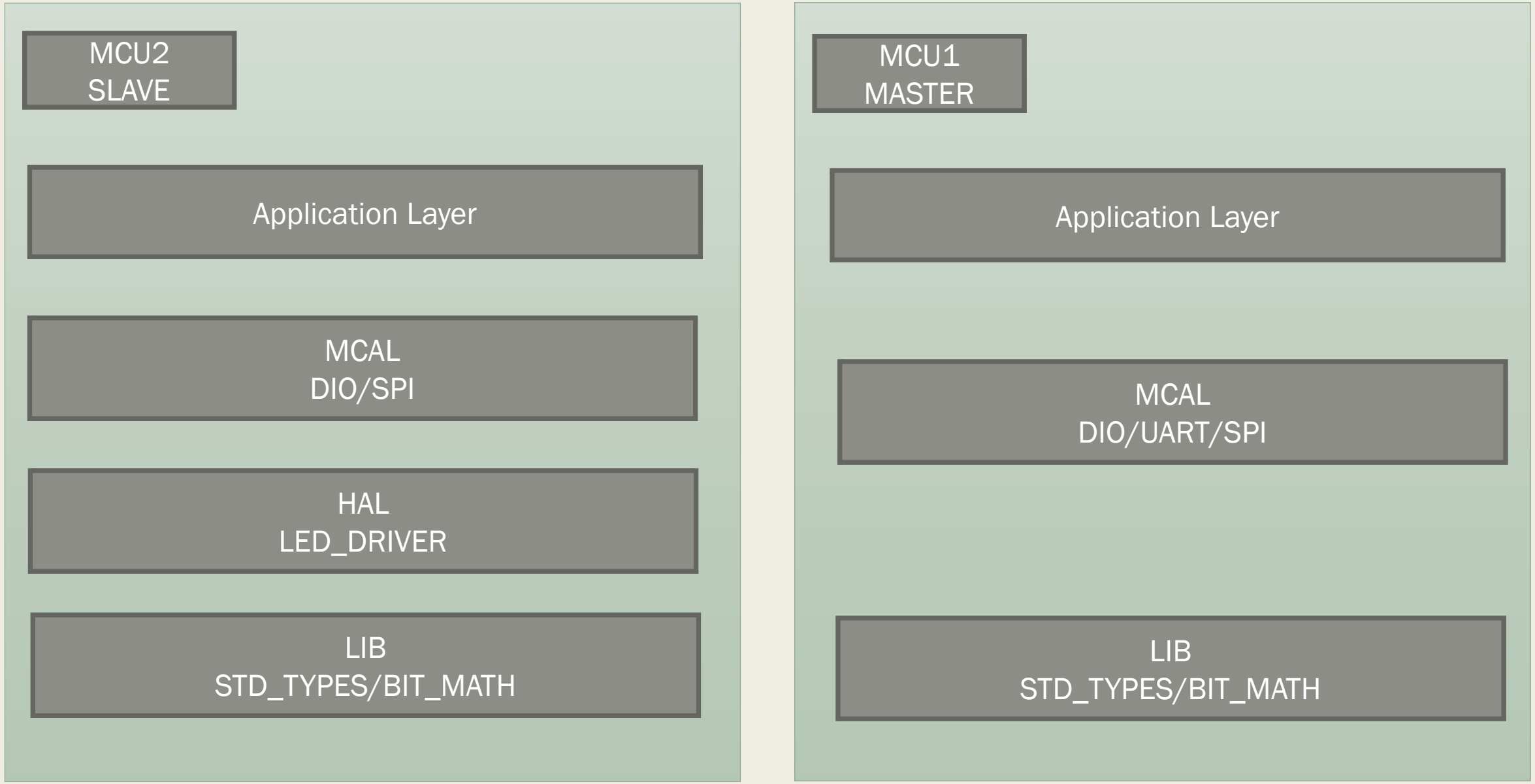
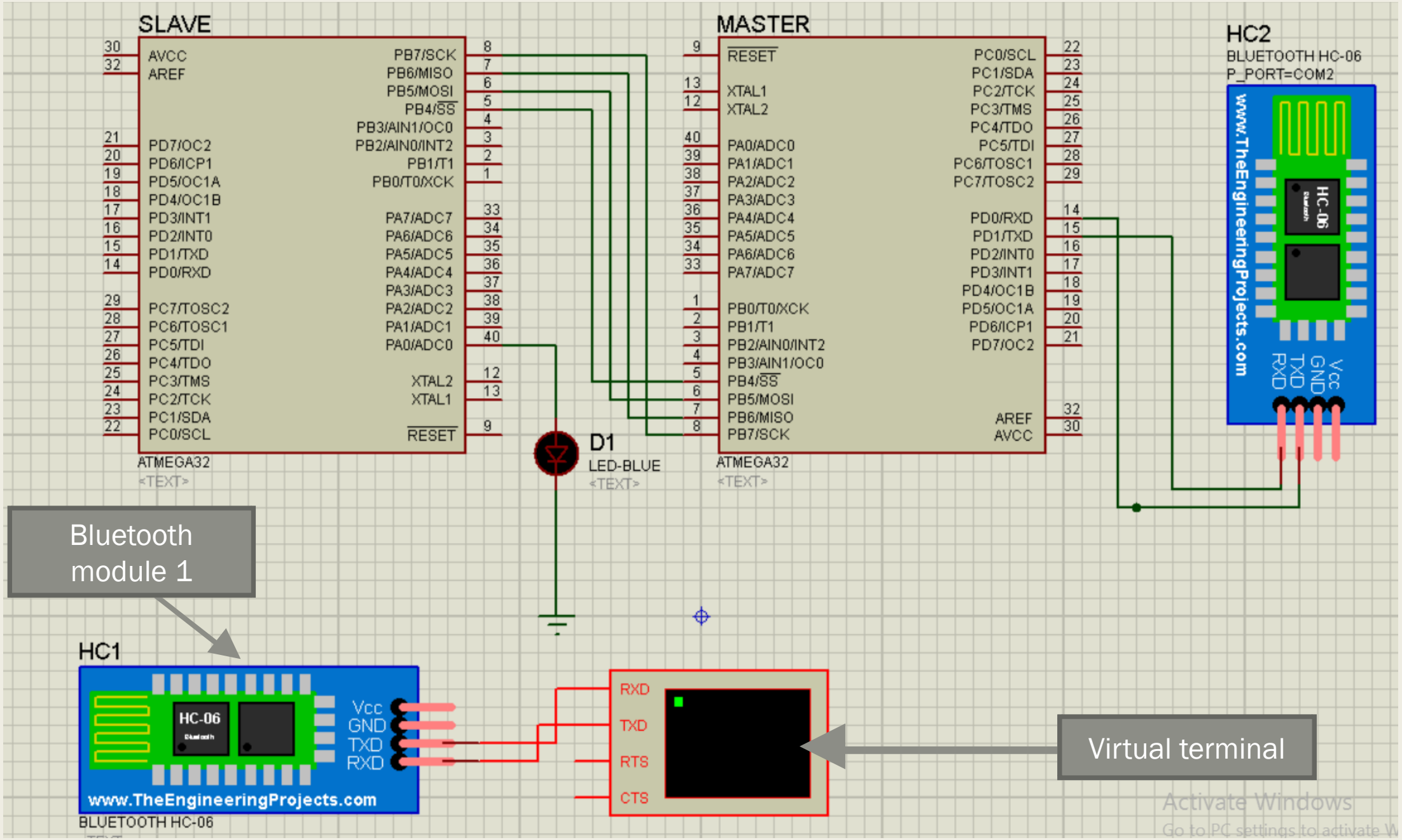

MCU2
SLAVE
Application Layer
MCAL
DIO/SPI
HAL
LED_DRIVER
LIB
STD_TYPES/BIT_MATH
MCU1
MASTER
Application Layer
MCAL
DIO/UART/SPI
LIB
STD_TYPES/BIT_MATH


SLAVE
AVCC
AREF
PD7/OC2
PD6/ICP1
PD5/OC1A
PD4/OC1B
PD3/INT1
PD2/INT0
PD1/TXD
PD0/RXD
PC7/TOSC2
PC6/TOSC1
PC5/TDI
PC4/TDO
PC3/TMS
PC2/TCK
PC1/SDA
PC0/SCL
PB7/SCK
PB6/MISO
PB5/MOSI
PB4/SS
PB3/AIN1/OC0
PB2/AIN0/INT2
PB1/T1
PB0/T0/XCK
PA7/ADC7
PA6/ADC6
PA5/ADC5
PA4/ADC4
PA3/ADC3
PA2/ADC2
PA1/ADC1
PA0/ADC0
XTAL2
XTAL1
RESET
ATMEGA32
<TEXT>
D1
LED-BLUE
<TEXT>
MASTER
RESET
XTAL1
XTAL2
PA0/ADC0
PA1/ADC1
PA2/ADC2
PA3/ADC3
PA4/ADC4
PA5/ADC5
PA6/ADC6
PA7/ADC7
PB0/T0/XCK
PB1/T1
PB2/AIN0/INT2
PB3/AIN1/OC0
PB4/SS
PB5/MOSI
PB6/MISO
PB7/SCK
PC0/SCL
PC1/SDA
PC2/TCK
PC3/TMS
PC4/TDO
PC5/TDI
PC6/TOSC1
PC7/TOSC2
PD0/RXD
PD1/TXD
PD2/INT0
PD3/INT1
PD4/OC1B
PD5/OC1A
PD6/ICP1
PD7/OC2
AREF
AVCC
ATMEGA32
<TEXT>
HC2
BLUETOOTH HC-06
P_PORT=COM2
www.TheEngineeringProjects.com
HC-06
Vcc
GND
TXD
RXD
Bluetooth module 1
HC1
HC-06
Vcc
GND
TXD
RXD
www.TheEngineeringProjects.com
BLUETOOTH HC-06
RXD
TXD
RTS
CTS
Virtual terminal
Activate Windows
Go to PC settings to activate W

System Components and Operation

1.Virtual Terminal and HC05 module 1 (first Bluetooth device)

This can be replaced with any Bluetooth device for example: mobile and then we can use mobile App as a Bluetooth terminal for data transaction between different Bluetooth devices.
In this project user uses this terminal to send data from the first Bluetooth device to the Master microcontroller

2. HC05 module 2 (Second Bluetooth Device)

Here HC05 1 uses Serial COM1, HC05 Serial COM2 and both COM ports are paired together so each port can see the other.
HC05 2 receives data from HC05 1 through wireless serial communication and then resend it to MCU1 through UART.

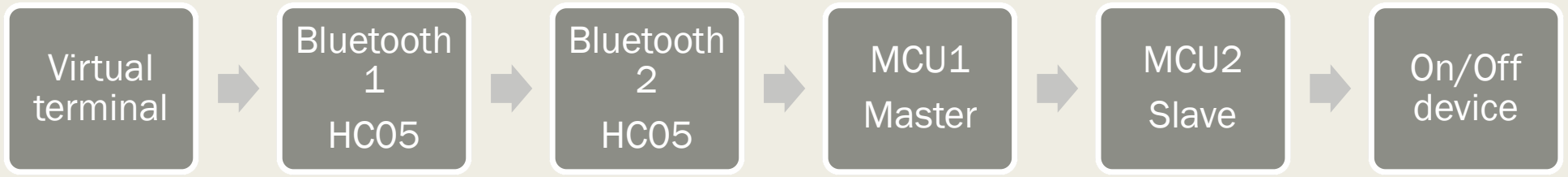
3.MCU1 (Master) and MCU2 (Slave)

Atmega32 microcontroller works as a master that receives data from HC05 2 through UART and resend it to MCU2 through SPI protocol

4.On/Off device

It can be any device, here I have used LED connected to slave MCU2, so when user writes “on#” using virtual terminal or mobile APP and sends it, slave Enables the LED and if user sends “off#” slave Turns the device off.

Notice that:
‘#’ symbol is used to inform the receiver that it is the End of the string being sent and then compares the received string with a user predefined string to decide either to enable or disable the LED.


Virtual terminal
Bluetooth 1 HC05
Bluetooth 2 HC05
MCU1 Master
MCU2 Slave
On/Off device