

# Wireless Security System Using Remote Control

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**Abstract:** Home robotization is turning out to be increasingly famous step by step because of its various points of interest. This can be accomplished by neighborhood organizing or by remote control. This venture goes for outlining a fundamental home computerization application on arm 7 through perusing the subject of zigbee and the calculation for the same has been produced in implanted c environment which is the default programming environment gave by ARM 7. Comes about demonstrate the productive usage of proposed calculation for home computerization. In our venture we proposed a framework that can control the heaps utilizing Zigbee.

**Keywords:** Remote Control, Wireless Security System, ZIGBEE Technology, TRIACS.

## INTRODUCTION

Home robotization industry has drawn significant consideration of the specialists for over 10 years [1].The fundamental thought is to naturally control and screen electrical and electronic home machines. As per the statistical surveying firm ABI around 4 million home robotization frameworks were sold all around in 2013 [2]. A similar firm likewise evaluated that 90 million homes would utilize home computerization frameworks before the end of 2017. A few business and research variants of home mechanization framework have been presented and manufactured [2-6]. Among these exclusive home security frameworks have turned into the standard of advancement exercises [7,8]. Keen home frameworks have caught a few advances so far and items have been accessible in the market. Notwithstanding over 10 years in length of dissimilar exercises in the business organizations neglected to make home mechanization as a prevalent innovation.

Some of these vital reasons incorporate cost, hard to utilize, seller reliance, less usefulness, and security [11,12]. Also, master hand was required to introduce, design, and keep up these frameworks. Consequently, the establishment and upkeep expenses of the framework were high and just rich individuals with enormous houses could bear the cost of it. Keeping in mind the end goal to defeat some of these restrictions remote home mechanization framework (WHAS) has been presented and it has picked up an extensive consideration in the late years.

The venture includes building up a framework, which utilizes innovation that keeps control of the different units of the heaps, which executes concerning the flag sent to the portable. As we have the new idea has been thought to oversee them remotely by utilizing a zigbee, which empowers the client remotely control exchanging off apparatuses. By just sending SMS to the recipient at the remote place, the gadgets can be turned ON/OFF and the status of the gadget can be sent to the enrolled versatile number modified in the microcontroller.

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### BLOCK DIAGRAM

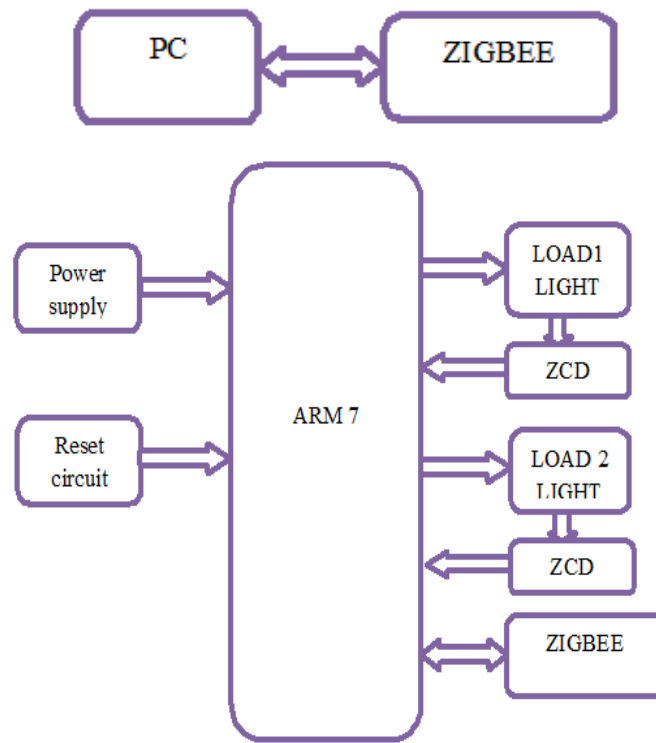
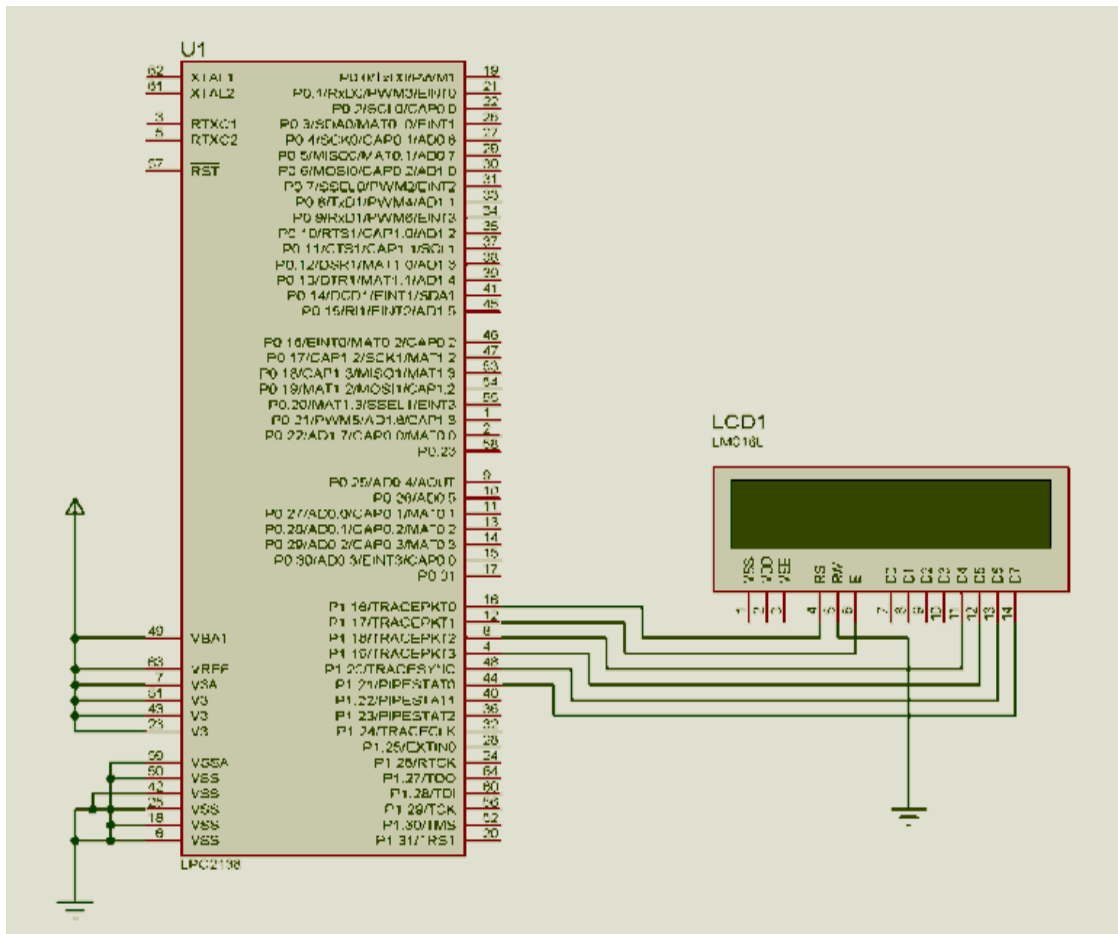


Fig Block Diagram

### SIMULATION RESULTS



The screenshot shows the Keil uVision4 IDE interface. The main window displays the source code for 'test123.c', which includes various header files and defines hardware-related constants and pin configurations. The Build Output window at the bottom shows the compilation and linking process, including warnings and error messages.

```

001 #ifndef LPC214X_H
002 #include <LPC214X.H>
003 #endif
004
005 #ifndef _STRING_H
006 #include <STRING.H>
007 #endif
008
009 #ifndef GSM_H
010 #include "GSM.H"
011 #endif
012
013 #ifndef UART0_H
014 #include "UART0.h"
015 #endif
016
017 #ifndef LCD_H
018 #include "LCD.h"
019 #endif
020
021 #ifndef ABC0_H
022 #include "ABC0.h"
023 #endif
024
025
026 #define water_level_L 0x00004000 // p0.20 pin no=36 (in pin)
027 #define water_level_M 0x00008000 //rs1 p0.15 pin no=45 (in pin)
028 #define water_level_H 0x00010000 // // p0.16 pin no=46 (in pin)
029
030 #define motor 0x00004000 //cs4 p0.14 pin no=41 (in pin)
031 #define moisture 0x00040000 //zs3 p0.18 pin no=53 (in pin)
032
033 #define phase_3 0x00020000 //zs2 p0.17 pin no=47 (out pin)
034 #define phase_2 0x00100000 //zs5 p0.20 pin no=55 (in pin)

```

```

test123.c:      if(!strcmp(msg,"START"))          // to start the system:
test123.c: warning: #167-D: argument of type "unsigned char *" is incompatible with parameter of type "const char *"
test123.c:      if(!strcmp(msg,"STOP"))                // to stop the system:
test123.c:
test123.c: test123.c: 3 warnings, 0 errors
linking...
Program Size: Code=7732 RO-data=32 RW-data=20 ZI-data=1452
FromELF: creating hex file...
"Final Code.axf" - 0 Error(s), 3 Warning(s).

```

The screenshot shows the main logic of the program in 'test123.c'. The code implements a control loop for a motor based on moisture levels in a field. The Build Output window shows the successful compilation and linking of the program.

```

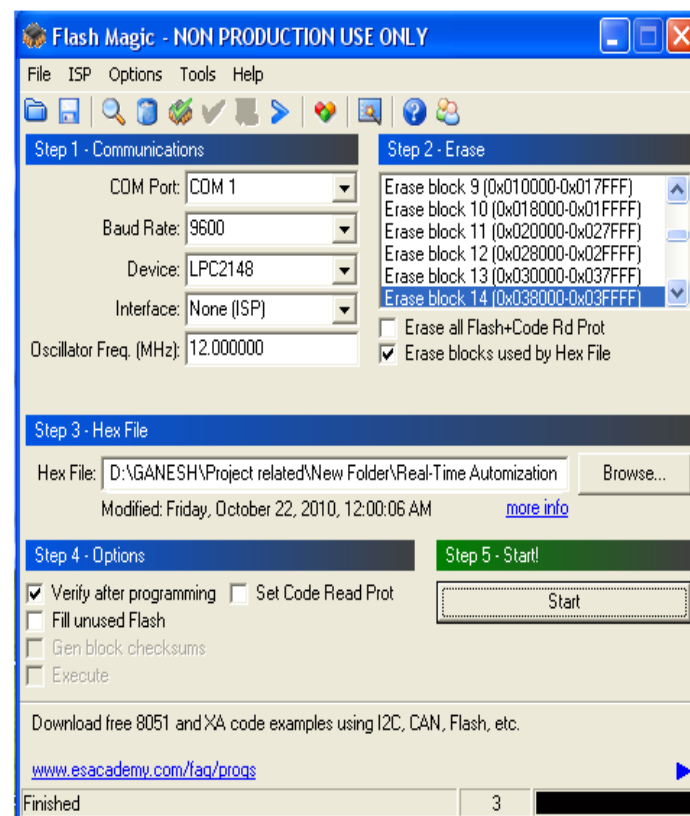
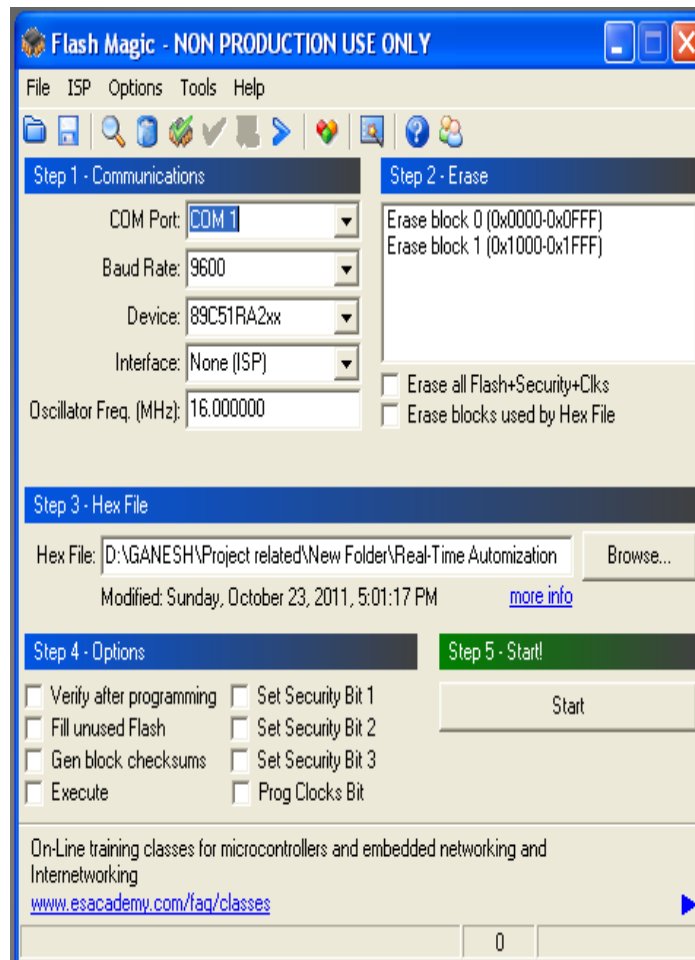
210 while
211 (
212     if(xx==1)
213     {
214         Motor OFF;
215         xx=0;
216         uc_check=0;
217         moisture_status=0;
218         gsm_send_sms(msg("9491541041",status_acc));
219         main_delay(2000);
220         usrt0_irq_init();
221     }
222 )
223
224
225 if(moisture_status==1) // there is water in the field
226 {
227     if(moisture_status==1)
228     {
229         Motor OFF;
230         uc_check=0;
231         xx=1;
232         moisture_status=0;
233         gsm_send_sms(msg("9491541041","MOTOR OFF(sufficient water in field)");
234         main_delay(2000);
235         usrt0_irq_init();
236     }
237     if(z==1)
238     {
239         gsm_send_sms(msg("9491541041","sufficient water in field");
240         main_delay(2000);
241         usrt0_irq_init();
242     }
243     z=0;

```

```

Build target 'Target: 1'
linking...
Program Size: Code=7732 RO-data=32 RW-data=20 ZI-data=1452
FromELF: creating hex file...
"Final Code.axf" - 0 Error(s), 0 Warning(s).

```



In this project we are controlling the home appliances wirelessly by just sitting in front of your PC. And we can also get the notification if any of the loads absent or gets damaged. To make this possible we are making use of ZIGBEE technology.

AC loads are controlled through the TRIACS, which are getting the logic from MOC3021 opto coupler. The input is given from the PC keyboard. The data we entered was transmitted through RS232 cable and transfer to receiver side wirelessly through ZIGBEE transceiver. The receiver side ZIGBEE will receive the data and send it to LPC2148 microcontroller through serial port. The microcontroller having the hex file will compare the data it receives and control the home appliances according to that data. The logic related to that was first sent to the MOC3021 that in turn ON/OFF the TRIAC, which control the load. If any of the loads fail to glow or absent then the ZCD (MCT2E), which detects the crossing the zero line in AC will send the interrupt signal to the controller, which in turn sends the notification to the receiver side through ZIGBEE. By this we can know the load failure detection also.

The source code was written in embedded C language and compile using keil compiler version 4. The created hex file was dumped into the microcontroller through UART0 using Flash magic software.

## CONCLUSION

This venture we have embraced has helped us pick up a superior point of view on different perspectives identified with our course of study and also commonsense information of electronic types of gear and correspondence. We got comfortable with programming investigation, outlining, execution, testing and support worried with our venture. The broad abilities of this framework are what make it so fascinating. From the accommodations of a straightforward mobile phone, a client can control and screen for all intents and purposes any electrical gadgets.

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