

Implementation of Small Electrical Power Using GSM Modem

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Abstract: Main aim of this paper control the home automation system by sending SMS through GSM Modem. The user can be access the remotely and providing security when the user is away from the place. The automation systems are becoming very important role in the today world.GSM signal covers all over the world widely. So by using GSM band we can control the home appliances efficiently with very low cost by short message services. If any of the sensors goes beyond the set threshold value, then the microcontroller recognizes it and sends particular message to the house owner. For this purpose, we are using GSM modem (SIM900A). The house owner number was initially stored in the system. So, any abnormal condition occurs in house, then the owner immediately receive an alert message from the GSM modem interfaced to the LPC 2148 microcontroller.

Keyword: GSM Modem, Small Electrical Power, Circuit Diagram, SMS system.

INTRODUCTION

Not only controlling the loads we are also monitoring the parameters of home like temperature, fire and gas. By SMS in GSM are fastest system with acknowledgement by sending the message like TV on we can switch on the television form any ware in the world same like we can control the home appliances from anywhere with instant of time the time taken for control the appliances is less than 500 ms in the sms system Not only controlling the loads we are also monitoring the parameters of home like temperature, fire and gas. If temperature or pollution detected then the respective sensors were activated and then that information will be passed to user mobiles.

BLOCK DIAGRAM

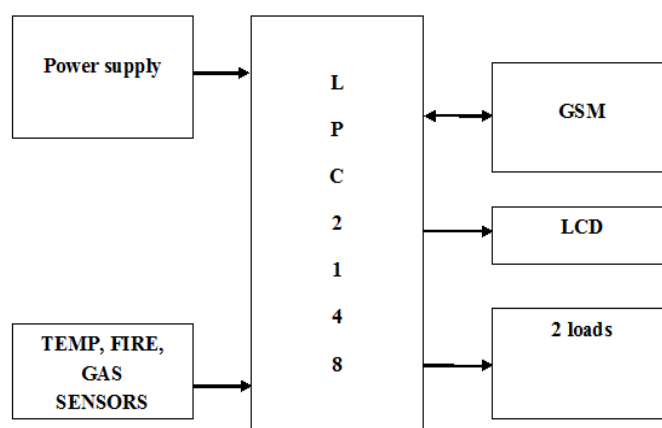


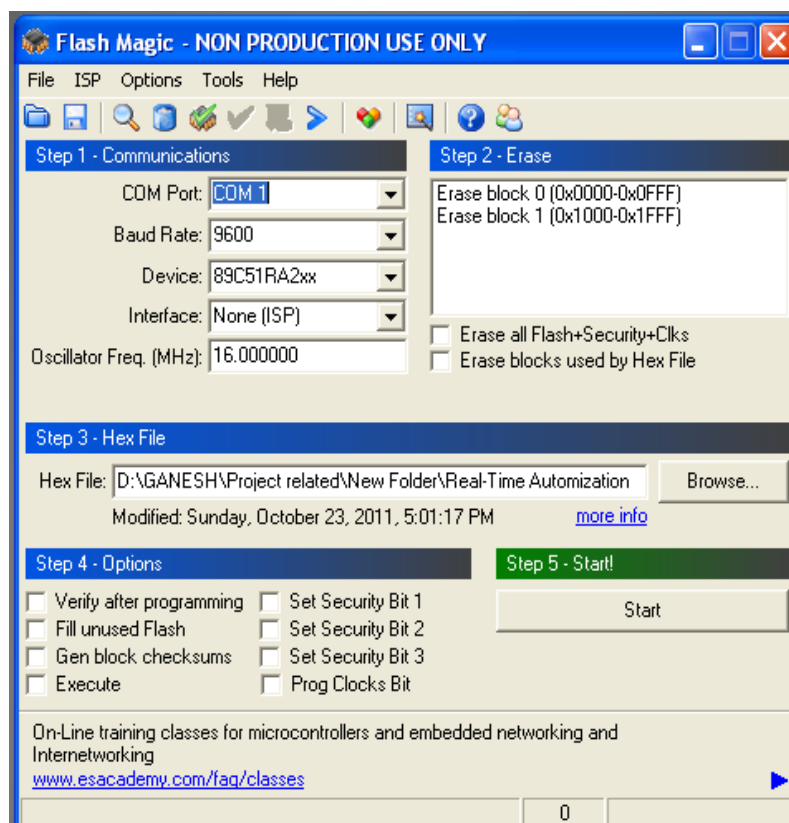
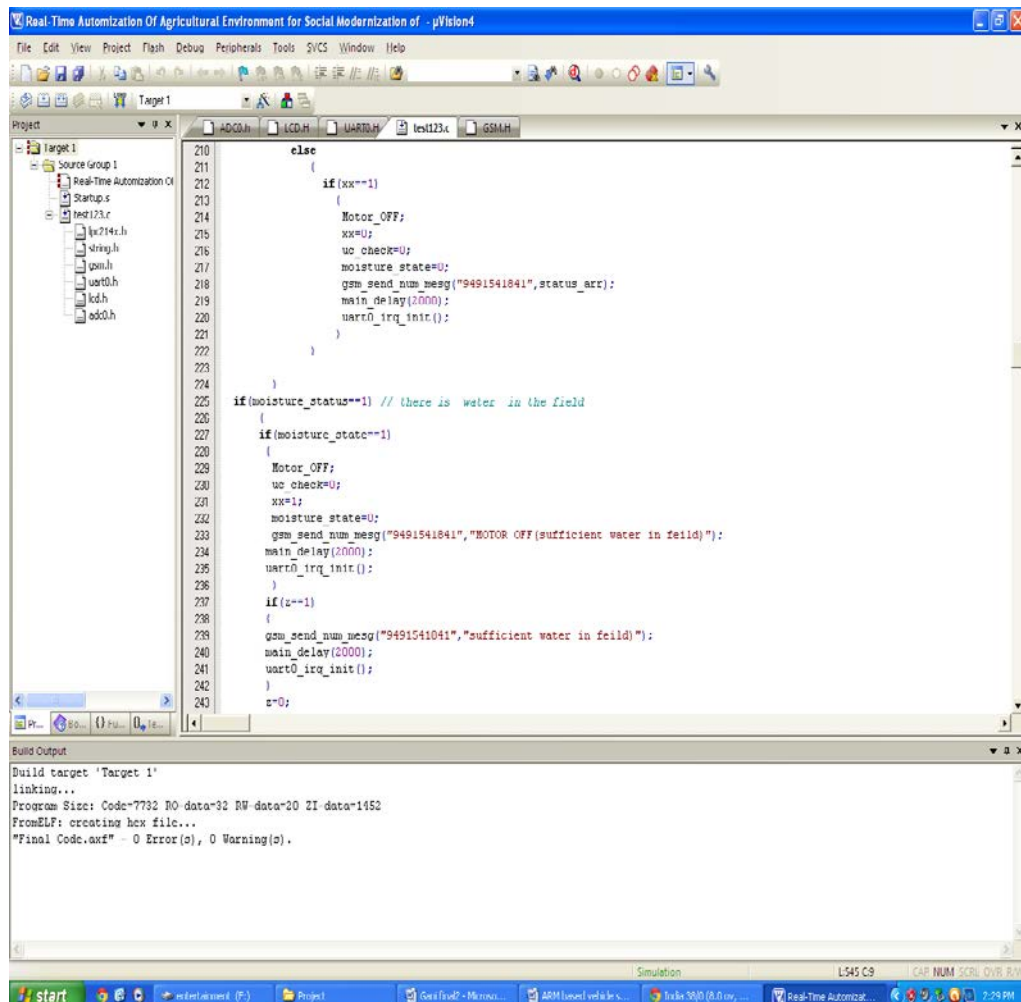
Fig. 1: Block Diagram and Circuit Diagram

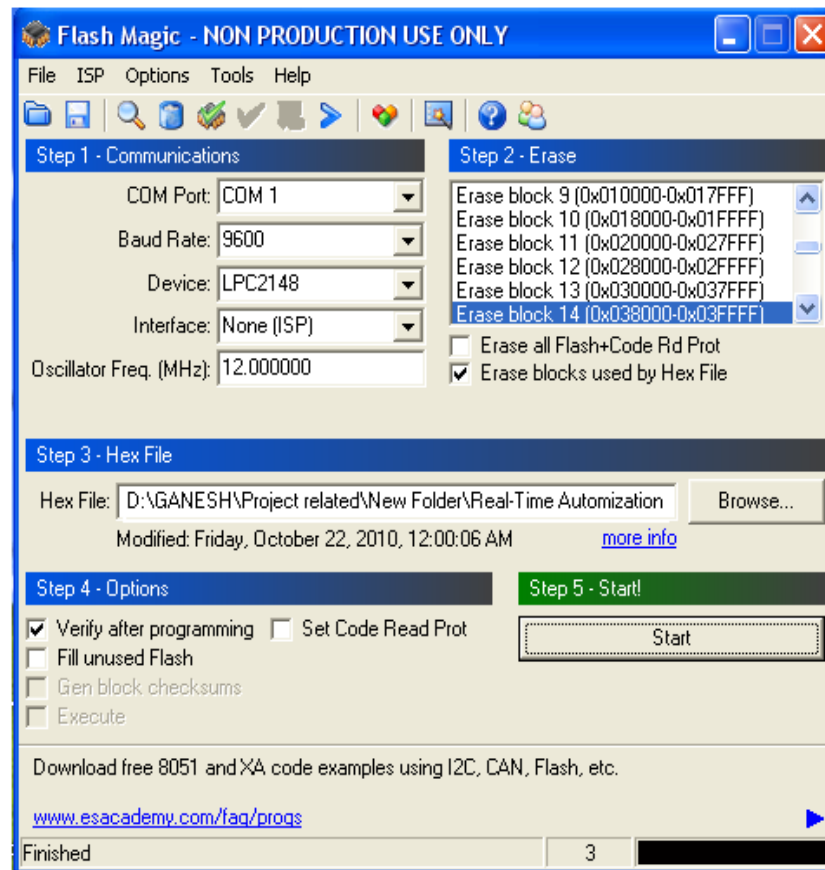
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In this paper we are providing the security to the home from gas leakage, fire accidents and access room temperature. For this purpose, we are using three sensors named LM35 (Temperature sensor), thermistor, and MQ-2 (Gas sensor). These three sensors are interfaced to the LPC2148 (ARM7) microcontroller. LPC2148 have the internal ADC in it and it converts the analog outputs from the sensors into digital. We are setting the threshold value for each of the sensor. besides to the security we can also control the electrical loads in the home by sending a predefined message to the GSM modem. Then the controller receives the data through serial port and compares it with the predefined one. If compares the it sends a logic to the opto-coupler to control the load. By this we can control the load from the remote place and by this way we can save the power up to maximum extent.

The code was written in embedded C language and compiled using Kiel micro vision 4 compiler. The generated hex file was dumped into the LPC2148 microcontroller using flash magic software through the UART port 0.

CONCLUSION

This venture we have attempted has helped us pick up a superior viewpoint on different perspectives identified with our course of study and functional learning of electronic supplies and correspondence. We got comfortable with programming investigation, outlining, usage, testing and support worried with our venture. The broad abilities of this framework are what make it so fascinating. From the comforts of a basic wireless, a client can control and screen for all intents and purposes any electrical gadgets. Fire, temperature and gas estimations of home are checked and prompt move makes put while mischance happened.

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