Option 2: Developing a smart phone application to raise public awareness of telephone deception

Team members:

Name	University Number
Peng Yuxia	3035418593
Zhang Jinzhi	3035455008

1. Descriptions of the techniques, methods, special features, etc. used in developing the application

The techniques, methods, special features are as following:

- **The techniques:**

(1) Get the permission of taking data from contact book from the system

(2) Get the permission of detecting the status of incoming calls

(3) SQLite

(4) Automatic dismissing.

- **The special features:**

(1) The user boots the application, after which the application can detect the incoming call. If the telephone number of incoming calls are not included in the contact book, a pop-up warning message will be shown, in which there are graphic warning message and some words to alert users.

(2) When a pop-up warning message will be shown. In the pop-up window, the user will be asked whether to add the strange phone number into blacklist. There are two buttons including "Yes" and "No". If the user clicks "Yes" button, the incoming call will be declined and the telephone number will be added in the blacklist. If the user clicks "No" button, the pop-up window will be closed and the telephone number will be not added in the blacklist and interception records. Then the user can answer the call normally.

(3) In default, all strange incoming calls that are not included in the phone book will be recorded. The application offers users to check all interception records containing *the telephone number*, *the times*, *date and timestamp of interception*. Users can delete the record of telephone interception by touching the specific record and confirming "Delete this record?". The application allows users to turn off the function of interception, then there will be no any warning message when detecting incoming calls.

(4) The user can check the blacklist. In the blacklist, only the telephone numbers are shown.

There are three choices for users to choose, including “Select All”, “Clear Selected” and “Delete”. Besides, users can click the checkbox to choose a telephone number, then click “Delete” button to delete the telephone number.

(5) Automatic Dismissing. If the incoming call is the telephone number that has been in the blacklist, the application can dismiss the incoming calls automatically. At the same time, the telephone will be recorded in the interception records again, in which the times, timestamp and date will be updated.

2. Additional features

The additional features are as following:

- **The function of taking database (SQLite)**

(1) We apply database in creating interception records. In the corresponding table of database, the telephone number, the times, date and timestamp of interception are included.

(2) We apply database in creating blacklist. The table only contains the telephone number. Thea application use it to store the telephone number that are not included in the phone book and confirmed to be added in the blacklist.

- **The function of adding telephone numbers in interception records**

(1) In default, all strange incoming calls that are not included in the phone book will be recorded. The application offers users to check all interception records containing *the telephone number*, *the times*, *date and timestamp of interception*.

- **The function of adding telephone numbers in blacklist**

(1) In the pop-up window, the user will be asked whether to add the strange phone number into blacklist. There are two buttons including “Yes” and “No”. If the user clicks “Yes” button, the incoming call will be declined and the telephone number will be added in the blacklist. If the user clicks “No” button, the pop-up window will be closed and the telephone number will be not added in the blacklist and interception records.

- **The feature of operating interception records and blacklist**

(1) Users can delete the record of telephone interception by touching the specific record and confirming “Delete this record?”

(2) There are three choices for users to choose, including “Select All”, “Clear Selected” and “Delete”. Besides, users can click the checkbox to choose a telephone number, then click “Delete” button to delete the telephone number. If users click “Select All”, all telephone numbers will be clicked. If users click “Clear Selected”, all telephone numbers that is clicked will be deleted.

- **The feature of operating interception records and blacklist**

The application allows users to turn off the function of interception, then there will be no any warning message when detecting incoming calls.

- **The feature of Automatic Dismissing**

If the incoming call is the telephone number that has been in the blacklist, the application can dismiss the incoming calls automatically. At the same time, the telephone will be recorded in the interception records again, in which the times, timestamp and date will be updated.

3. Contributions of each member

The additional features are as following:

- Peng Yuxia

Tasks	Percentage of Contribution
Get telephone numbers of incoming calls	50%
Get telephone numbers from the phone books	30%
Check whether the telephone numbers of incoming calls are included in the phone books	60%
Show pop-up graphical warning message	70%
A document file to briefly describe the techniques, methods, special features and so on	40%
Additional features	50%

- Zhang Jinzhi

Tasks	Percentage of Contribution
Get telephone numbers of incoming calls	50%
Get telephone numbers from the phone books	70%
Check whether the telephone numbers of incoming calls are included in the phone books	40%
Show pop-up graphical warning message	30%
A document file to briefly describe the techniques, methods, special features and so on	60%
Additional features	50%

4. Requirements of Deployment

JAVA

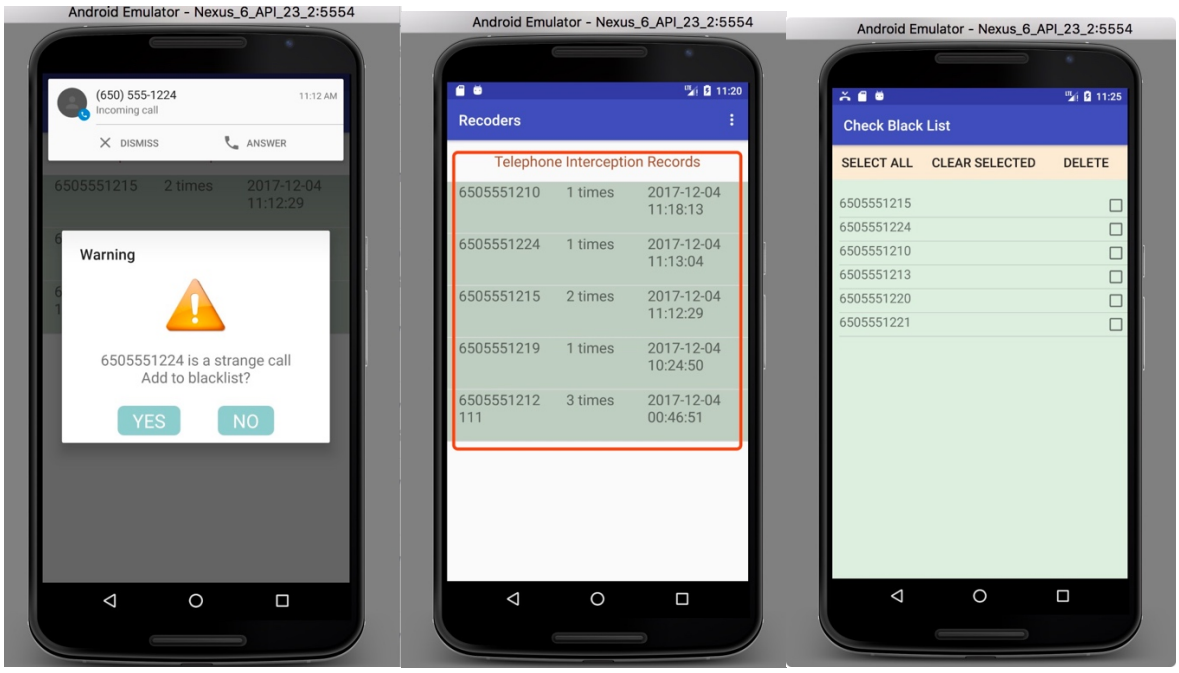
```
JDK version "1.8.0_144"
```

SDK

```
Compile Sdk Version: API 27

Build Tools Version: 26.0.1

Min Sdk Version: API 22: Android 5.1 (Lollipop)

Target Sdk Version: API 27
```

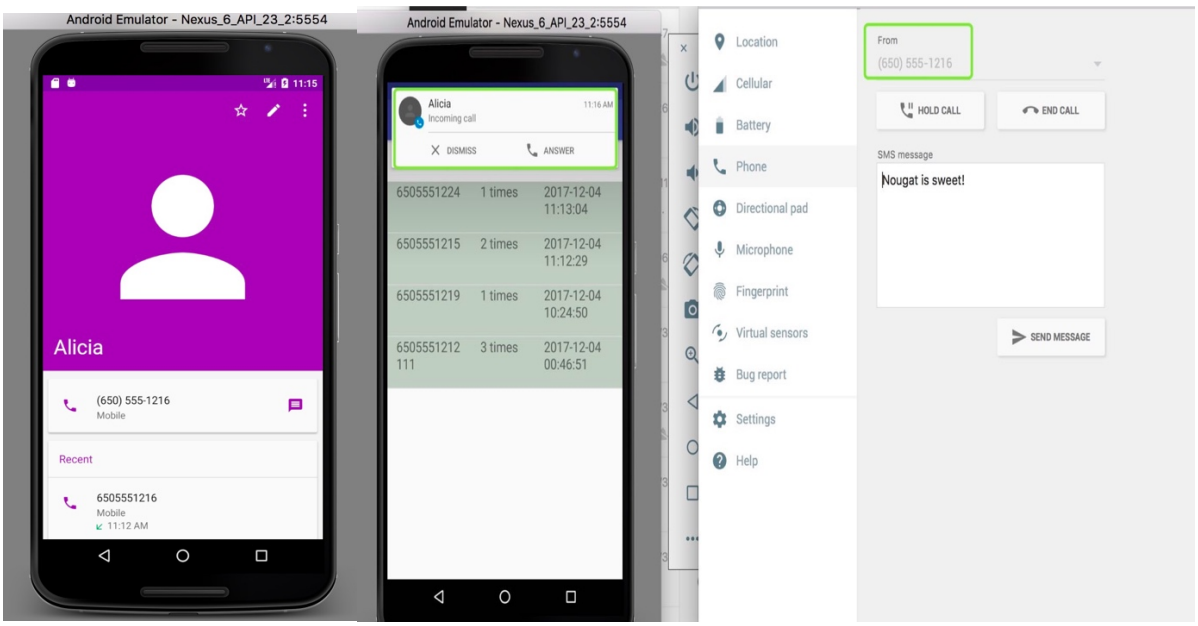
5. Effects

- **Demonstration of basic effects**

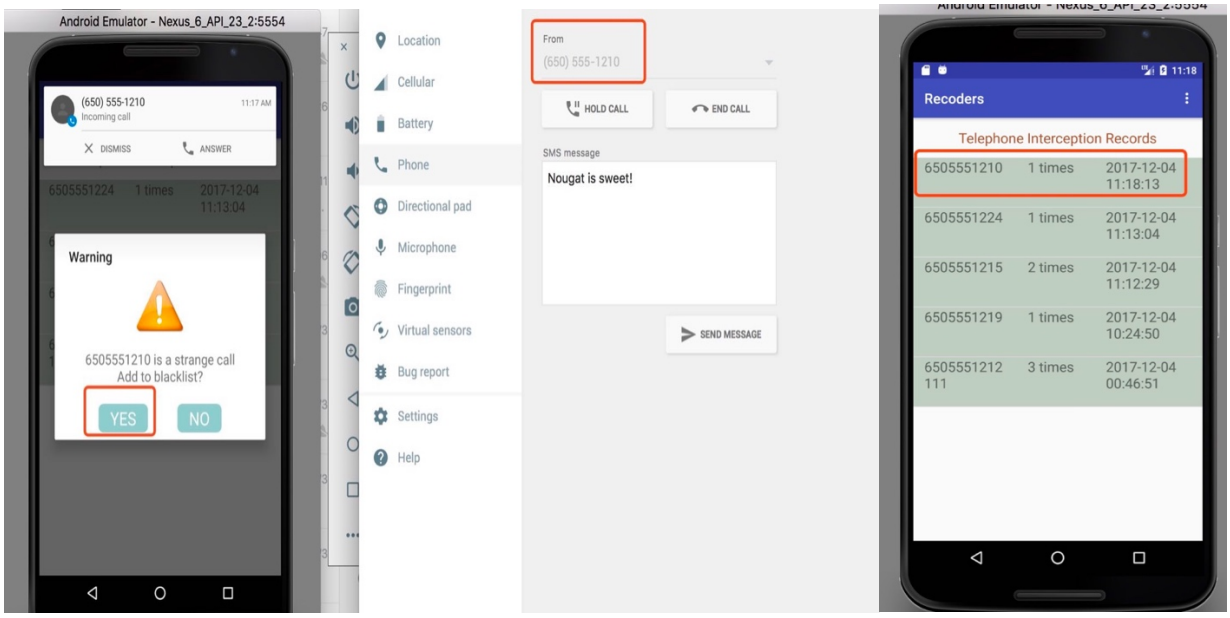


- **Demonstration of general process**

(1) When the telephone number of incoming call is in the contact book

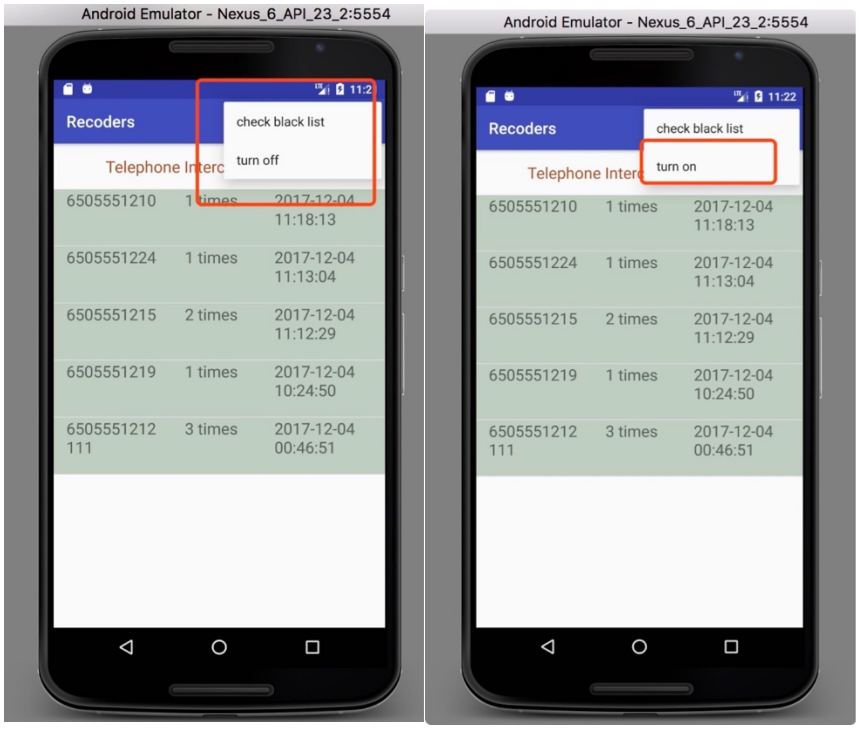


(2) When the telephone number of incoming call is not in the contact book, there is a warning message. If the user clicks "Yes" button, the telephone number will be recorded in the interception records.

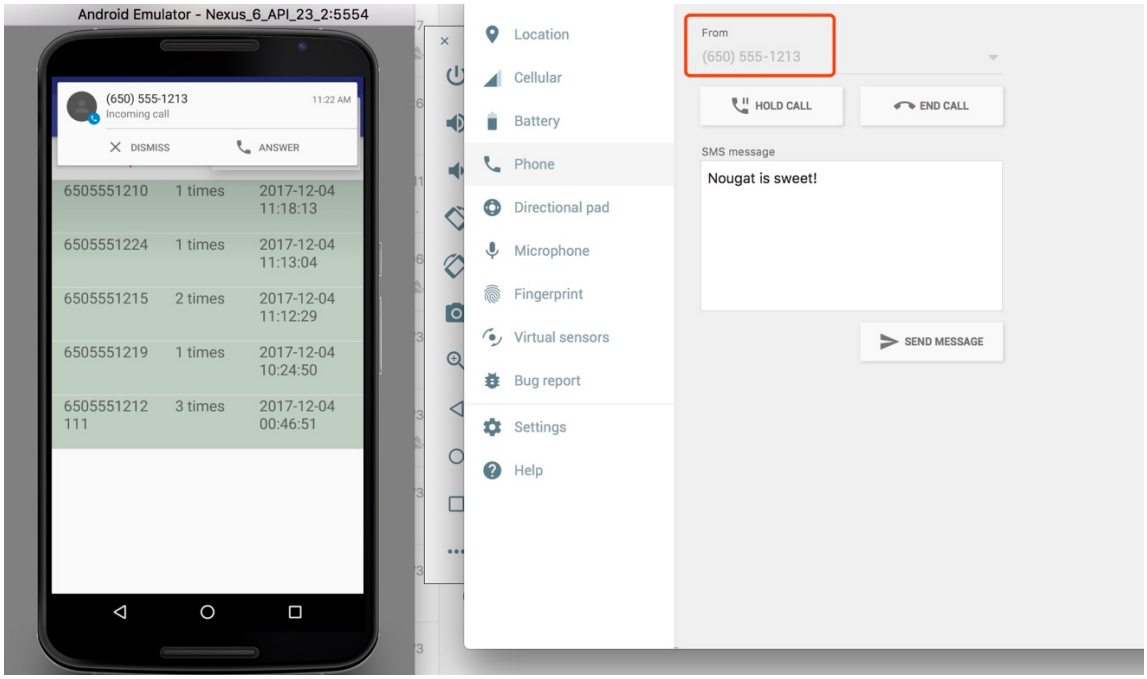


- **Demonstration of additional features**

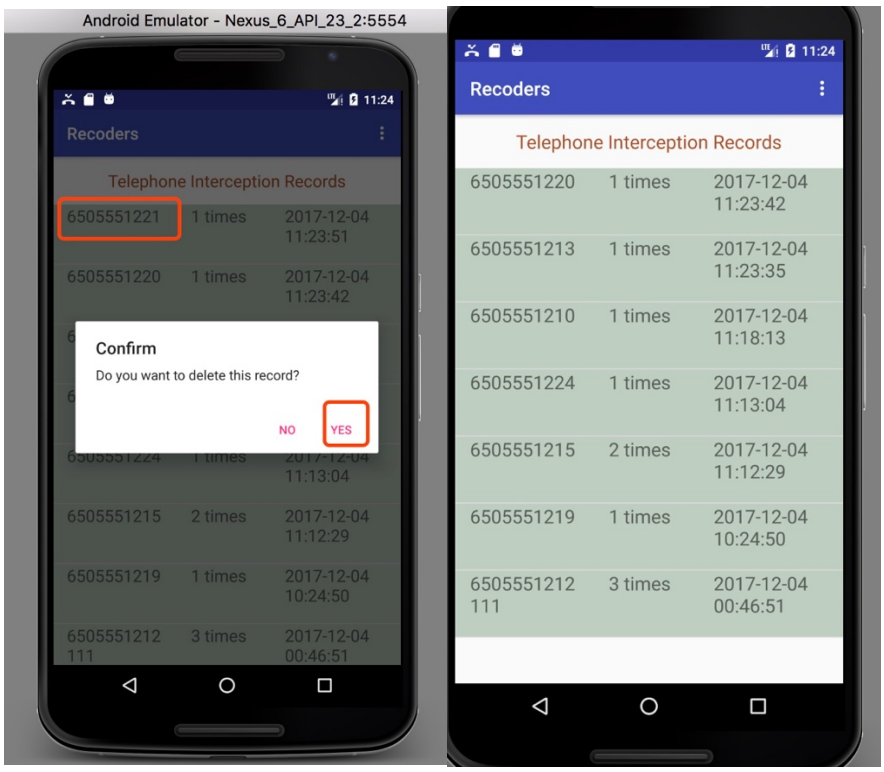
(1) The user can choose "check the backlist" or "turn off"



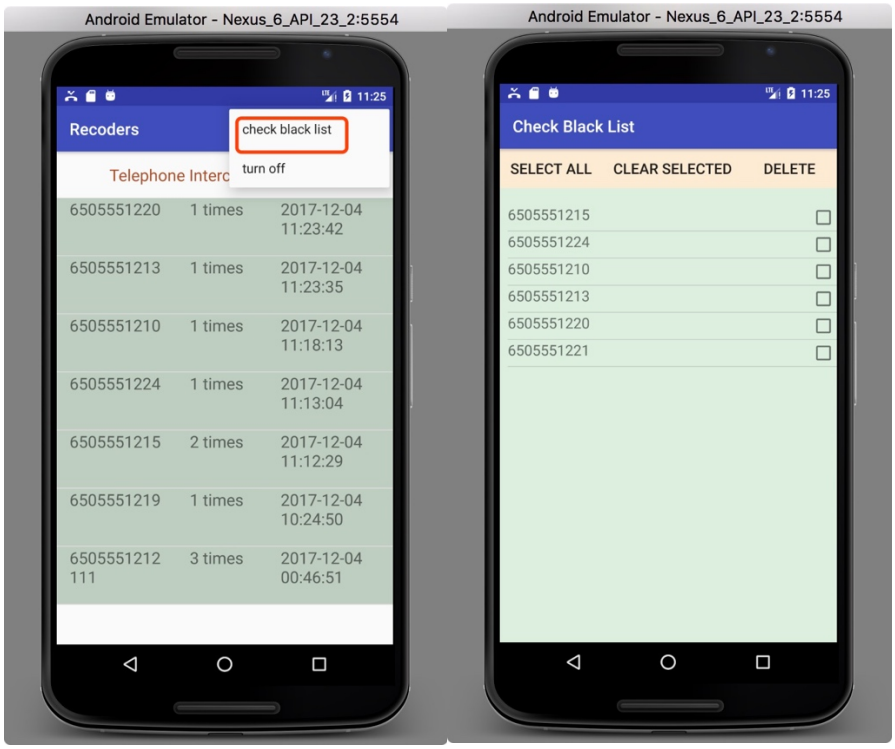
(2) The user can choose "turn off". There will be no warning messages when detecting a telephone number that is not included in the phone book.



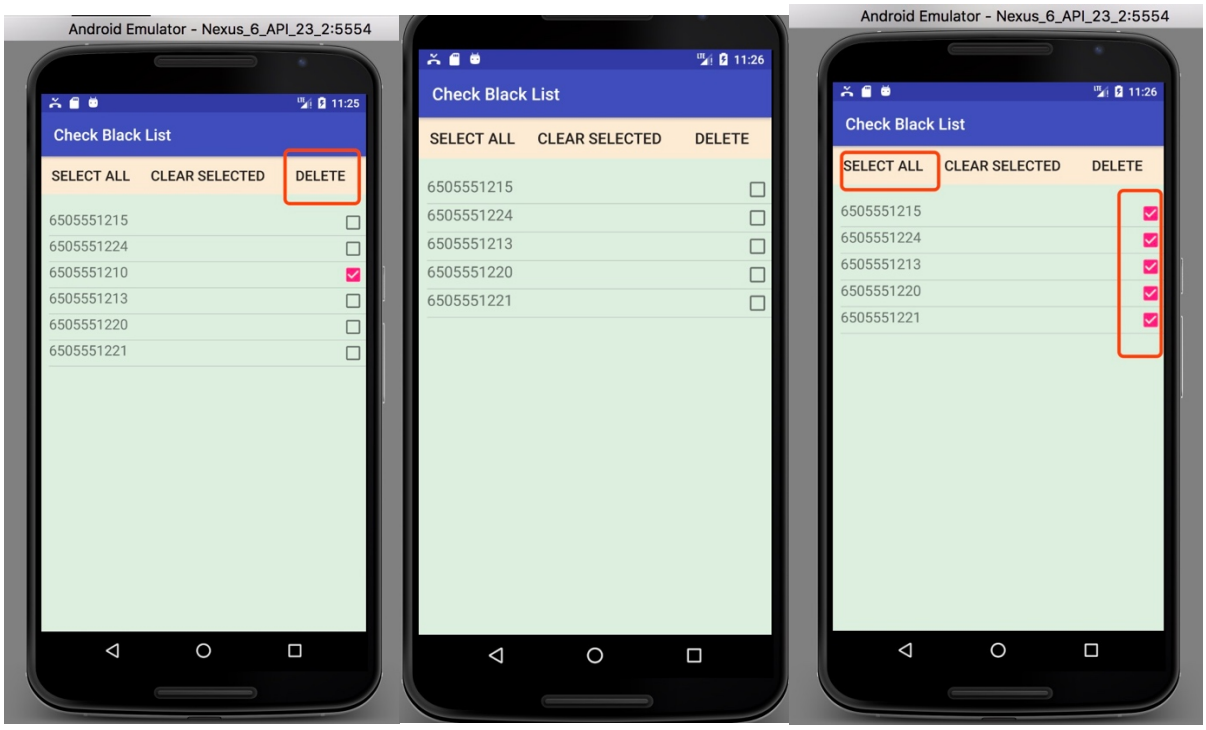
(3) The user can delete the record of interception. Then the record of telephone confirmed by the user will disappear.

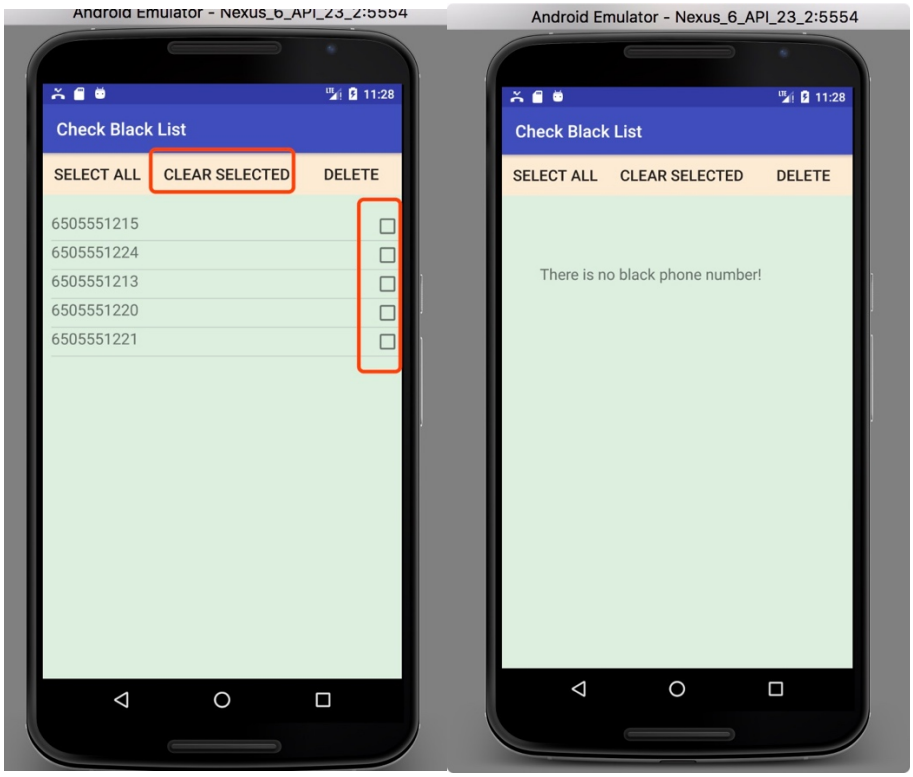


(4) The user can choose the "check black list".



(5) The user can operate the "check black list" as the following:


Android Emulator - Nexus_6_API_23_2:5554
11:25
Check Black List
SELECT ALL
CLEAR SELECTED
DELETE
6505551215
6505551224
6505551210
6505551213
6505551220
6505551221
11:26
Check Black List
SELECT ALL
CLEAR SELECTED
DELETE
6505551215
6505551224
6505551213
6505551220
6505551221
Android Emulator - Nexus_6_API_23_2:5554
11:26
Check Black List
SELECT ALL
CLEAR SELECTED
DELETE
6505551215
6505551224
6505551213
6505551220
6505551221


Android Emulator - Nexus_6_API_23_2:5554
11:28
Check Black List
SELECT ALL
CLEAR SELECTED
DELETE
6505551215
6505551224
6505551213
6505551220
6505551221
Android Emulator - Nexus_6_API_23_2:5554
11:28
Check Black List
SELECT ALL
CLEAR SELECTED
DELETE
There is no black phone number!