

Smart Lock Android App

Qiuge Zhang(qiugez)
Shuaipeng Cao(shuaipc)
Xiaokai Sun(xiaokais)

Agenda

- Background(User story)
- Smart lock overview
- Page flow chart
- Database schema
- Class diagram
- Exception handling
- Demo

Smart Lock Android App

Background

- Airbnb houses are using traditional lock box and put keys inside lock box and tell the client the password to open the box.
- We want to build a more efficient and safer way to open the door.
- Since almost everybody carry smart phones always with them. The idea of Smart Lock jump into our brain.

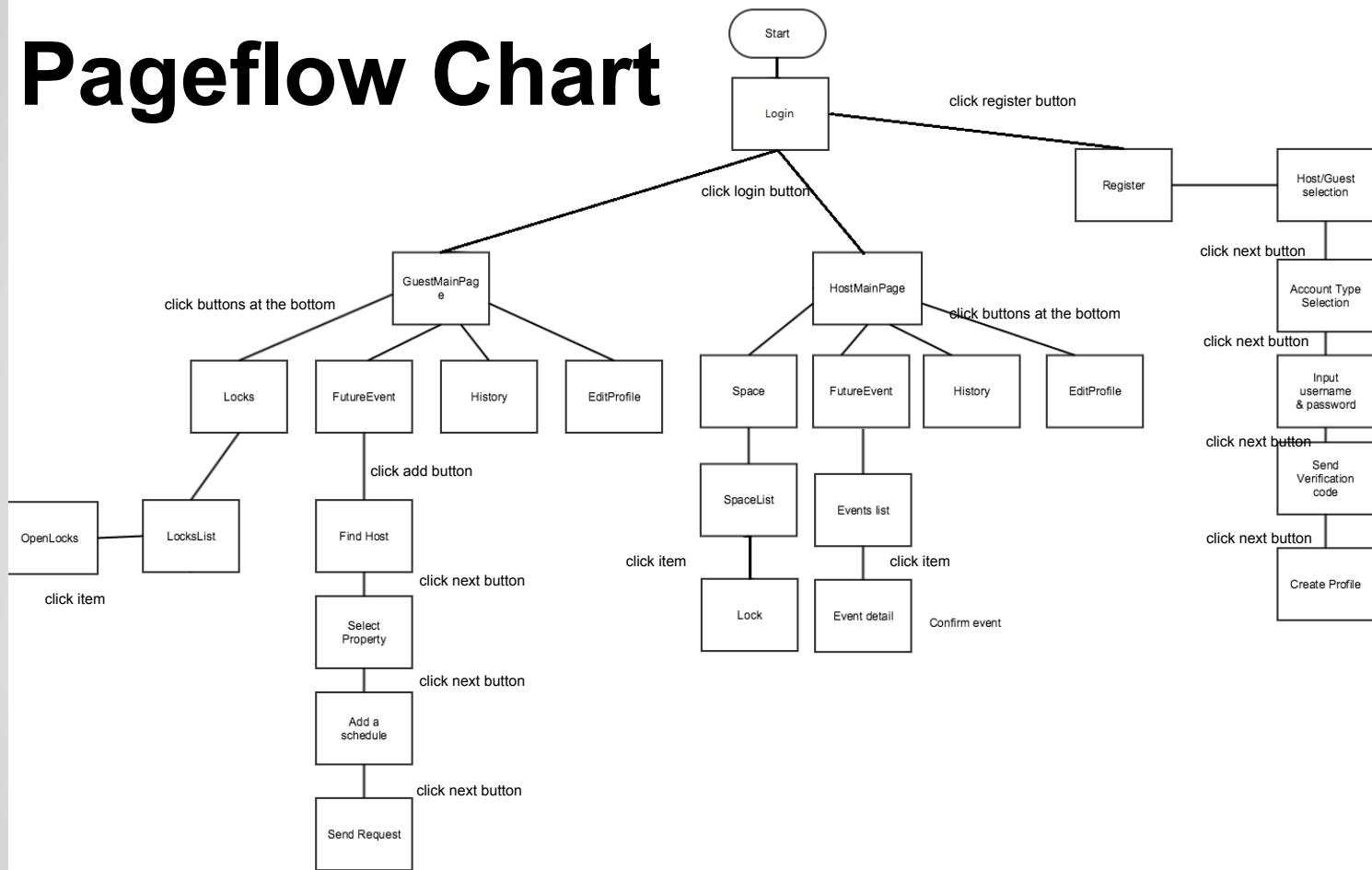


Smart Lock Overview

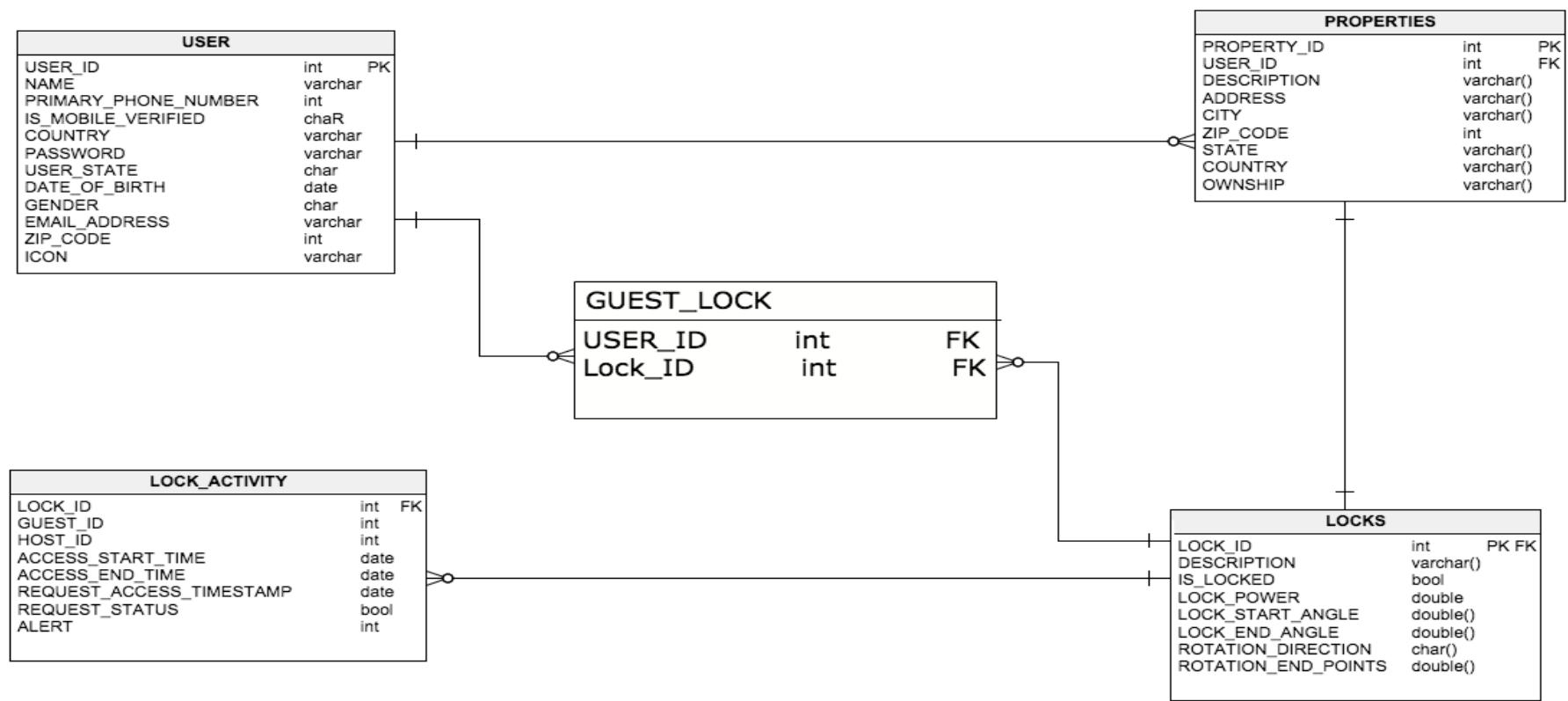
- What is smart lock?
Simply, smart lock is a lock can be unlocked by a mobile app.
- How to use smart lock?
 - Host can buy a smart lock and register himself as a host.
 - When a guest come to host's house, he can ask the host for access privilege.
 - The access has specific date and time period. When the access expires, guest can't come back to open the door any more.



Pageflow Chart



Database schema



Class Diagram

Task Assignments:

Qiuge worked on front end Host part

Shuaipeng worked on front end Guest part

Xiaokai worked on back end server and database part

Refer to Class Diagram.pdf

Exception Handling

1. Input Validation Exception Handling. This is mainly in UI layer.(Client Side)

Example:

class name	package	Exception Handling
GuestMainStep1RAFragment	com.example.simsim.ui	it will check the input phone number format, if it is not a number then throws an exception and the exception will be watched and show a Toast.

Exception Handling

2. Network Exception Handling. This is mainly in UI layer and business logic layer.(Client Side)

Example:

class Name	PackageName	Exception Handling
EntityAdapter(Business Logic Layer)	com.example.simsim.entities	if there is something wrong with the connection between the client and server, the function authenticate(String primaryPhoneNumber, String password) will throws an exception.

Exception Handling

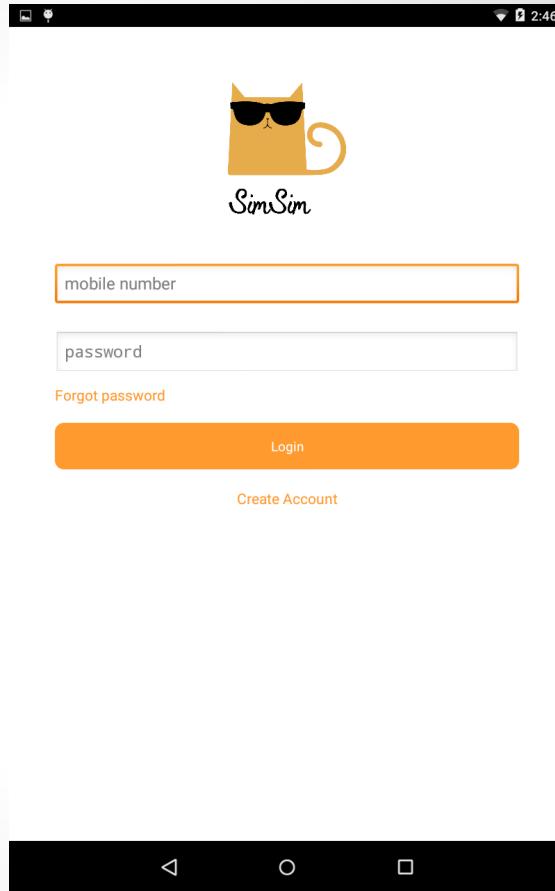
3. Database Exception Handling. This is mainly in the Server side web program.(Server Side)

Example:

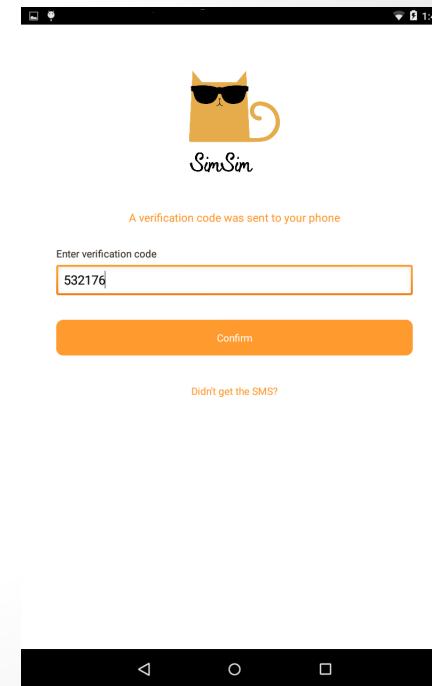
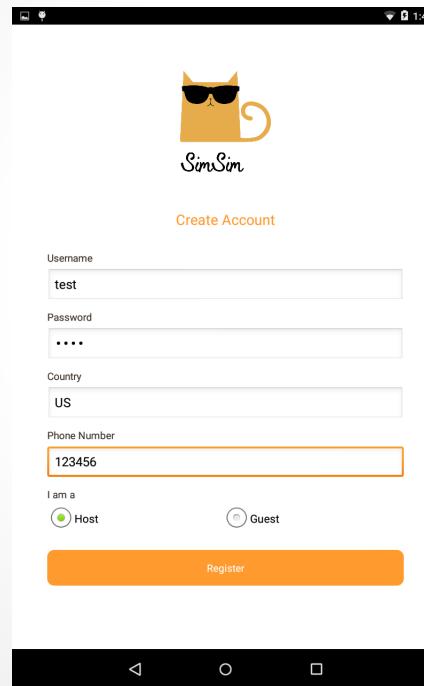
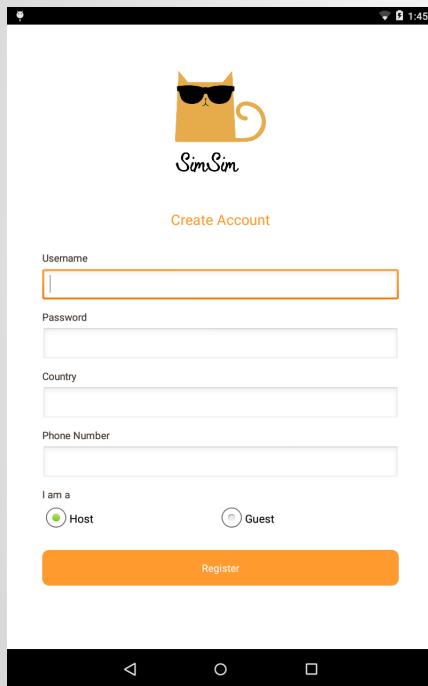
class Name	PackageName	Exception Handling
DbAdapter	database	every database operation was surrounded with try catch clause in order to deal with the exceptions occurred in DB operations.

Application Demo

App entrance - Login



Application Demo



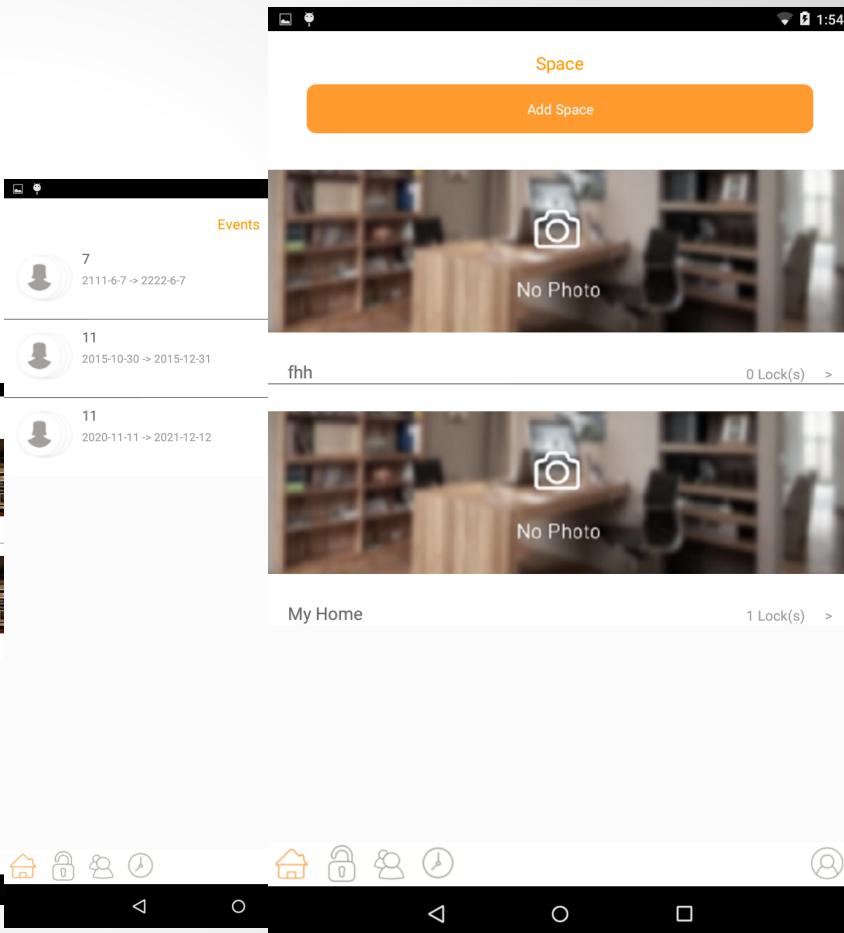
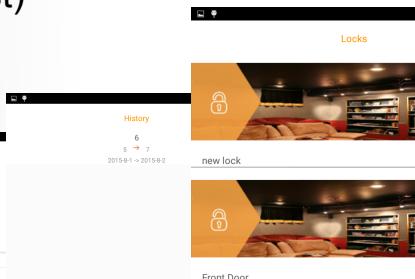
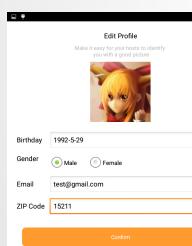
Registration

Application Demo

Main Activity

Switch between fragments by the navigation bar at the bottom .

It will provides different functions depending on your identity (host or guest)



Application Demo

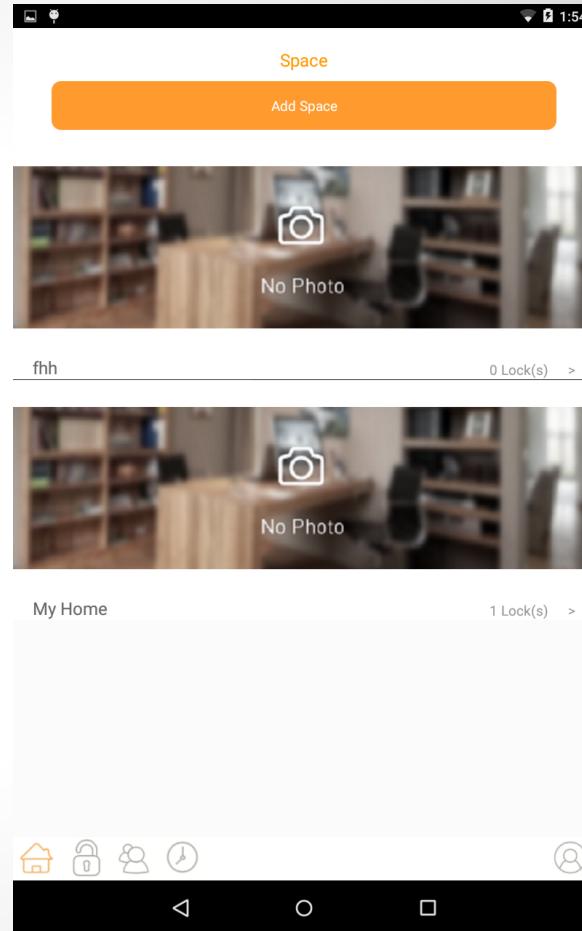
Space interface for host user

Show all of the properties of the user.

Click 'Add Space' button to create new space

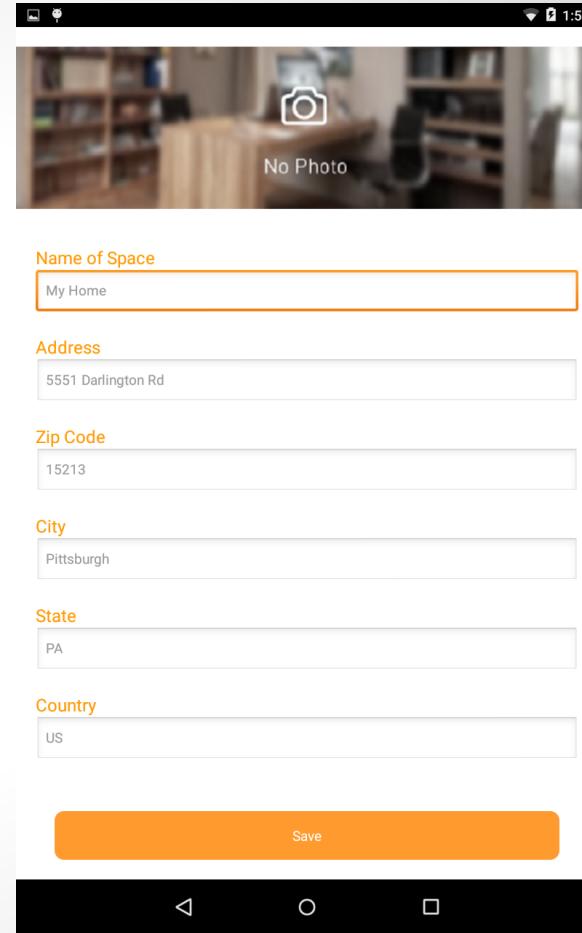
Click an item of listview to show locks of the space

Long press the existing space to edit the space



Application Demo

Add or edit a space

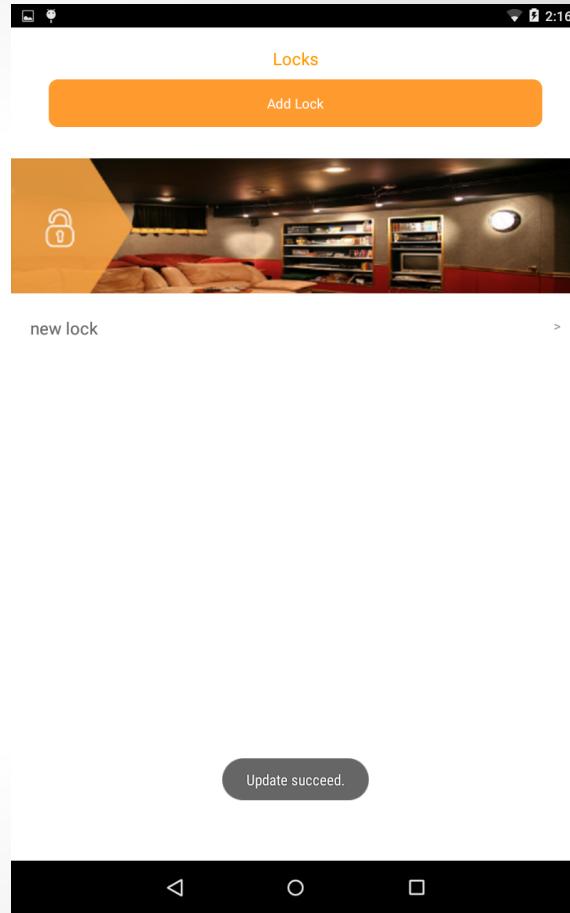


Application Demo

Lock interface for host user

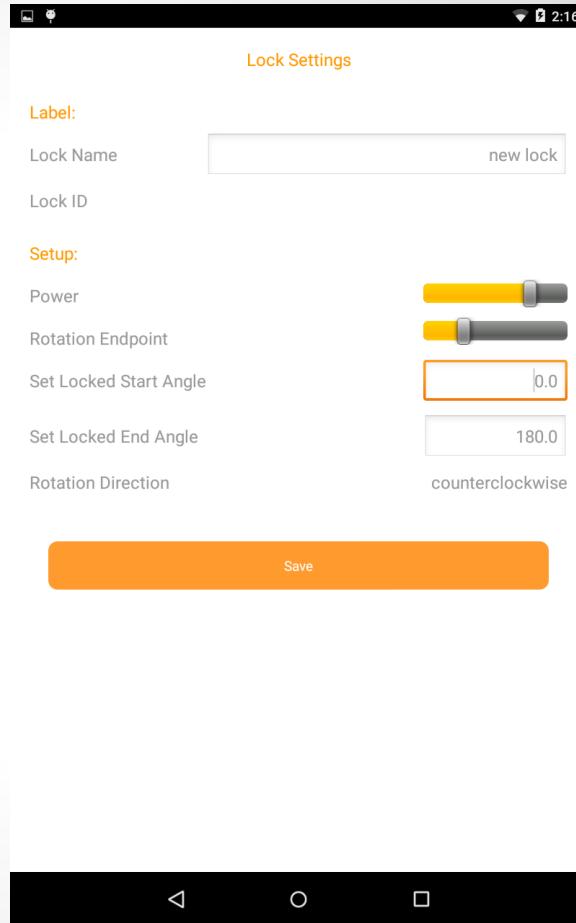
Show all of the locks of the user.

Click 'Add lock' button to create new lock
Click an existing lock to edit its attributes



Application Demo

Add or edit a lock



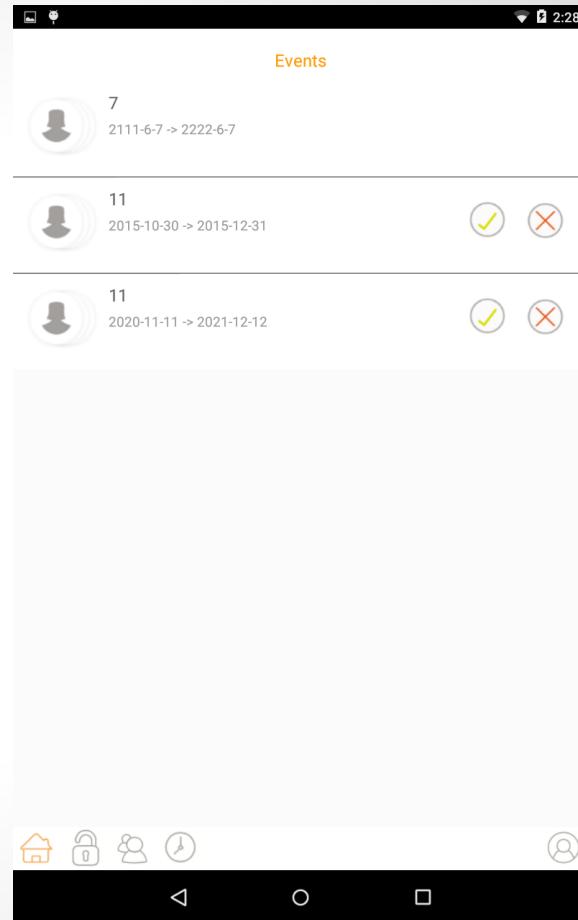
Application Demo

Events interface for host user

Show all of the lock request sent to the host user.

Click the checkmark to accept.

Click the crossmark to reject.

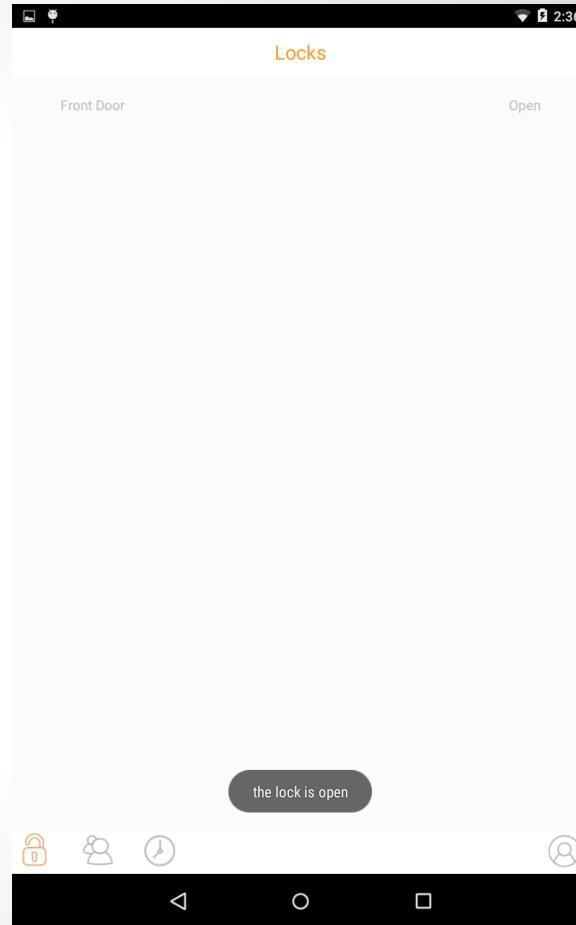


Application Demo

Lock interface for guest user

Show all of the locks for which the request has been accepted.

Click the item to open or close lock.



Application Demo

Event interface for guest user

Show all of the lock request that is pending or accepted.

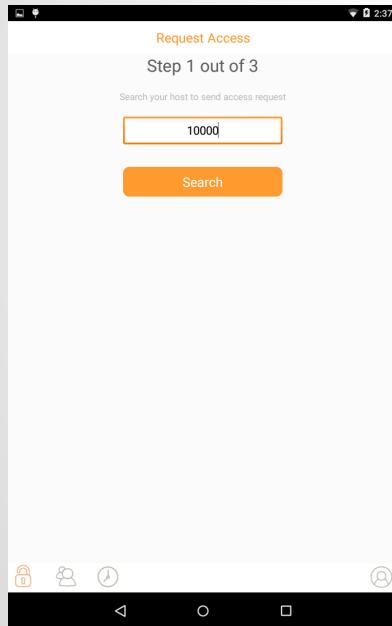
Click “Add an Event” button to create a new request.



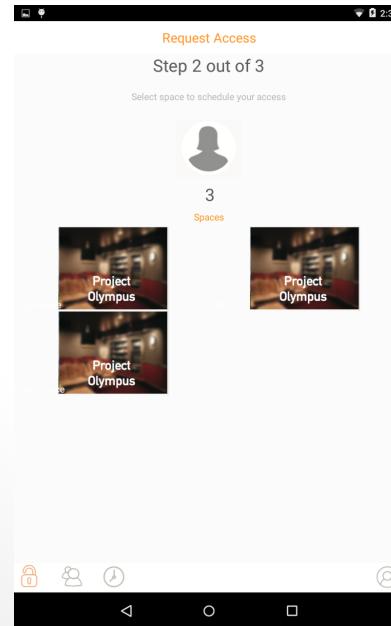
Application Demo

Three steps to create a new request:

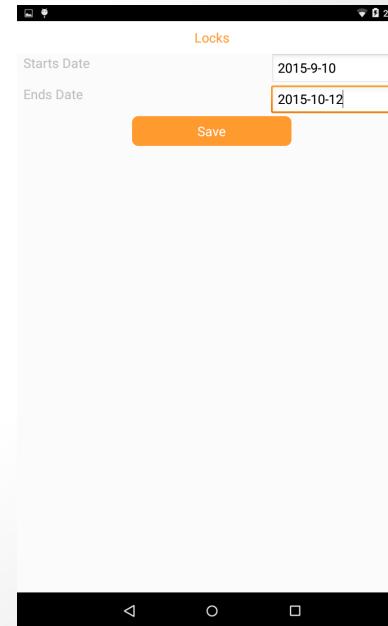
1. Search a host user



2. Select a property



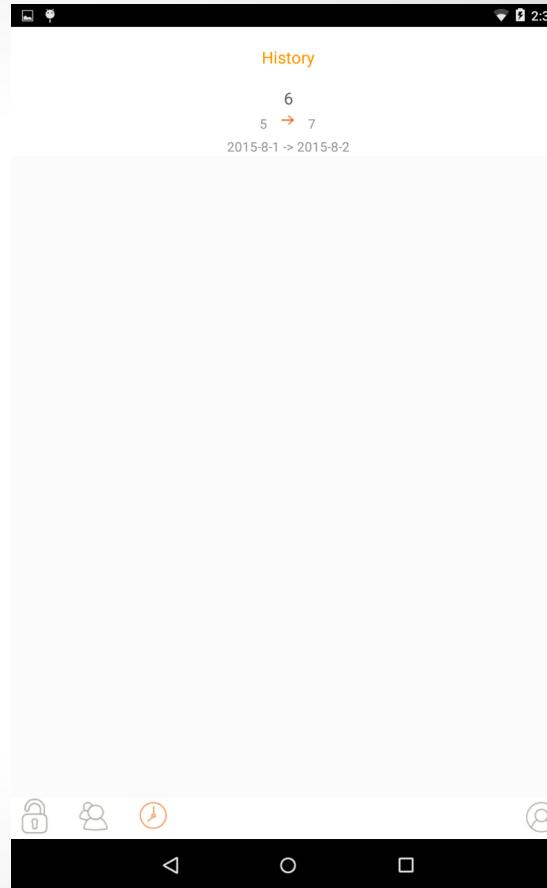
3. Set time range



Application Demo

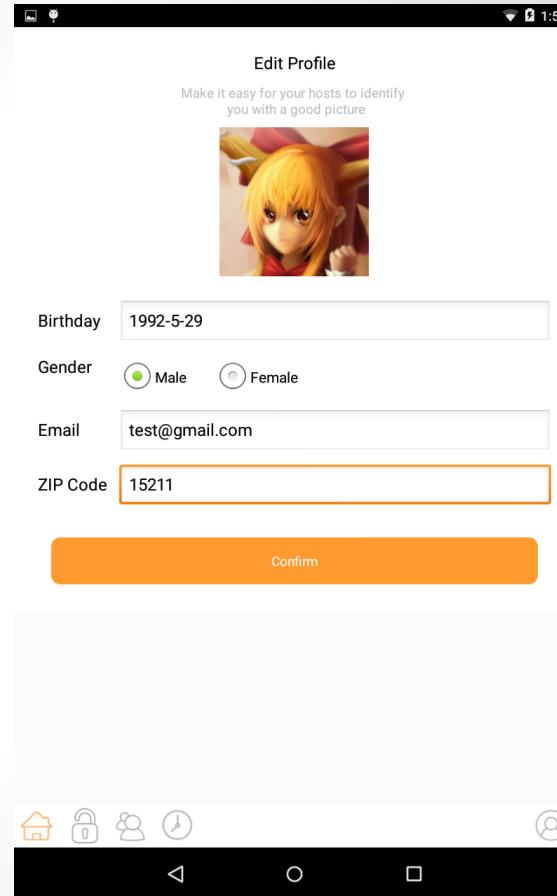
History interface for both host and guest user

Show all of the past lock request.



Application Demo

Profile interface for both host and guest user



Q & A

Any question?