

Project Proposal - SimSim Smart Lock

Proejct Name: SimSim Smart Lock Android App

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Project Description:

Our android app will design a smart lock system. It will include guest and host, where host can set up their properties and relevant locks, and guest can request the access to the locks that they want to open. Host can create an event to grant the access of the lock and the frequency of the access to the guest. Guest can request the access of the lock. Guest can find the host's properties by typing the phone number of the host, and the phone number is also the registration and login name of the user. After getting the access, guest can use their mobile app to unlock the lock of the relevant property by Bluetooth. Host can change the privilege and access frequency that they grant to the guest. Host can also add and delete properties and locks to their own account. Host and guest can both see the history of their smart lock activities.

Story:

Michael went to San Francisco for travelling and live in an Airbnb. The host of the apartment was not at home and leave the key in the password lock box outside of the room. He called the host to ask the password to open the box. But he found it was very unsafe because the password of the lock box was not changed very often and somebody can get back sometime to get the key. This will threaten the safety of other's Airbnb customers. And if the customer didn't put the key back into the lock box, it will also cause a trouble for the host. So he was thinking if there is a better way to lock and unlock the door for the customer. Then he came out with an idea to use the mobile app to unlock the door. If the lock of the door is a smart lock and can get the signal of the mobile app by Bluetooth, and the access to the room can be granted to the user based the date, it would be a great idea. Accordingly, the host can buy a smart lock for his properties and register it through the mobile app using his phone number. Whenever a customer reserves the room, the host grants him the access of the lock. The access period is the same as the reservation period, which will expire when the reservation ends. Then the customer can't come back after that. The safety now for both customers and hosts are better than before.

Use Case:

Use Case 1

Use Case ID	HOST-REG
Use Case Name	Host Registration
Primary Actor(s)	Host user
Secondary Actor(s)	N/A
Description	Host user will select the type of the account, personal or business.
Preconditions	Host Registration display dialog is available and waiting for user input.
Normal Flow of Events	1. User selects the type of the account through radio buttons. 2. User clicks "Continue".
Postconditions	After step 2, the Create Host profile display appears.
Frequency of Use	Low
Alternative Flows	User can click back key within the Host Registration display to go back to Host/Guest Choice display.
Exceptions	User does not select a type of the account through radio buttons and is given a message that you must select a type.
Assumptions	The APP is up and running.
Issues	TBD
Source	TBD
Includes	TBD
Associated Requirement	TBD

Use Case 2

Use Case ID	CRT-HOST-PROF
Use Case Name	Create Host Profile
Primary Actor(s)	Host user
Secondary Actor(s)	N/A
Description	Host user will create the profile, which includes birthday, gender, email, and zip code.
Preconditions	Create Host Profile display dialog is available and waiting for user input.
Normal Flow of Events	1. User select birthday. 2. User select gender through radio buttons. 3. User type email in a text box. 4. User type zip code in a text box. 5. User clicks "Confirm".
Postconditions	After step 5, the Host Page display appears.
Frequency of Use	Low

Alternative Flows	User can click back key within the Create Host Profile display to go back to Host Registration display.
Exceptions	User does not select birthday or gender. User does not enter or enters invalid data in the email and zip code field and is given a message that all fields need to contain information or has entered an invalid email or zip code.
Assumptions	The APP is up and running.
Issues	TBD
Source	TBD
Includes	TBD
Associated Requirement	TBD

Use Case 3

Use Case ID	ADD-PROP
Use Case Name	Add Property
Primary Actor(s)	Host user
Secondary Actor(s)	N/A
Description	Add the name, description and address of the property.
Preconditions	Add Property display dialog is available and waiting for user input.
Normal Flow of Events	<ol style="list-style-type: none"> 1. User types the name in a text box. 2. User types the description in a text box. 3. User types the address in a text box. 4. User select privacy through check box. 5. User add extra information. 6. User clicks "Save".
Postconditions	After step 6, the Host Page display appears.
Frequency of Use	Medium
Alternative Flows	User can click back key within the Add Property display to go back to Host Page display.
Exceptions	User left any of the text box blank and is given a message that you must enter all the information required.
Assumptions	The APP is up and running.
Issues	TBD
Source	TBD
Includes	TBD
Associated Requirement	TBD

Use Case 4

Use Case ID	ADD-SCHDL
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Use Case Name	Add Schedule
Primary Actor(s)	Host user
Secondary Actor(s)	N/A
Description	Host user can add a schedule of event of the lock for his guest.
Preconditions	Add Schedule display dialog is available and waiting for user input.
Normal Flow of Events	<ol style="list-style-type: none"> 1. User types the event name in a text box. 2. User edit access. 3. User select whether it is all day. 4. User select the start time. 5. User select the end time. 6. User select repeat. 7. User select end repeat. 8. User edit alert. 9. User clicks "Confirm".
Postconditions	After step 9, the property information display appears.
Frequency of Use	High
Alternative Flows	User can click back key within the Add Property display to go back to property information display.
Exceptions	User does not enter the event name or does not select start time or end time and is given a message that you must enter all the information required.
Assumptions	The APP is up and running.
Issues	TBD
Source	TBD
Includes	TBD
Associated Requirement	TBD

Use Case 5

Use Case ID	GUEST-REG
Use Case Name	Guest Registration
Primary Actor(s)	Guest user
Secondary Actor(s)	N/A
Description	Guest user will select the type of the account, personal or business.
Preconditions	Guest Registration display dialog is available and waiting for user input.
Normal Flow of Events	<ol style="list-style-type: none"> 1. User selects the type of the account through radio buttons. 2. User clicks "Continue".
Postconditions	After step 2, the Create Guest profile display appears.
Frequency of Use	Low

Alternative Flows	User can click back key within the Guest Registration display to go back to Host/Guest Choice display.
Exceptions	User does not select a type of the account through radio buttons and is given a message that you must select a type.
Assumptions	The APP is up and running.
Issues	TBD
Source	TBD
Includes	TBD
Associated Requirement	TBD

Use Case 6

Use Case ID	CRT-GUEST-PROF
Use Case Name	Create Guest Profile
Primary Actor(s)	Guest user
Secondary Actor(s)	N/A
Description	Guest user will create the profile, which includes birthday, gender, email, and zip code.
Preconditions	Create Guest Profile display dialog is available and waiting for user input.
Normal Flow of Events	<ol style="list-style-type: none"> 1. User select birthday. 2. User select gender through radio buttons. 3. User type email in a text box. 4. User type zip code in a text box. 5. User clicks "Confirm".
Postconditions	After step 5, the Guest Page display appears.
Frequency of Use	Low
Alternative Flows	User can click back key within the Create Guest Profile display to go back to Guest Registration display.
Exceptions	User does not select birthday or gender. User does not enter or enters invalid data in the email and zip code field and is given a message that all fields need to contain information or has entered an invalid email or zip code.
Assumptions	The APP is up and running.
Issues	TBD
Source	TBD
Includes	TBD
Associated Requirement	TBD

Use Case 7

Use Case ID	REQ-ACCS
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Use Case Name	Request Access
Primary Actor(s)	Guest user
Secondary Actor(s)	N/A
Description	Client asks the host for the access and frequency to the properties' locks.
Preconditions	Request Access display dialog is available and waiting for user input.
Normal Flow of Events	1. User set a frequency through droplists. 2. User clicks "Confirm".
Postconditions	After step 2, the Guest Page display appear.
Frequency of Use	High
Alternative Flows	User can click back key within the Request Access display to go back to main display.
Exceptions	User does not select frequency and is given a message that you must set a frequency.
Assumptions	The APP is up and running.
Issues	TBD
Source	TBD
Includes	TBD
Associated Requirement	TBD

Use Case 8

Use Case ID	SHOW-HISTORY
Use Case Name	Show History
Primary Actor(s)	Host user, Guest user
Secondary Actor(s)	N/A
Description	Host and client can both view their lock activity history.
Preconditions	Main display dialog is available and waiting for user input.
Normal Flow of Events	1. User clicked Show History button. 2. History information appears.
Postconditions	After step 2, the Host Page / Guest Page display appears.
Frequency of Use	Medium
Alternative Flows	N/A
Exceptions	N/A
Assumptions	The APP is up and running.
Issues	TBD
Source	TBD
Includes	TBD
Associated Requirement	TBD

Use Case 9

Use Case ID	EDIT-PROF
Use Case Name	Edit Profile
Primary Actor(s)	Host user, Guest user
Secondary Actor(s)	N/A
Description	Both client and host user can edit their profile.
Preconditions	Edit Profile display dialog is available and waiting for user input.
Normal Flow of Events	1. User edits profile information. 2. User clicks "Save".
Postconditions	After step 2, the My Profile display appears.
Frequency of Use	Low
Alternative Flows	User can click back key within the Edit Profile display to go back to My Profile display.
Exceptions	User enters invalid information and is given a message that you entered invalid information.
Assumptions	The APP is up and running.
Issues	TBD
Source	TBD
Includes	TBD
Associated Requirement	TBD

Android features:

Network

Both hosts and guests need sign in to use the app, and their information are saved in server. All the interaction between host and guest are done through network.

Bluetooth

After getting the access, guest can use their mobile app to unlock the lock of the relevant property by Bluetooth.

Camera

When you edit the property information, you can use camera to take a photo as image.