5V

C1
100nF

C2
100nF

5V

5V

R1
10K

J2
5
4
3
2
1
USB-Serial

DTR
RX
TX

C3 100nF

SW1
RESET

C4
100nF

VCC AVCC
7   20

(RESET) /PC6

ATMEGA328

PC5 (ADC5/SCL) 28
PC4 (ADC4/SDA) 27
PC3 (ADC3)   26
PC2 (ADC2)   25
PC1 (ADC1)   24
PC0 (ADC0)   23
AREF   21

PB5 (SCK)   19
PB4 (MISO)   18
PB3 (MOSI/OC2) 17
PB2 (SS/OC1B)   16
PB1 (OC1A)   15
(ICP1) PB0   14

(TXD) PD1   3
(RXD) PD0   2

(AIN1) PD7 13
(AIN0) PD6 12
(T1) PD5   11
(XCK/T0) PD4 6
(INT1) PD3 5
(INT0) PD2 4

TX
RX

J5
4
3
2
1
HC-05

5V

(XTAL1/TOSC1) PB6
(XTAL2/TOSC2) PB7
GND GND
8   22

U1

16MHz
Y1   9
     10

C5
22pF

C6
22pF

R3 2K2
R4
2K2

1
2

D1
LED

R6 2K2
R7
2K2

1
2

D2
LED

U2
MOC3021
6

4

Q1
BT136

U3
MOC3021
6

4

Q2
BT136

R2 2K2

R5 2K2

230V AC
1
2
J1

LIGHT
1
2
J3

FAN
1
2
J4

D3 1N4007

J6
2
1
12V I/P

U4 LM7805/TO
1 VIN VOUT 3
       GND
        2

100uF, 25V C7 C8
                100nF

100uF, 25V C9 C10
                100nF

5V

R8
2K2

D4
LED

1. Circuit has 230V AC. so be carefull.

Title
Home Automation using Voice Recognition

Size
Document Number
CustomBSP Embed

Rev
1

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FUNCTIONAL BLOCK DIAGRAM

VOICE RECOGNITION SYSTEM → Programmable Controller → Driving System → LOAD

POWER SUPPLY

Microcontroller

5V

C11 100nF
C12 100nF

5V

R9 10K

Programming

5V

J8
5 DTR
4 RX
3 TX
2
1

C13 100nF

SW2
RESET

C14 100nF

USB-Serial

VCC
AVCC

PC5 (ADC5/SCL) 28
PC4 (ADC4/SDA) 27
PC3 (ADC3) 26
PC2 (ADC2) 25
PC1 (ADC1) 24
PC0 (ADC0) 23
AREF 21

(RESET) /PC6 1

ATMEGA328

PB5 (SCK) 19
PB4 (MISO) 18
PB3 (MOSI/OC2) 17
PB2 (SS/OC1B) 16
PB1 (OC1A) 15
(ICP1) PB0 14

(TXD) PD1 3
(RXD) PD0 2

(XTAL1/TOSC1) PB6
(XTAL2/TOSC2) PB7

(AIN1) PD7 13
(AIN0) PD6 12
(T1) PD5 11
(XCK/T0) PD4 6
(INT1) PD3 5
(INT0) PD2 4

GND
GND

U5

16MHz
Y2

C15 22pF
C16 22pF

Bluetooth

5V

J11
4
3
2
1

HC-05

TX
RX

Driver

R11 2K2
R12 2K2
D5 LED

R10 2K2
U6 MOC3021
Q3 BT136

R14 2K2
R15 2K2
D6 LED

R13 2K2
U7 MOC3021
Q4 BT136

LOAD

230V AC I/P
1
2
J7

LIGHT
1
2
J9

FAN
1
2
J10

POWER SUPPLY

D7 1N4007

U8 LM7805/TO
VIN GND VOUT
1 2 3

5V

R16 2K2

J12
2
1

C17 100uF 25V
C18 100nF

C19 100uF 25V
C20 100nF

D8 LED

12V I/P

1. Circuit has 230V AC. so be carefull.

Title		
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PROJECT OBJECTIVE

Home Automation or a Device switching is
classified into Manual, Semi & Fully automatic.

In Manual switching, Physical contact has to be
made by human using a switch.

In semi switching method, human intervention
is partial like using remote control, GSM
Message control, voice controlled, etc

In fully automatic system device switching is
done on pre defined conditions.

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REALISATION OF FBD
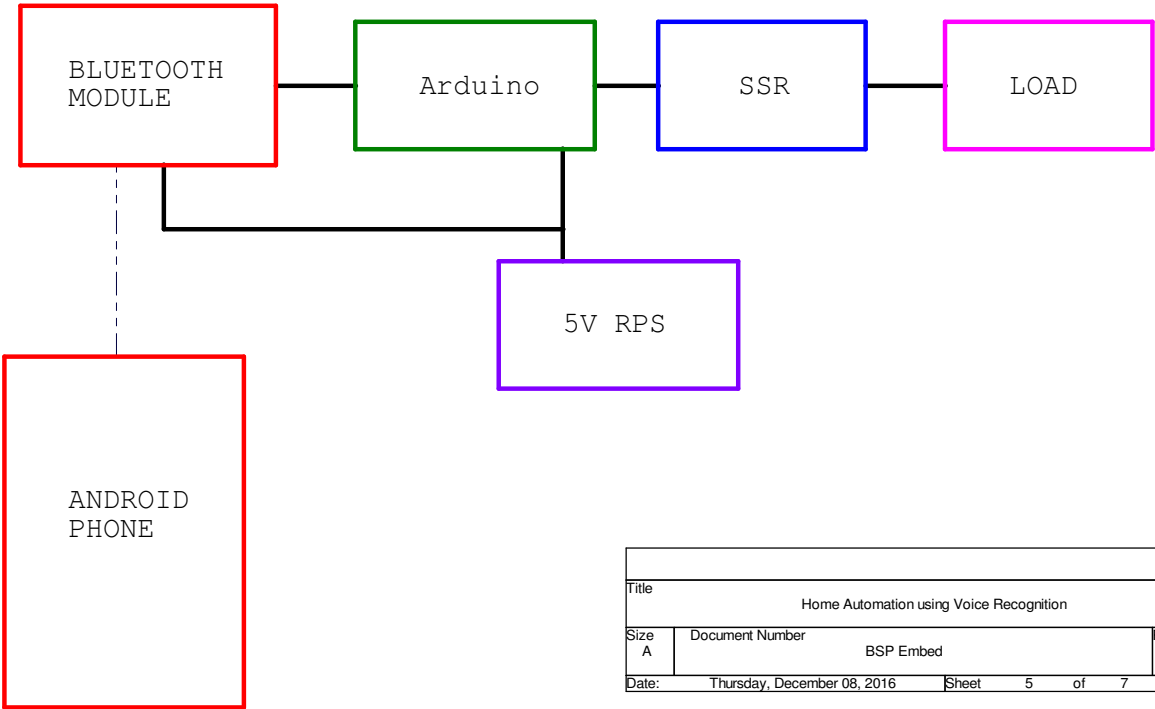
```
BLUETOOTH          Arduino          SSR          LOAD
MODULE

                                 5V RPS


ANDROID
PHONE
```

CONTENTS OF FBD

```
BLUETOOTH        Arduino          SSR              LOAD
MODULE
```

```
                 5V RPS
```

```
ANDROID
PHONE
```
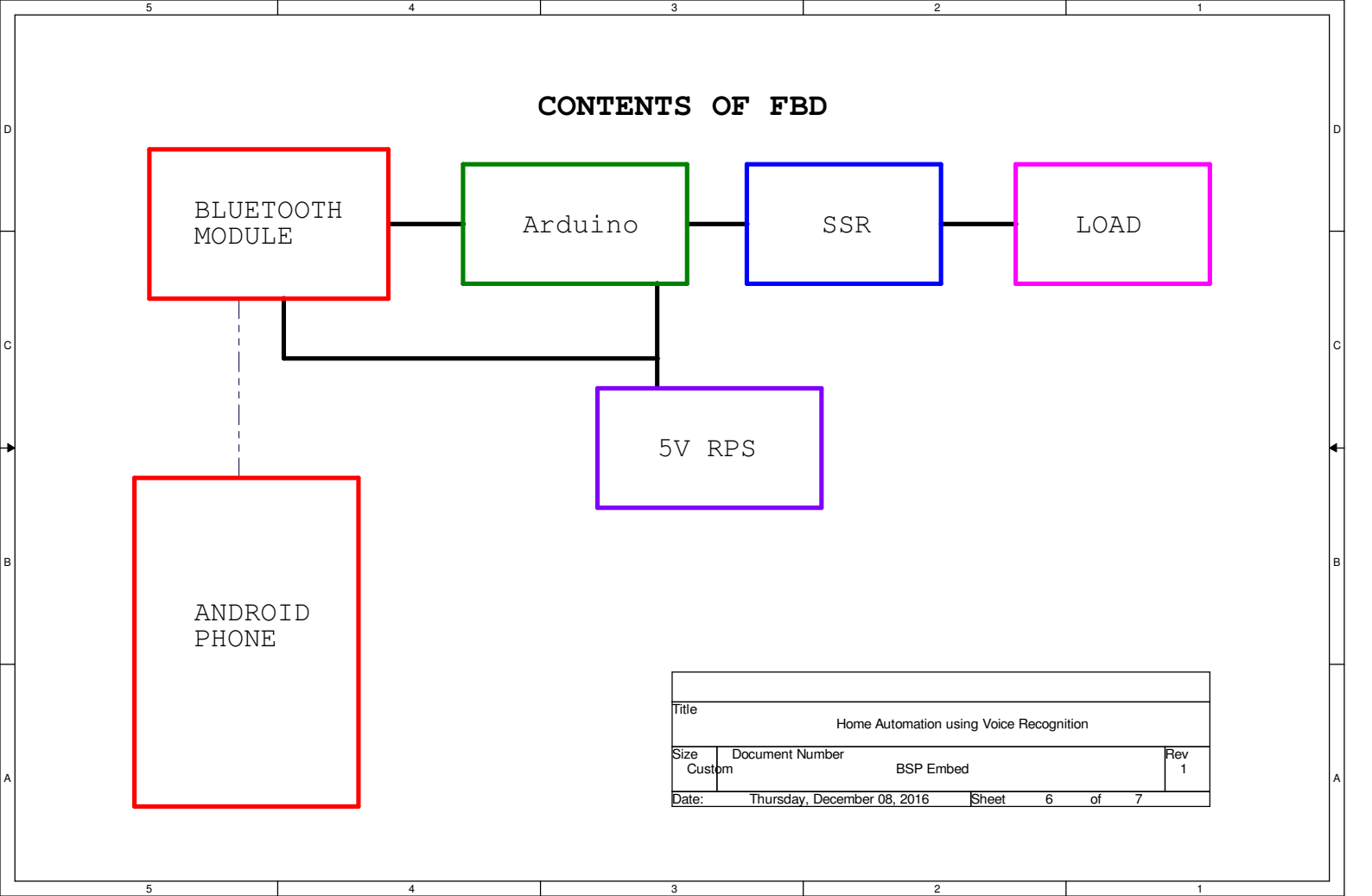
Introduction to Voice Recognition

Voice recognition is the ability of a machine or
program to receive and interpret dictation, or
to understand and carry out spoken commands.

Early days we used HM2007, and Easy VR for
voice recognition. These device are not very
effective. They cannot recognize more words.

Nowadays because of the technological advances
and New apps are coming on every single day, so
 we can develop robust application.

With Google's voice recognition, it's easy to
interface with arduino via Bluetooth link.