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Helper an Offline Android Application for Remote Controlling and Accessing of Mobile

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Abstract: ***A mobile phone can be used to send and receive text messages, with wide coverage area, high reliability, high popularity by using Short message service technology. Using Global system for mobile communication, messages can be sent and received between two devices. The remote system is used to send specific SMS to predetermined number at any moment. To get specific information from a mobile it should be accessed. In the mini project we completed the modules which enables and disables the Bluetooth, Wi-Fi, sound, Battery, location display through a simple SMS from another mobile. In major project we aim to complete modules that involves camera, Wi-Fi hotspot and Audio recording which are also be enabled and disabled by SMS without using internet and works remotely. By this application one can easily access their mobile from any place and operate remotely. By sending a SMS to their own mobile it automatically gets the details of that module by the commands and it can be returned to the same number as a received message.***

Keywords: Smart phone, Short Message Service (SMS), Global system for mobile communication (GSM), Wi-Fi, application, module.

I. INTRODUCTION

Android is also a group of open supply package that has operative systems, middleware, and key applications alongside a group of Application Programming Interface (API) for writing mobile applications which can form the planning, feel and performance of a mobile device. Robot has been changing its version when releases for every system. As an example, robot candy (API 23) has provided fingerprint recognition API support that permits users to open devices by using fingerprint, Play Store authentication, and third-party application authentication. With these options can build users additional "aware" of the activities undertaken by the appliance within the robot system.

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In Android operating system we have API to run the process in a mobile device, but when an Android device is lost or left somewhere then a drag will arise. We have a possibility of locating device with the help of remote access apps which can access Android APIs like Android Device Manager which is available through Google. But, these methods have some weakness in remote access due to unavailability of data packet internet which will be more difficult to reach the device.

Smartphone's contains knowledge of users like decision records, photos, videos, messages, and emails. Previously manufactures of all transportable have dedicated application to manage humanoid phones to android phones through web. this is often the most important disadvantages of previous system.

In our planned application we have a tendency to take away the drawbacks of previous system and we develop this application that works without web or while not web we are able to management our humanoid phone inaccessible. Our project is about the associate humanoid application that is advanced to perform completely different tasks on your device from the opposite device via simple SMS, and management your humanoid phone remotely mistreatment SMS. The primary purpose of this application is, if we've forgotten our humanoid phone at anyplace, we are going to still manage that phone remotely by causing associate SMS.

So, the application to be built in this study are expected to be able to get better of constraints of the Internet in expressing remote access commands so as to improve the reliability of information delivery using SMS services.

II. RELATED WORK

Existing system:

The analysis areas which are required to the person who controls all the electronic devices accessing remotely, any electronic device from the house like associate security system, air-conditioner, light, set prime box so on [1][6]. The case of device possibility and thus the potential of achieving it at a reasonably low price have actuated the need to analysis into it [4] [7]. But it is not only for industrial use however conjointly for home use or domestic use. Home wireless security systems it's being a necessary these days and area unit becoming progressively well-liked. The capability of controlling home appliances in a very remote fashion and wireless have provided a good convenience for several people's life. Through wireless remote controller individuals will do remote operation while not directly accessing the host of house appliances like tv, fan, washing machines, lamp etc [10].

The introduction the use of hand-held mobile phones and international System for Mobile Communication (GSM) brought the innovation of distance communication at remote location.

This facility for remote of systems and appliances support this, analysis utilizes consider instance, an individual on a journey within his remembers that he left the Air Conditioner (AC), ON once it had been presupposed to be OFF [8]. The standard condition is to switch OFF and drive back or for the house security. We have a tendency to take into account solely ON and OFF operation. However, with the GSM itinerant within the hand, one appearance on however constant can be used to result control at any purpose and time. The prevailing system was developed for hardware elements. the prevailing system is the combination of code and hardware elements both. however, our projected system works for the only code components specifically it works with the data keep in our mobile that we have a tendency to need in our daily life.

III. PROPOSED WORK

Architecture:

Remote control and accessing of mobile phone through simple SMS is an offline android application which is developed to perform different types of operations on your mobile from any other mobile through simple SMS, and can access any device remotely. The primary purpose of this app is, if we forgotten our device at any location which have no availability of internet pack then we can access that device remotely. You can control it by accessing & get the data from your device like Battery status, Bluetooth Status, Location, WIFI. The architecture of the system is shown in Figure 1.

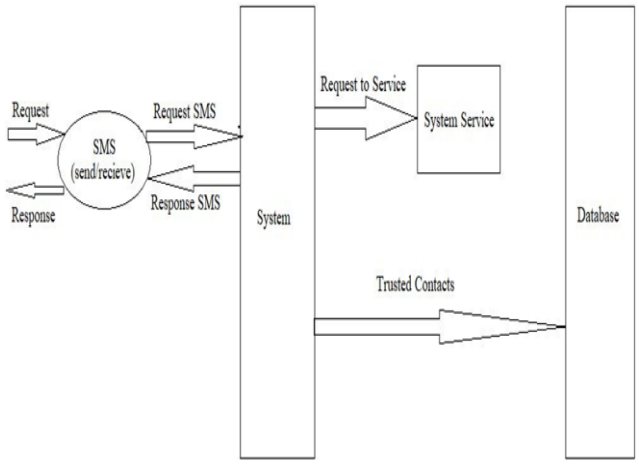

Figure 1. System Architecture

Methodology:

The Helper is an application in which the user will set trusted contacts after the application get installed. In the first phase user will install the offline application and will add the trusted contacts in application. When the device is forgotten or lost the data on the mobile can be accessed by sending a message. The data can be accessed from a remote mobile by sending commands only from trusted mobile numbers. To get the location of the phone and also to change the phone profile from silent to ringing.

After installation of the application the user need to provide permissions such as Device Administrator, Access to Location Information, Wi-Fi settings and Battery information. After the permissions have been given the application features must be turned on by activating auto message reading functionality. Then turn on the Broadcast receiver and turn on each module individually.

While turning on each module we need to add trusted contacts in each module individually and then the application will be fully functional. When the application is fully functional, we can be able to get the data such as Location, Battery status, Display Settings, Bluetooth and Wi-Fi connectivity from any trusted number by sending commands to the host mobile when it is lost or to change settings when required from a remote location.

All the commands will start with a keyword “rc” which is recall and later the command based on its syntax. After receiving a command, the Host mobile will send the reply in a few moments to the trusted contact from which contact it has received the SMS.

IV. RESULTS AND DISCUSSION

Analysis of Remote Access Method Using SMS:

The accessing of any device remotely through sms is divided into many which is to be shown below.

1. Selection of remote access instruction menu: In the system to be designed there’s an instruction menu which will be used for remote access method Android smartphone. The list of instances which will be used to android smart phones are often seen in Table 1.

Table 1. List of Remote Access Commands

Commands	Explanation
rc get battery level	Get the level of the device’s battery
rc enable bluetooth	Turn on the bluetooth of the device
rc take picture	Take pictures with the predefined settings
rc set brightness to [e.g. 50%]	Manages the display’s brightness
rc enable hotspot	Turn on the hotspot of the device
rc get location	Get location of the device
rc enable wifi	Turn on the wifi of the device
rc start audio recording	Records the audio
rc set [audio type] volume to [volume] audio types: ring, music volume: index (e.g.7), percentage (e.g. 50%), vibrate or silent	Manages the volume of ringtone and music

2. List of system authorization requirements:

Each command shown here has different types of resources. At this point we define the system functionality to run by accessing it with requires admin access. The need for system permissions can be seen in Table 2 below.

Table 2. List of Command Access Requirements

Commands	Explanation
rc get battery level	Device admin access
rc enable bluetooth	Device admin access
rc take picture	Access camera hardware, internet data packets, storage
rc set brightness to [e.g. 50%]	Device admin access
rc get location	Access GPS, internet data packets
rc enable wifi	Device admin access
rc start audio recording	Hardware access
rc set [audio type] volume to [volume] audio types: ring, music volume: index (e.g.7), percentage (e.g. 50%), vibrate or silent	Audio access

V. RESULT

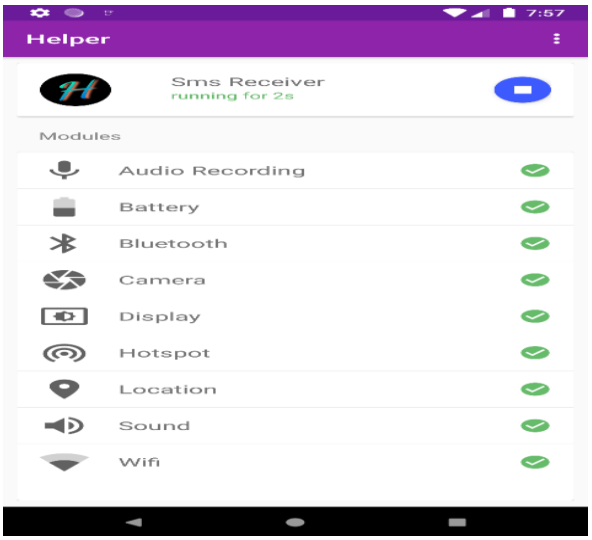

Figure 2. Broadcast Receiver

Broadcast Receiver is the one which decode the command in message and provide the output to the user when it turned on.

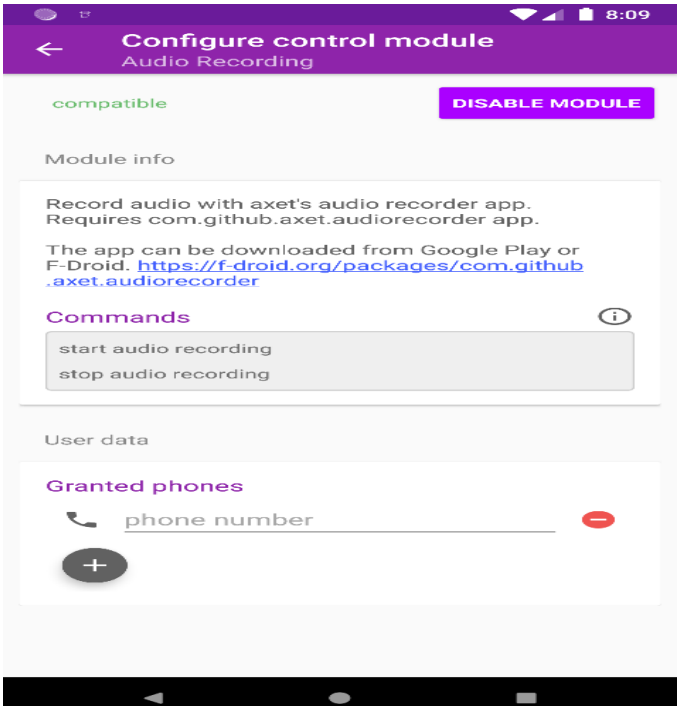

Figure 3. Audio Recording Module

When the user needs to record an audio and need to operate remotely this module is used.

Ex: 1). rc start audio recording-It automatically starts recording.

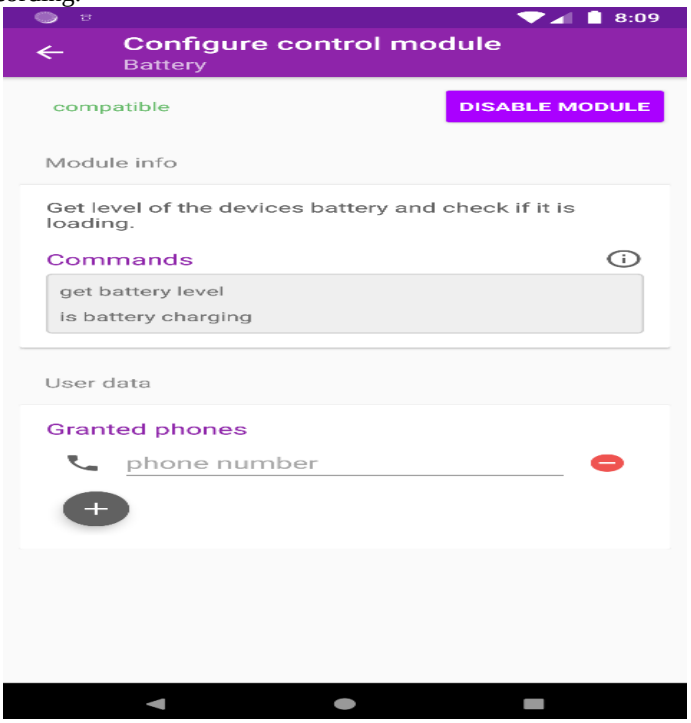

Figure 4. Battery Module

Battery module helps the user to get battery level, charging status of the device battery when an SMS is sent through granted phone with the command**.**

Ex: 1). rc get battery level- Gets reply about percentage of battery.

2). rc is battery charging- It gives the status about battery charging or not.

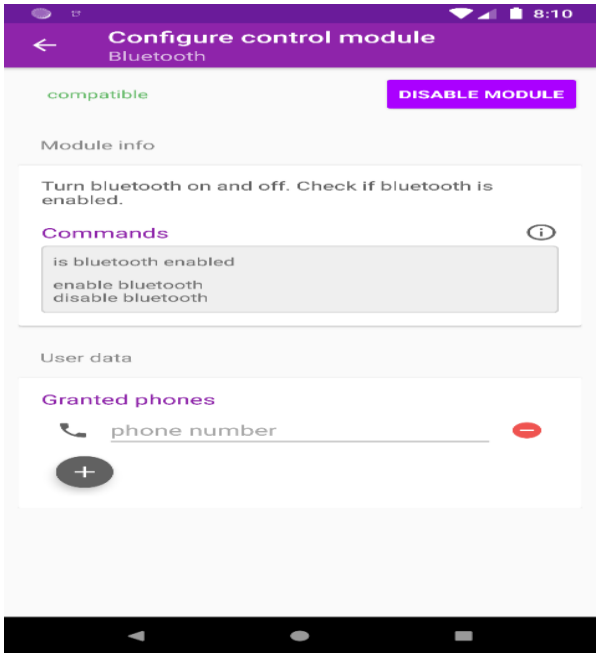

Figure 5. Bluetooth Module

Bluetooth module helps the user to enable, to disable, to check the status of the bluetooth on device when an SMS is sent through granted phone with the command**.** Then the user gets the reply message about command sent to phone.
Ex: 1). rc is bluetooth enabled- It gives reply about status of bluetooth.
2). rc enable bluetooth- It turn on the bluetooth on device.
3). rc disable bluetooth- It turns off the bluetooth on device.

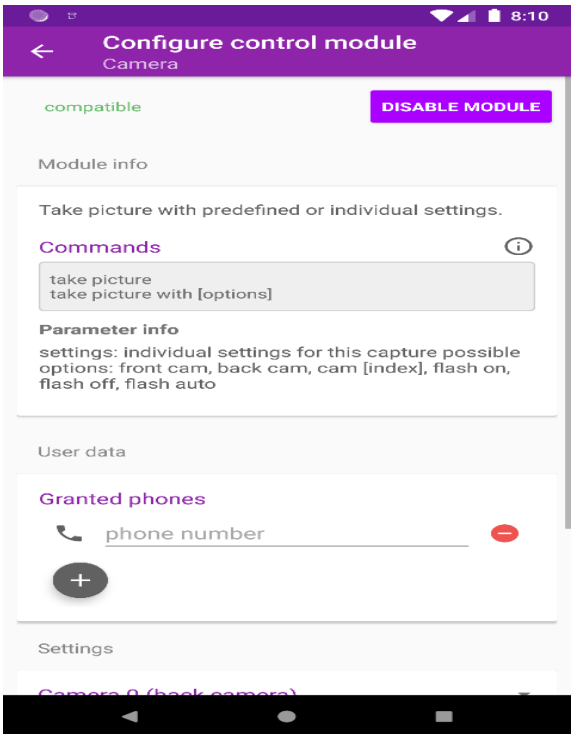

Figure 6. Camera Module

This module helps to take picture by command rc take picture which can be controlled remotely. Along with this there are options where you can set the flash, focus etc.

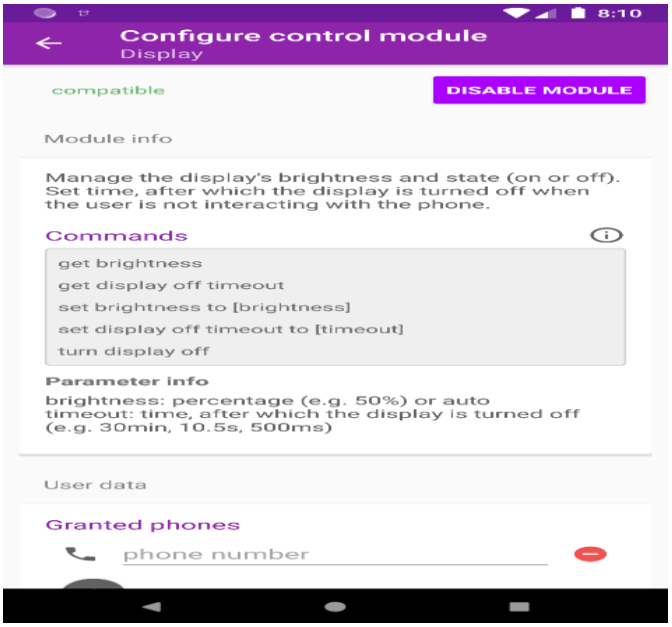

Figure 7. Display Module

Display module helps the user to get brightness level, set brightness level etc., on device when an SMS is sent through granted phone with the command**.** Then the user gets the reply message about Command sent to phone.
Ex: 1). rc get brightness- It gives reply about brightness level in mobile.
2). rc set brightness to 80%- It sets the screen brightness to level of 80%.
3). rc get display off timeout- It get the display timeout time.
4). rc set display off timeout to 2min- It sets the display off timeout to 2min.
5). rc turn display off- It turns of the display of device.

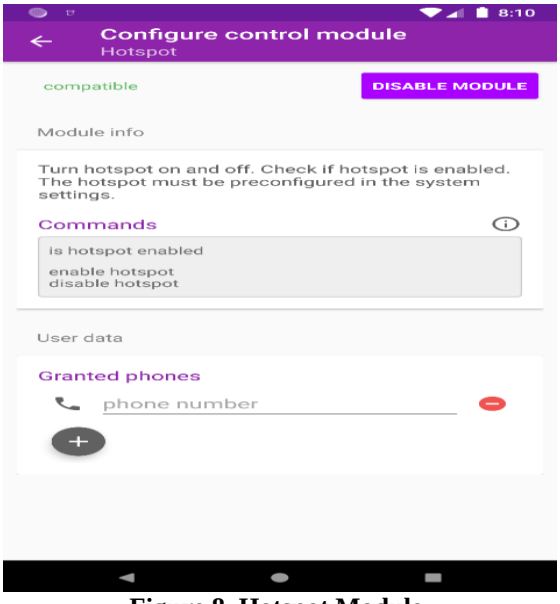

Figure 8. Hotspot Module

This module enables and disables the hotspot icon remotely and gives notification that it is enabled.

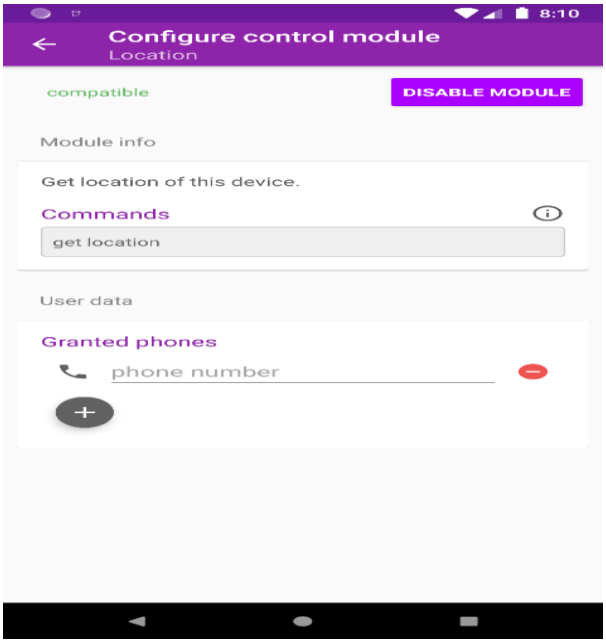

Figure 9. Location Module

Location module helps the user to get the location of the device when an SMS is sent through granted phone with the command rc get location. Then the user gets the reply message about device location to granted phone through which the command was sent.

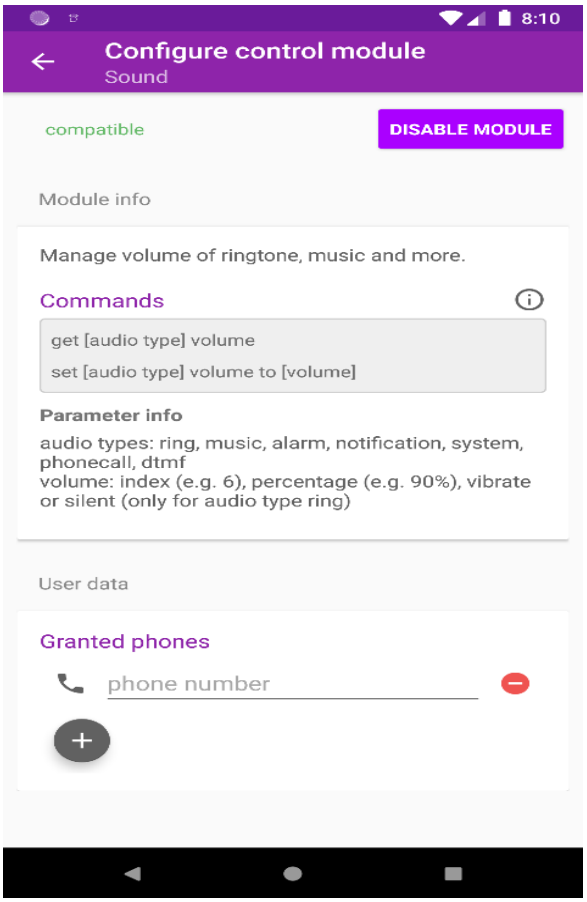

Figure 10. Sound Module

When the user needs to change the audio profile and need to set the level of volume remotely this module is used. Some of the examples of Audio module are shown below

Ex: 1). rc get ring silent- Changes the profile to silent mode.
2). rc set music volume to 90%- set the music volume to 90%.

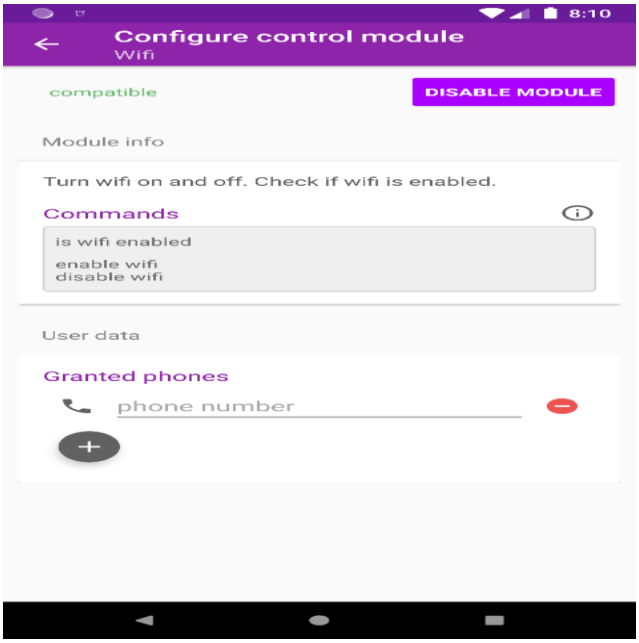

Figure 11. Wi-Fi Module

Wi-Fi module helps the user to enable, to disable, to check the status of the wifi on device when an SMS is sent through granted phone with the command. Then the user gets the reply message about Command sent to granted phone.

Ex: 1). rc is wifi enabled- It gives reply about status of wifi.
2). rc enable wifi - It turn on the wifi on device.
3). rc disable wifi - It turns off the wifi on device.

VI.CONCLUSION

We have developed and tested android application to access and control an Android Smartphone from a remote location through SMS based services. In this paper we have described how the android application works and how the user could be able to control and access certain features of the device such as Location, Wi-Fi, Hotspot, Bluetooth, Audio Recording, Display, Sound, Camera and Battery Status by send a simple SMS to the device present at a remote location. In this work the android application is granted with all the permissions required to access all the hardware components required of an android mobile for the application's full functionality. The application is developed in Android Studio and the code is written in JAVA, XML. After the installation of the application on the Android device a set of Trusted contacts needed to be added for the accessing of the application from another device. Later the user could be able to send an SMS from the trusted device and control the device features such as Display, Sound, Bluetooth, Camera and Audio Recording and could be able to access device details such as Battery information, Hotspot, Location and Wi-Fi. The application just works by using SMS services.

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