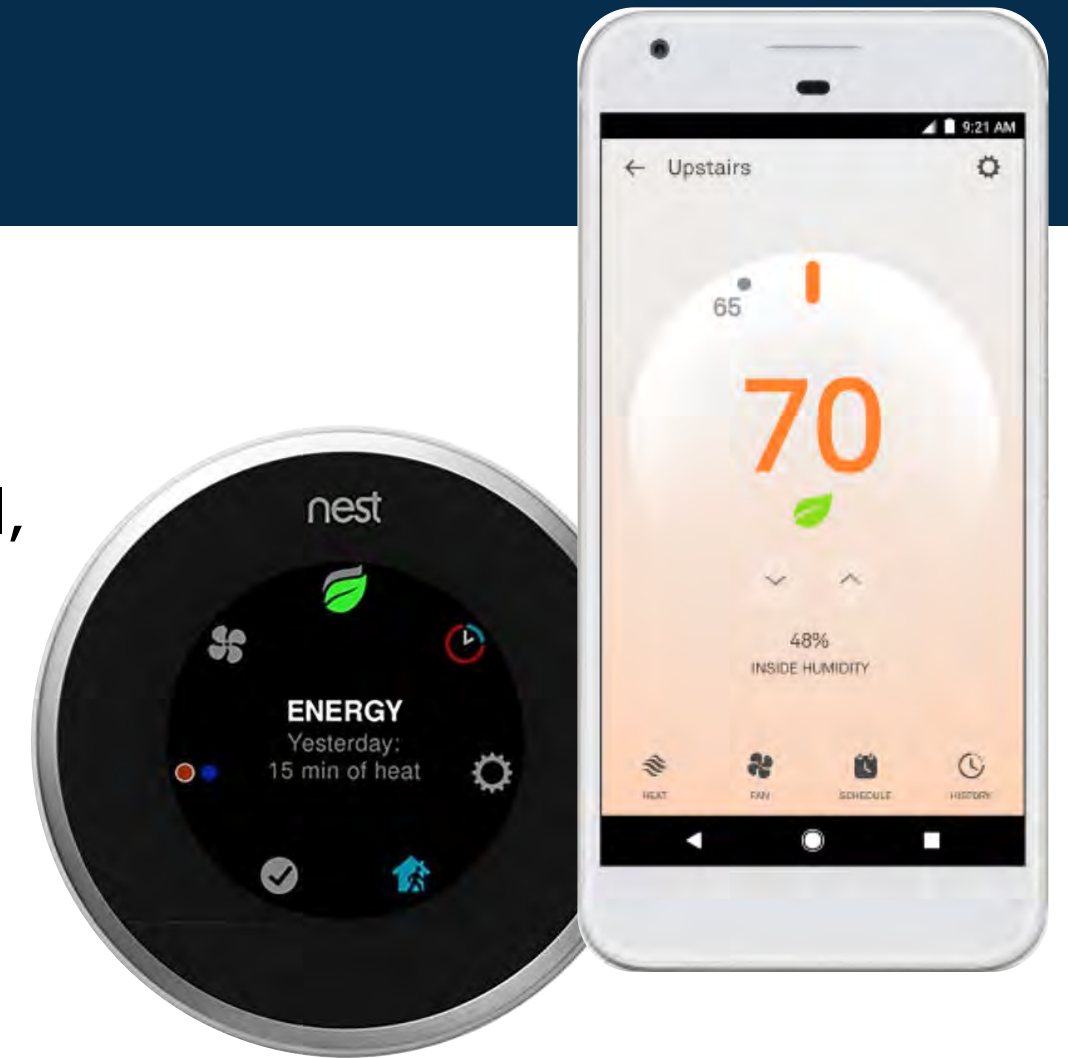
## Key features

- Remote Control Smart Devices
- Family Access Care
- Real time monitoring
- Intrusion Detection
- And others.
- Mobile Visitor Call
- Security and emergency alarm
- Door access management
- Energy saving

# Competitor Analysis



- Nest provides its home smart devices like thermostats, cameras, doorbell, alarm system, and smoke + CO alarm.
- Nest devices can be controlled by Nest application called Nest.
- Nest provides platform to outside developers for connecting other companies' devices.



## Key features

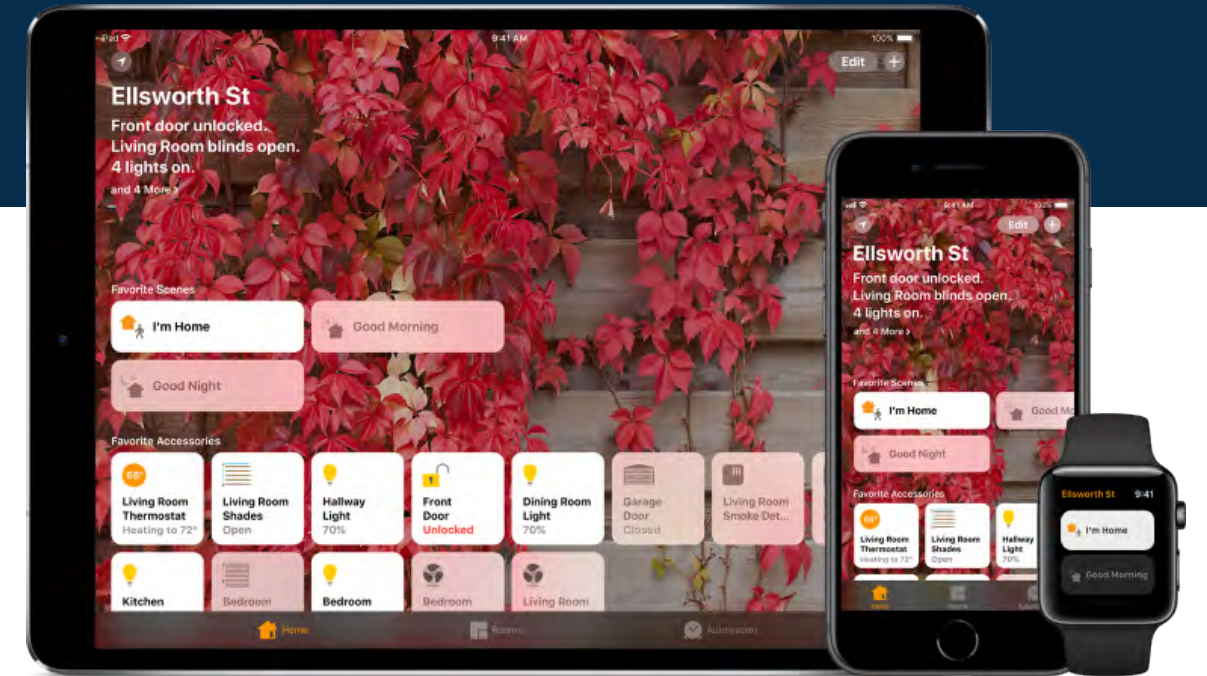
- Control temperature and energy saving
- Secure alarm system
- The smoke and carbon monoxide alarm for protection
- The security cameras that let you see your home on your phone
- And others.



# Competitor Analysis



- Apple's smart home tech for controlling home appliances with iOS device such as iPhone and iPad.
- Apple provides platform, so companies can develop apps for controlling their home products with iOS.
- With the Home app, you can easily and securely control all your HomeKit accessories. (One app for all home accessories.)
- Lights, Switches, Outlets, Thermostats, Windows, Fans, Air Conditioners, Humidifiers, Air Purifier, Speakers, Sensors, Security, Locks, Cameras, Doorbells, Garage Doors, Bridges
- The Home app groups accessories by room.
- Allows users to set scenes, which enable multiple accessories to work in combination.



# Target Audience

We were target on the middle to high class of the U.S population.

According to the research.

That's mean 10.8 million is big enough to grow our home security system brand in 2018.



# Persona

**Mark and Angela Furrows** is a new middle-class family in Denver, Colorado. They own multiple hundred units of the rental property in the area. Their revenue was more than 10 million in the past year. They live in five bedrooms, six bathrooms house, located on the top of the hill in a beautiful Breckenridge town, close to ski resort Breck Break.

Mark and Angela have three years old boy named Anthony. He likes to draws, touching, running around, loves music. Yes of cause, making a noise is his favorite.



## Mark and Angela

### Lifestyle

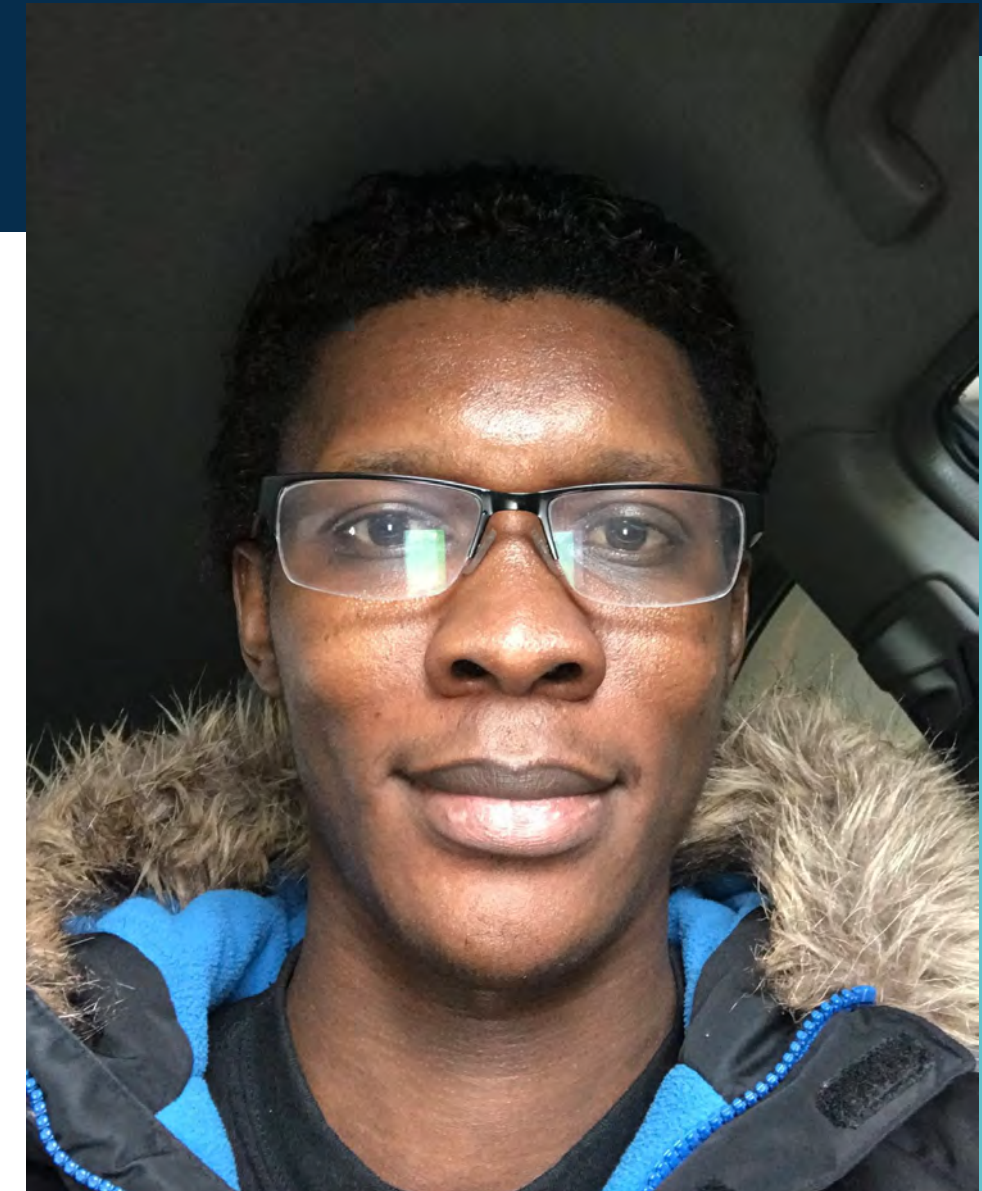
Mark and Angela leave his kid with nanny sometime when they go out for business. The family activities at home with Anthony, such as cooking, watching the mountain view from the living room and watching movies next to the fireplace is their favorite moment.

# Persona

**Attou Francis** was born and grew up in Africa. He moved to the United States 15 years ago with the green card lottery program.

Nowadays, he is the senior electrical engineer at Dell. Dell is an American multinational computer technology company based in Round Rock, Texas, the United States, that develops, sells, repairs, and supports computers and related products. and services.

He is a single man, but his life is so busy with work. He loves to hang out with friends on the weekend. Music and movies are the part of his personal time.



**Attou Francis**

# Information Architecture

## Mobile

Security Camera

Adjust Camera Angle

Zoom In / Out

Full Screen Mode

Record / Capture

Multiple Camera View

Lighting

Turn Off / On

Adjust Brightness

Adjust Color

Windows

Unlock / Lock

Open / Close

Adjust Blind Angle

Blind Pull Down / Up

Temperature

Controller Turn Off / On

Change Temperature

Smart Setting

Timer

Protect Alert

Automatic Alert

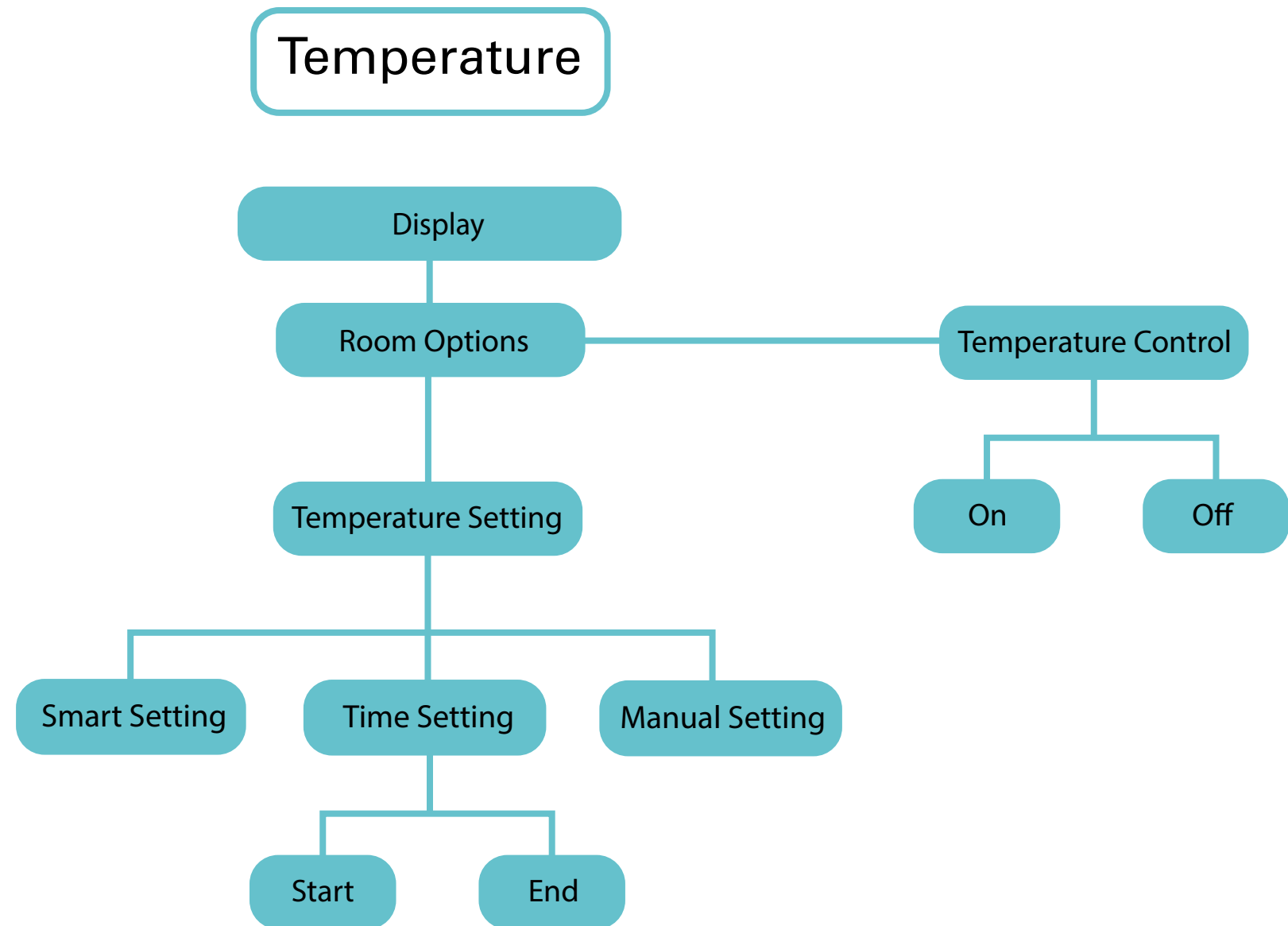
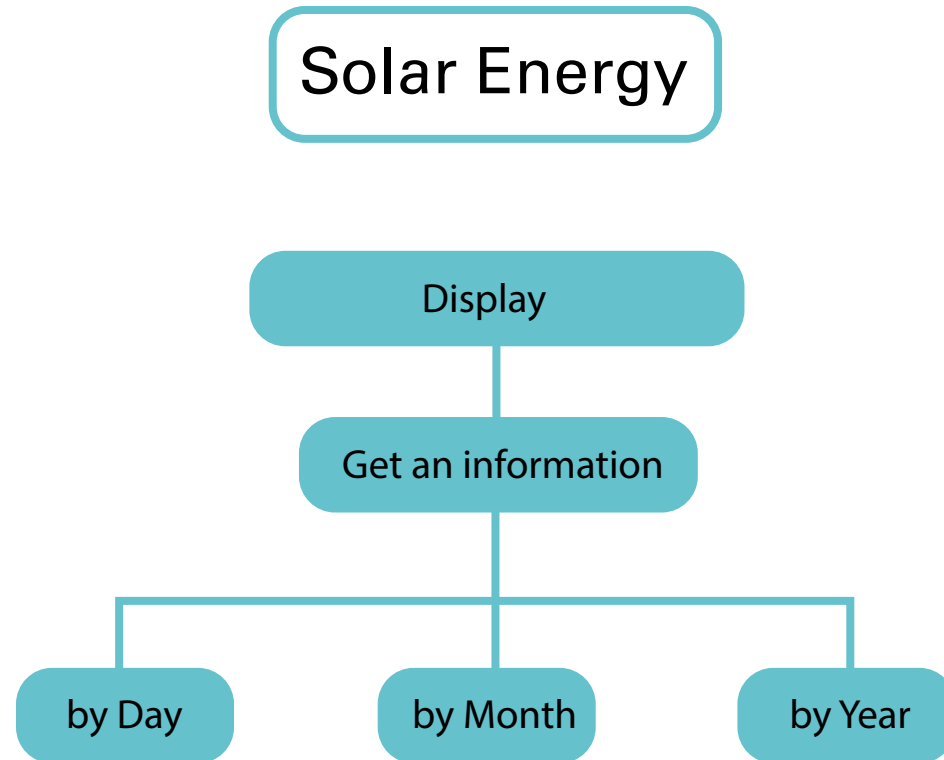
Show Infomation

Contact Protector

Turn Off Alert

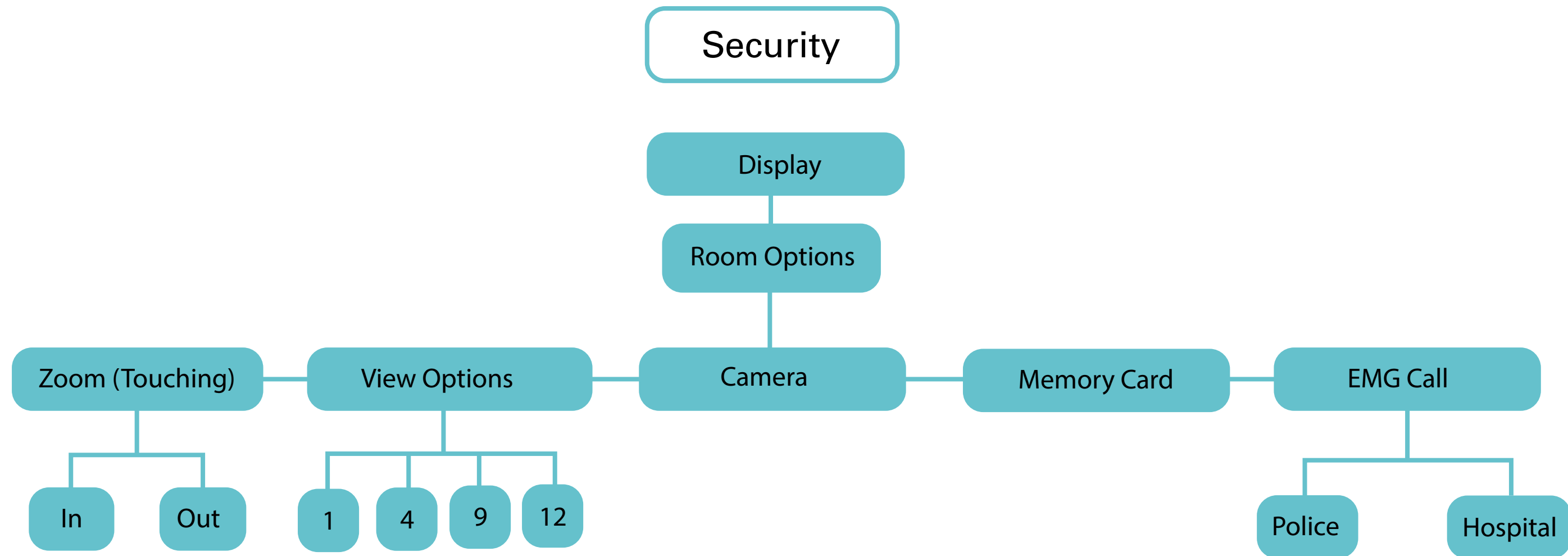
# Information Architecture

## Main Device



# Information Architecture

## Main Device



# Feature List

## Mobile

- ◆ Security Camera
- ◆ Lighting
- ◆ Windows
- ◆ Protect System (Alert)
- ◆ Temperature
- ◆ Door Access

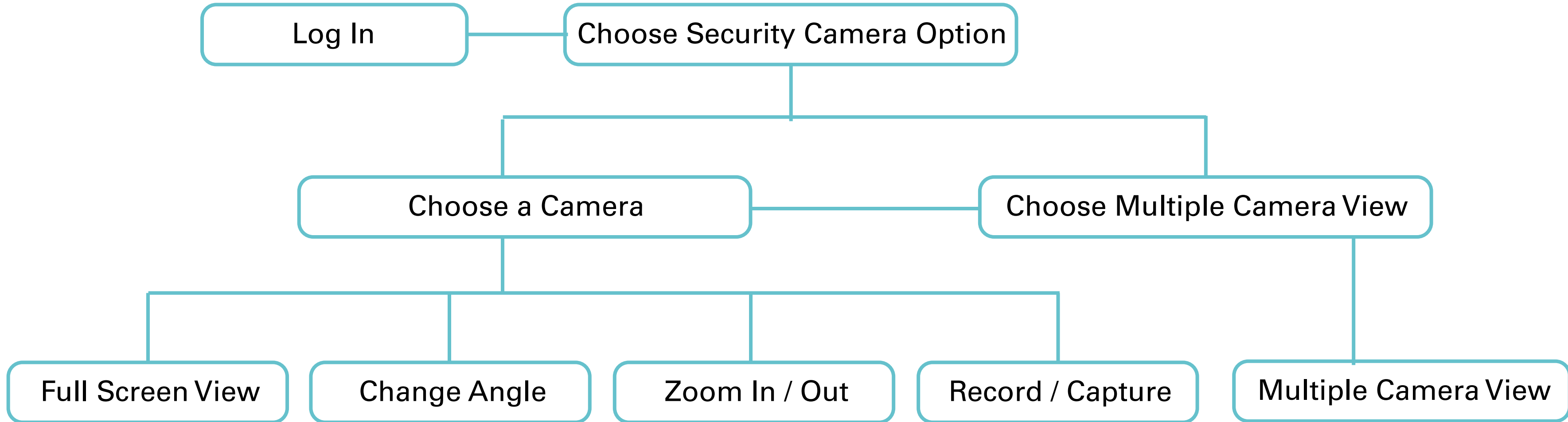
## Main Device

- ◆ Security Camera
- ◆ Lighting
- ◆ Windows
- ◆ Protect System (Setting)
- ◆ Protect System (Alert)
- ◆ Temperature
- ◆ Solar Energy
- ◆ Home Appliances
- ◆ Door Access
- ◆ Family Access Care
- ◆ Garden, Pool & Spa Care
- ◆ Garage Control
- ◆ Pet Control
- ◆ Cleaning Management
- ◆ Emergency Mode



# User flows

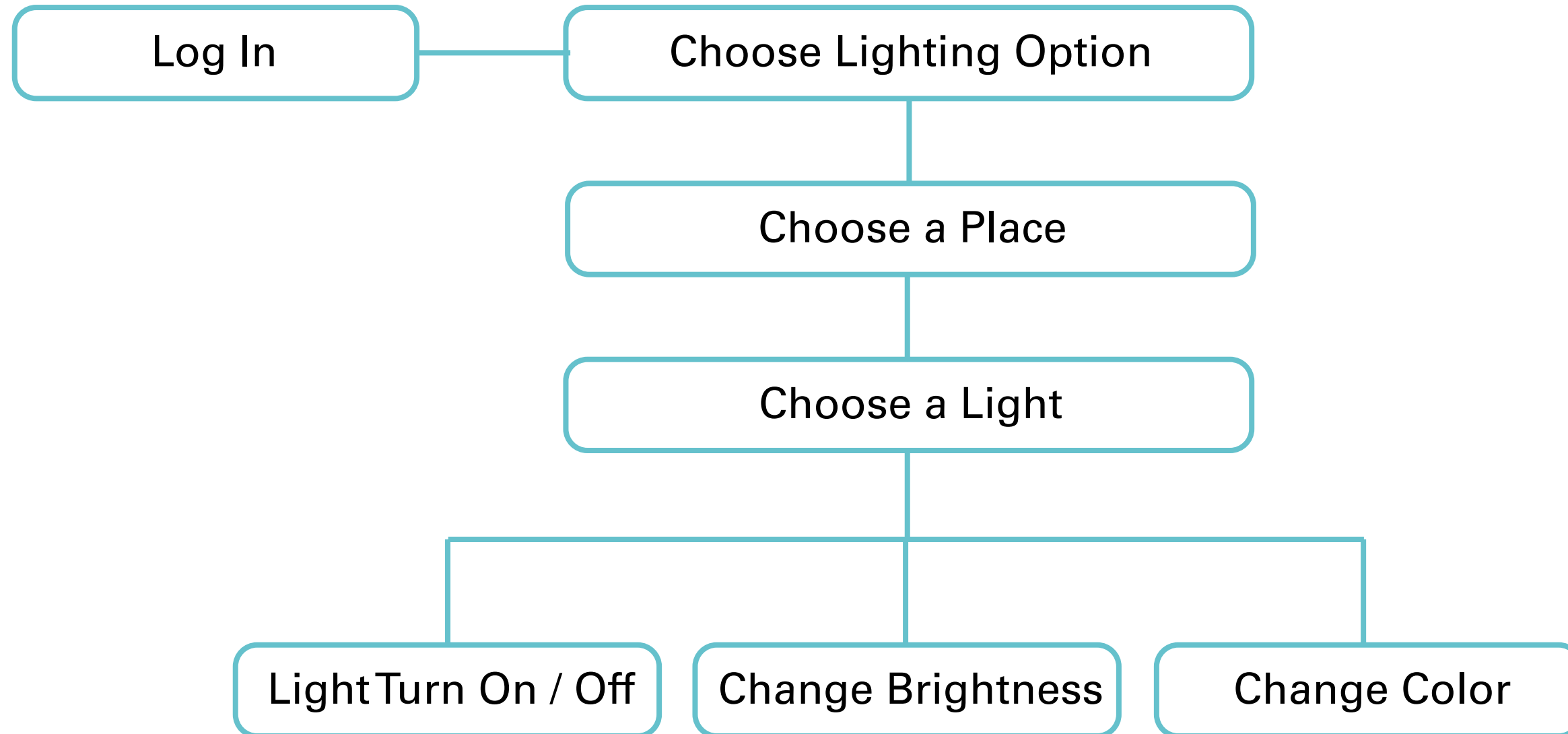
## Mobile (Security Camera)





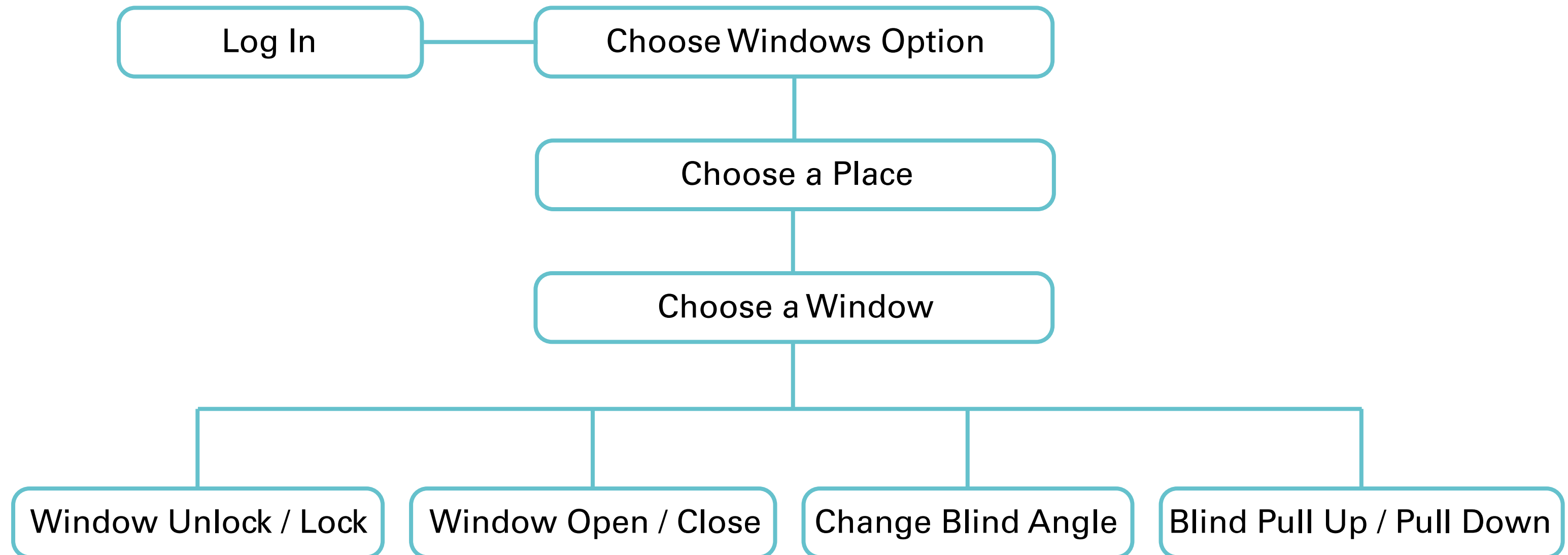
# User flows

## Mobile (Lighting)



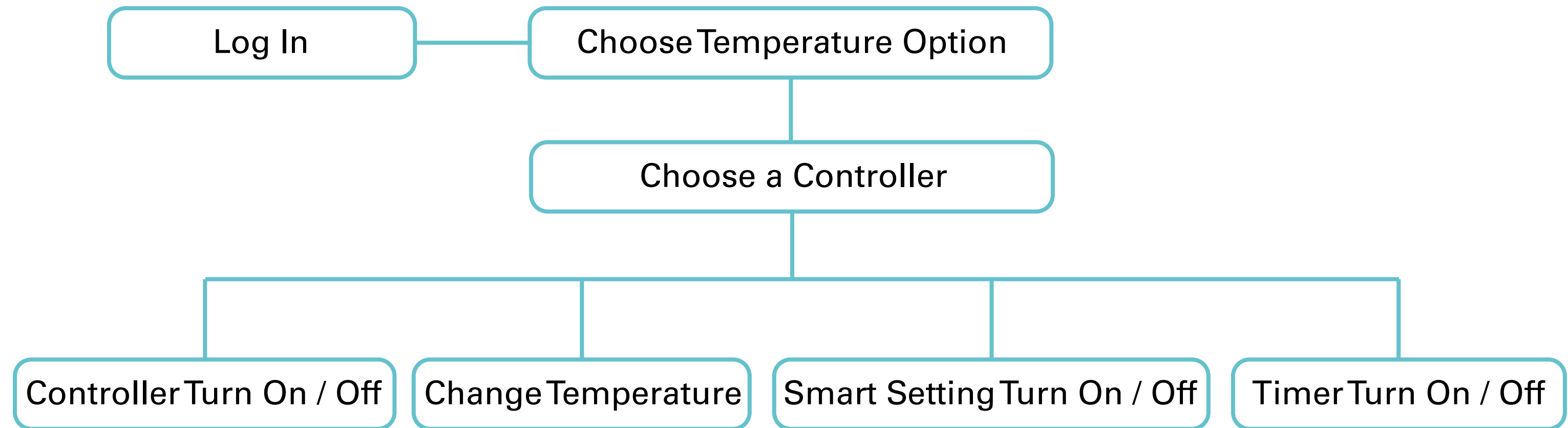
# User flows

## Mobile (Windows)



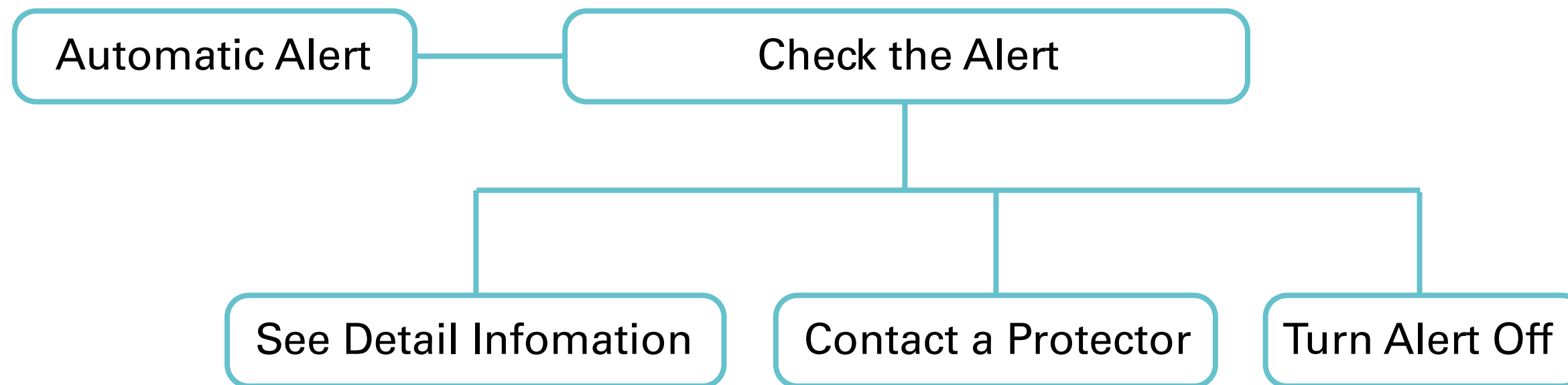
# User flows

## Mobile (Temperature)



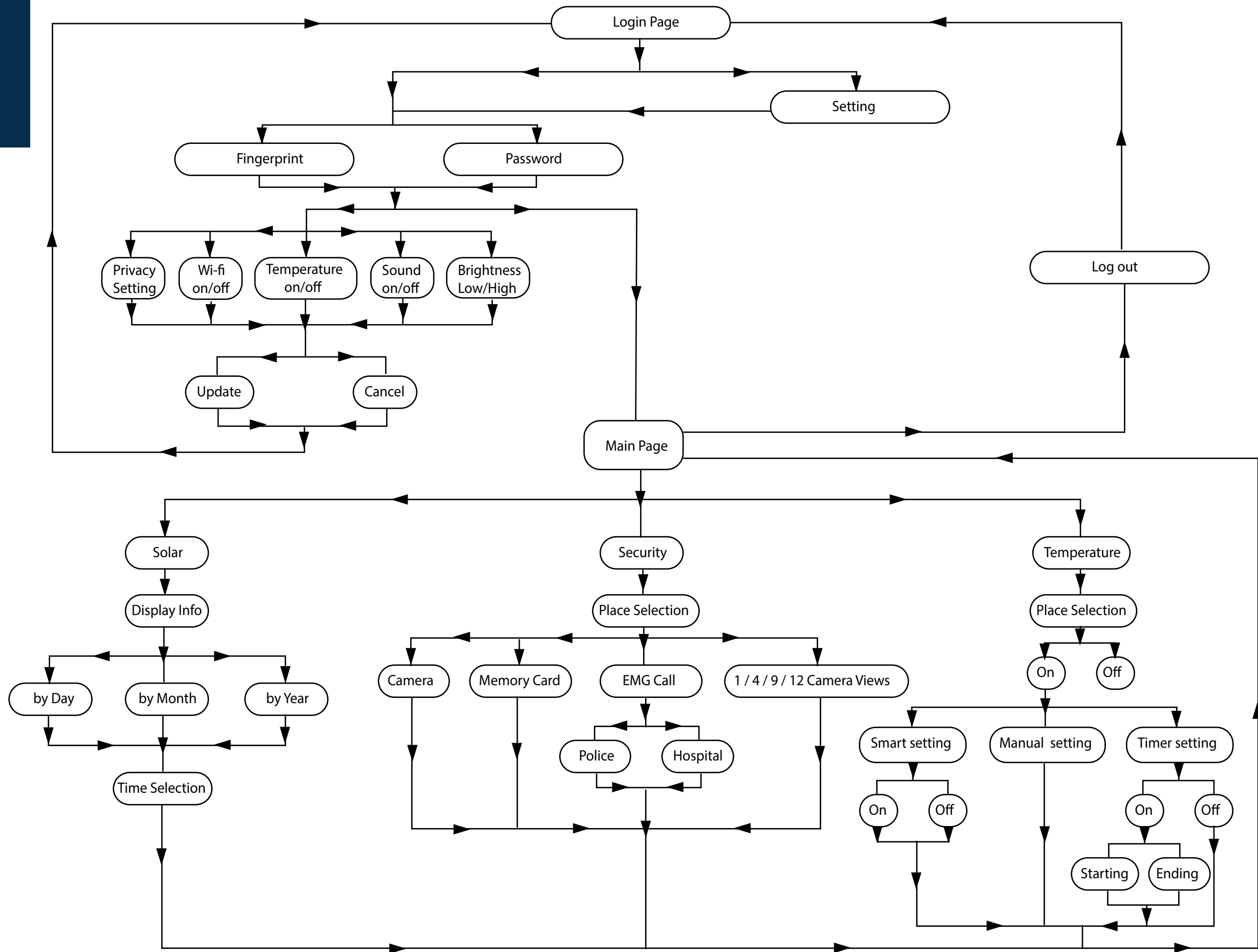
# User flows

## Mobile (Protect Alert)

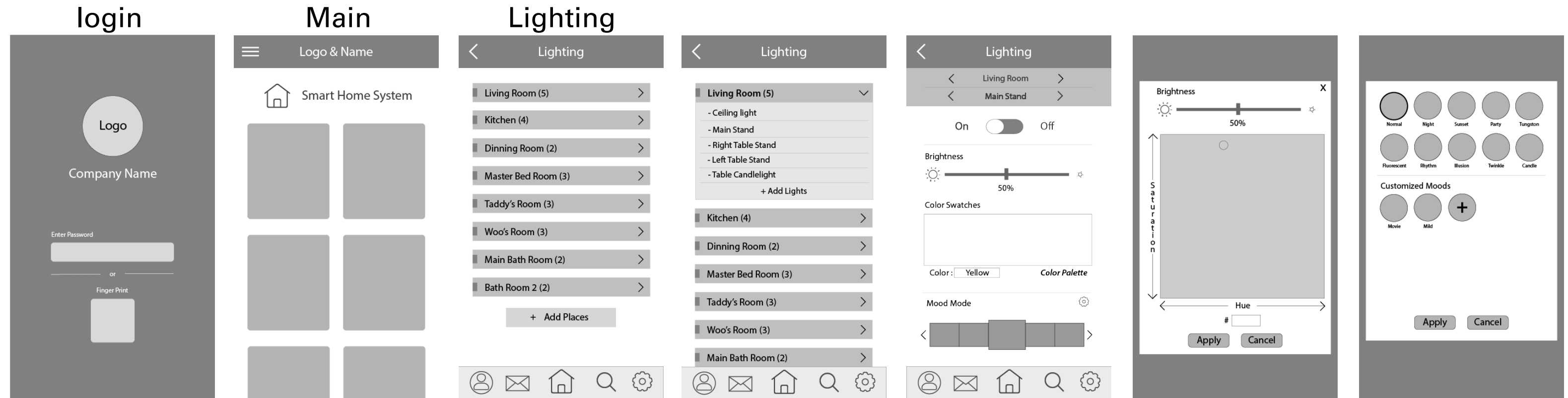


# User flows

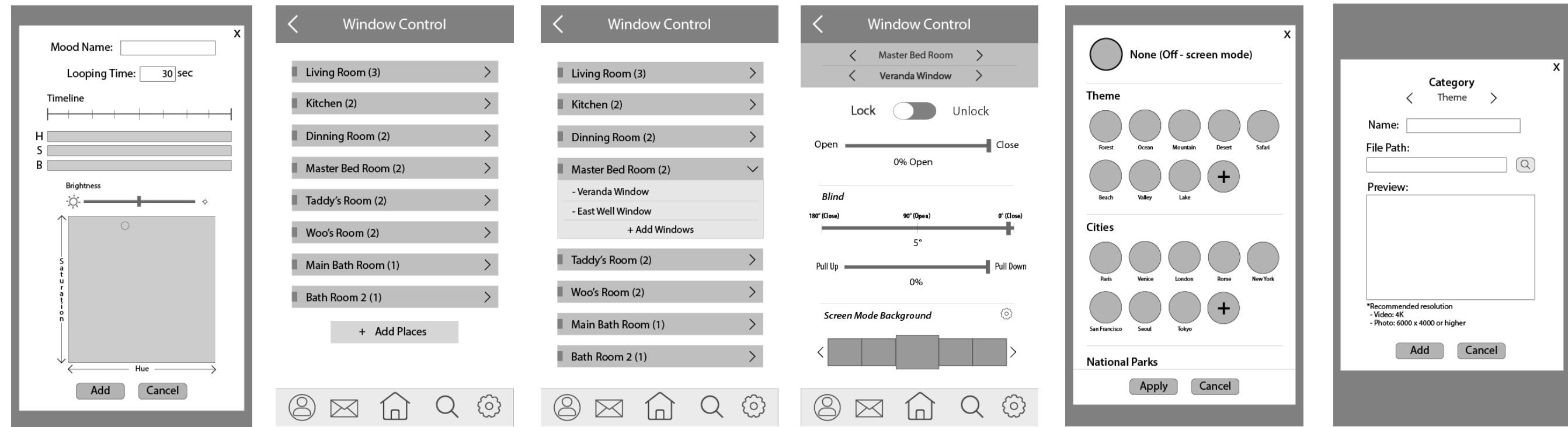
## Main Device



# 1st Wireframes

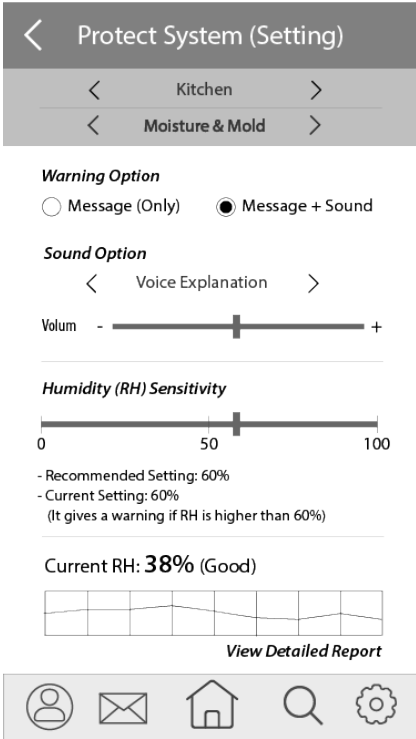
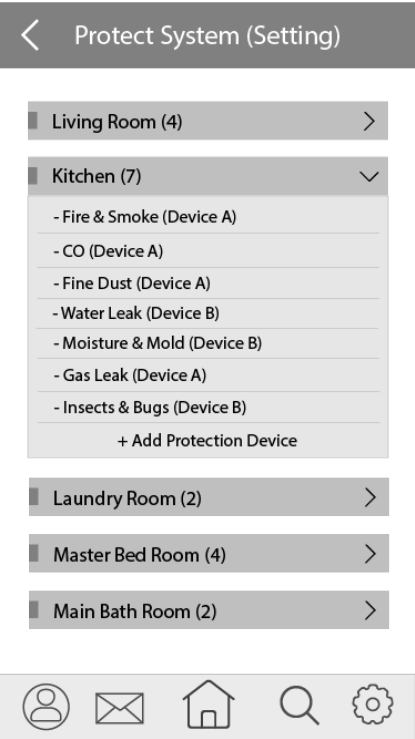


## Windows

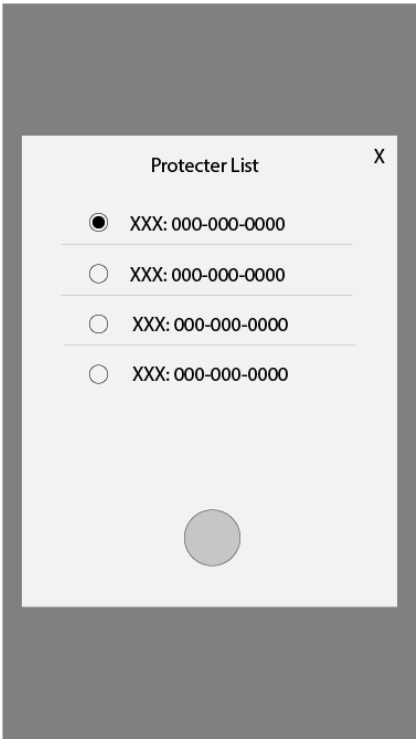
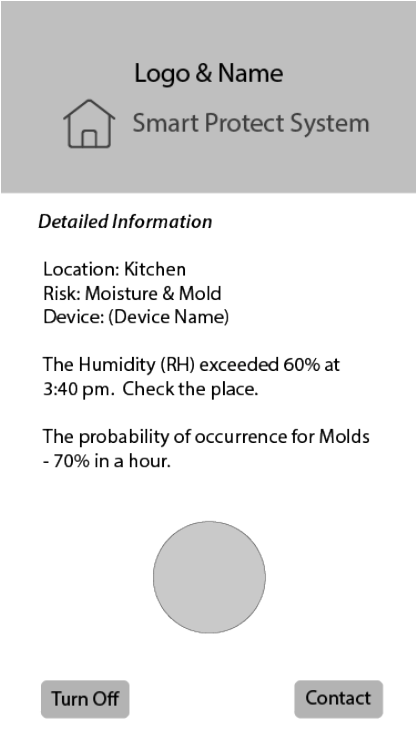


# 1st Wireframes

## Protect(Setting)



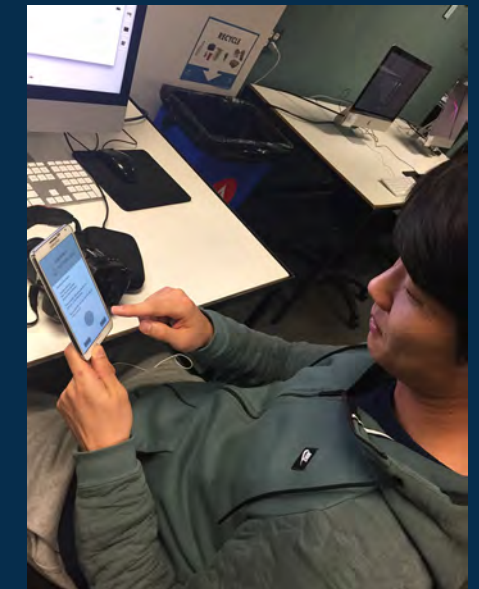
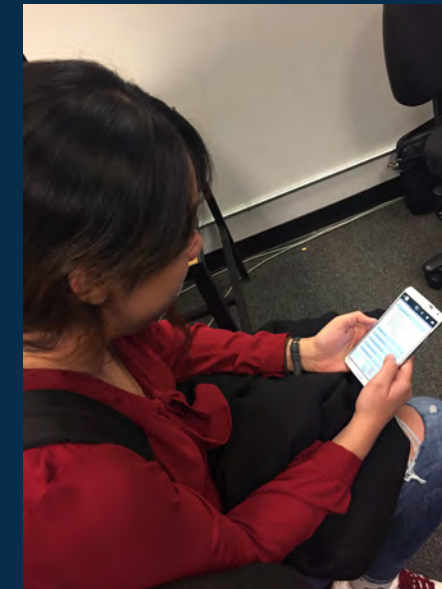
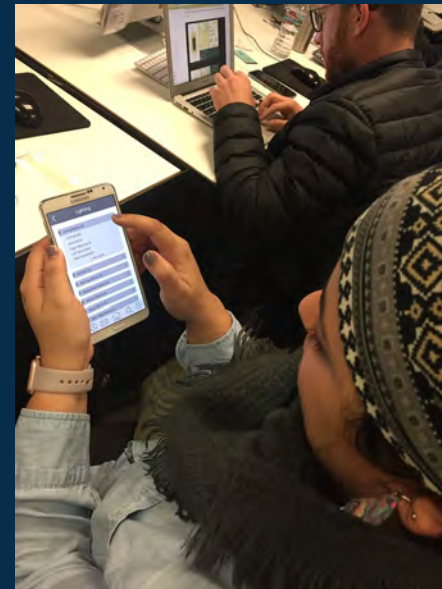
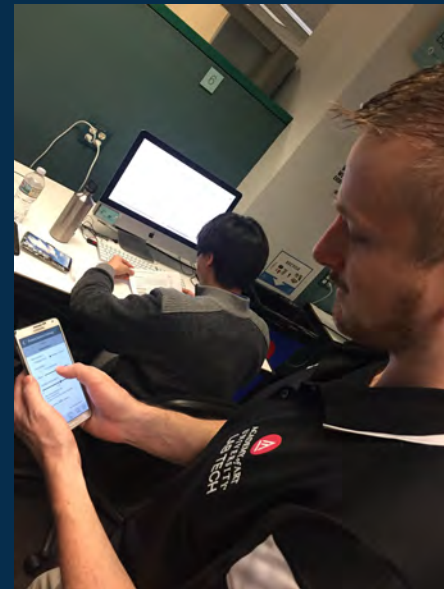
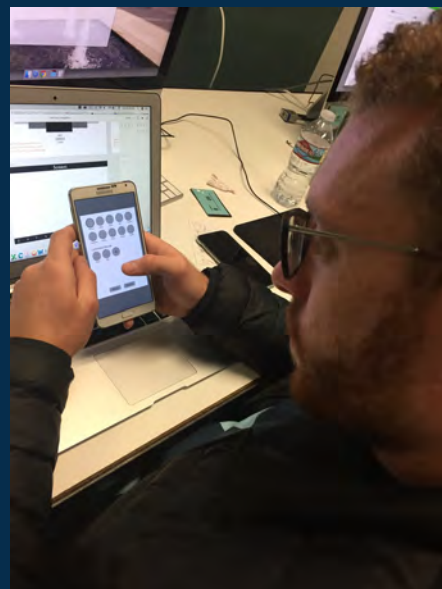
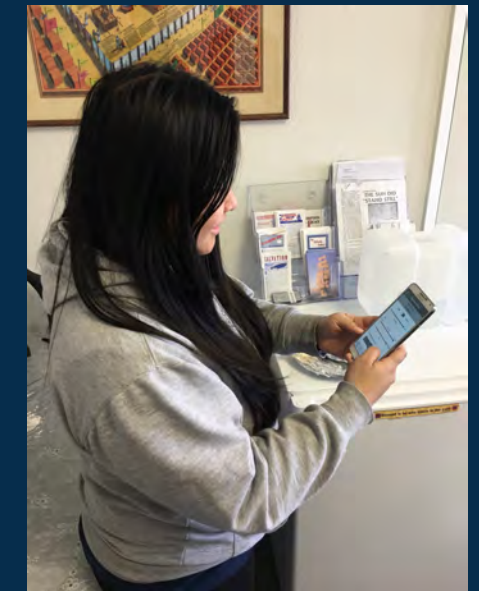
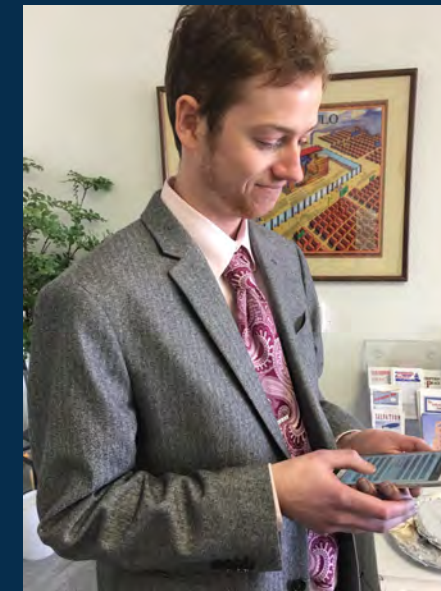
## Protect(Alert)





# 1st User Testing

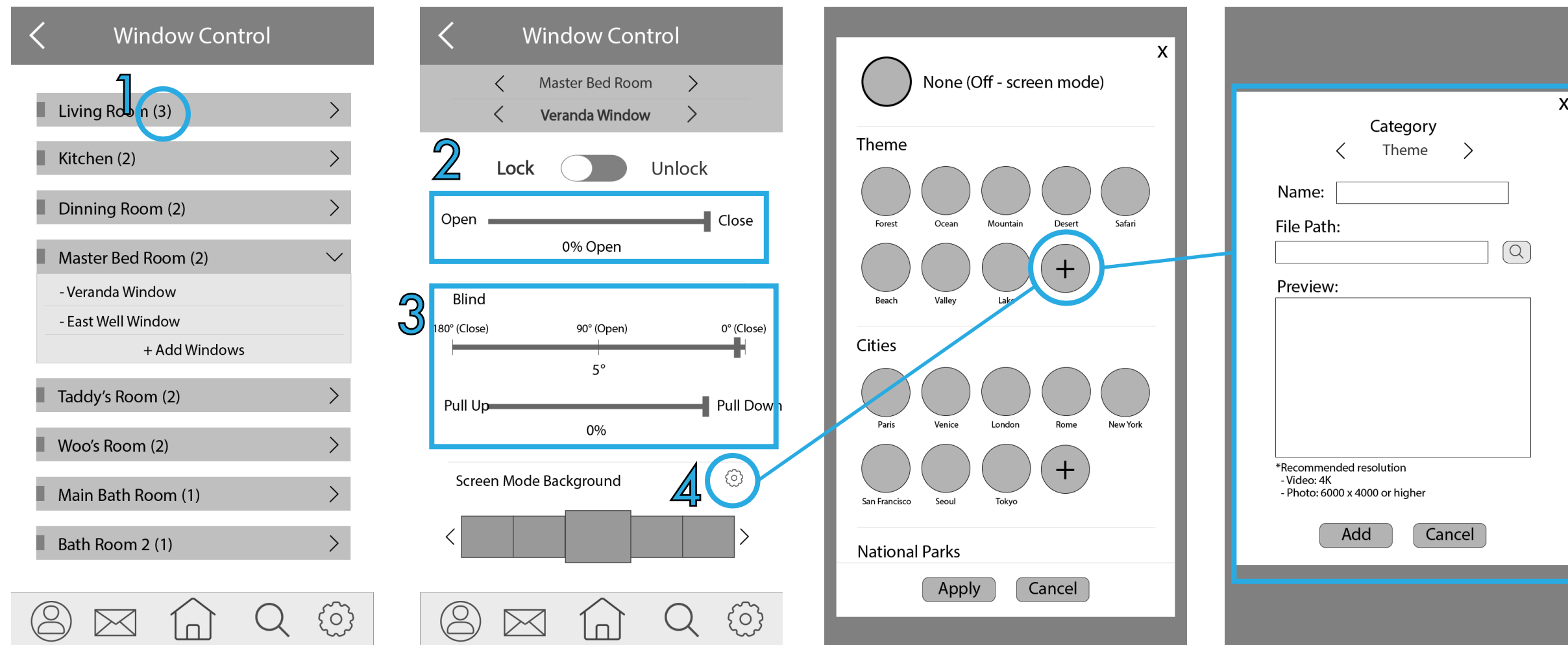
We surveyed 10 people.



# User Testing (Windows)

## Survey questions

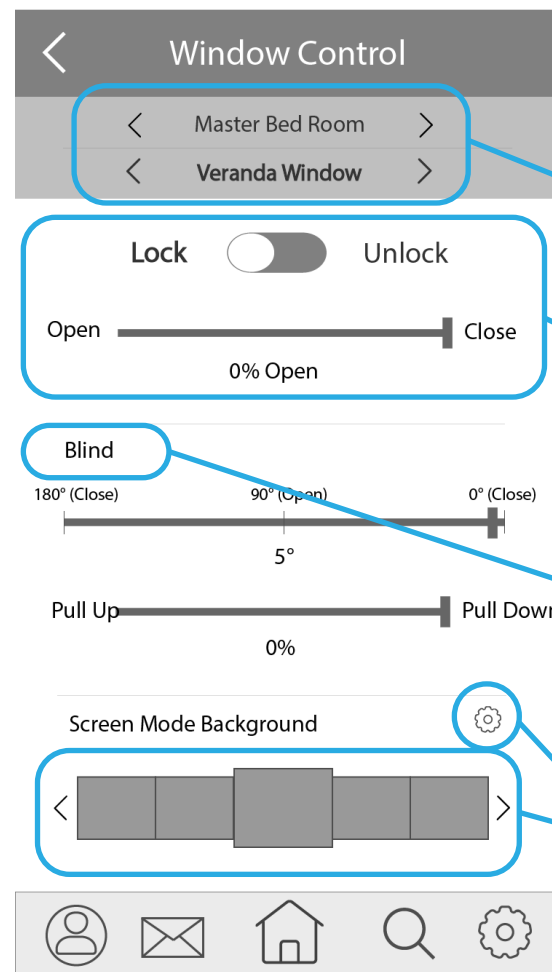
1. How many smart windows in the living room?
2. How can you open and close window of master bed room?
3. Can you explain how the blind function work?
4. How can you add the new window theme?





# User Testing (Windows)

## Feedback



Need to show the page of register new window

Not only Add function, but also Edit and Remove functions

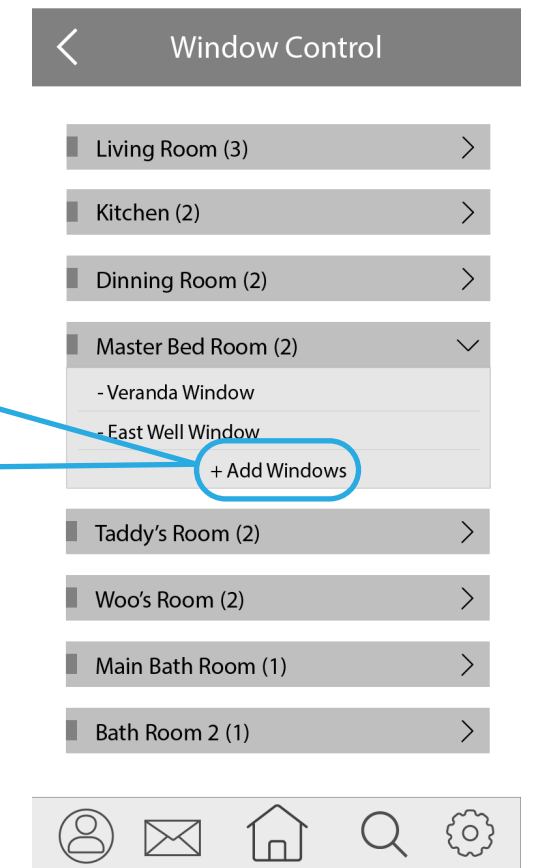
Too many layers of head menu

If the window is lock, open & close function is not activated

Transparency rather than blind (because it is smart window)

The slides in screen mode need to be bigger

Change the setting icon to +



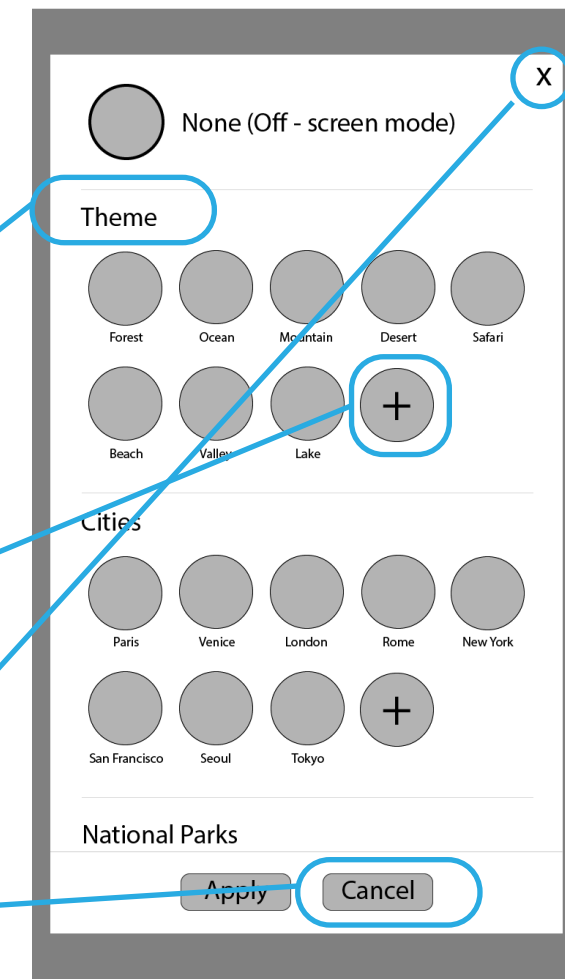
# User Testing (Windows)

## Feedback

Change theme to nature due to theme is a comprehensive term

Not only Add function, but also Edit and Remove functions

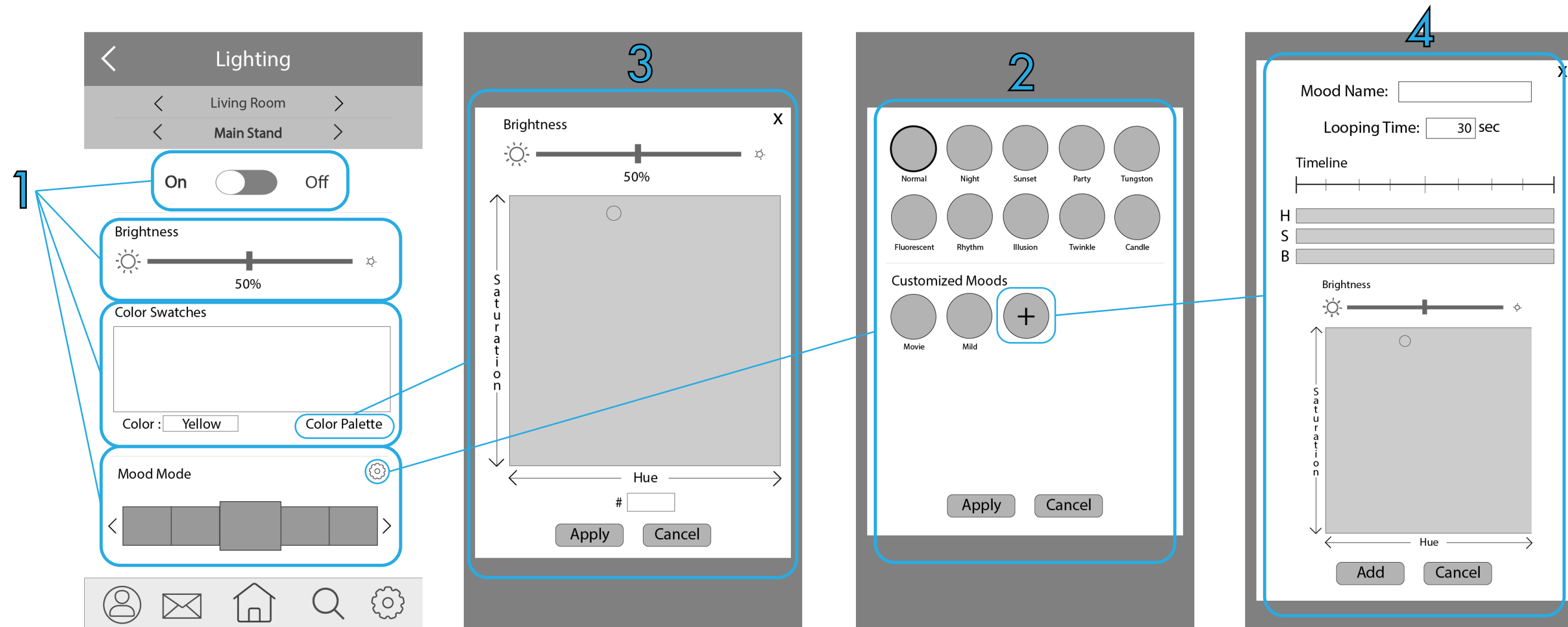
Do not need the (x) because it has cancel button



# User Testing (Lighting)

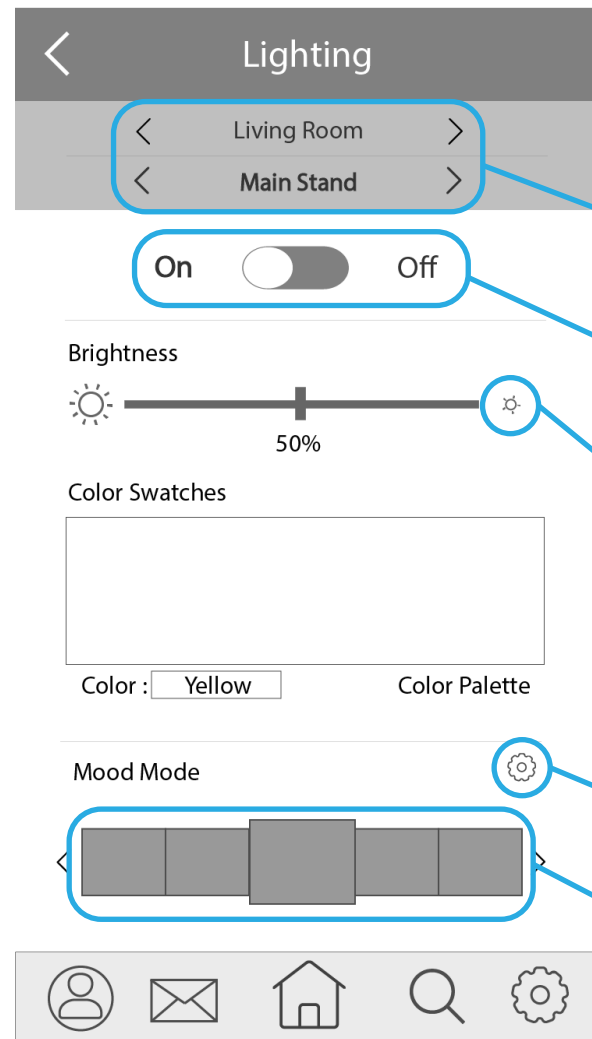
## Survey questions

1. How many functions the main stand have?
2. How can you change the mood mode?
3. What is the color palette using for?
4. How can you add the new mood mode?



# User Testing (Lighting)

## Feedback



Need to show the page of register a new light

Not only Add function, but also Edit and Remove functions

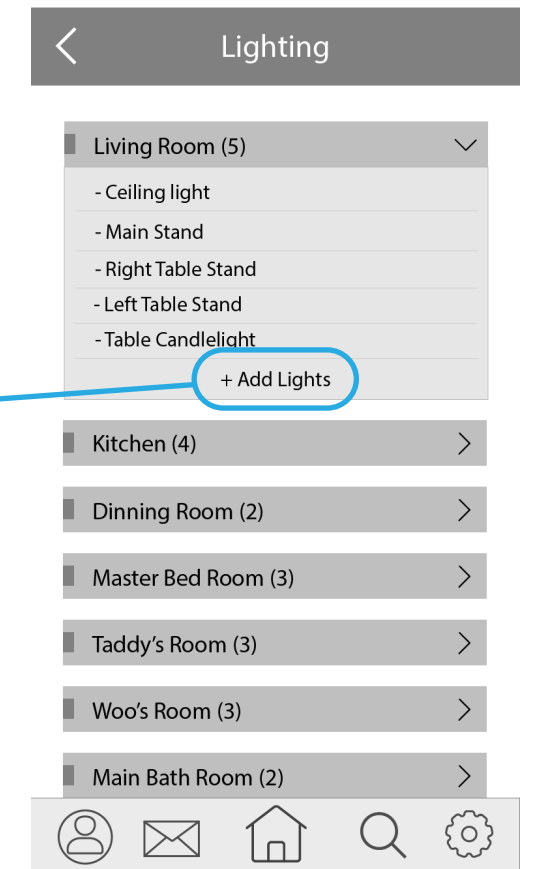
Too many layers of head menu

If the light is turning off, other functions are not activated

Instead of using small sun icon, moon icon use

Change the setting icon to +

The slides in mood mode need to be bigger



# User Testing (Lighting)

## Feedback

Do not need the (x) because it has cancel button

Don't H, S, B Setting on timeline (combine them into one)

The word 'Saturation' could be horizontal with  $-90^{\circ}$

The image shows a mockup of a lighting control interface with several feedback annotations. The interface includes a 'Mood Name' input field, a 'Looping Time' input field set to '30 sec', and a 'Timeline' section with three stacked input fields labeled 'H', 'S', and 'B'. Below these is a 'Brightness' slider and a large square area for 'Hue' and 'Saturation' settings. The word 'Saturation' is written vertically on the left side of this area. At the bottom are 'Add' and 'Cancel' buttons. A blue 'X' button is in the top right corner. Three blue lines with circular endpoints point to specific elements: one to the 'X' button, one to the 'H', 'S', and 'B' input fields, and one to the word 'Saturation'.

Mood Name:

Looping Time:  sec

Timeline

H

S

B

Brightness

Saturation

Hue

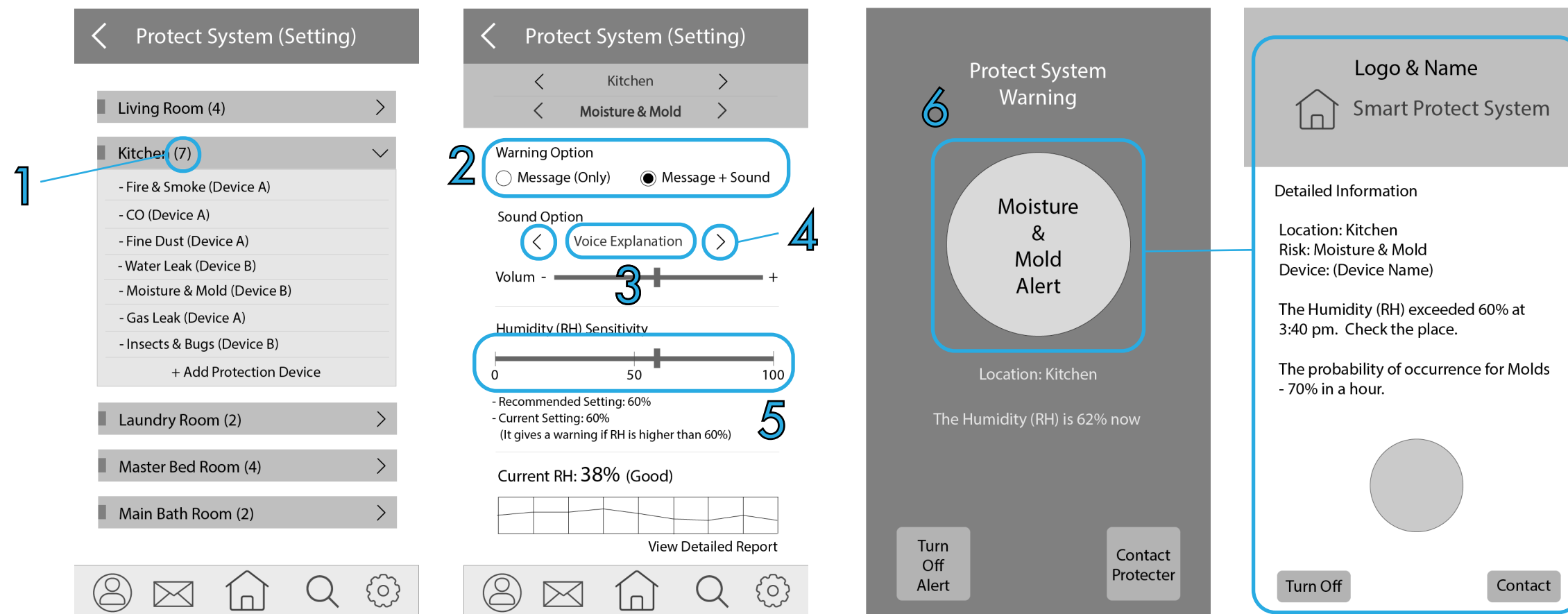
Add Cancel



# User Testing (Protect)

## Survey questions

1. What does 'number 7' mean next to the Kitchen mean?
2. Do you know the warning option mean?
3. Do you know voice explanation mean?
4. How to switch from voice to music?
5. If you want to see the warning message when the humidity 70% or higher, how can you change the setting?
6. If you want to see the warning detail info, how can you find out?



# User Testing (Protect)

## Feedback

Protect system could be confused with security system

Remove 'Insects & bugs' options (may be too complicated)

Need to show how can a user register new device

If the warning option is message only, sound option would not be activated

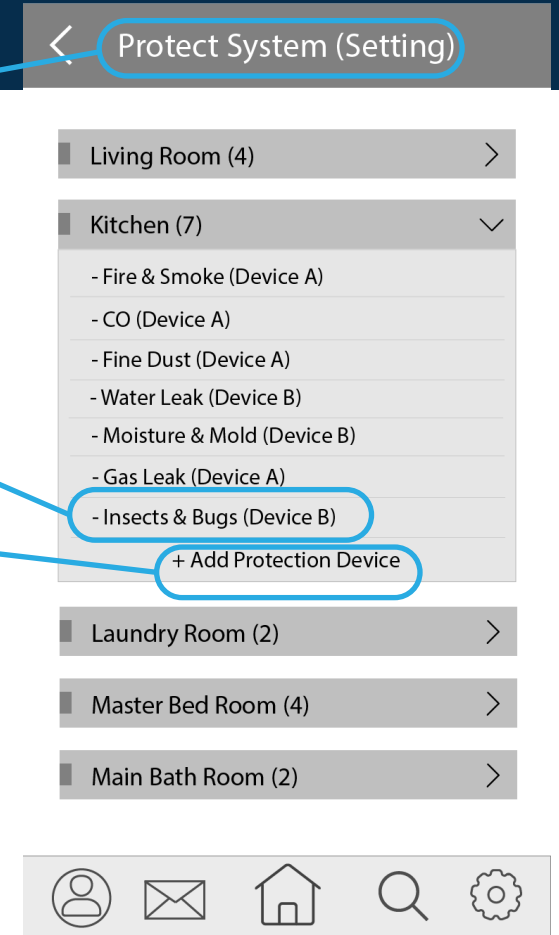
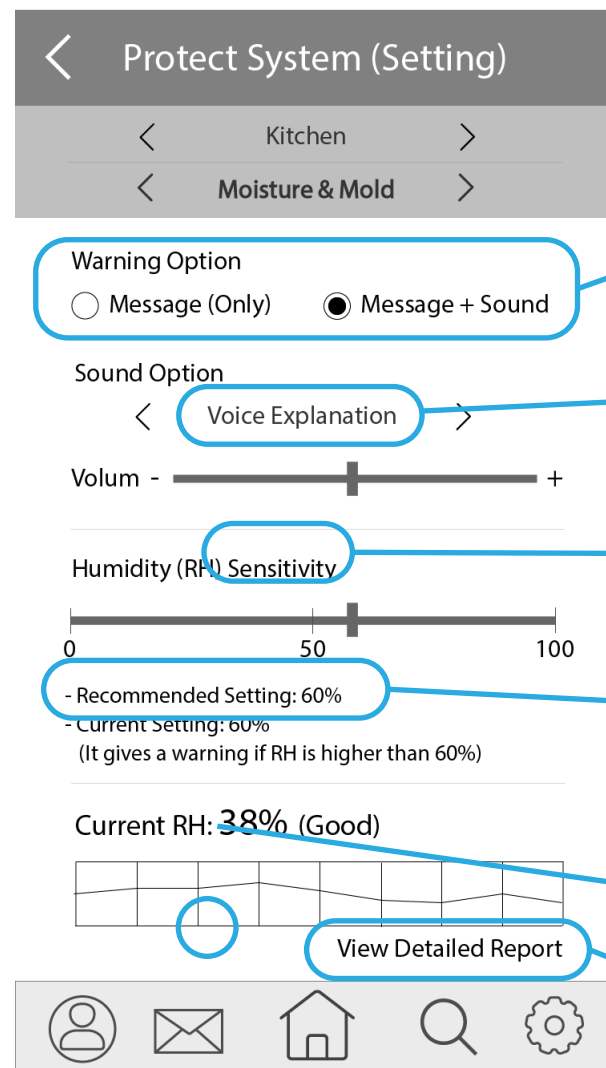
'Voice Sound' is more appropriate word

'Level' is more appropriate word

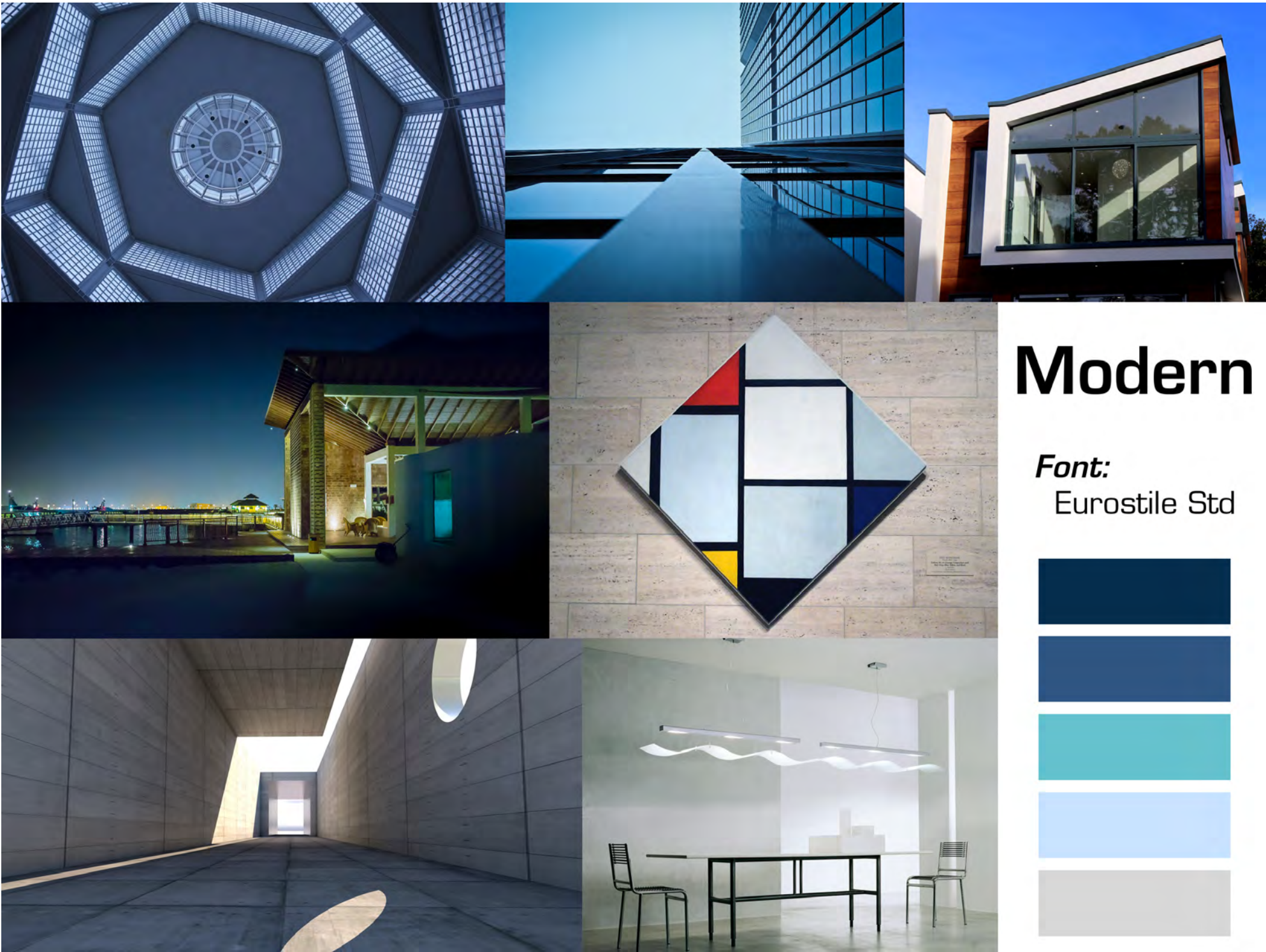
Instead of explanation, use a mark to show recommended setting value.

Do not use technical term like RH

'View History' is appropriate word



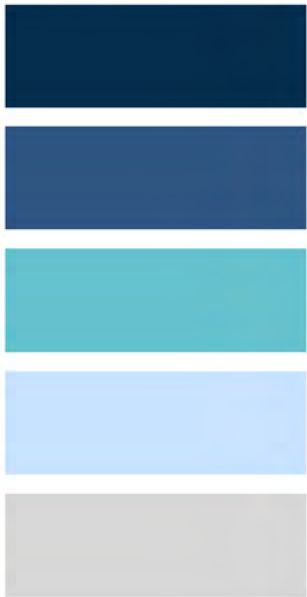
# Moodboard & Design 1



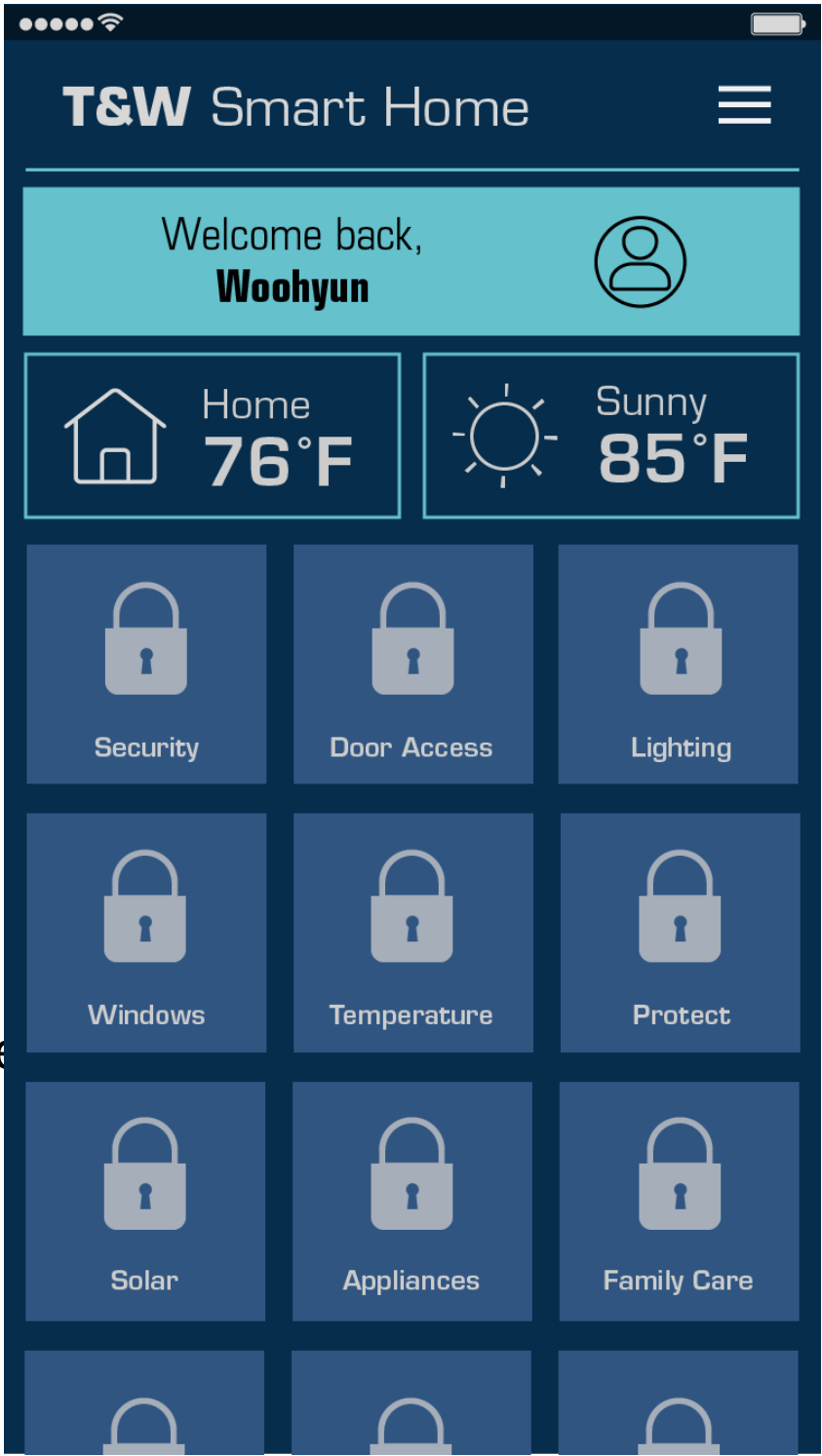
ound option

## Modern

Font:  
Eurostile Std



ow recomme





# Moodboard & Design 2

## FUTURE TECHNOLOGY



Share Tech

ABCDEFGHIJKLMNOPQRSTUVWXYZ

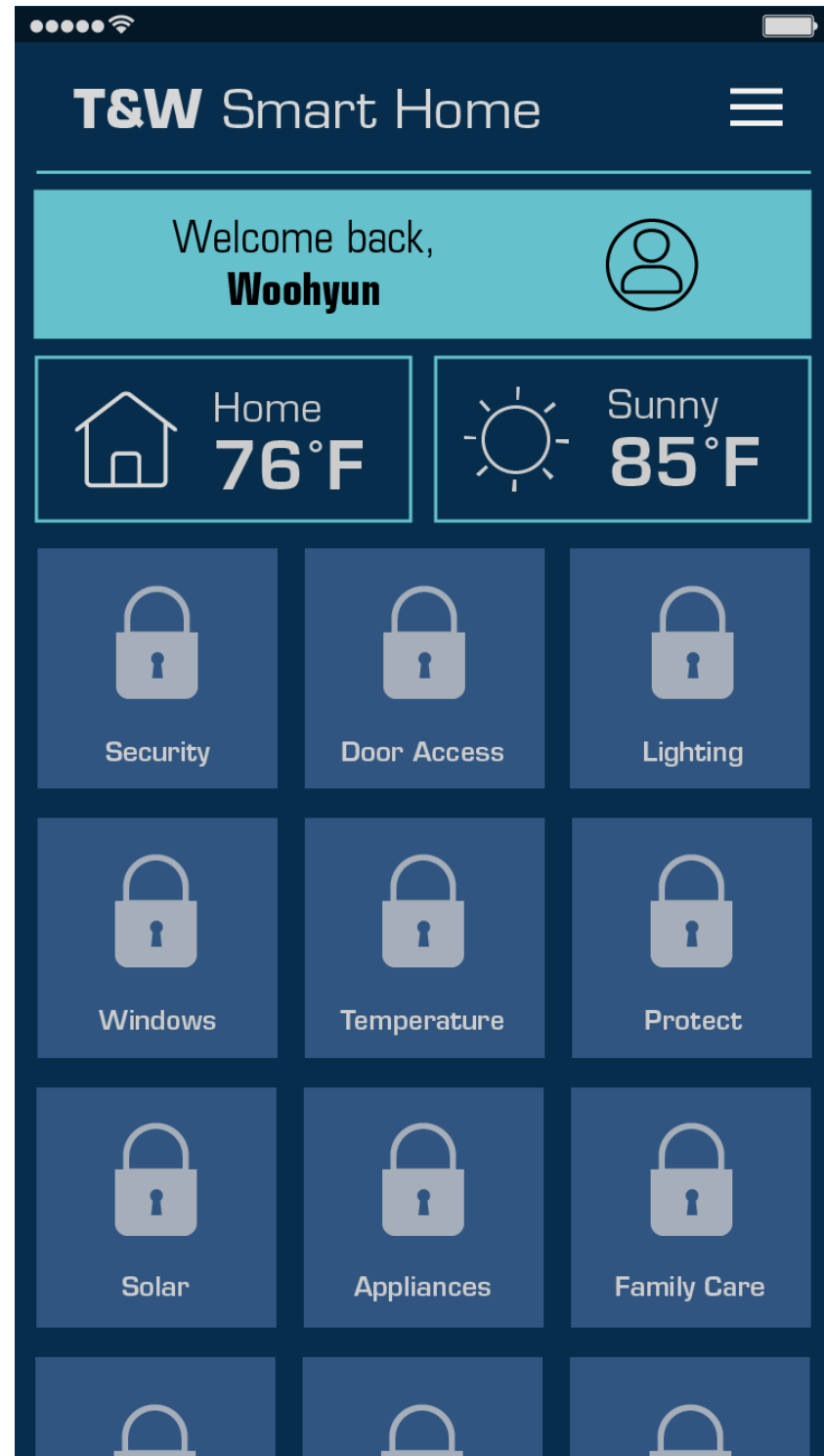
abcdefghijklmnopqrstuvwxyz

1234567890

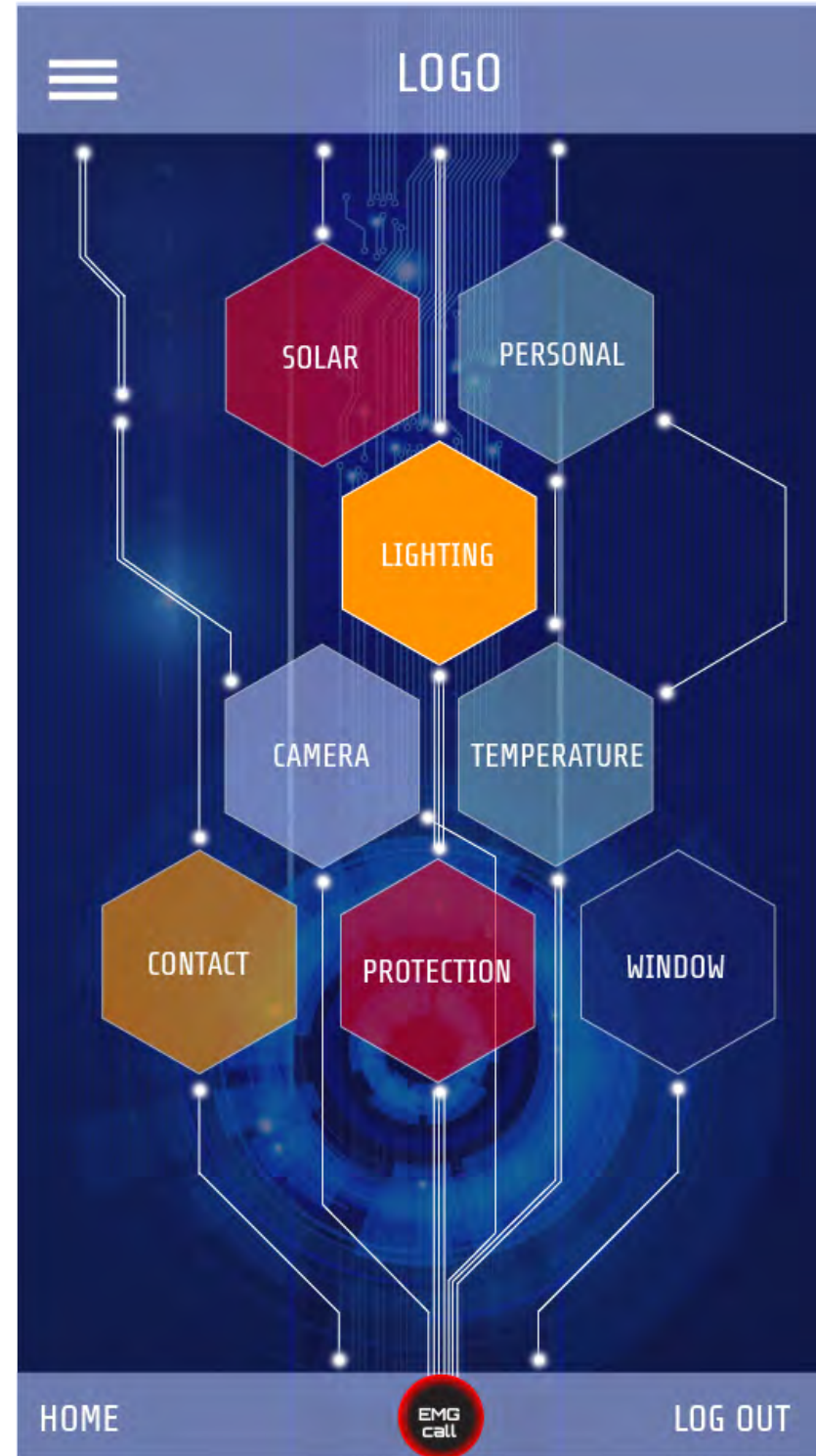




# Design Concept



+

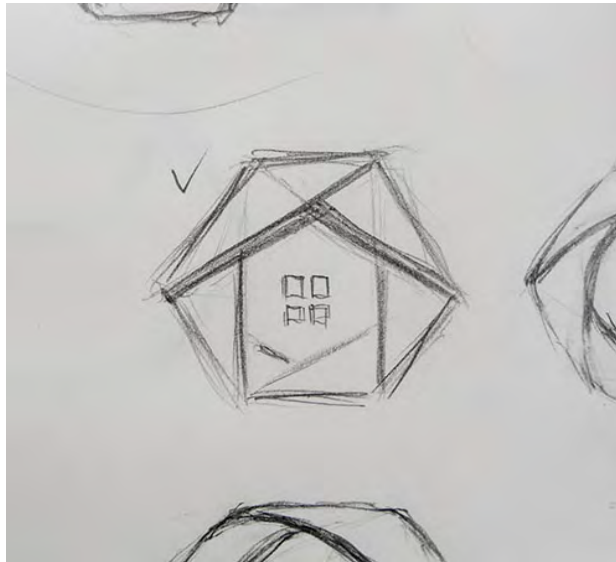


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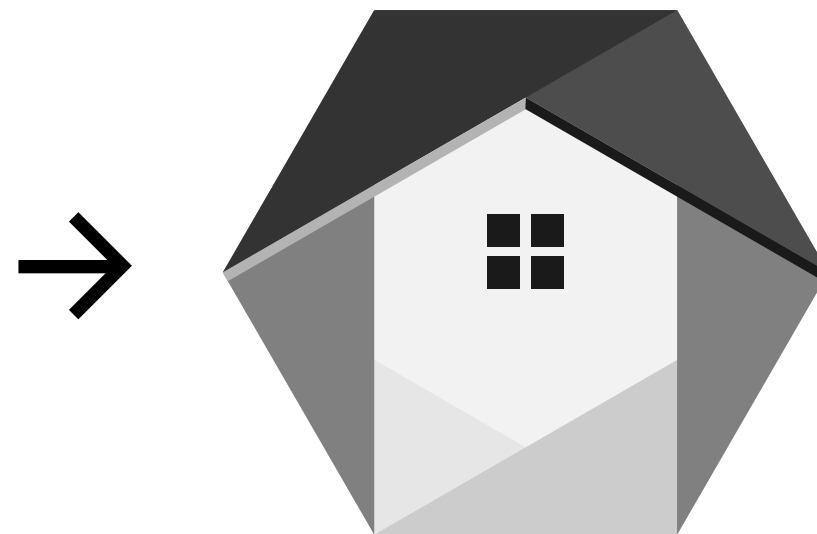


# Logo Process (Mobile)

Sketch



1st



Final



Logo Colors



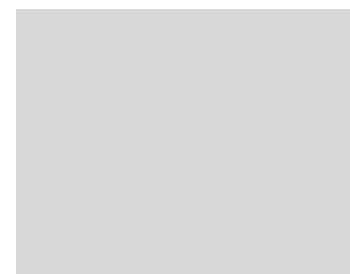
RGB: 6/45/76  
CMYK: 100/82/43/41  
HAX: 062D4C



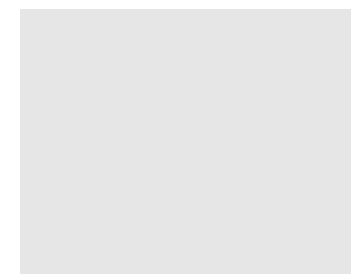
RGB: 48/85/129  
CMYK: 89/69/27/9  
HAX: 305581



RGB: 101/193/204  
CMYK: 57/4/20/0  
HAX: 65C1CC

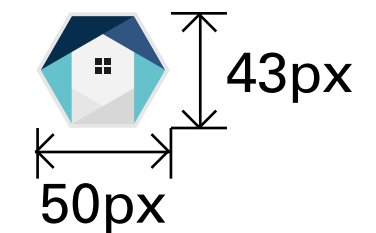


RGB: 215/215/215  
CMYK: 15/11/11/0  
HAX: D7D7D7



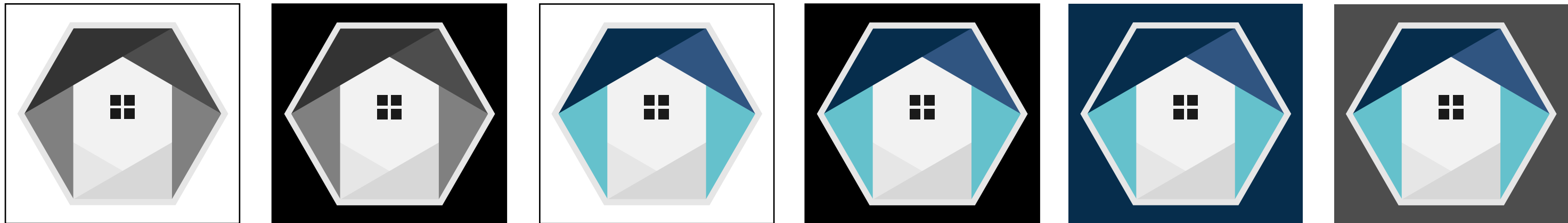
RGB: 230/230/230  
CMYK: 8/6/7/0  
HAX: E6E6E6

Minimum Size



# Logo Style Guide (Mobile)

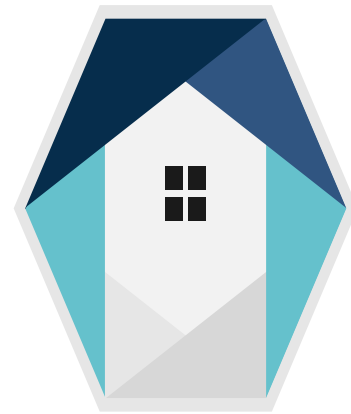
Usages - Can use only 2 type of logo (Black & White, Color) with any back grounds.



Forbidden usages



Do not  
change color



Do not  
distort or warp



Do not  
rotate



Do not  
outline



Do not  
apply a gradient



# Logo Concept (Main Device)

ZIB is Homophones in Korean language means Home.

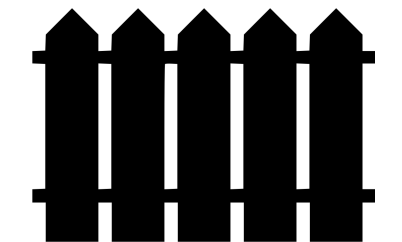


Icon. Designed like a top view of umbrella.  
Means "Safe" and "Protected".



**ZIB**

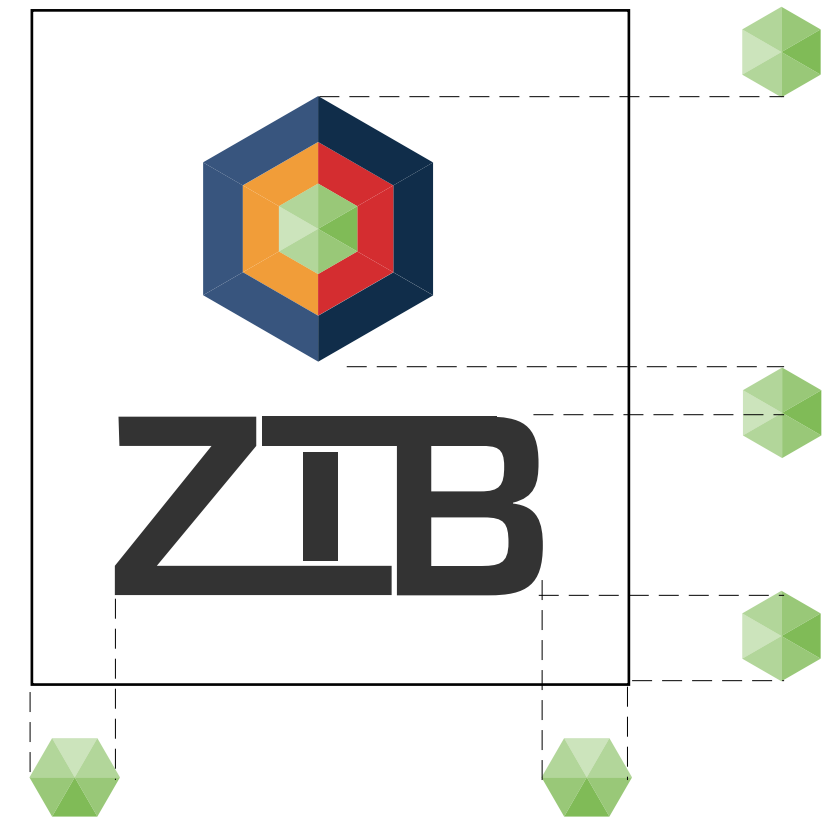
Designed like a house fence.  
That is the meaning of anything inside  
this area will be "safe" and "comfortable",  
filling like "Home".



# Logo Specification (Main Device)

## Clear space

- Always maintain clear space around the ZIB signature to protect the logo from distracting graphics or typography.
- For the signature and icon, measure clear space by the half diameter of inside icon.
- For the side, bottom and top of logo, measure clear space by the inside icon's diameter
- Never allow typography or other elements to "invade" the signature of icon.



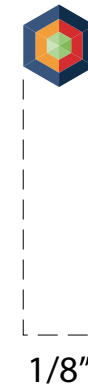
# Logo Specification (Main Device)

## Minimun size

-The ZIB signature reproduces well at almost any size. Going too small, however, can damage the logo's integrity and effectiveness. Please never reproduce the signature.



Smaller than 1/2" wide,  
measured from the left side edge of "Z"  
to the right side edge of "B".



Smaller than 1/8" wide,  
measured from the left side edge  
of icon to the right side edge of icon..

## Logo color



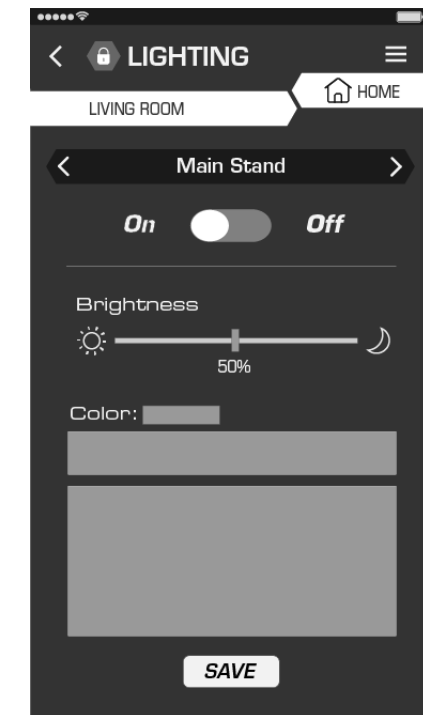
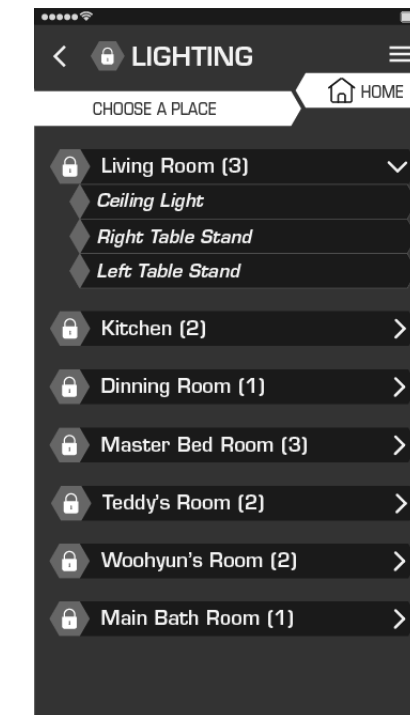
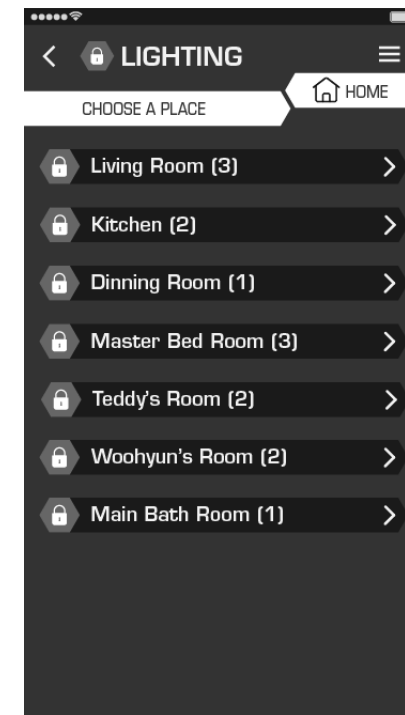
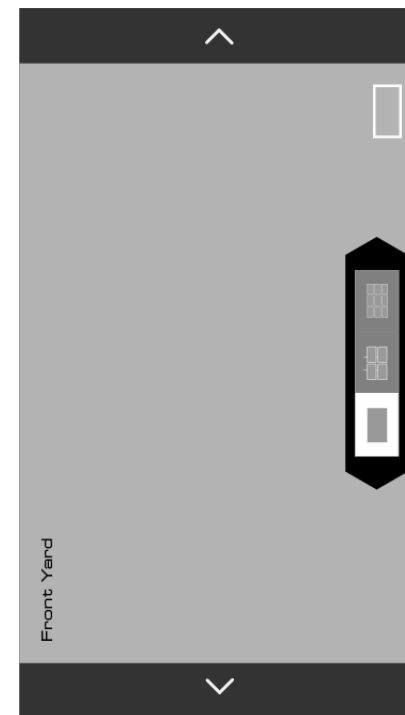
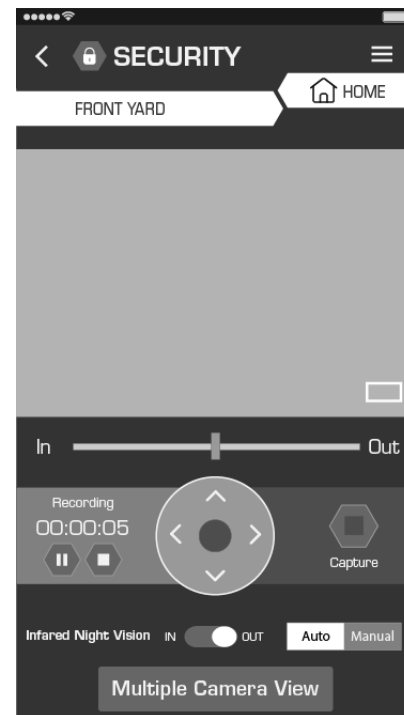
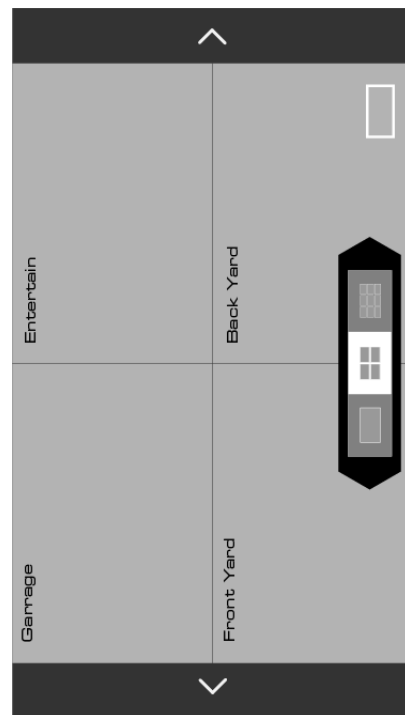
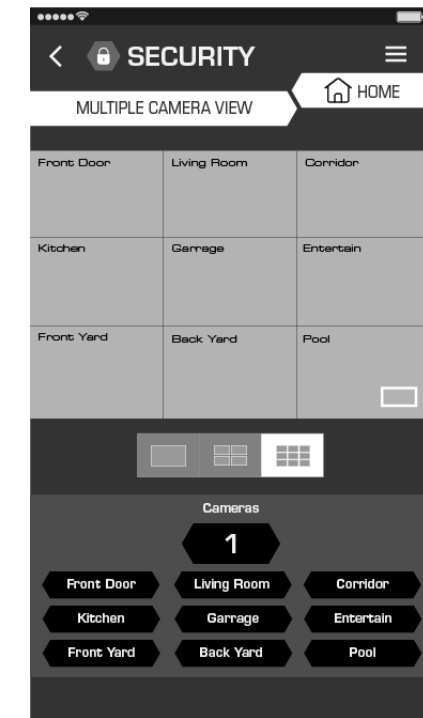
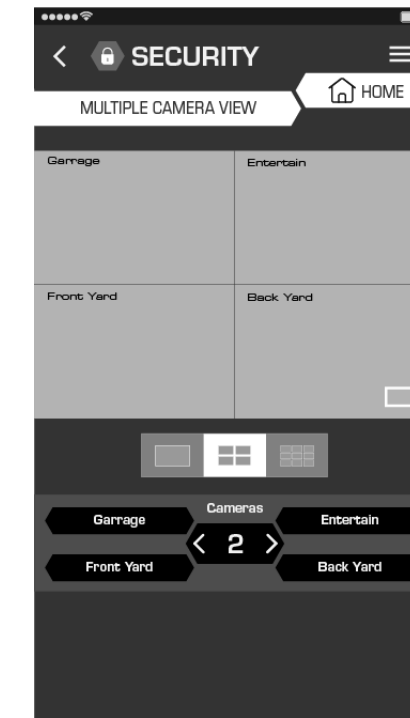
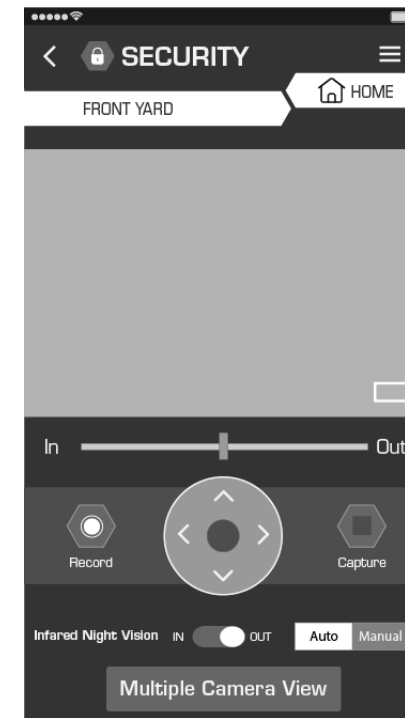
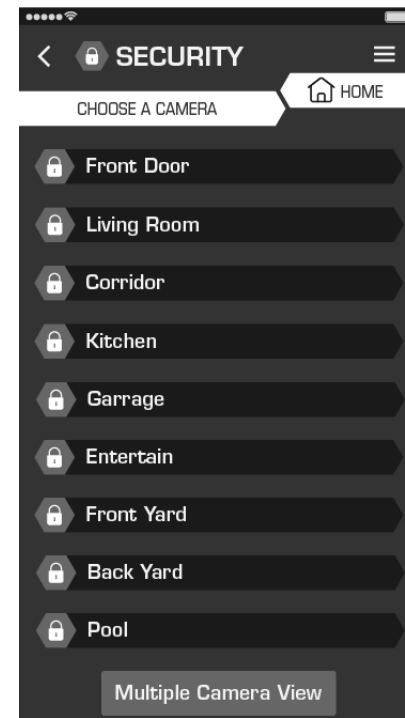
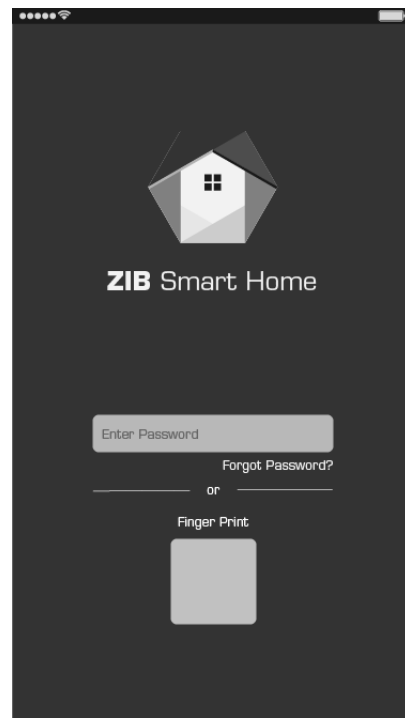
**Primary color**  
**Black Onyx**  
**RGB #333333**  
**CMYK 69 63 62 58**

**Secondary color**  
**Dark Blue**  
**RGB #102D4A**  
**CMYK 91 81 44 43**

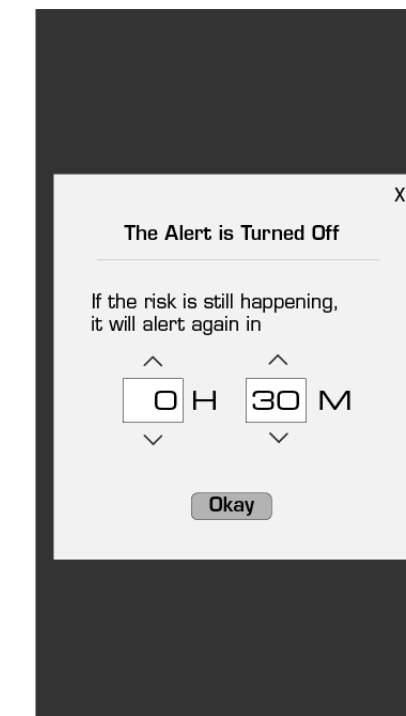
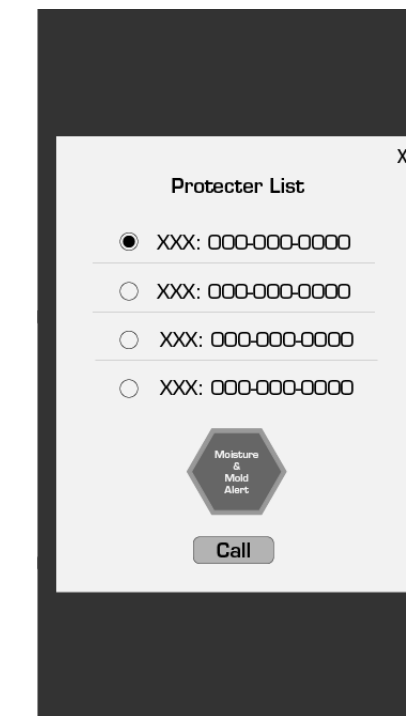
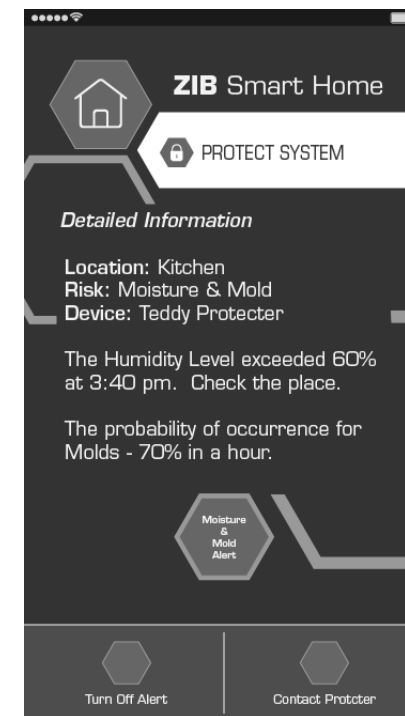
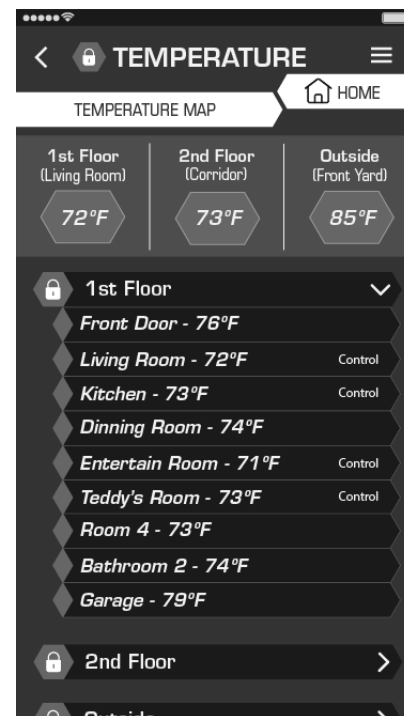
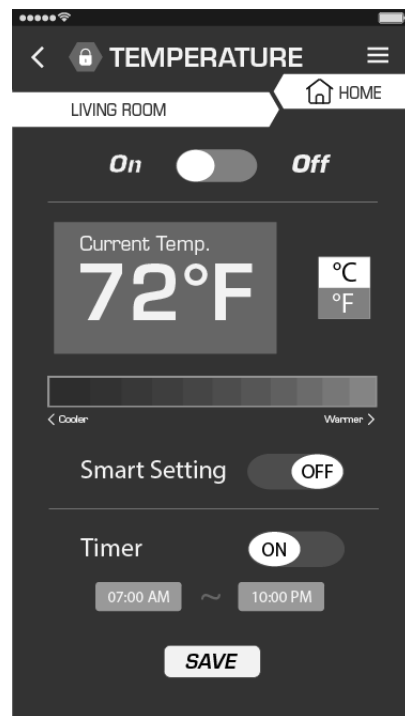
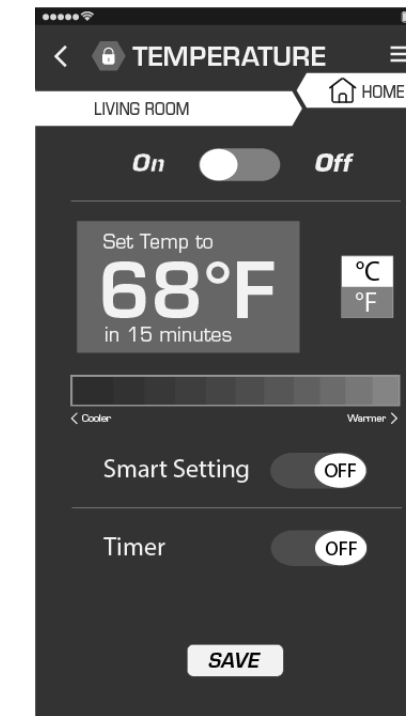
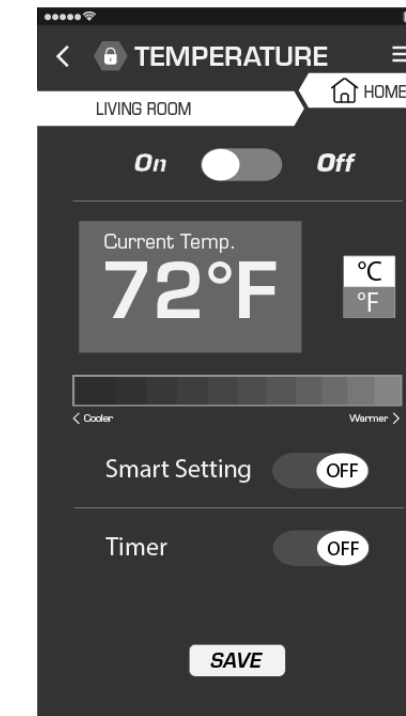
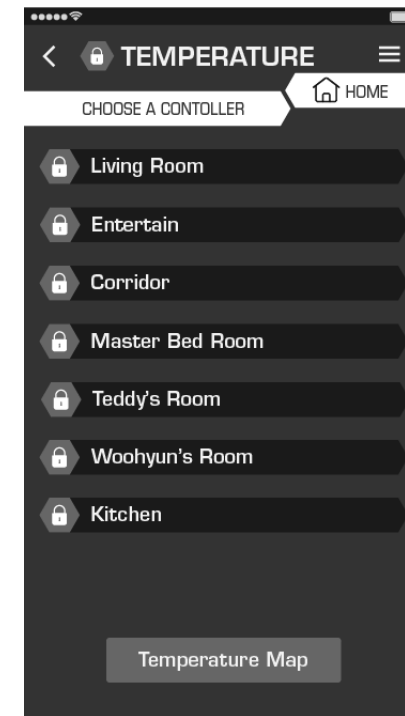
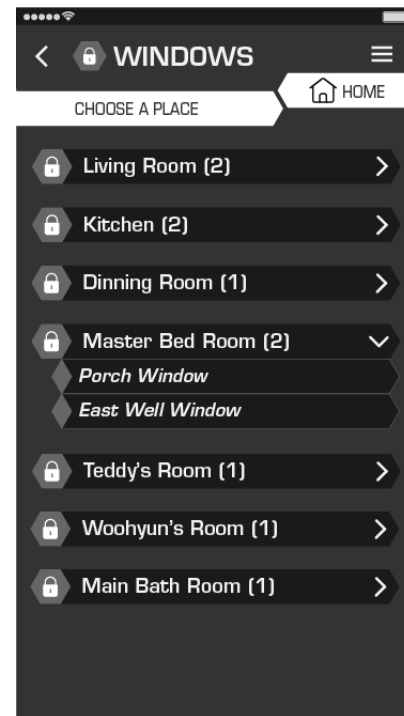
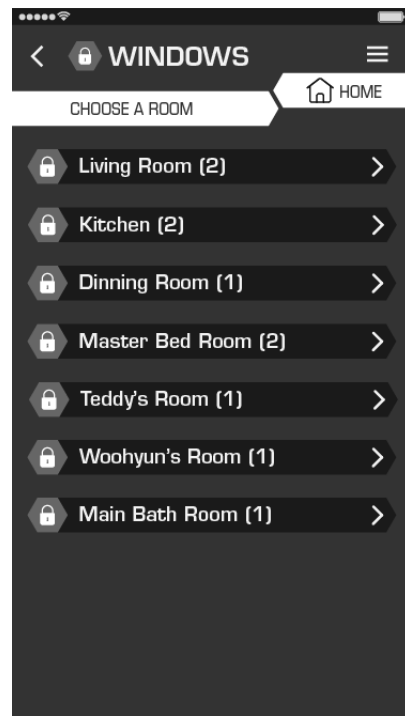
**Secondary color**  
**Warm Red**  
**RGB #D42D30**  
**CMYK 11 97 91 02**

**Secondary color**  
**Fresh Green**  
**RGB #80BB57**  
**CMYK 55 05 87 00**

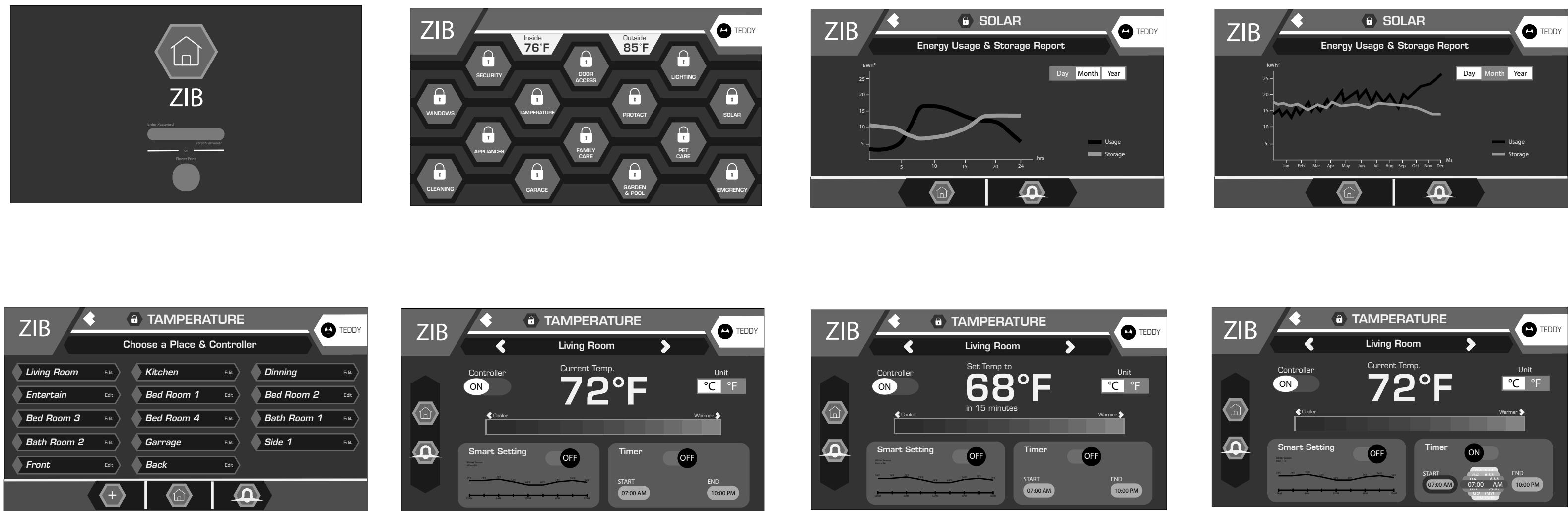
# 2nd Wireframes (Mobile)



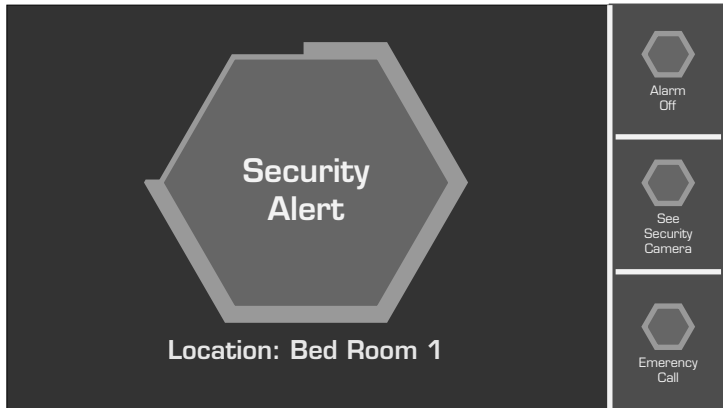
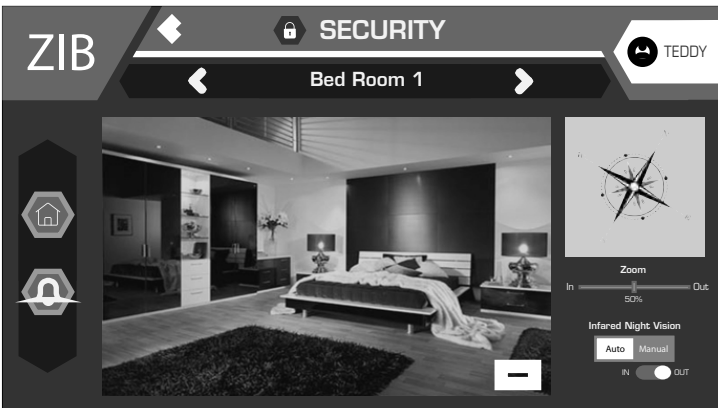
# 2nd Wireframes (Mobile)



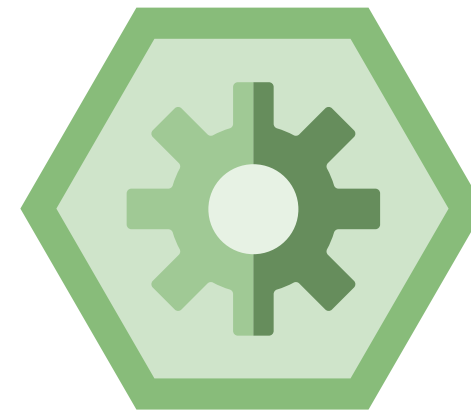
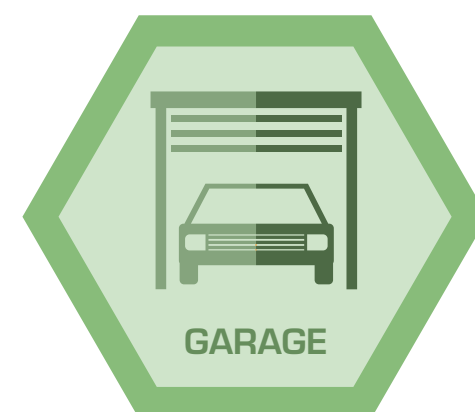
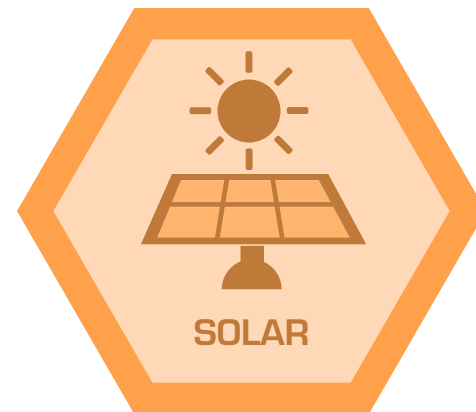
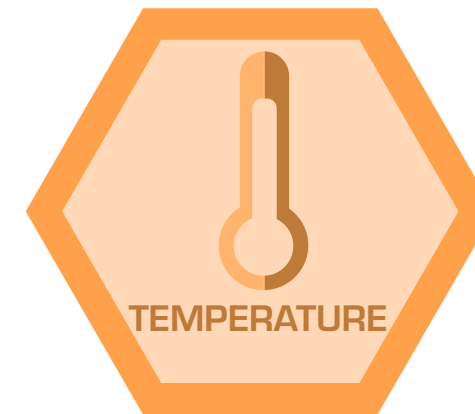
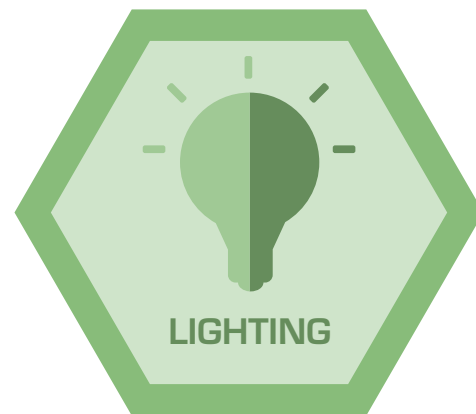
# 2nd Wireframes (Main Device)



# 2nd Wireframes (Main Device)

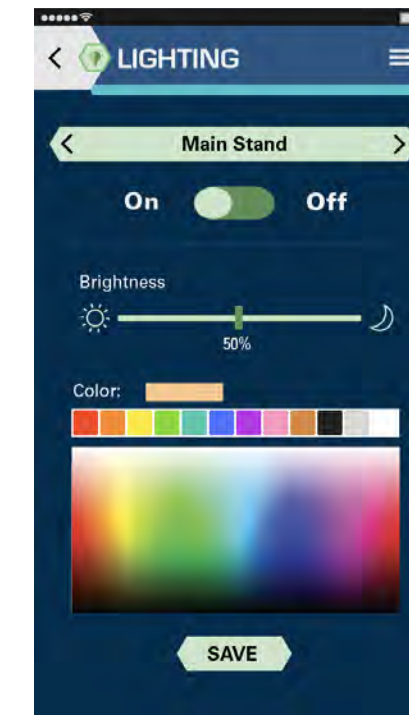
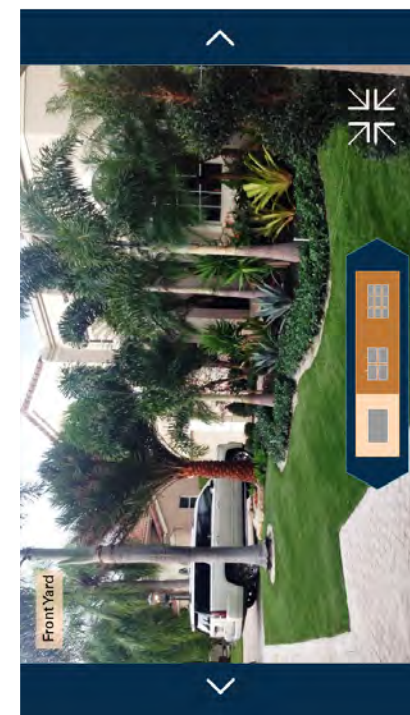
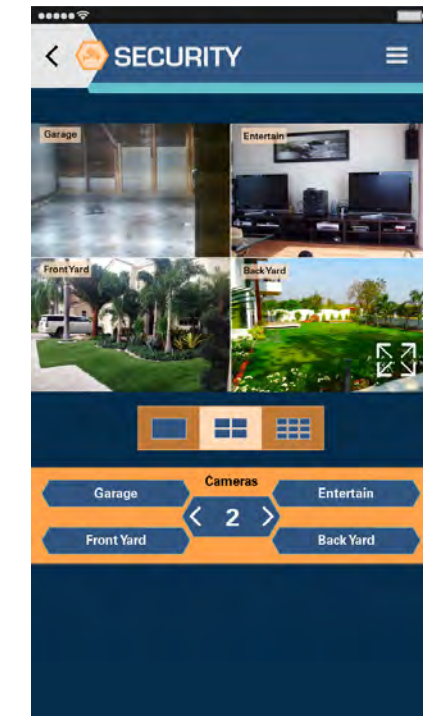
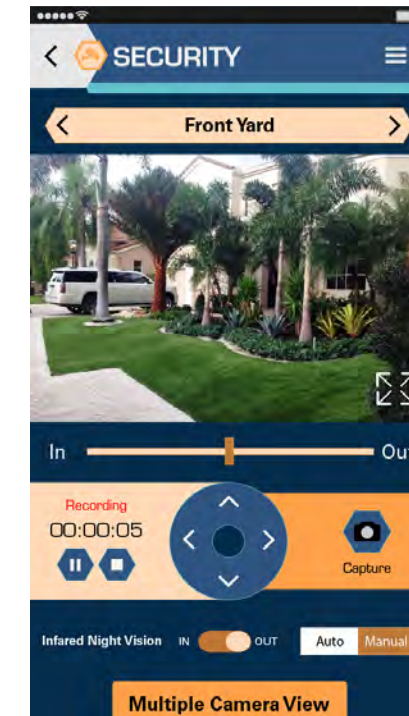
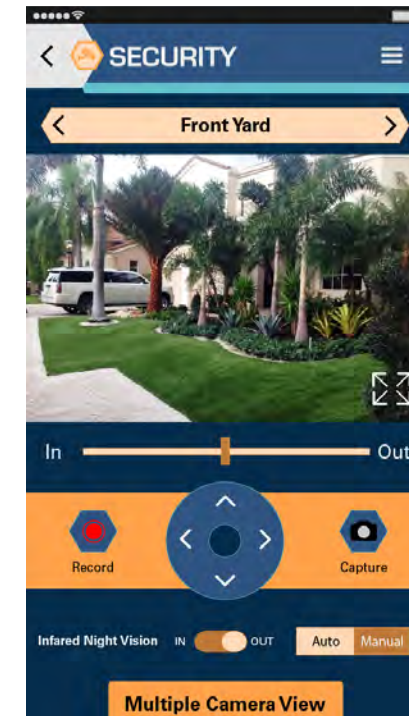


# Icons Design



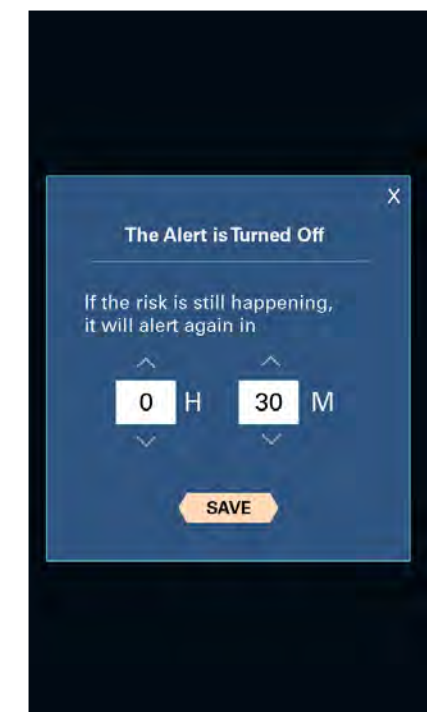
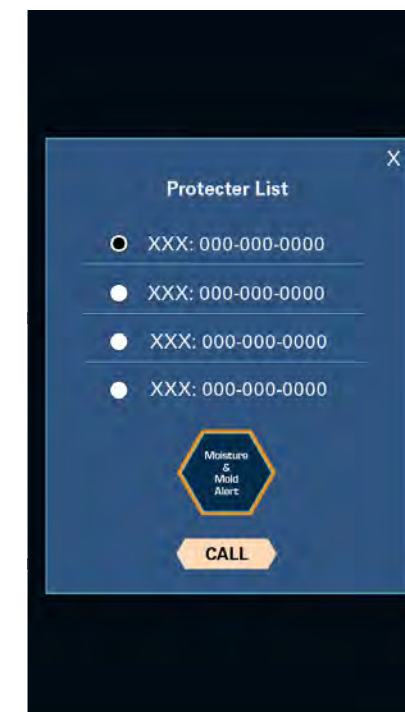
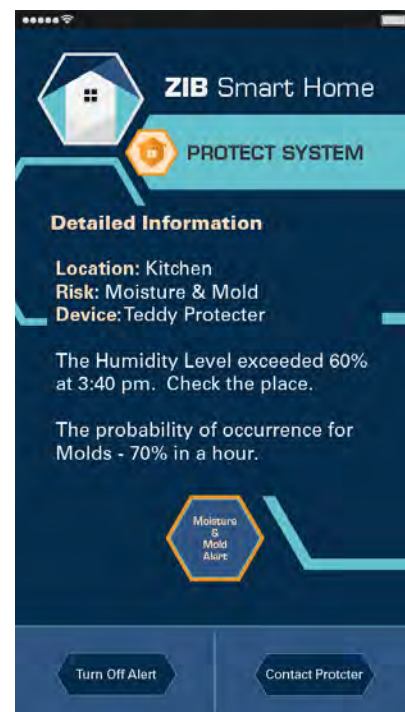
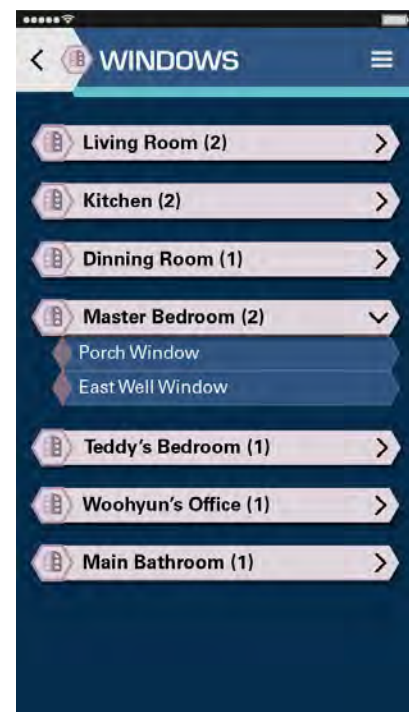
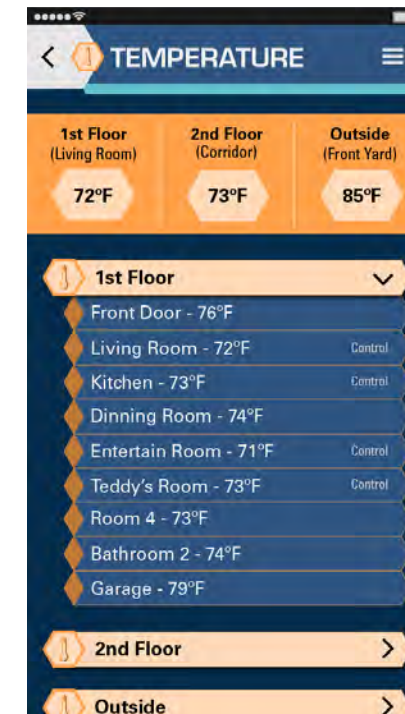
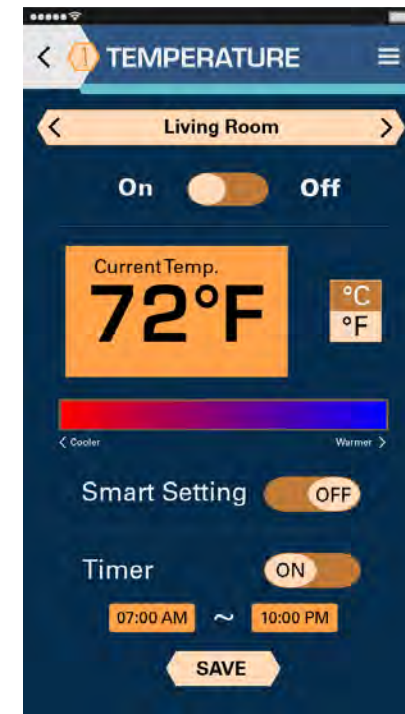
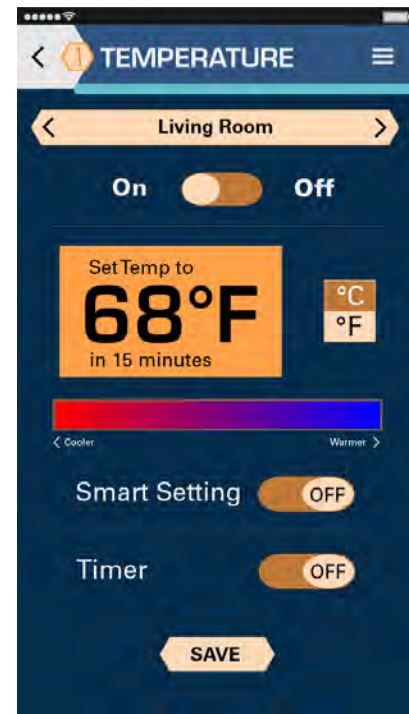
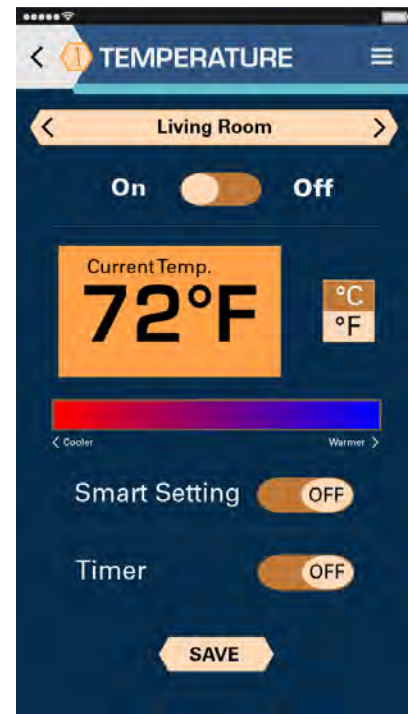


# 1st Design Version (Mobile)



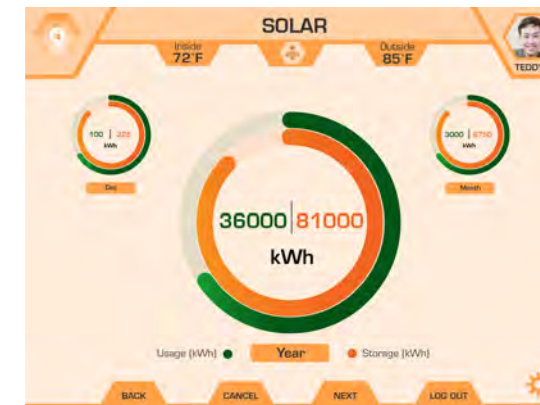
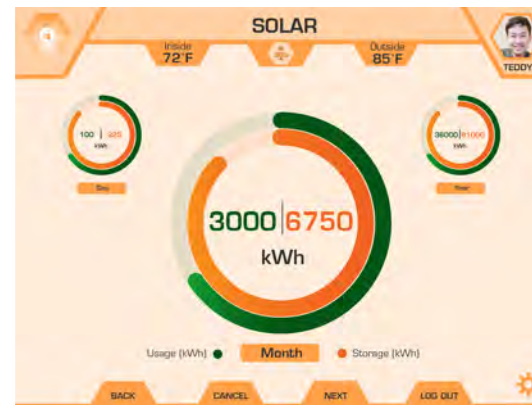
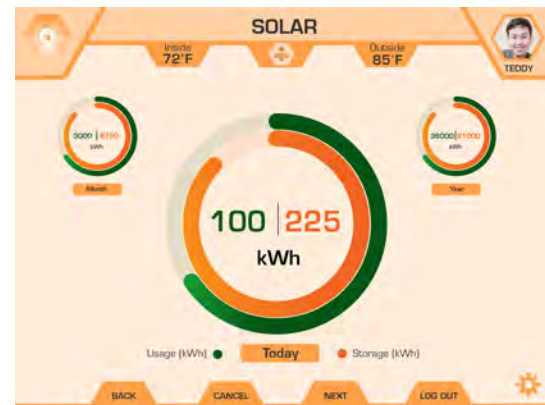


# 1st Design Version (Mobile)

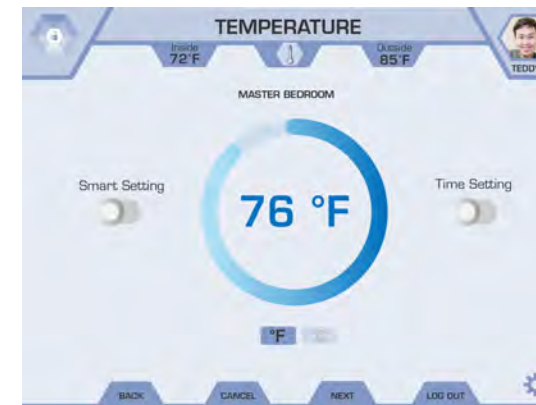
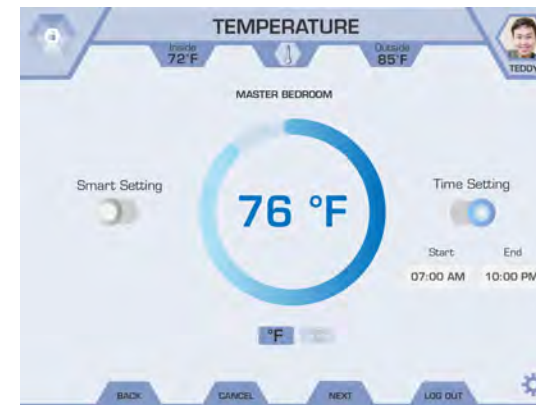
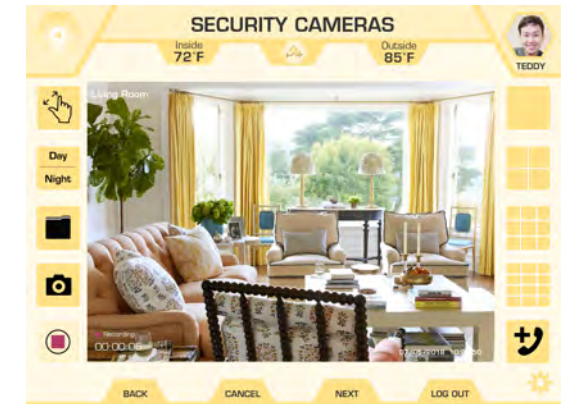
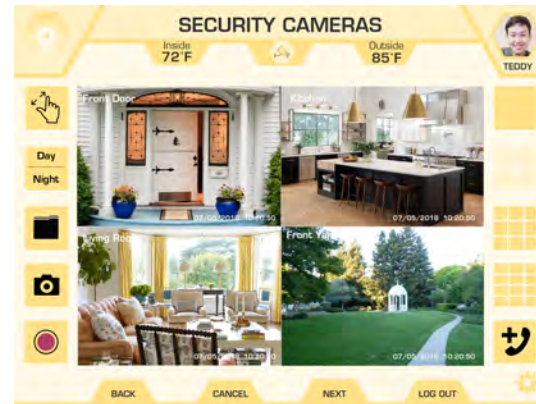
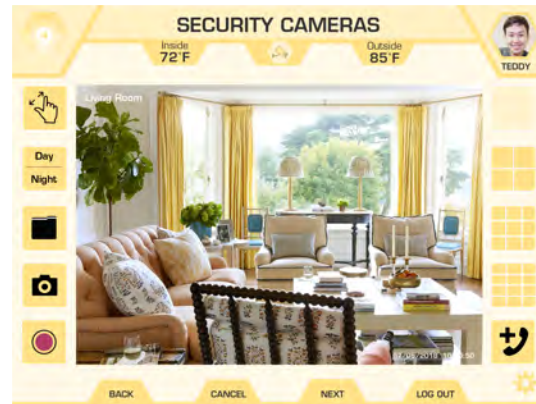




# 1st Design Version (Main Device)

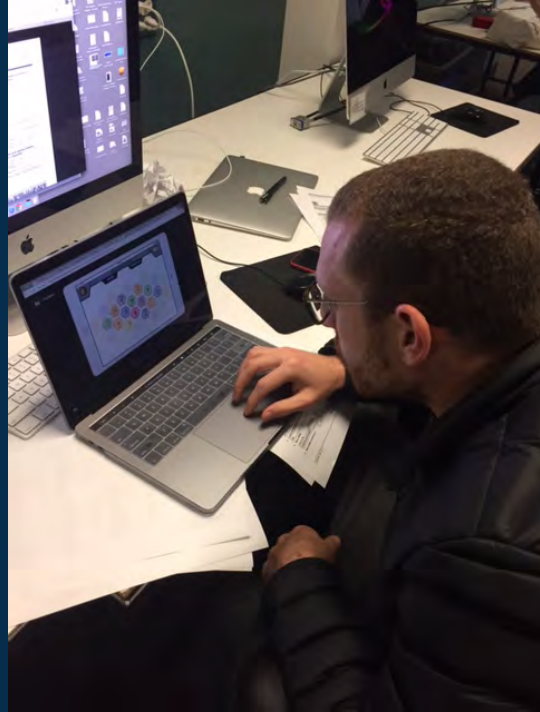


# 1st Design Version (Main Device)

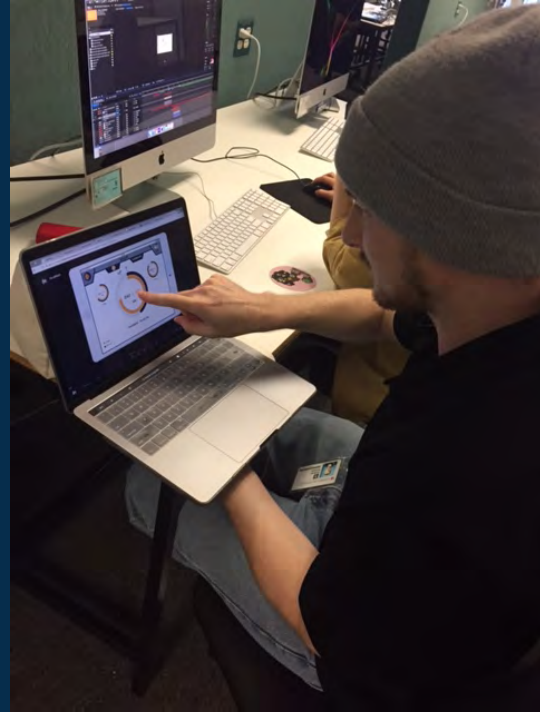




# 2nd User Testing



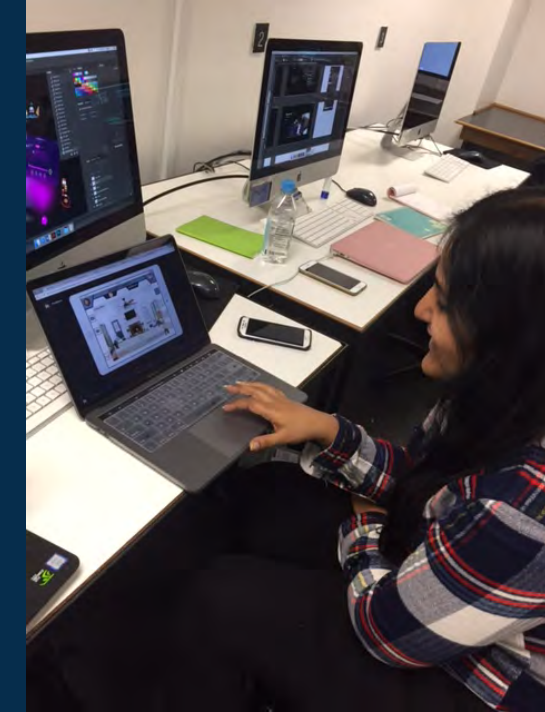
Mustafa



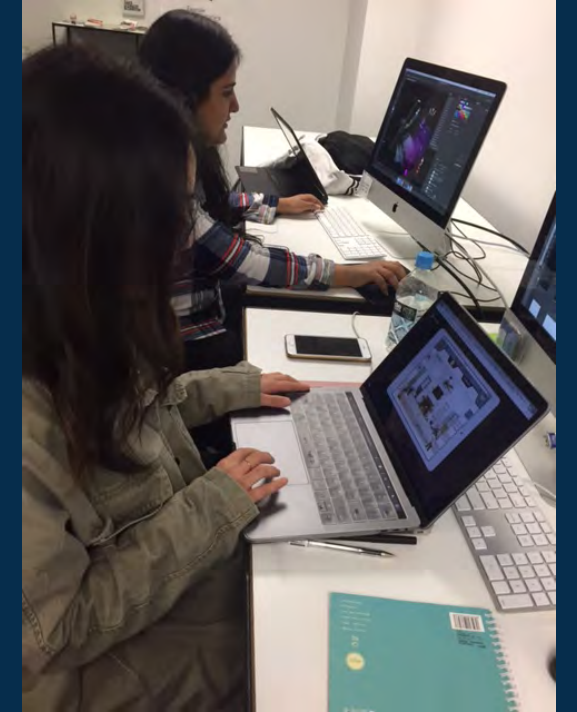
Andrew



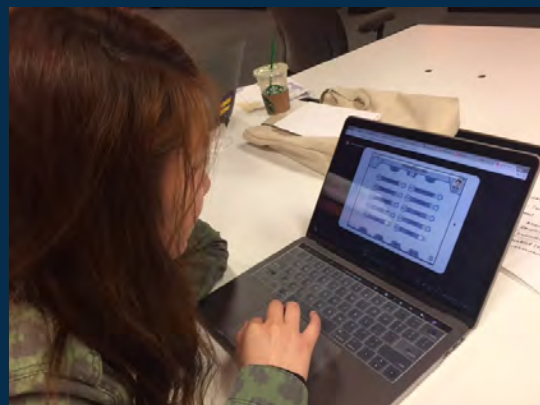
Kyn



Sandra



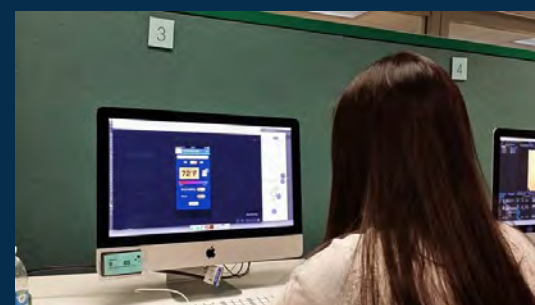
Yuan



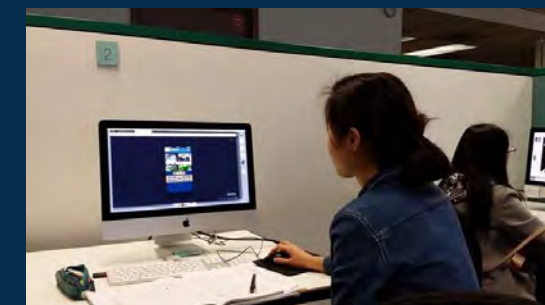
Yuqi



Val  
(Mobile)



Cindy  
(Mobile)



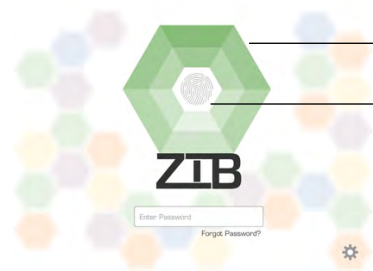
Grace  
(Mobile)



Mustafa  
(Mobile)

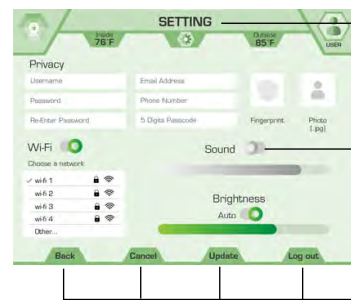
# 2nd User Testing

## Feedback



The logo does not look like a logo, the color not outstanding.

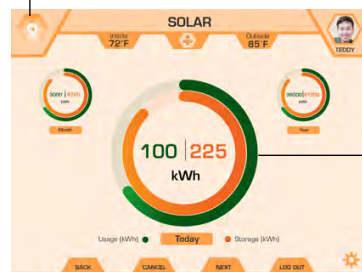
The fingerpring icon should not inside.



The heading is too big, and too tight.

The color of the switch icon should not be in gradient, because does not consistance.

Useless of the bottom menu bar.



Does not look like logo.

Very confusing information displayed.

Setting function should be just on main page.



Which part of the house that the inside temperature displayed.

No consistancy design. Should look like main menu

Log out function should be on just on main menu.

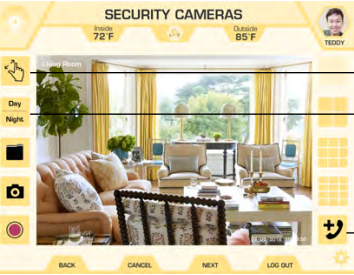


Main menu.



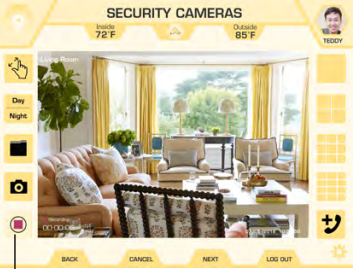
# 2nd User Testing

## Feedback



Not necessary function for touchscreen..  
Should switch to day and night time automatically.

EMG call should direct to police and hospital.

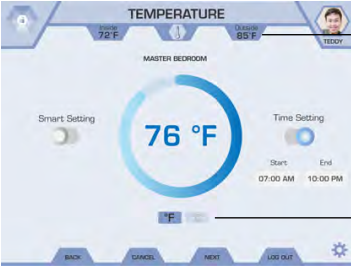


Should be automatically recording.



No consistency design. Should look like main menu.

The background for all pages should be white.

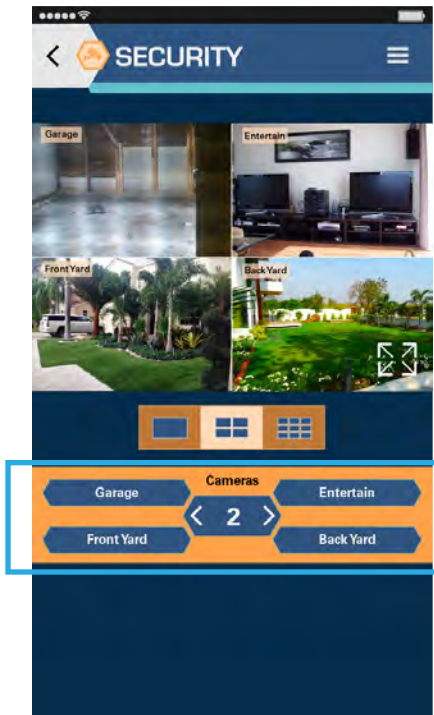


Need more space.

Should be in setting page.

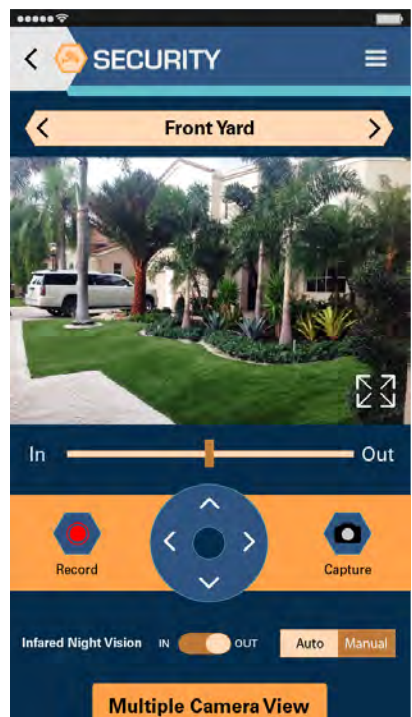


# 2nd User Testing

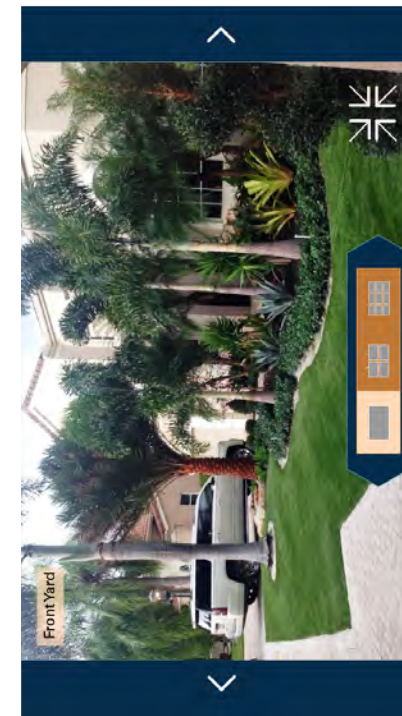


Cannot understand the number 2 mean.

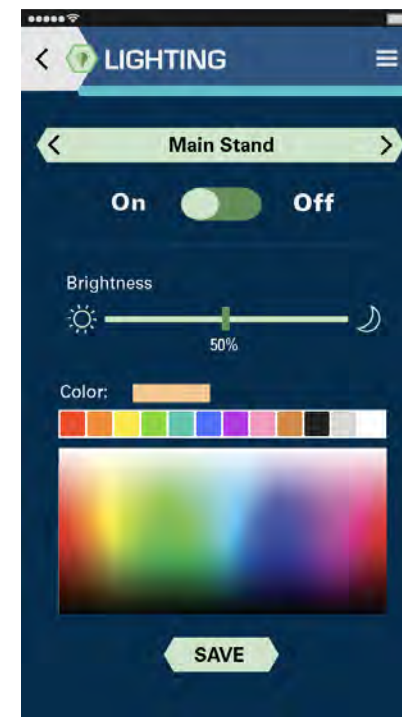
Better to show all camera, and go to single camera view with clicking the screen.



Using icons instead of using In /Out for zooming. Infrared Night Vision is not necessary.



Remove the option, and make the full screen. (fill the arrow area with screen)



Switch the position of On and Off.

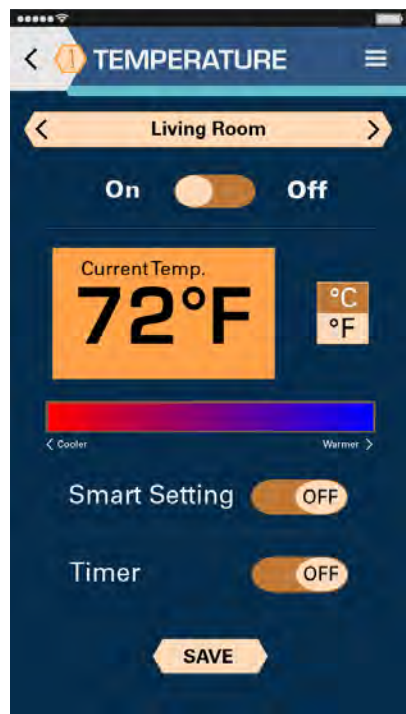
Always the brighter is going from left to right, so switch the moon and sun icon.

# 2nd User Testing



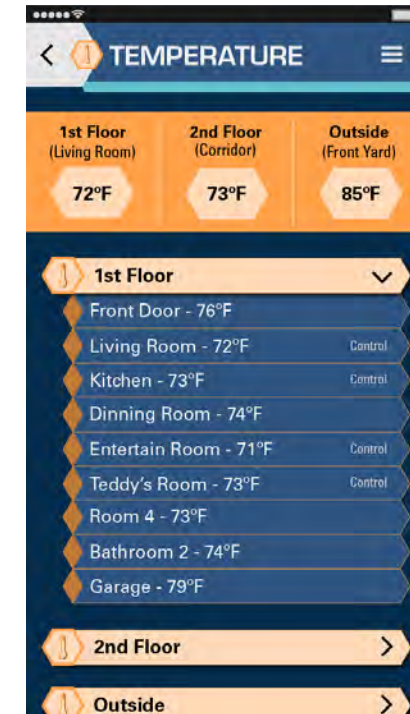
Switch the position of Lock and Unlock, Open and Close, and Pull Up and Pull Down.

Blind part could be confusing.



Make the switches and buttons are consistent.

Color is so showy.  
Need to have indicator on the cooler and warmer bar.  
and the temperature screen shows the same color as the bar.



Temperature map is complicated.

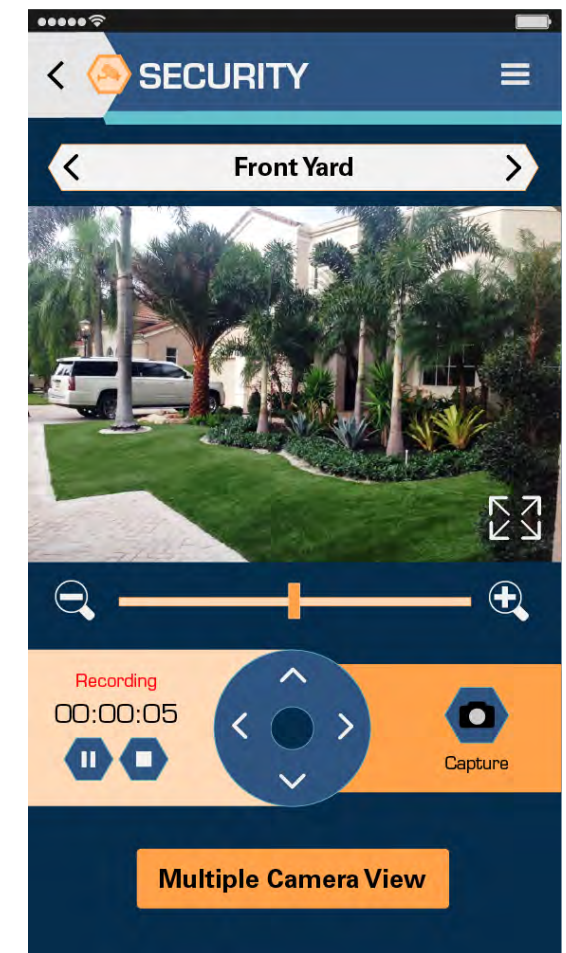
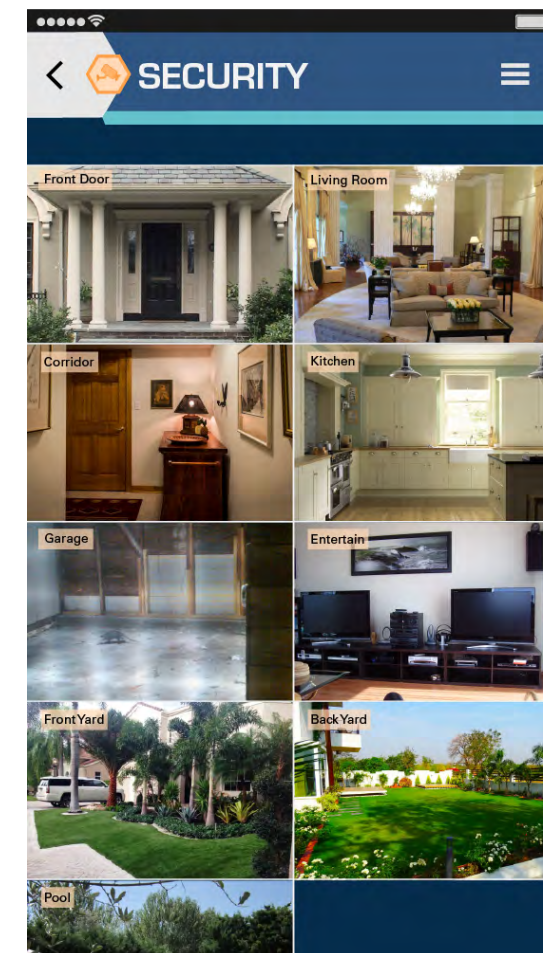
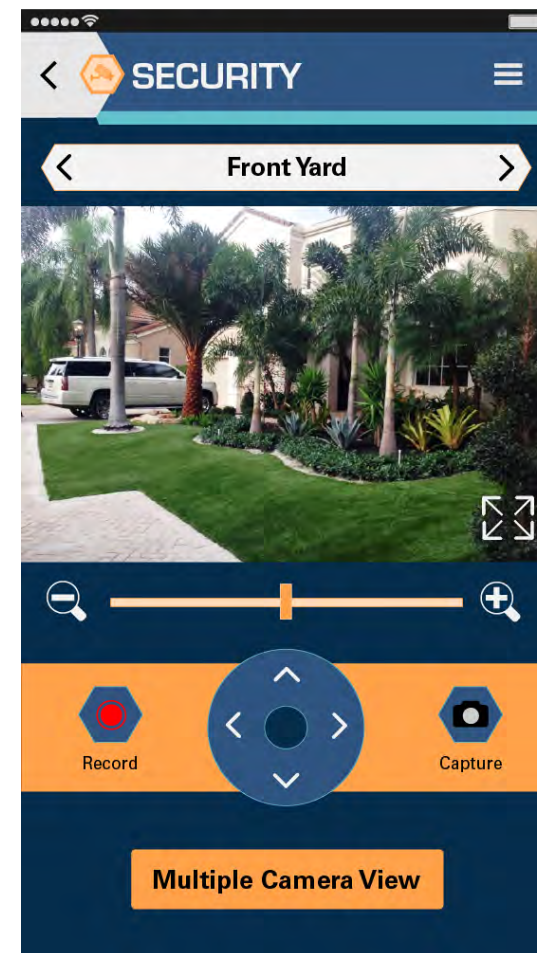
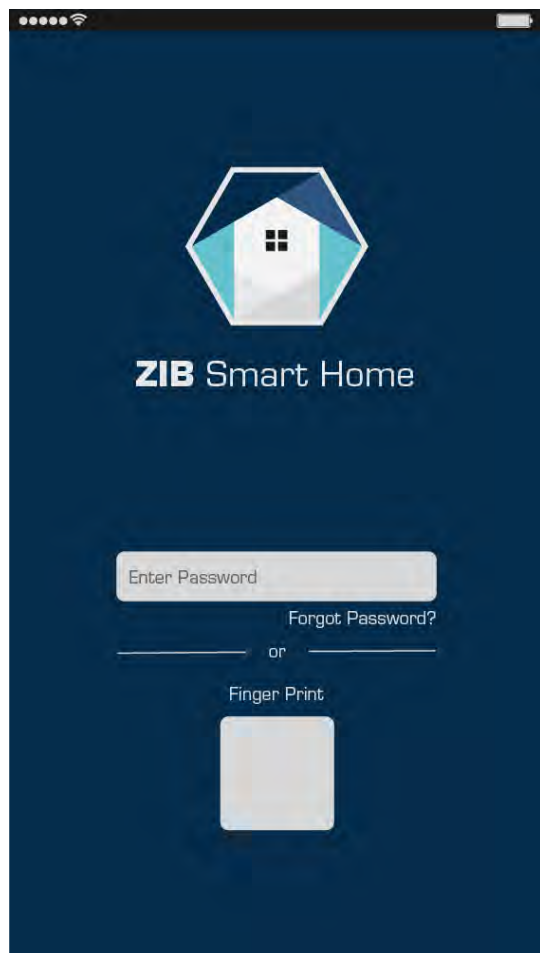
It is not necessary.



Using Red tone color.

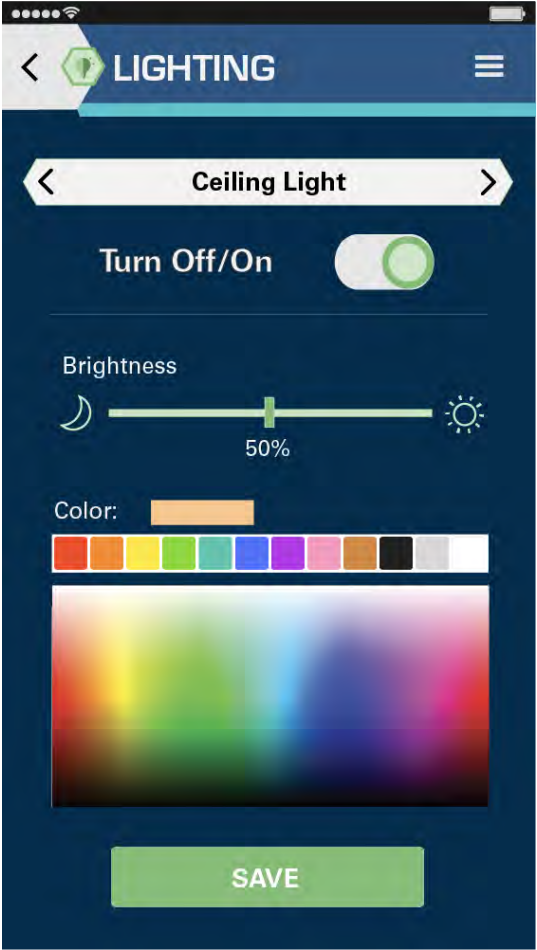


# Final Design



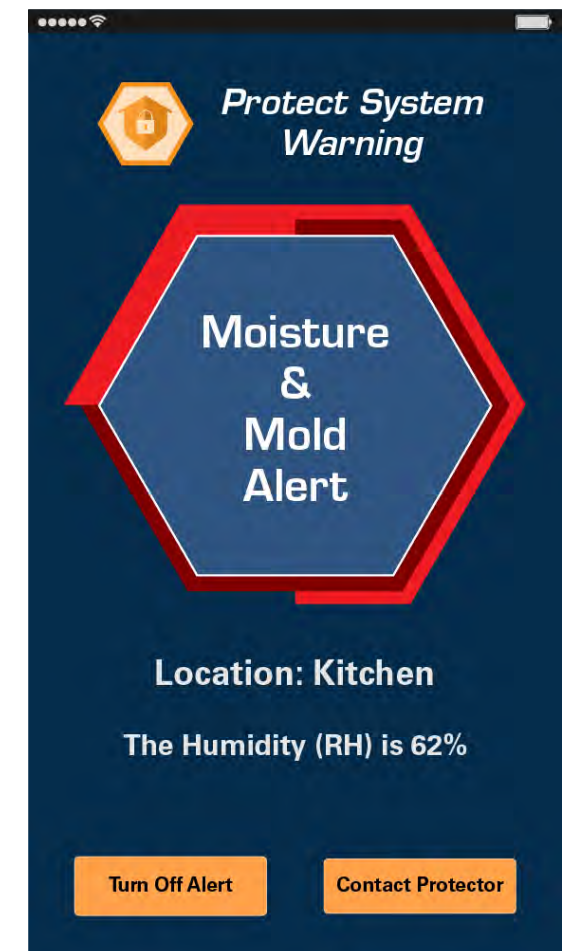
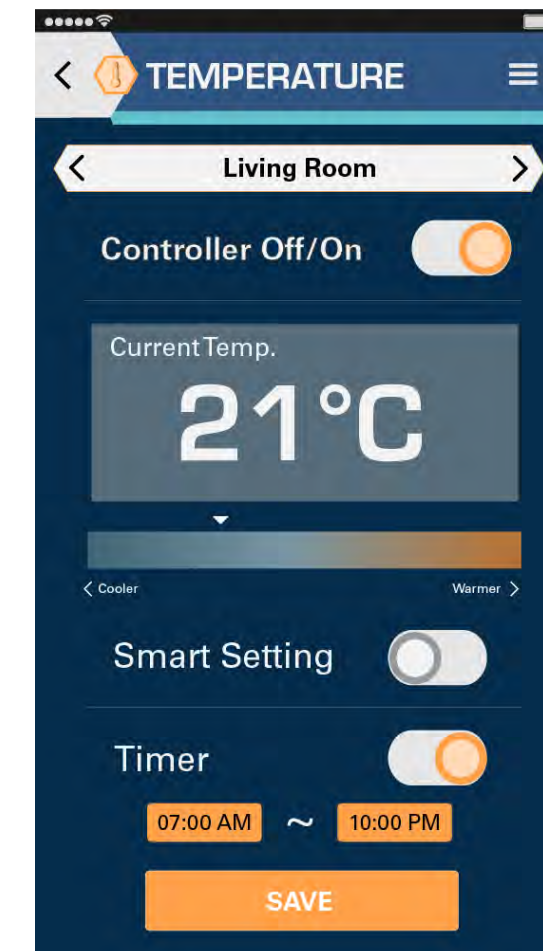
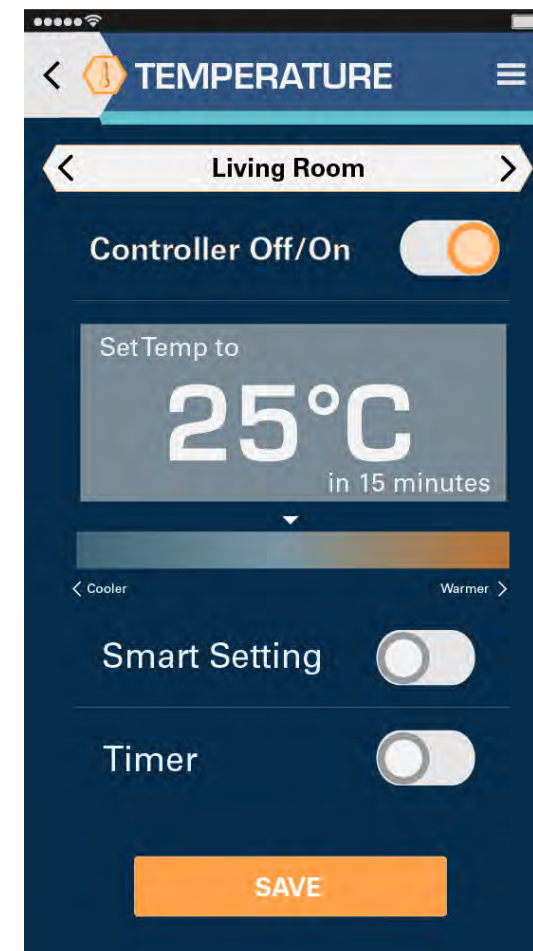
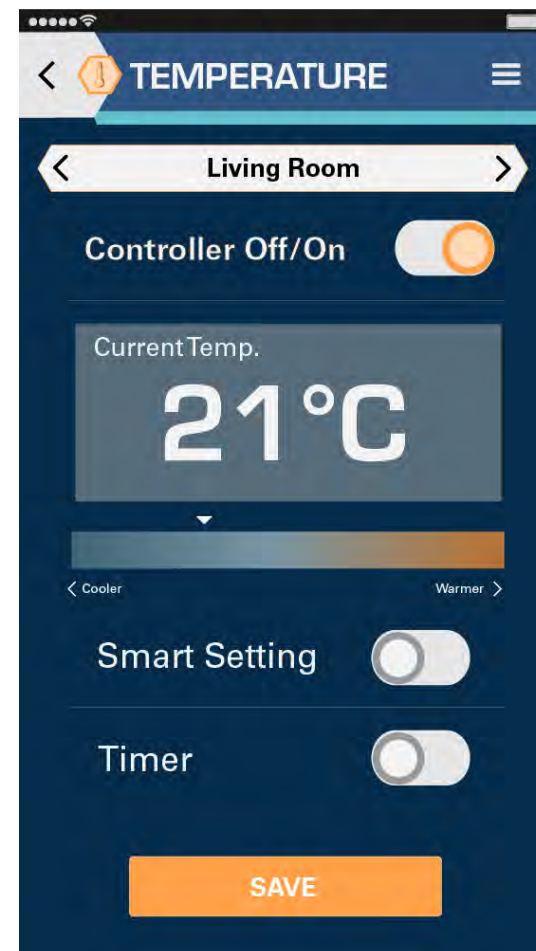
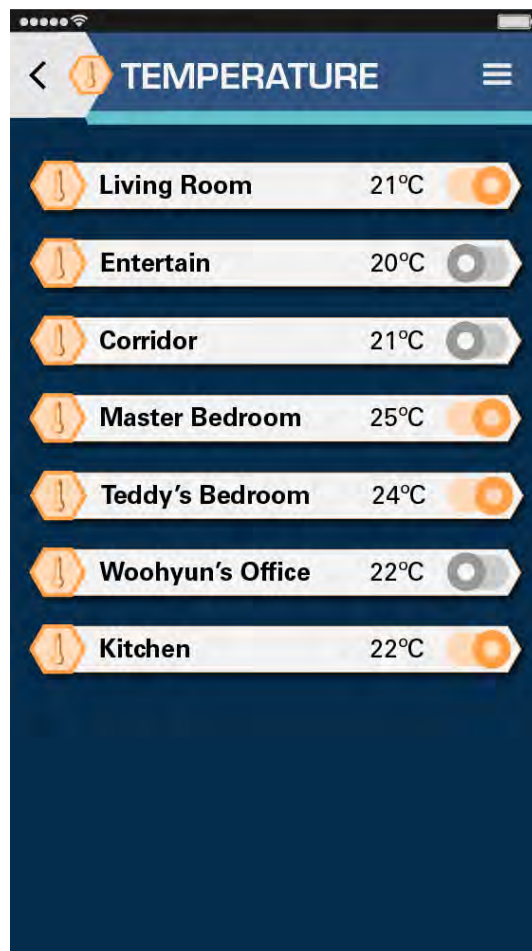
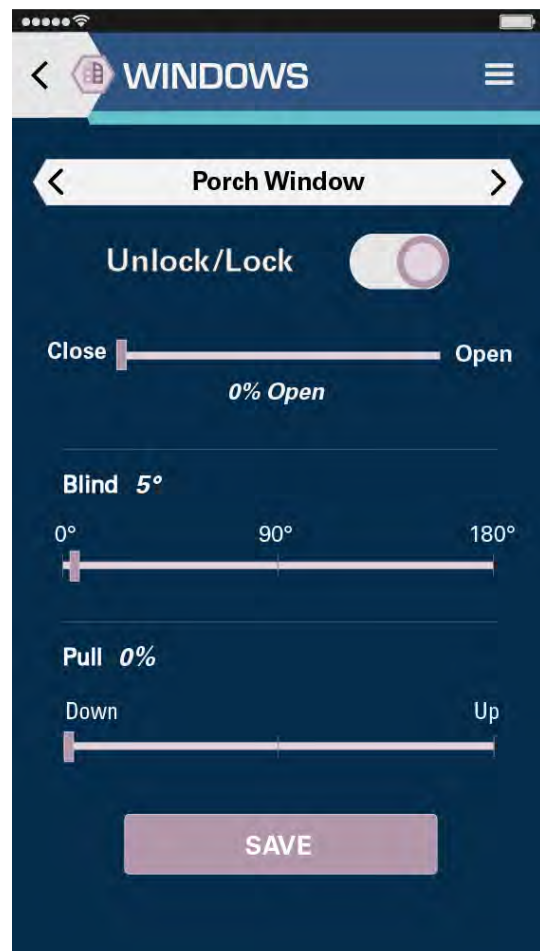


# Final Design

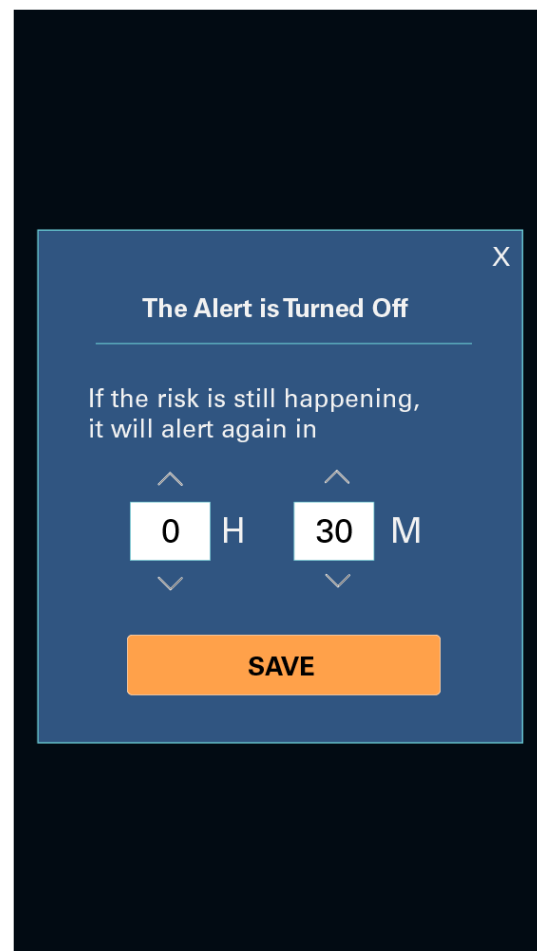
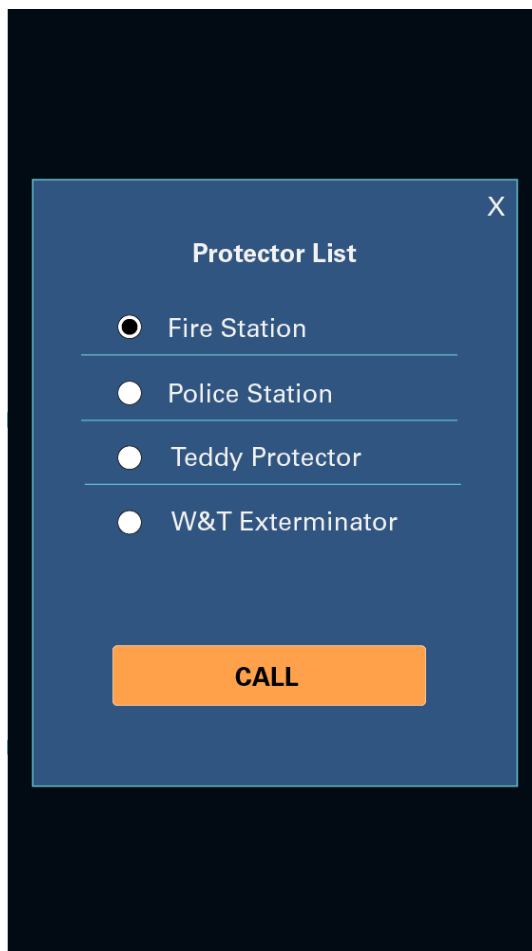
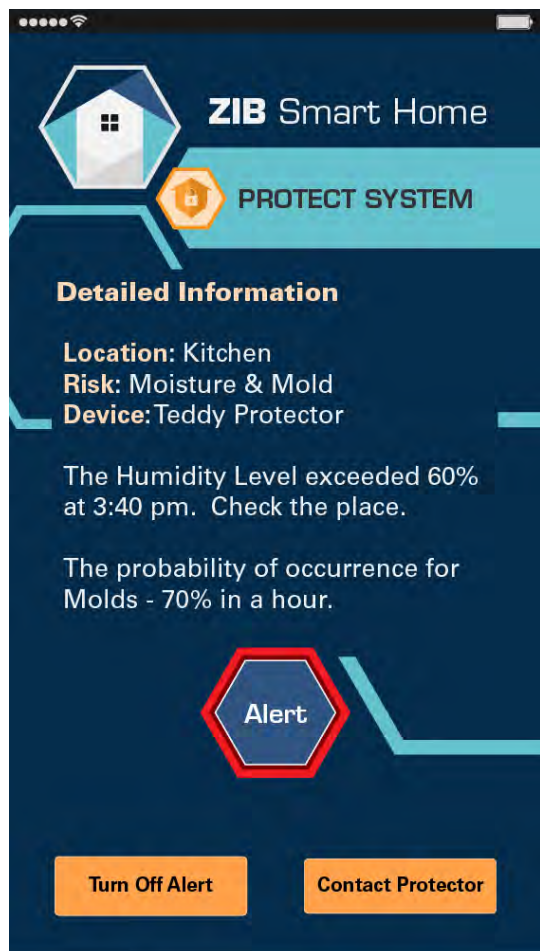




# Final Design

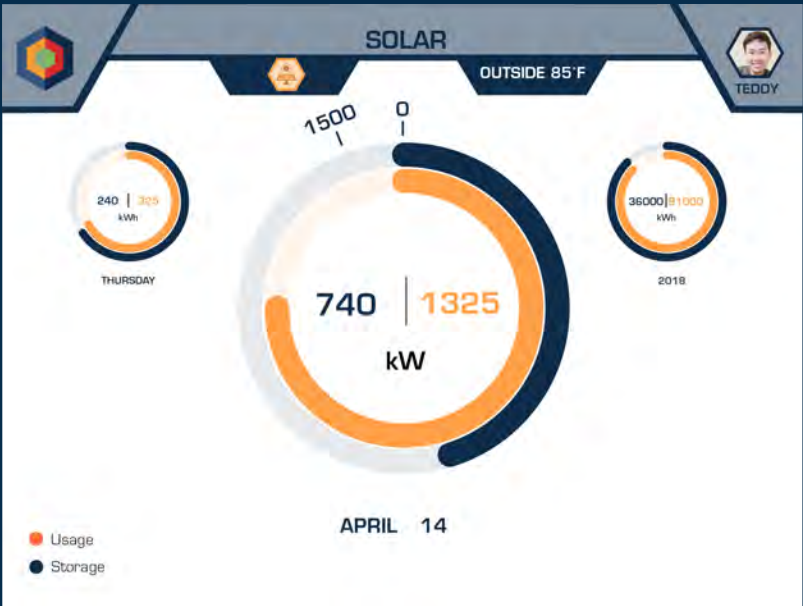
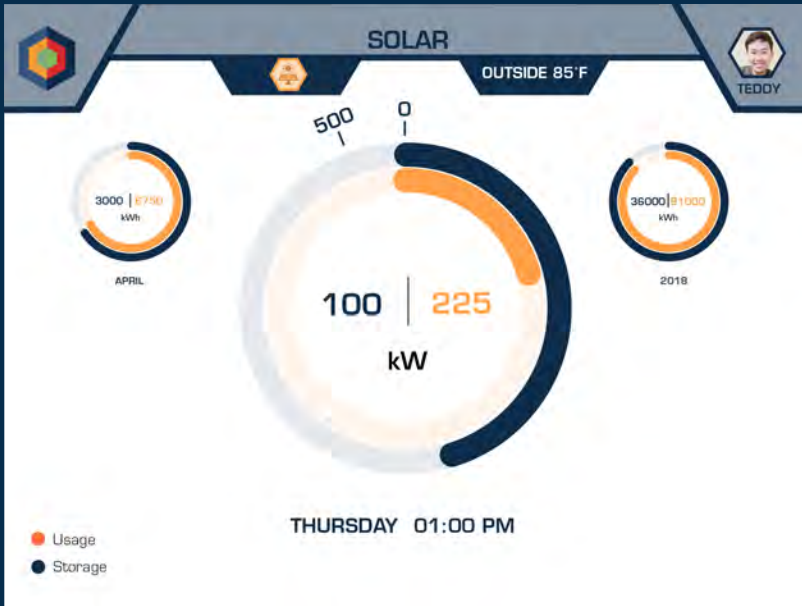
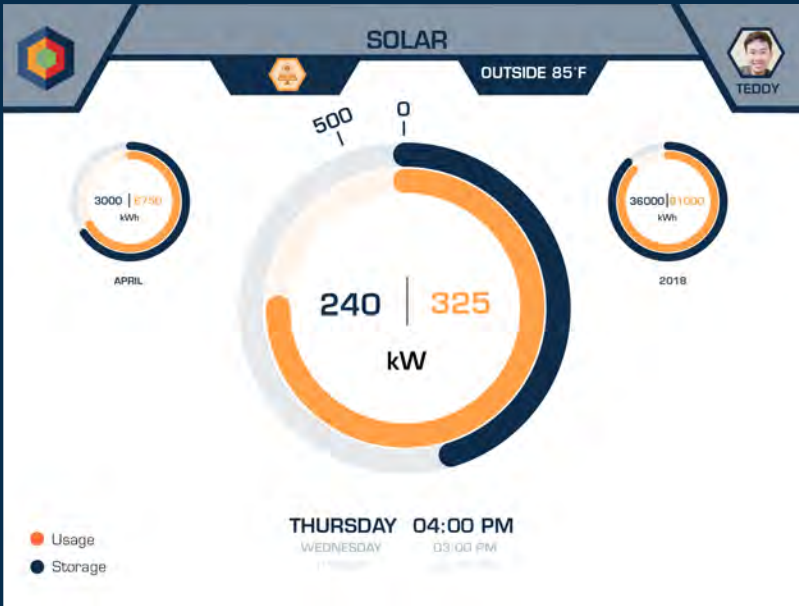
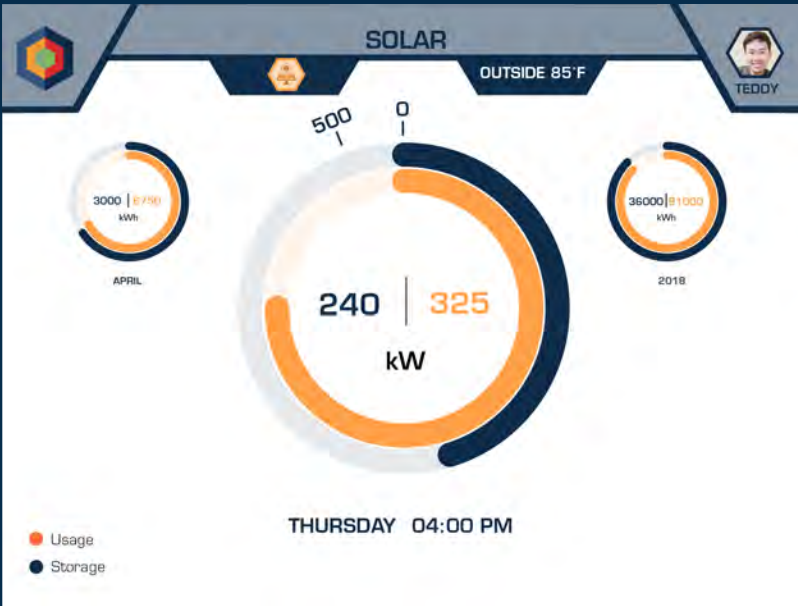


# Final Design



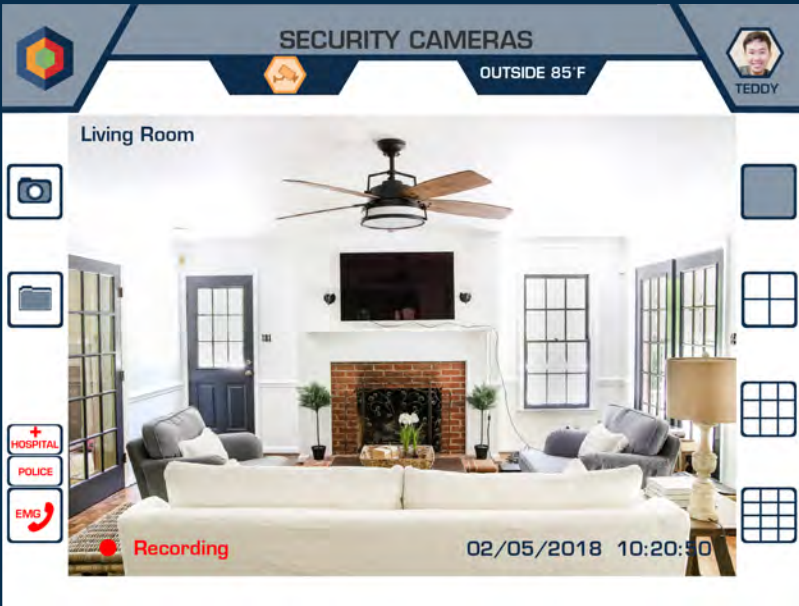
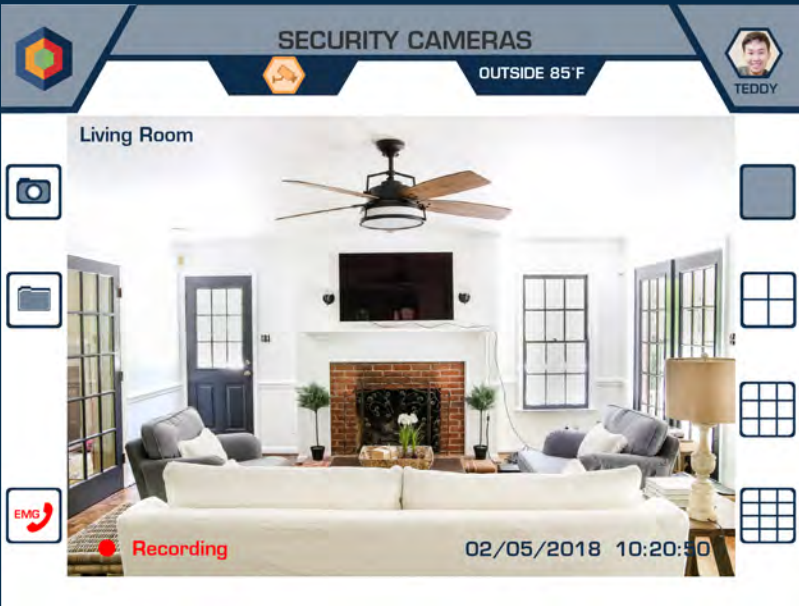
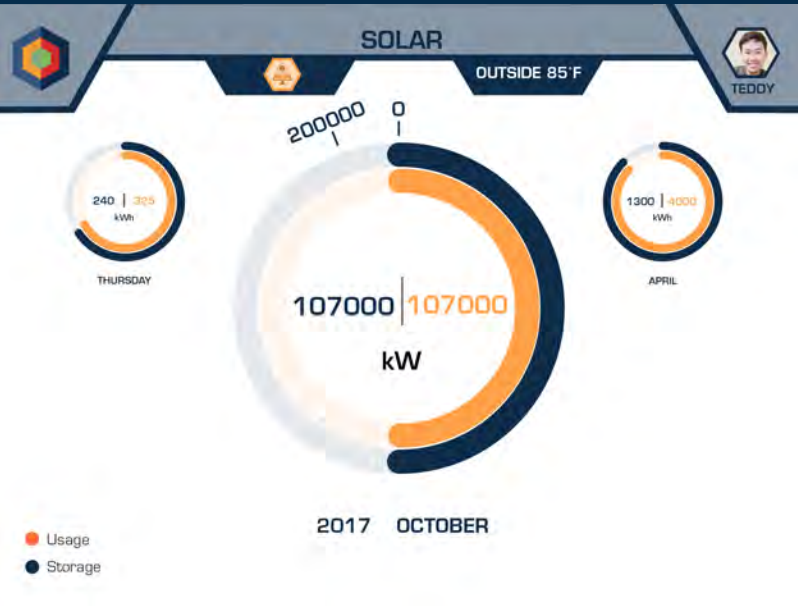
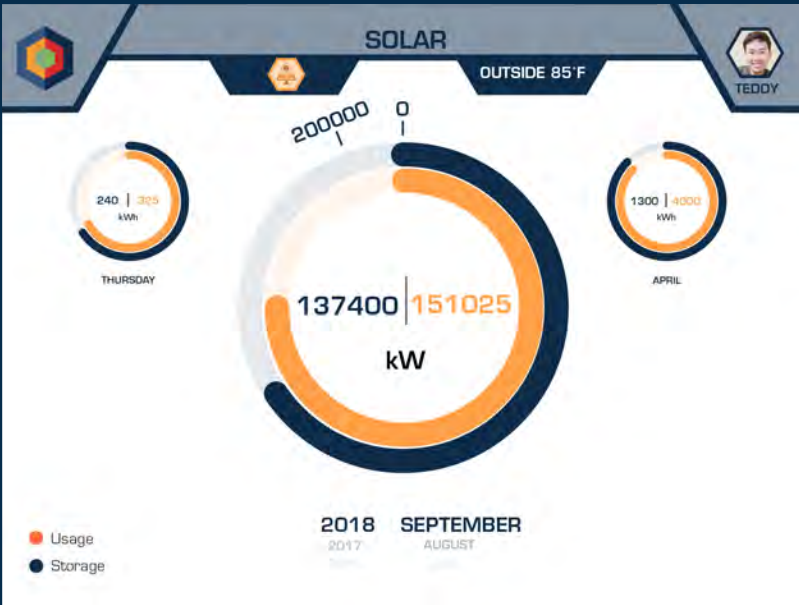
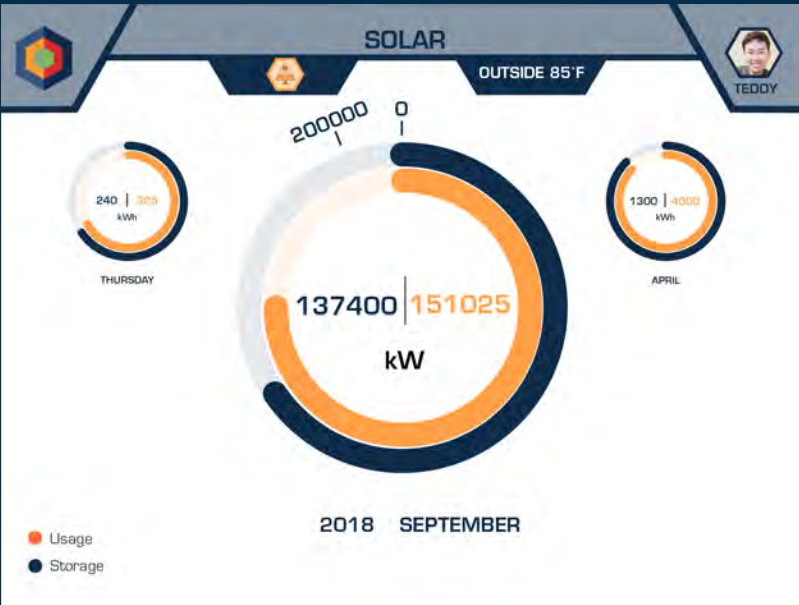
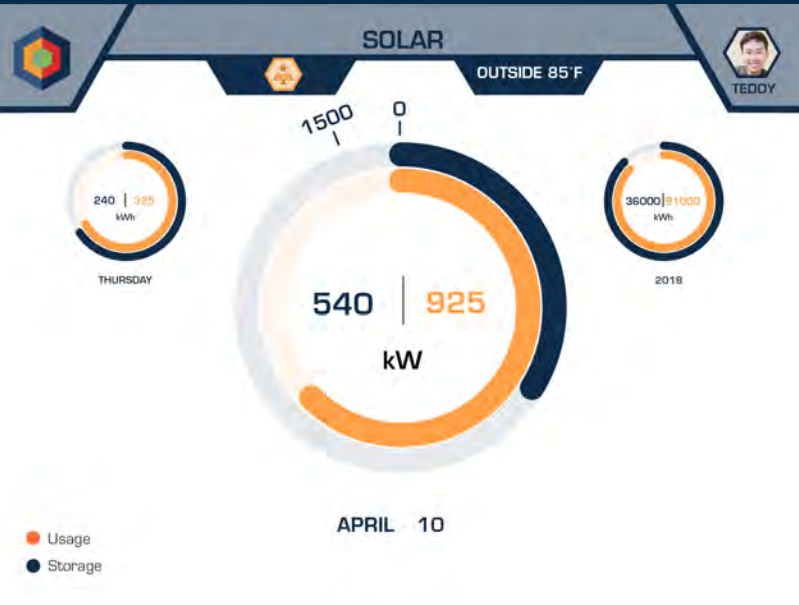
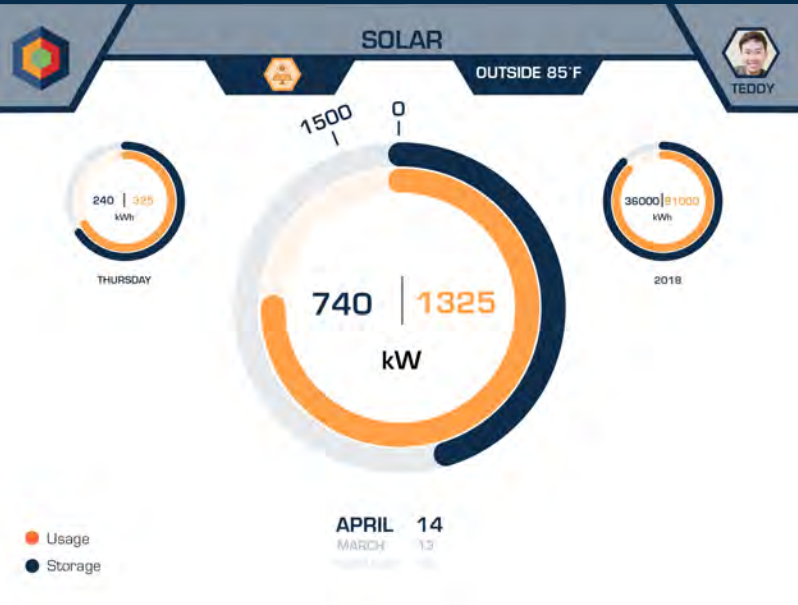


# Final Design (Main Device)



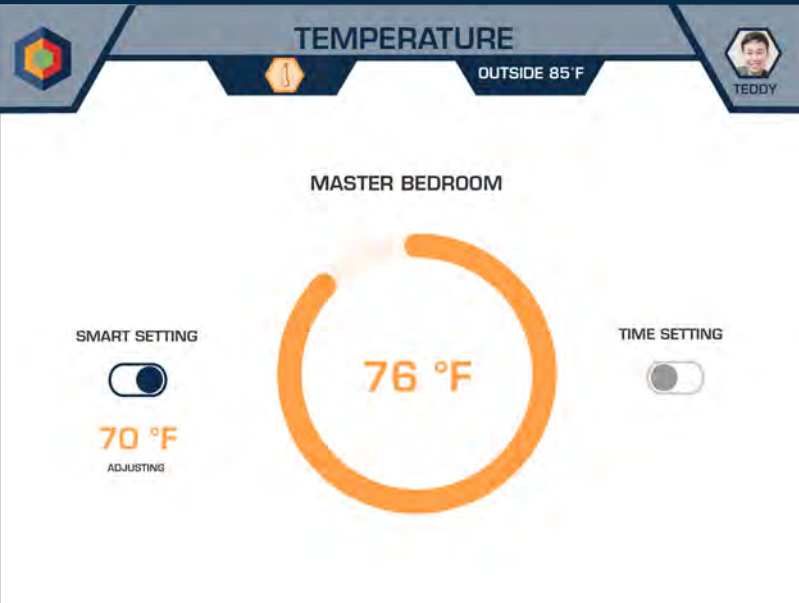
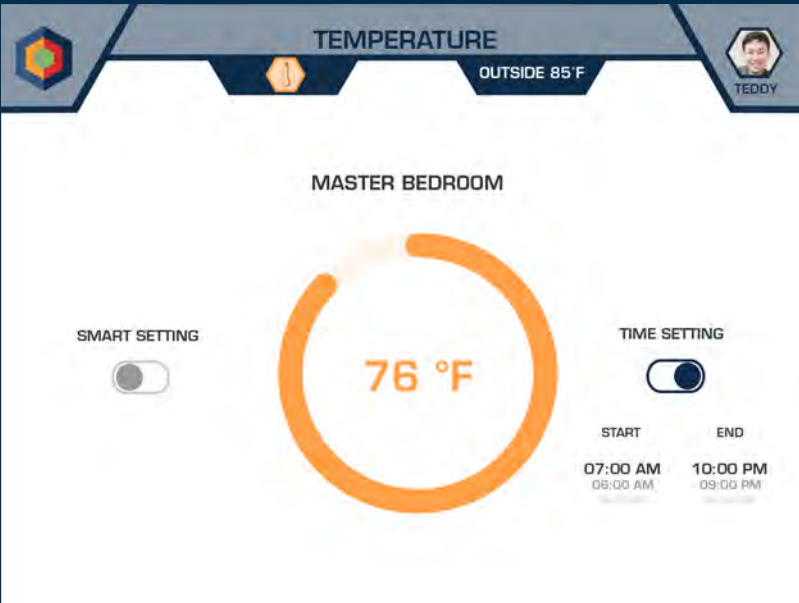
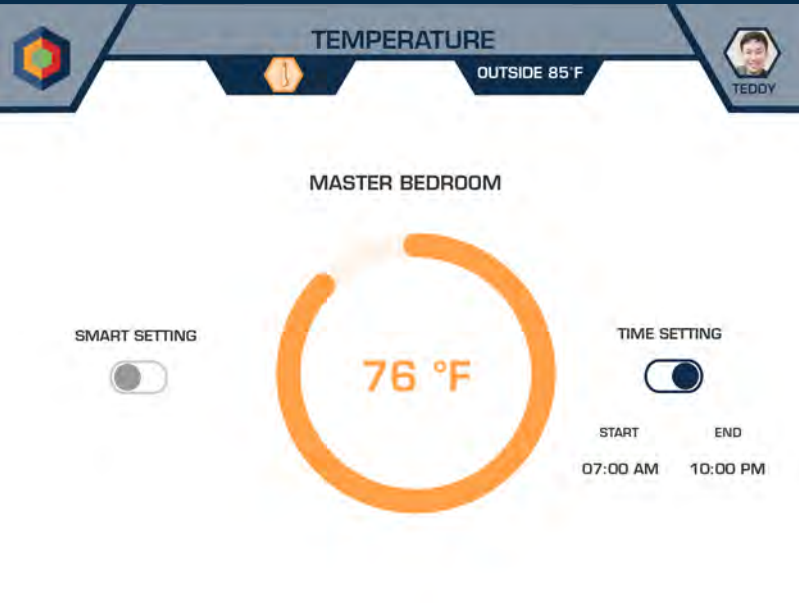
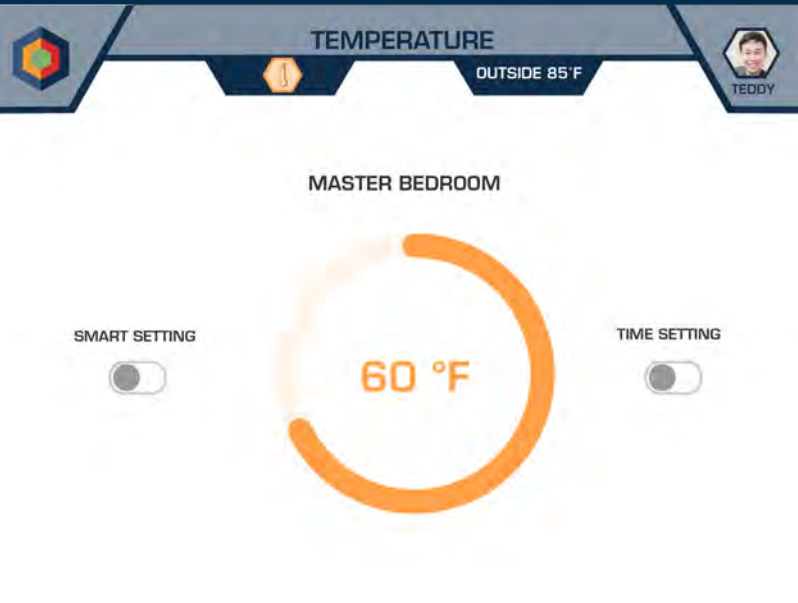
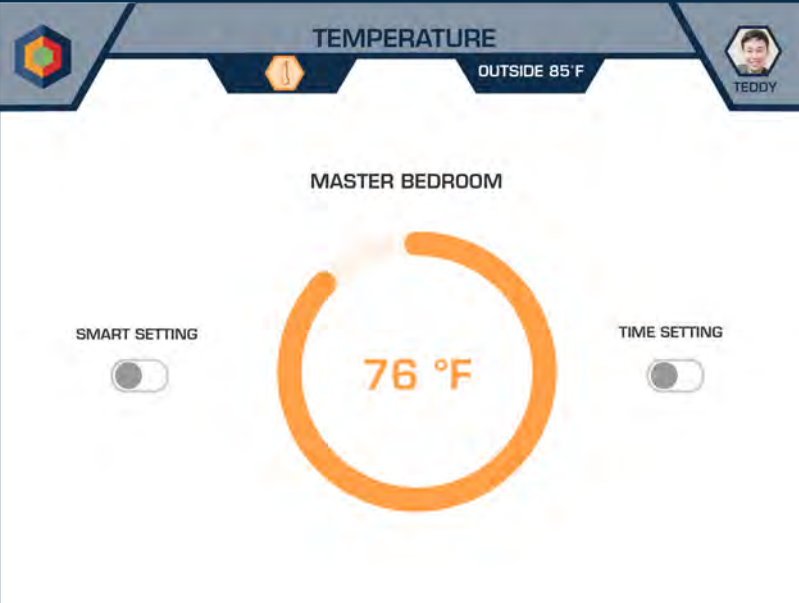
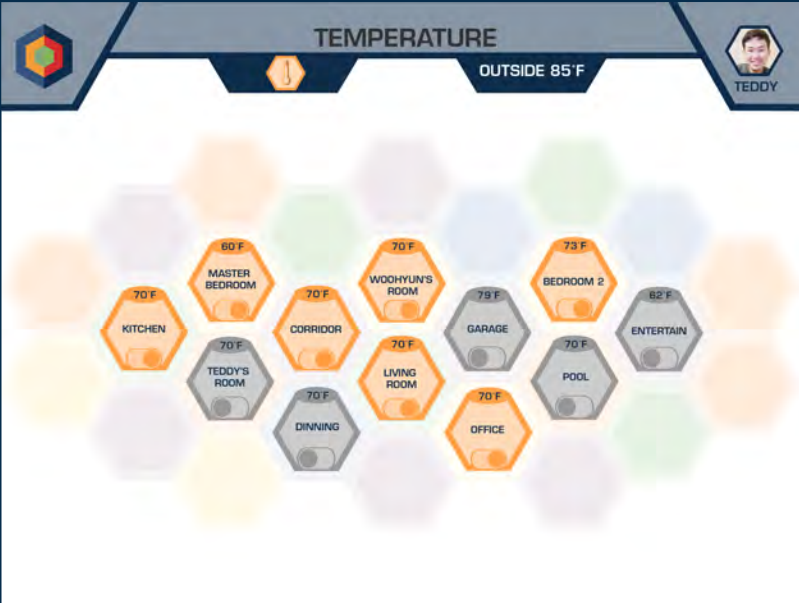
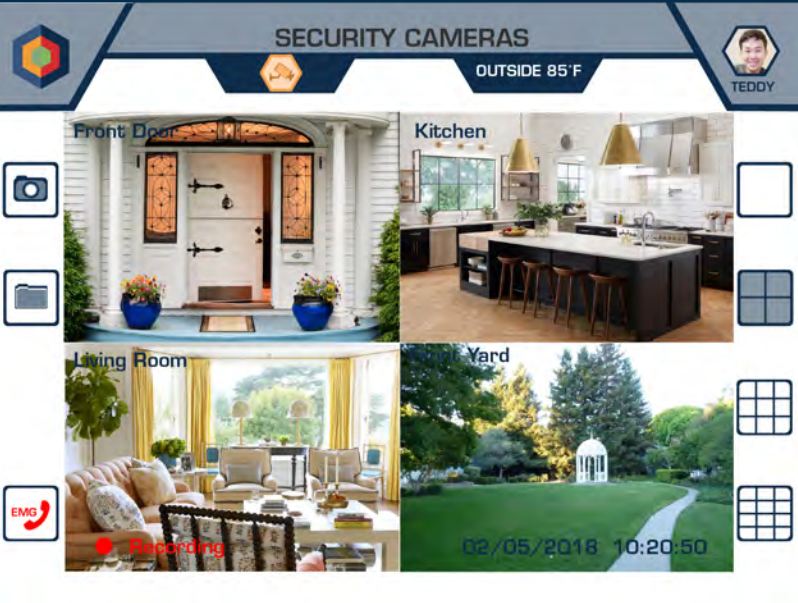


# Final Design (Main Device)



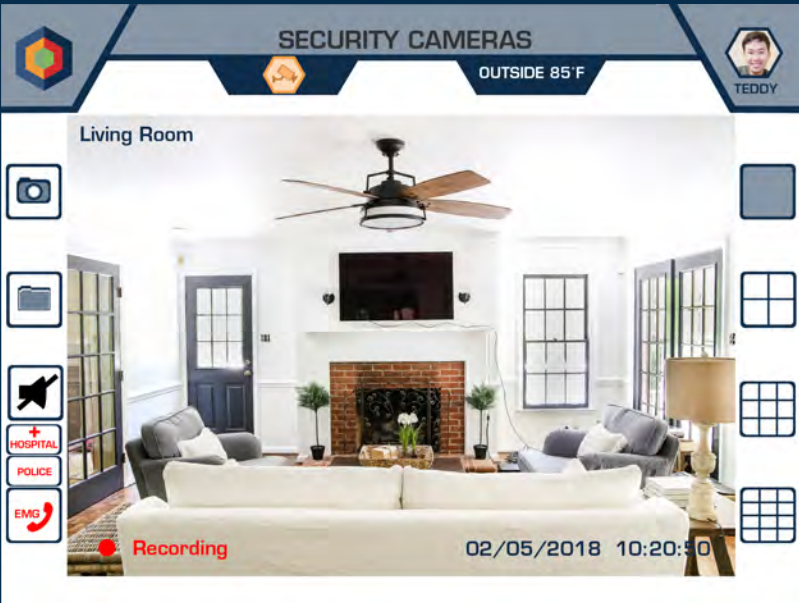
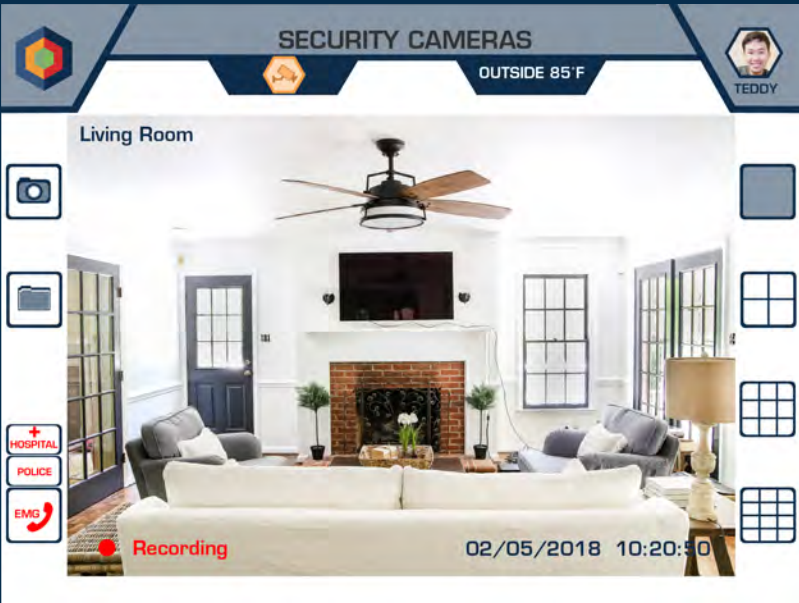
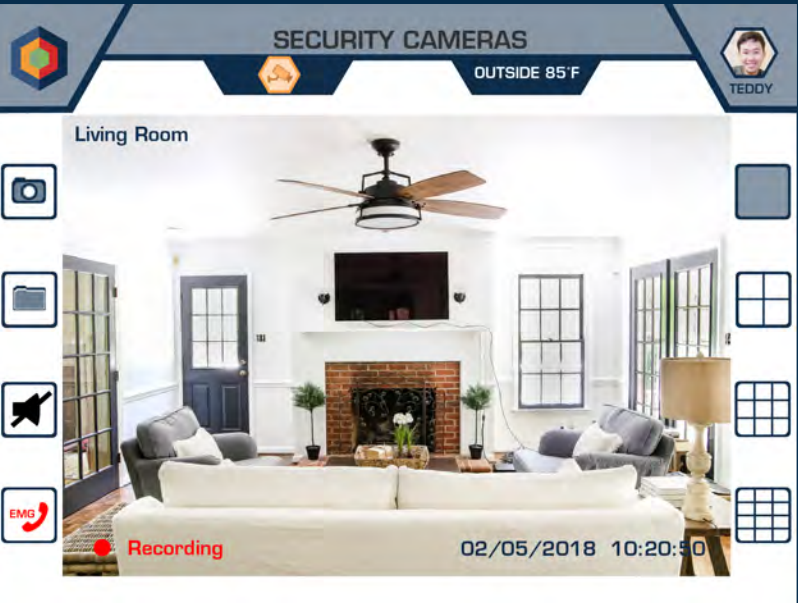
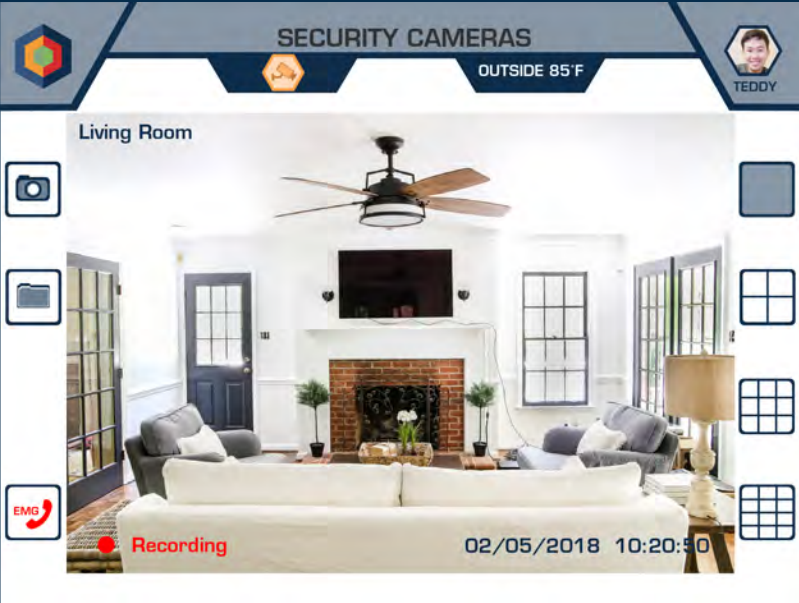
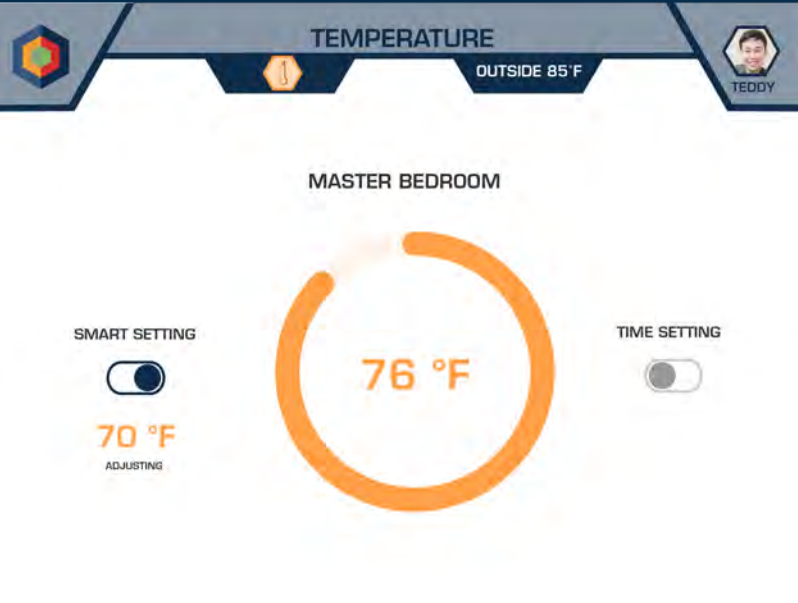


# Final Design (Main Device)





# Final Design (Main Device)



# Prototype

## **Mobile**

[https://invis.io/QCJGT18MF57#/299214724\\_\\_landing](https://invis.io/QCJGT18MF57#/299214724__landing)

## **Mobile - Alert**

[https://invis.io/J8JGT3QYGZ2#/299219611\\_Protect\\_Alert1](https://invis.io/J8JGT3QYGZ2#/299219611_Protect_Alert1)

## **Main Device**

[https://invis.io/9ZJGT5JTSEJ#/299220995\\_Login](https://invis.io/9ZJGT5JTSEJ#/299220995_Login)

## **Main Device - Alert**

[https://invis.io/XPJGT7ZWAFC#/299232669\\_Alert1](https://invis.io/XPJGT7ZWAFC#/299232669_Alert1)