Development of A Cell Phone Based Vehicle Remote Control System

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Abstract- *A remote control vehicle is typically defined as any mobile device that is controlled by a means that does not restrict its motion with an origin external to the device. This is often a radio control device, cable between control and vehicle, or an infrared controller.*

This paper presents the technical construction of a standalone vehicle controlled by GSM communication network. The designed GSM based solar powered vehicle could be operated from almost anywhere under GSM network which is powered by solar energy using 5 watt photo voltaic (PV) panel, stored in 3 similar 4V rechargeable batteries.

Keywords- GSM, remote control

I. INTRODUCTION

1.1 Framework:

A framework is a course of action in which all its unit collect cooperate as per an arrangement of guidelines. It can likewise be characterized as a method for working, arranging or doing one or many errands (collect something) as indicated by a settled arrangement.

1.2 Implanted System:

As its name recommends, Embedded means something that is joined to something else. An inserted framework can be considered as a PC equipment framework having programming installed in it. An inserted framework can be a free framework or it can be a piece of an expansive framework. An installed framework is a microcontroller or microchip based framework which is intended to play out a particular undertaking. For instance, a fire caution is an installed framework; it will detect just smoke.

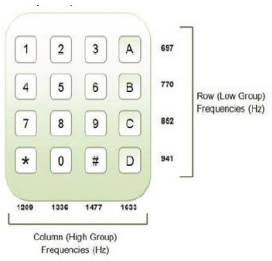
II. SURVEY OF CONTEMPORARY

In this chapter, we will discuss about the information found by study and research that is critical and have an important value in the contribution of the whole project implementation. It also gives some basic knowledge or theoretical base and is used as a foundation to successfully achieve the main objectives

2.1 RF based wireless remote control generator system

The design and implementation of RF based wireless remote control generator system that can be interfaced with automatic changeover. We noticed that generator system is designed to be powered ON by pressing a button or turning a key or drawing the rope tiled on its body.

2.2 DTMF: Dual-tone multi-frequency signaling (DTMF) is used for telecommunication signaling over analog telephone lines in the voice-frequency band between telephone handsets and other communications devices and the switching center. The version of DTMF that is used in push-button telephones for tone dialing is known as Touch-Tone. It was first used by AT&T in commerce as a registered trademark, and is standardized by ITU-T Recommendation Q.23. It is also known in the UK as MF4.Other multi-frequency systems are used for internal signaling within the telephone network.



The Touch-Tone system, using the telephone keypad, gradually replaced the use of rotary dial starting in 1963, and since then DTMF or Touch-Tone became the industry standard for both cell phones and landline service. The DTMF keypad is laid out in a 4×4 matrix, with each row representing a low frequency, and each column representing a high frequency. Pressing a single key (such as '1') will send a sinusoidal tone for each of the two frequencies (697 and 1209 hertz (Hz)). The original keypads had levers inside, so each button activated two contacts. The multiple tones are the

reason for calling the system multi frequency. These tones are then decoded by the switching center to determine which key was pressed.

III. PROBLEM STATEMENT

The use of mobile phone is highly prevalent nowadays. Although the main aim of the mobile phone is to enable communication between two mobile phone users, recent advancement in embedded technology have made it possible to use mobile phones to control home and office appliances, monitor and control vehicles, and for several other applications. Advancement in technology has made life more efficient and comfortable.

The comfort of being able to take control of devices from one particular location has become imperative as it saves a lot of time and effort. With the advancement and breakthroughs in technology over the years, the lives of people have become more complicated and thus they have become busier than before. This paper presents embedded system that comprises mobile phone, DTMF decoder, microcontrollers and relays.

IV. PROJECT DESIGN

In this chapter the brief description about the Software and Hardware Implementation with required implements. In detail explicating about the working of the plan with the benefit of outline.The usage of the venture configuration can be partitioned in two sections.

1.Hardware usage
2.software usage

The venture outline and standard are explained in this section using the square chart and circuit graph. The square chart talks about the required parts of the outline and working condition is explained using circuit graph and framework wiring graph**.**

4.1 BLOCK DIAGRAM OF AT89C52 SERIES

The below diagram represents the AT89C52 Microcontroller internal blocks as consisting of number of I/O, GPIO Pins, Timers, UART, crystal oscillators
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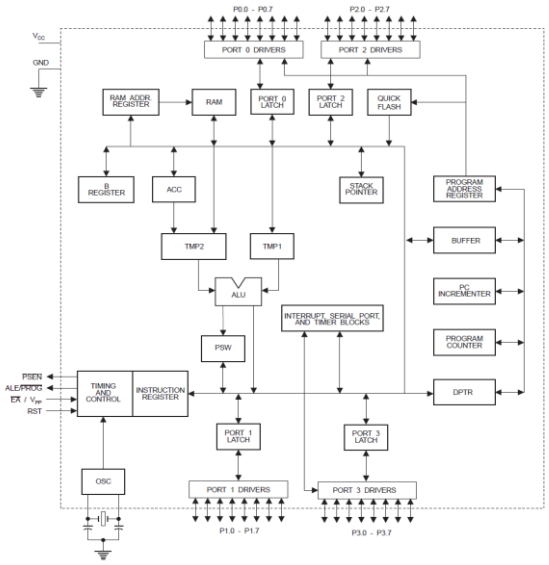


Block Diagram of AT89C52

The above mentioned block diagram are very useful to understand the microcontroller internal architecture and each block functions of microcontroller.

4.2 SOFTWARE IMPLEMENTATION:

Firmware utilizes programming in the microcontroller with the target that it can control the operation of the IC's used as a piece of the execution. In the present work, we have used the Orcad graph programming for PCB circuit mastermind, and the Keil µv4 programming change the embedded c language program into machine language to execute the source code. The Flash appeal fashioner has been utilized to inbuilt the source code into the microcontroller.

Programming Tools Required

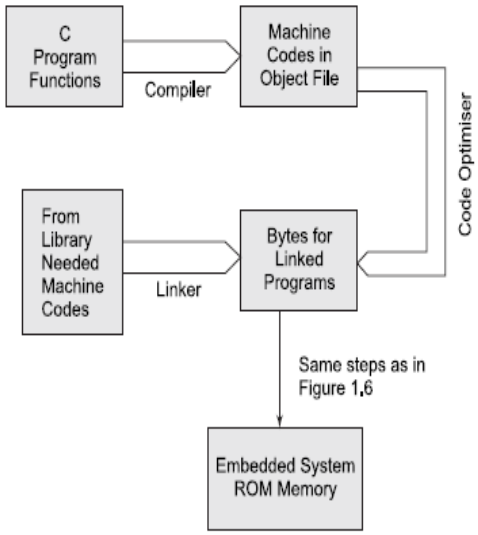
1. Keil µVision4
2. Flash Magic
3. Orcad

4.2.1 KEIL COMPILER :

Keil compiler is modifying used where the machine program code is indicted and collected. After array, the machine source code is changed over into hex code which is to be dumped into the microcontroller for further planning. Keil compiler moreover C code.

If there are no mix-ups and alerts then run the program, the system plays out all the required assignments and comports clearly the item made. If not, the whole

methodology ought to be accentuated yet again. Underneath figures show the social event of the program.

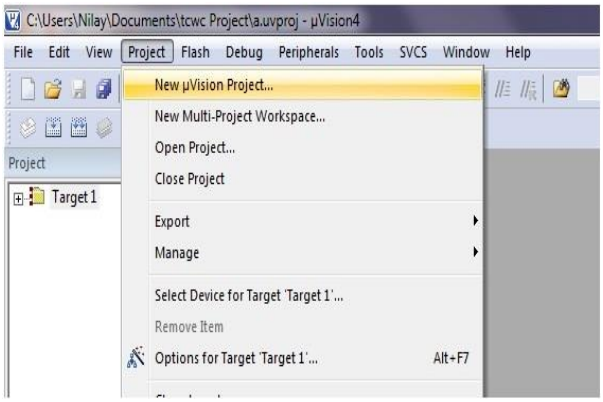


The process of converting C program into the file for ROM

The process of converting a C *program* into the ROM image file. A ***compiler*** generates the object codes. The compiler assembles the codes according to the processor instruction set and other specifications.

Create new uVision project

Now Select new folder and give name to Project



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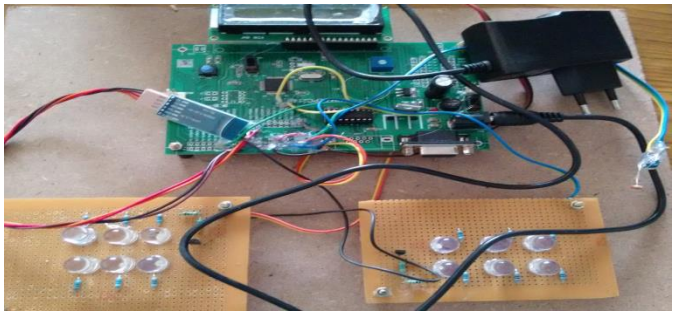
The above figure shows an create new uvision project on keil compiler

V. RESULT-ANALYSIS

RESULT:

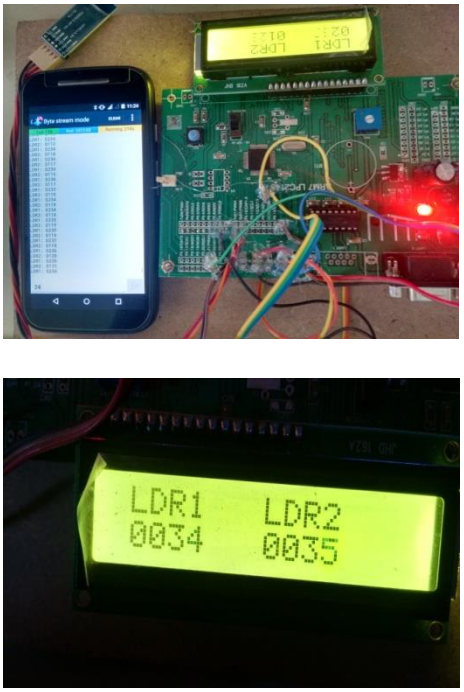
The result analysis of "Configuration and Execution of a sensor less Enlightenment controlled LED Lighting framework utilizing Neural Network" is done prosperously. The below mentioned figure shows a hardware implementation of the project.



Proposed system Hardware

The above figure represents the complete hardware implementation of the proposed system.

Initial Light intensity measurement on LCD and Android versatile:



Light intensity measurements on Android mobile and LCD

The above figure represents a Light intensity on working places is measured by using LDR measurements on both LCD and Android versatile mobile using wireless data transmission using Bluetooth.

VI. CONCLUSION

The key purpose was to develop a circuit that can drive an electric vehicle in any directions using GSM based cell phones as a distant controller, and the trial approached has been a success. This system utilizes a renewable energy based battery management system and a GSM technologically operated mobile phone for its operations. The second part of this project highlights on deploying a battery management system using renewable photovoltaic energy as its power source from which the system can charge its batteries using solar panels as a standalone system. This system can be a test-bed for any future projects and or appliances interested to work with both renewable energy and remote control communication technology together**.**

VII. FUTURE SCOPE

The Future scope of this article is to configure multiple nodes to configure and controlled over the distance range using IOT Technology and chip less devices and wireless nodes, and automatic configuration of the device using automatic connecting technique. The awareness is perpetually extending as are the predicaments which the humanity endeavor to settle. In this soul, it is trusted that the present movement will prompt further improvements. For instance; chip away at future for military imply by the robots.

REFERENCES

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