Android mobile phone remote accompany robot  
  
1. A father and his kid`s store:

Every parent has this kind of experience: You would like to have more time to accompany your children while they are growing up. However, you also have to work hard to provide better environment for them. You will have less time to accompany your children, though you strongly would like to do that. It will be great if I can see what happens at home when I have a rest at work place, even talk with my kids face to face. Then I setup this project in August 2015, when my daughter was 2-year-old, and began to speak, learned to walk.

2. How can I implement my project?

After searching on the Internet and talking with other parents, I found that WIFI IP camera is a good solution, equipped it in your home, you can check if your children are crying, if they are happy or not. However, I could not talk with my daughter, could not interact with her, it is a pity. Fortunately, I am a hardware and software engineer, I can design my ideal one by myself. Based on Android system, I designed this remote accompany Robot. Here are 3 versions from the past until now.



During the past a few years, I paid highly attention to optimize the function: Video chat.

I designed the App, now this function works perfectly. After that, I move to the power consuming. If the power consuming is high, the robot could not work for a long time. It is not an easy thing until I found the low power consuming bluetooth BT4.0, now it can stand by for 20 days.

3. What makes difference?

At beginning, I would like to design an affordable product for any family, and easy to assemble, so you can DIY own one. As a result, I gave up Arduino and chose the low power consuming Buletooth BT4.0 and latest chip CC2541 as the controlling system. You also can understand the reason why I preferred to Android-based phone as the brain of this robot.

During the whole project, the hardest part is how to make the app compatible with Android system, how can you keep the app always online without the root right, and activate it at any time. There is another similar robot called Romo, they faced the same obstacle. They choose IOS system instead of solving the problem. I am very satisfied when I make it done.

Compared to the previous solution, the WIFI IP camera, my robot has many advantages: 1. This robot can be remote controlled, and monitor your home. 2. Low power consuming, long stand-by time. 3. You can detect the current temperature and humidity in your home.

4. Function description:

1) Video Chat (Android Phone and Webrtc)

2) Remote controlled car (Stand-by 20 days BT4.0 CC2541)

3) Voice Recognition and Chat

4) Temperature and humidity detecting(DHT11 sensor module)

5) Sound sensor

5. Hardware

Here are the part list:

1. 1 x Chassis
2. 3 x Motor
3. 2 x wheel
4. 1 x battery 2200Mah 7.4v
5. 1 x Charger
6. 1 x Control board

You can design chassis and print it by 3D printer. That is very cheap, is that right?

1. Application description

   CrabRobot is a accompany robot APP for Children, (Now we have Android version, if you need it, please feel free to get in touch with me.)

There are two major functions for this App:  
1), Movement and housekeeping  
2), Intelligent voice chat

2, Other features:  
1) With a mobile phone instead of IP camera, more intelligent, more power;  
2) Automatic response;  
3) Detection the environment temperature and humidity information;  
4) support the Bluetooth toy remote control car; (mobile function and temperature and humidity detection function, a Bluetooth toy remote control car, standby 20 days).  
  
3, Easy to use:

1, Register two accounts, you need two mobile phones with this App installed.

2, Follow each other as a friend;  
3, Put one of the mobile phones into the Bluetooth remote control toy car;  
  
After the assembly is accomplished, you will be very satisfied, well done!  
  
7. Open resources

Here is the link where you can find related resources that you need:   
<https://github.com/luojin012/HomeRobot>

1, Open source: control circuit board, structure, control board software; free App.

2, App interface free use, interface open

Here are listed under the Bluetooth command interface,  
Such as sending commands via Bluetooth:  
1) b2; \ n  
Car will move forward at the speed of 2, if it is negative on the reversing  
2) t3; \ n  
The car turns at a speed of 3, and the negative number turns in the opposite direction

3) Temperature and humidity sensor command:  
If the car control panel has a temperature and humidity sensor, you can also send the data in accordance with the following format to the APP

DHT: 60.2; 28.5  
60.2 is the humidity, and 28.5 is the temperature.  
  
What made me happy is that the boy next in my neighbor is much happier than my daughter, when they are playing with this robot. What is more, there is a mother asked me to sell it to her, she also need to take care of her old man and children.