

# Extract product line from Smart Home specifications

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## 1 Scenario SC01

### 1.1 Description:

This scenario allows the home owner to register new inhabitants. In this way, the policies for getting access in the home are applied.

### 1.2 Related feature

Register Inhabitant

### 1.3 Flow of events

Code	Feature	User Action	System Response
1	Register Inhabitant	The home owner selects the register inhabitant option in the security configuration menu.	The inhabitant personal form is displayed.
2	Fingerprint	The home owner fills in the inhabitant personal form and selects the proceed option.	The system asks the inhabitant to capture her fingerprint.
2	Password	The home owner fills in the inhabitant personal form and selects the proceed option.	The system asks for the inhabitant password (and password confirmation) that allows her to get access to the home.
3	Fingerprint	The new inhabitant put her finger in the fingerprint reader.	The system captures the mark of the inhabitant fingerprint and asks the home owner to proceed.
3	Password	The new inhabitant fills in the password (and confirmation password) for getting access to the home.	The system verifies that the password and confirmation password are equal. The system asks the home owner to select the proceed option.
4	Register Inhabitant	The home owner selects the proceed option.	The system asks the home owner her configuration password.
5	Register Inhabitant	The home owner fills in the configuration password and selects the proceed option.	The system register the new inhabitant, allowing she to get access to the smart house.

## 2 Scenario SC02

### 2.1 Description:

This scenario allows a registered inhabitant to enter into the house.

### 2.2 Related feature

Inhabitant Authorization

## 2.3 Flow of events

Code	Feature	User Action	System Response
1	Password	The inhabitant request access to the home at the main entrance.	The system requests to the user to pass the smart card.
1	Fingerprint	The inhabitant request access to the home at the main entrance.	The system asks the inhabitant to capture her fingerprint.
2	Password	The inhabitant inserts the smart card into the card reader.	The system asks the inhabitant's password, in order to authorize her access to the smart home.
2	Fingerprint	The new inhabitant put her finger in the fingerprint reader.	The system recognizes the fingerprint impression.
3	Password	The inhabitant informs her password.	The system verifies that the password is valid for the registered inhabitant.
4	Inhabitant Authorization	-	The system displays the message of successful authorization.
5	Inhabitant Authorization	-	The system opens the front door and register the occurrence.
6	Inhabitant Authorization	-	After <i>TimetoClose</i> , the front door is closed.

## 3 Scenario SC03

### 3.1 Description:

This scenario allows a guest to enter into the house, but there is no resident there. This scenario is useful, for example, when the home owner family is traveling but an employee, a relative or a closer friend needs access to the house.

### 3.2 Related feature

Guest Authorization

### 3.3 Flow of events

Code	Feature	User Action	System Response
1	Guest Authorization	The guest request access to the home at the main entrance.	The system asks the guest name and the reason for requesting access to the house.
2	Guest Authorization	The guest fills in the requested information.	The system takes a guest photograph and sends one message to the home owner mobile device.
3	Guest Authorization	-	The system asks for the guest to wait a few minutes.
4	Guest Authorization	The home sends an authorization allowing the guest to enter into the house.	The system receives the authorization message.
5	Guest Authorization	-	The system displays the message of successful authorization.
6	Guest Authorization	-	The system opens the front door and register the occurrence.
7	Guest Authorization	-	After <i>TimetoClose</i> , the front door is closed.

## 4 Scenario SC04

### 4.1 Description:

This scenario describes the behavior that is triggered when an event of attempting to intrude the house is detected.

### 4.2 Related feature

Intrusion Detection

### 4.3 Flow of events

Code	Feature	User Action	System Response
1	Intrusion Detection	The presence sensor identifies that someone (or something) is trying to intrude into the smart home. This might be deduced by observing any suspect event (forcing or braking) in the external doors and windows	The system emits the configured internal sound alarm.
2	Intrusion Detection	-	The system places a call to the police department.
3	Lock Doors	-	The system locks the access to the bedrooms.
4	Switch the lights on	-	The system turns on the external and internal lights.

## 5 Scenario SC05

### 5.1 Description:

This scenario describes the behavior that have to be triggered when an event that might characterizes fire or smoke in the smart home is detected.

### 5.2 Related feature

Fire Detection

### 5.3 Flow of events

Code	Feature	User Action	System Response
1	Fire Detection	The fire sensor identifies a possible fire occurrence (based on smoke or temperature variation).	The system emits the configured internal sound alarm.
2	Fire Detection	-	The system places a call to the fire guard department.