PRESENTATION ON HOME AUTOMATION USING ANDROID PHONE OVER BLUETOOTH

Bluetooth®

SUBMITTED
IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE AWARD OF THE DEGREE OF

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6.Relay

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INTRODUCTION

- There is an increasing demand for smart homes, where appliances react automatically to changing environmental conditions and can be easily controlled through one common device.

- This project presents a possible solution whereby the user controls devices by using their existing mobile phone ,where control is communicated to the Microcontroller from a mobile phone through its Bluetooth interface.

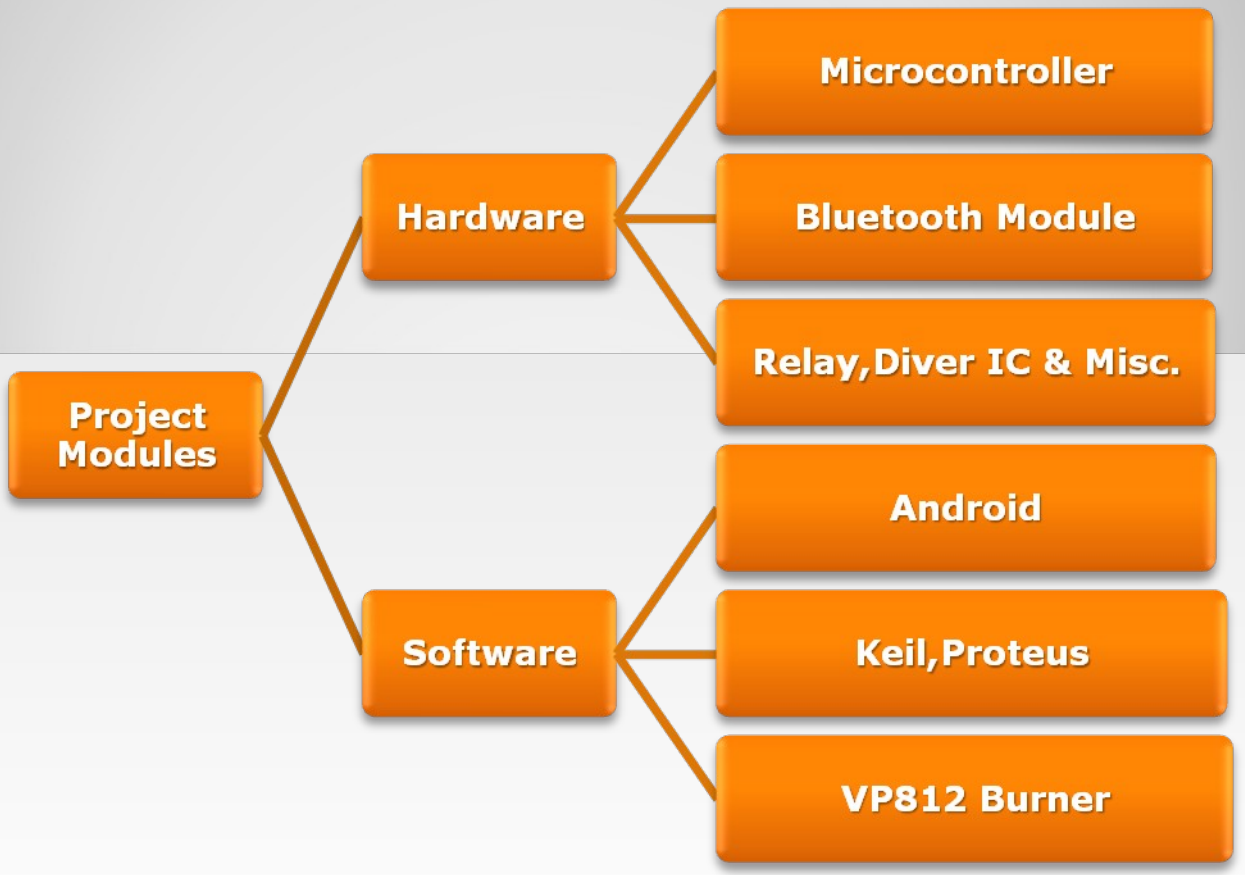
What is Home Automation?

- Home automation involves introducing a degree of computerized or automatic control to certain electrical and electronics system in a building.

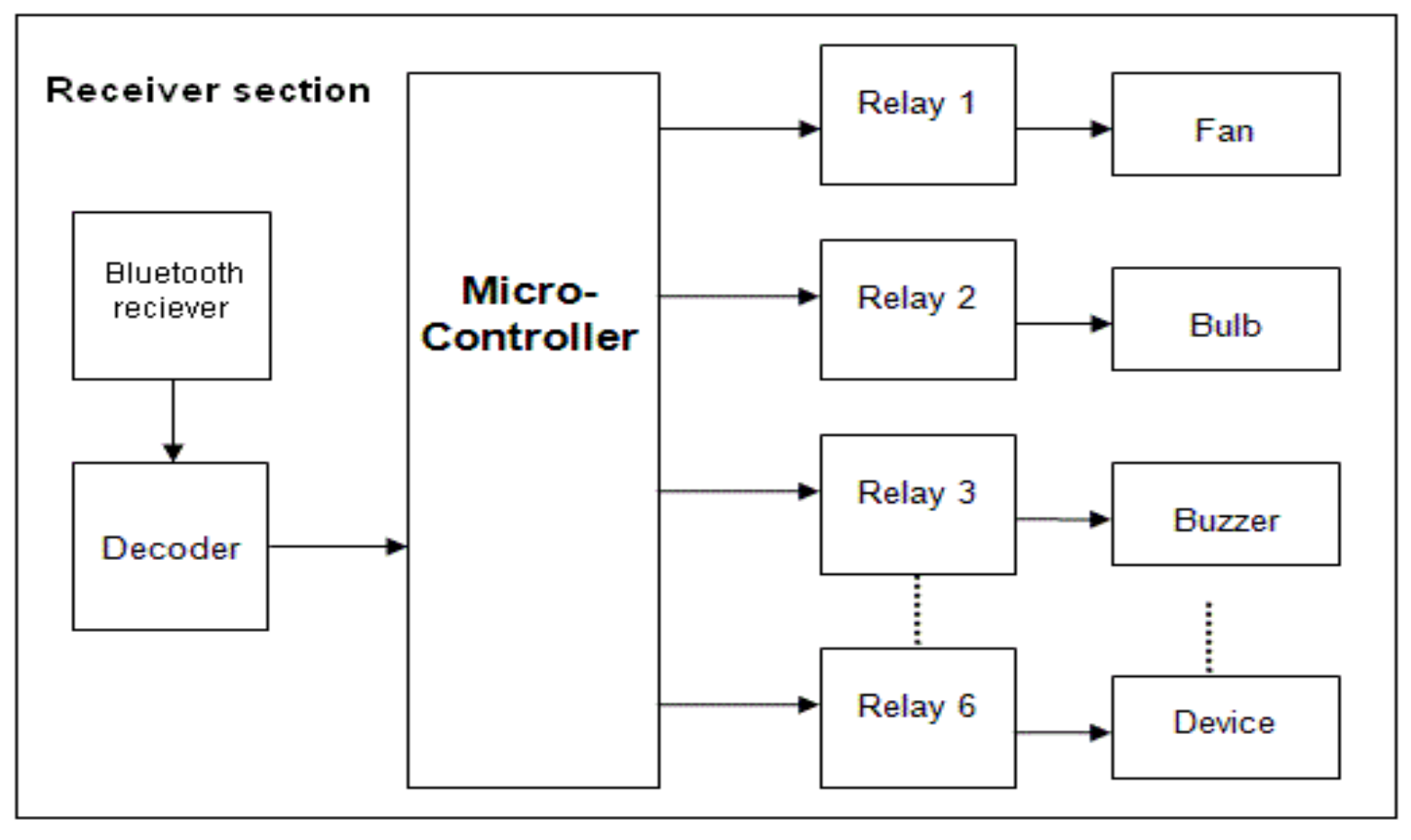
- These lighting, temperature control, etc.., this paper demonstrate a simple home automation system which contains a remote mobile host controller and several client module (home appliances).

- The client modules communicate with host controllers through a wireless device such as a Bluetooth enabled mobile phone, in this case, an android based smart phone.

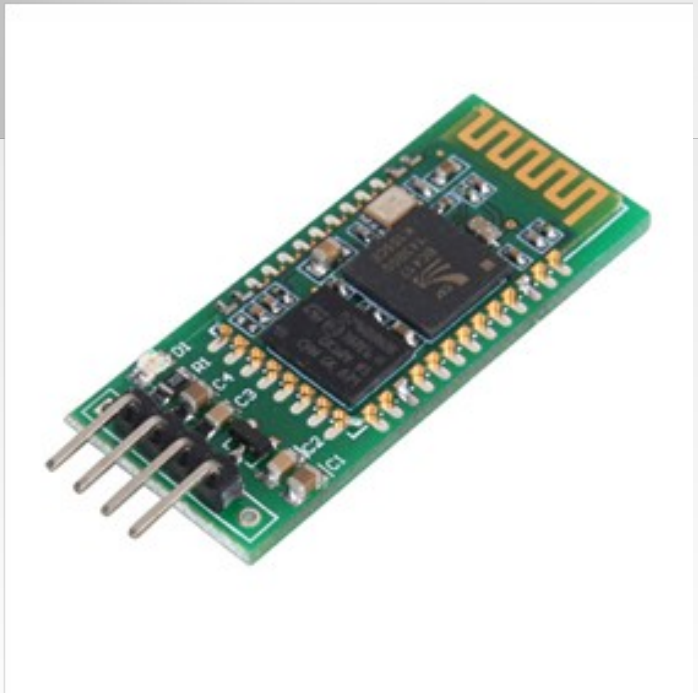
Project Modules



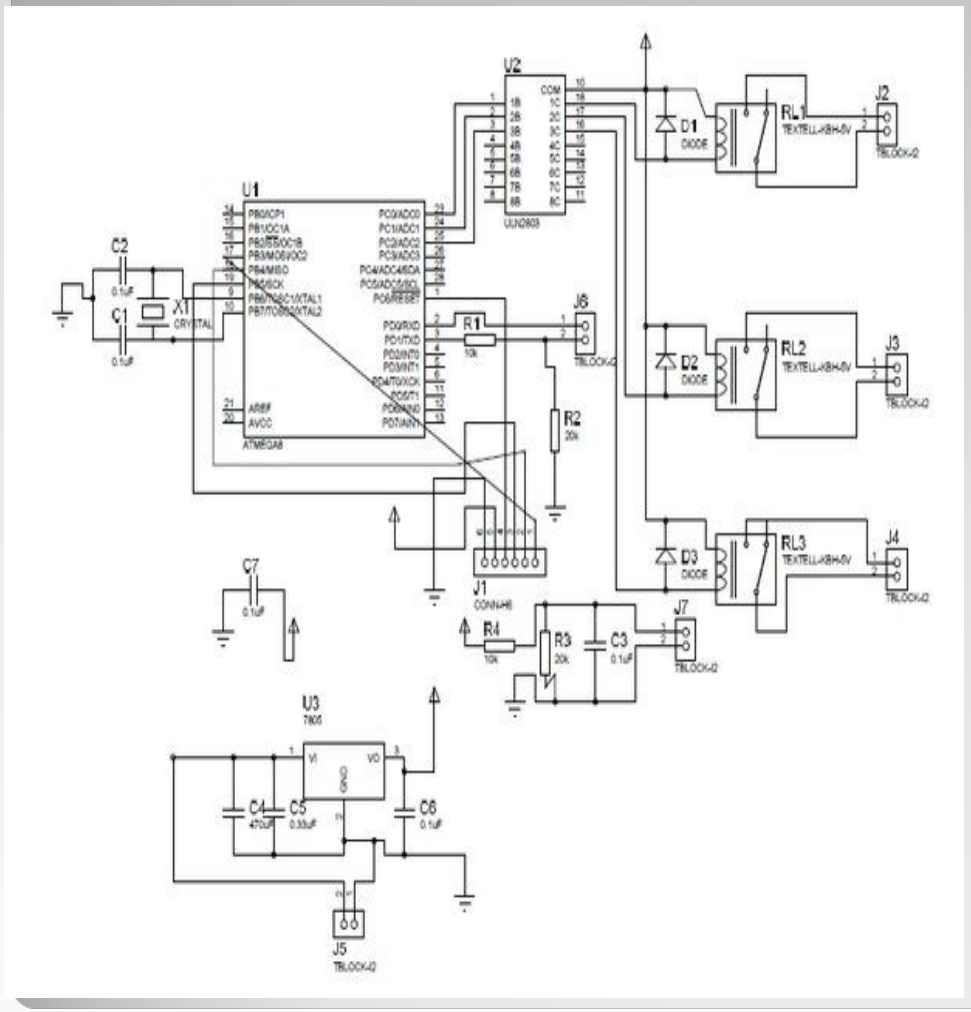
- BLOCK DIAGRAM:



COMPONENTS USED

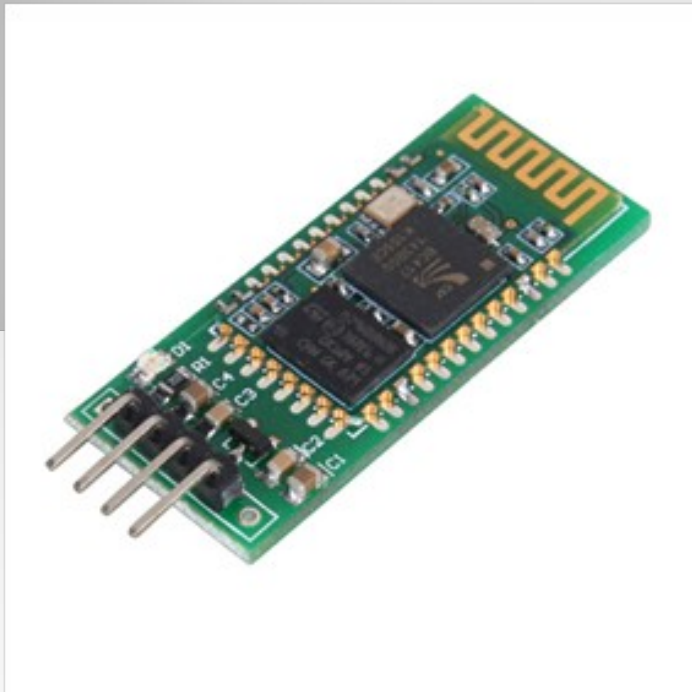


Parts & Components Required



S. No	Component Name	Nos. Required
1	HC-05 Bluetooth module	1
2	AT89S52 micro controller IC	1
3	ULN2003 IC	3
4	5V relay	2
5	Crystal 12MHz or 11.0592MHz	1
6	1K Resistor	1
7	22µf or 10µf electrolyte capacitor	2
8	30pf or 22pf ceramic capacitor	2
9	10k resistor network	3
10	7805 IC	2
11	9V battery	2
12	220v to 6v-0-6v step down transformer	1
13	1N4007 diode	3

Bluetooth Module:



- Hc-06 is a *Bluetooth* Smart module targeted for low-power sensors and accessories.
- It integrates all features required for a *Bluetooth* Smart application.
- It is powered directly from a standard mobile charger.
- In the lowest power sleep mode it merely consumes 500 nA and will wake up within a few hundred microseconds.

Why prefer Bluetooth??

It is preferable to use Bluetooth because nowadays people have their smart phones with them all the time, since the smart phones have Bluetooth facility in them, thus it's better to use Bluetooth rather than using RF remotes or IR remotes. Have you ever seen people carrying remotes???

Using Bluetooth has many of its own advantages :
1.It's secure.
2.Easy to use.
3.It works in short distance range(i.e. upto 10mtrs.)
4.Anyone can find free Bluetooth apps on android and many more.

Relay :

- A **relay is an electrically operated switch.**
- **Relays are used where it is necessary to control a circuit by a low-power signal.**
- **Relays protect electrical circuits from overload or faults.**

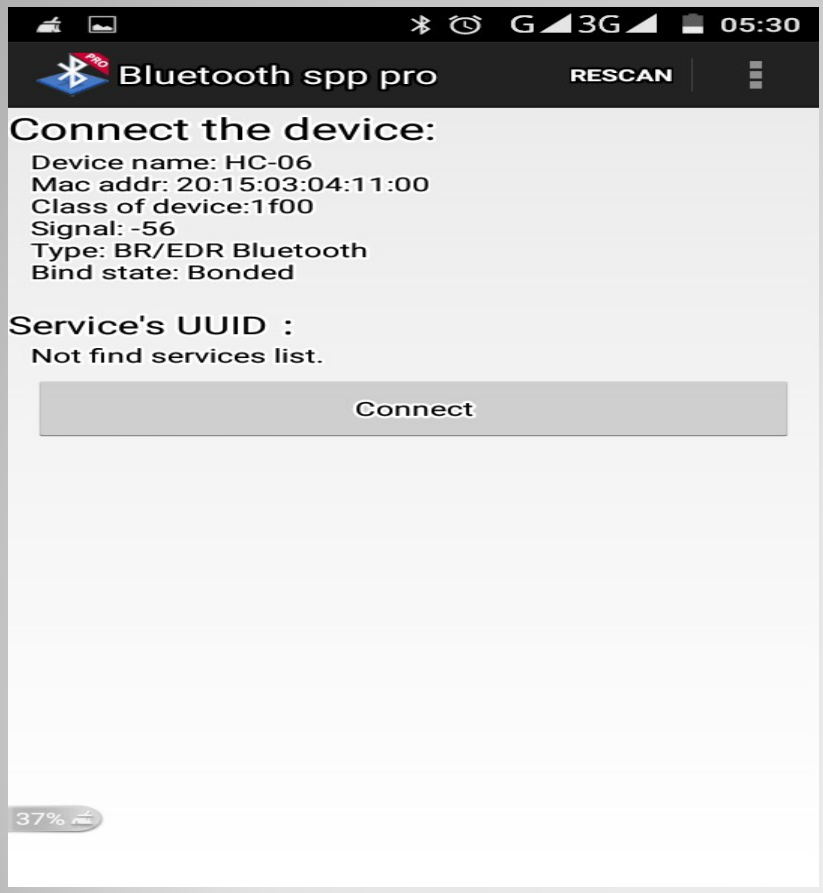
MICROCONTROLLER-89S52

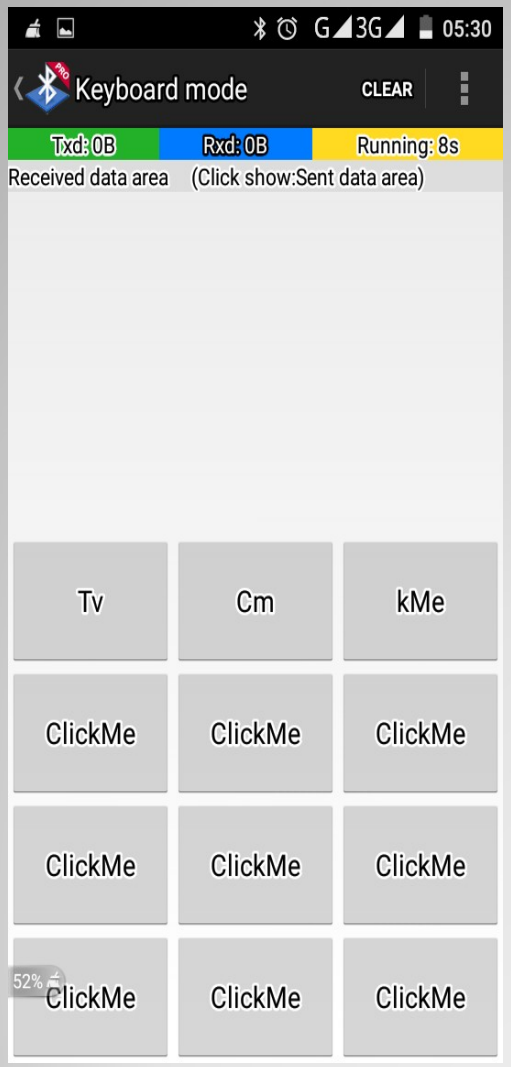
FEATURES

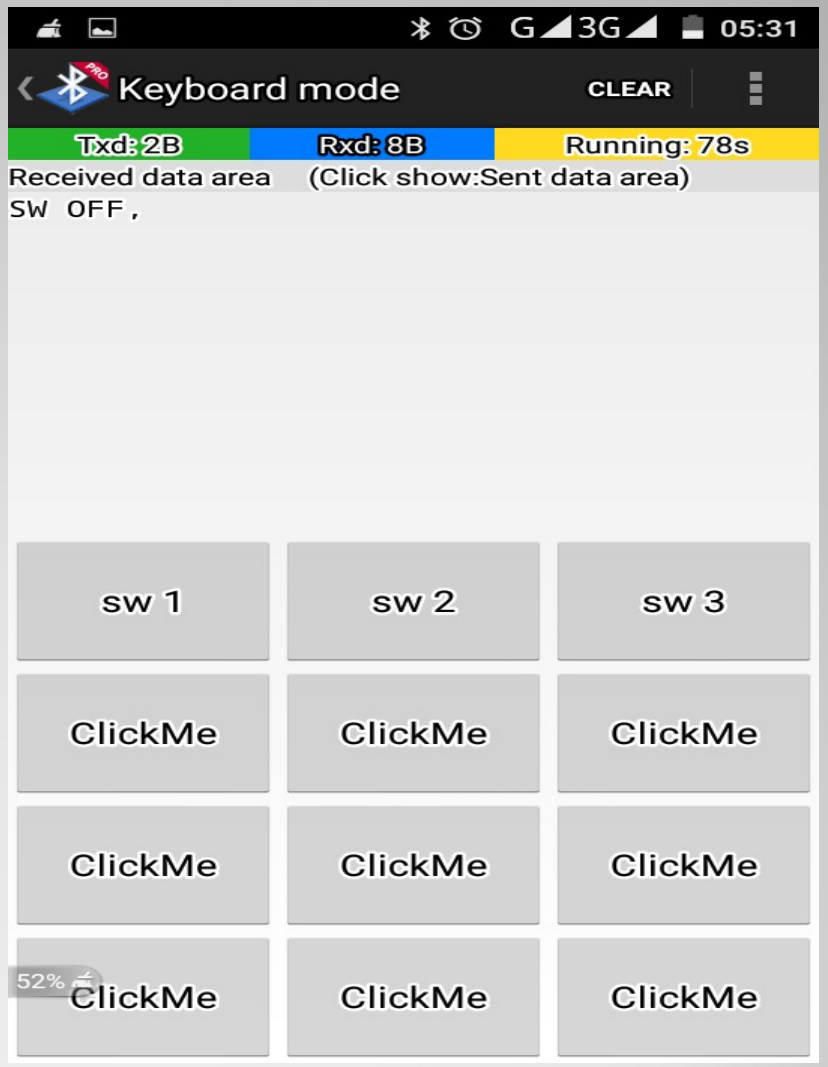
1.Compatible with MCS®-51 Products
2.8K Bytes of In-System Programmable (ISP) Flash Memory
3.Endurance: 10 k Write/Erase Cycles
4.4.0V to 5.5V Operating Range
5.Fully Static Operation: 0 Hz to 33 MHz
6.Three-level Program Memory Lock
7.256 x 8-bit Internal RAM
8.32 Programmable I/O Lines
9.Three 16-bit Timer/Counters
10.Eight Interrupt Sources
11.Full Duplex UART Serial Channel
12.Low-power Idle and Power-down Modes
13.Interrupt Recovery from Power-down Mode
14.Watchdog Timer
Dual Data Pointer
Power-off Flag
Fast Programming Time
Flexible ISP Programming (Byte and Page Mode)
Green (Pb/Halide-free) Packaging Option

- Android has an active community of developers and enthusiasts who use the *Android Open Source Project* (AOSP) source code to develop and distribute their own modified versions of the operating system.

Control of electrical appliances through an application of Automation in our Android Mobile




05:30
Keyboard mode
CLEAR
Txd: 0B
Rxd: 0B
Running: 8s
Received data area (Click show:Sent data area)
Tv
Cm
kMe
ClickMe
ClickMe
ClickMe
ClickMe
ClickMe
ClickMe
ClickMe
ClickMe
ClickMe


05:31
Keyboard mode
CLEAR
Txd: 2B
Rxd: 8B
Running: 78s
Received data area (Click show:Sent data area)
SW OFF,
sw 1
sw 2
sw 3
ClickMe
ClickMe
ClickMe
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Advantages :

- The main advantage of "**Home Automation through Android Mobile"** is that the "**Physically Challenged and Disabled People**" .
- Replace television, air conditioner etc., remotes for sleep mode.
- Smart Home.

Applications :

1. Home automation – This project can be used to control various Home Appliances

2. We can control device from a long distance, thus it gives ease of access.

3. Faster operation and efficient.

4. No need to carry separate remote or any other controlling unit.

Conclusion :

- Home Automation is undeniably a resource which can make a home environment automated. People can control their electrical devices via these Home Automation devices and set up controlling actions through Mobile.
- In future this product may have high potential for marketing.

- **THANK YOU . . .**

ANY
QUERIES
OR
SUGGESTIONS