SMART SYSTEM BASED SECURITY ALERTING SYSTEM FOR VEHICLES

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Abstract:

Security based applications are a class of latest domains that will play a pivotal role in estimating the performance of next generation embedded devices. The main objective in this work is to estimate the workload characteristics of security based applications, and based on the report to analyze the impact on microprocessor architecture design. The obtained results will provide an insight into the performance parameters that cause bottlenecks in the currently existing architectures which can challenge security applications, and can be used to propose architectural enhancements required to enhance the performance of embedded and digital processors running security applications. In this work we techniques summarize the popular and methodologies used for characterizing the workloads, and a survey based on the classic studies have been carried to measure the amount of parallelism present in each applications, and also to propose а characteristics study on the micro-architecture security applications.

This project mainly consists of micro controller (AT89S52), GSM module, Vibrating sensor, Gas sensor and Motor driver (L293D), buzzer. Based upon the micro controller instruction, the motor starts. The GSM module sends a message automatically to the registered mobile number when the accident occurs.

The impact when a motorcyclist involves in a speed accident without wearing helmet is very dangerous, wearing a helmet can avoid shock from the impact may save life.

As per the survey of Indian government, every year 45% of accidents occur due to alcohol consumption and not wearing helmet. For this we choose this project, the motto of this project is to "save the lives from the accidents".

Key words: micro controller (AT89S52), GSM module, Vibrating sensor, Gas sensor and Motor driver (L293D), buzzer.

I. INTRODUCTION

An embedded system is a process which has an combo of various domains like electrical. and chemical mechanical. components coordinated with a computer, kept inside, for the pupose of executing a single dedicated purpose. There more are applications of computers in the current technological era, all these computers are deploying single-chip microcontrollers which act as the brains of an embedded system. Embedded systems have became an inseperable component of our routine life in which we interact and interface with hundreds of tiny computers and processors every day that are embedded into our houses, our cars, our bridges, our toys, and our work. As our

world has become more complex, so have the capabilities of the microcontrollers embedded into our devices. Therefore the world needs a trained workforce to develop and manage products based on embedded microcontrollers.

EXISTING TECHNOLOGY

A **motorcycle helmet** is a type of helmet used by motorcycle riders. The primary goal of a motorcycle helmet is motorcycle safety – to protect the rider's head during impact, thus preventing or reducing head injury and saving the rider's life. Some helmets provide additional conveniences, such as ventilation, face shields, ear protection, intercom etc.

PROPOSED TECHNOLOGY

A helmet is used as a protective layer that is worn to prevent head injury. Helmet is the most important safety gear for two wheeler riders. The carelessness attitude of people who are paying less importance toward safety protocols a lot of causalities occur every year. Especially in India the occurrence of accidents are common.

As per the data formNational Crime Records Bureau (NCRB) two wheelers claimed 92 precious lives every day which most are due to helmetless drive. The most people who met accident were youngsters. As a solution to overcome this problem we came up with the idea of using a SMART HELMET.

Using the smart helmet will help to reduce the injuries to head. The smart helmet discussed in this work is different in many ways. It will be technically advanced and electronically controlled. The system is designed in a mechanism such that without wearing the helmet the rider cannot start two wheelers.

EXISTING & PROPOSING METHODS:



Fig.1. Exis

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BUZZER

SMART SYSTEM BASED SECURITY ALLER TUNEOS STEEMEROR VEHICLES

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HELMET



technological Figra, BALL thrag ramputers are deploying single-chip microcontrollers which Fig. 3. shows thanklook diagrambodd the pysical. Ethisbd containsy Mians Controller BOS had Motor Disperate 223 Apon Vibrofingur Sourians life Ais Sourcer we SMe Modulation depreser with physindreds of tiny computers and processors every day

of tiny computers and processors every day The 2¹² decoders are a series of CMOS that are embedded into our houses, our cars, LSIs for remote control system applications. our bridges, our toys, and our work. As our They are paired with 2¹² series of encoder. For world has become more complex, so have the proper, operation, a pair of encoder/decoder capabilities of the microcontrollers embedded

into our devices. Therefore the world needs a

with the same number of address and data format should be chosen.

The decoders receive serial address and data from a programmed 2^{12} series of encoders that are transmitted by a carrier using an RF or an IR transmission medium. They compare the serial input data three times continuously with their local addresses. If no error or unmatched codes are found, the input data codes are decoded and then transferred to the output pins. The VT pin also goes high to indicate a valid transmission.

The 212 series of decoders are capable of decoding information that consists of N bits of address and 12-N bits of data. Of this series, the HT12D is arranged to provide 8 address bits and 4 data bits.

III. SOFTWARE CONSTRAINTS KEIL Software

 μ Vision3 adds many new features to the Editor like Text Templates, Quick Function Navigation, Syntax Coloring with brace high lighting Configuration Wizard for dialog based startup and debugger setup. μ Vision3 is fully compatible to μ Vision2 and can be used in parallel with μ Vision2.

What is µVision3

 μ Vision3 is an IDE (Integrated Development Environment) that helps you write, compile, and debug embedded programs. It encapsulates the following components:

- 0 A project manager.
- 1 A make facility.
- 2 Tool configuration.
- 3 Editor.
- 4 A powerful debugger.

To help you get started, several example programs (located in the \C51\Examples,

\C251\Examples, \C166\Examples, and \ARM\...\Examples) are provided.

- 5 **HELLO** is a simple program that prints the string "Hello World" using the Serial Interface.
- 6 **MEASURE** is a data acquisition system for analog and digital systems.
- 7 **TRAFFIC** is a traffic light controller with the RTX Tiny operating system.
- 8 **SIEVE** is the SIEVE Benchmark.
- 9 **DHRY** is the Dhrystone Benchmark.
- 10 **WHETS** is the Single-Precision Whetstone Benchmark.

Additional example programs not listed here are provided for each device architecture.

SOURCE CODE

- 1. Click on the KeiluVision Icon on DeskTop
- 2. The following fig will appear
- 3. Click on the Project menu from the title bar
- 4. Then Click on New Project

Save the Project by typing suitable project name with no extension in u r own folder sited in either C: $\ Or D:$

- 5. Then Click on save button above.
- 6. Select the component for your project. i.e. Atmel.....
- 7. Click on the + Symbol beside of Atmel
- 8. Select AT89C51 as shown below
- 9. Then Click on "OK"
- 10. Then Click either YES or NO.....mostly "NO"
- 11. Now your project is ready to USE
- 12. Now double click on the Target1, you would get another option "Source group 1" as shown in next page.

- 13. Click on the file option from menu bar and select "new"
- 14. The next screen will be as shown in next page, and just maximize it by double clicking on its blue boarder.
- 15. Now start writing program in either in "C" or "ASM"
- 16. For a program written in Assembly, then save it with extension ". asm" and for "C" based program save it with extension ".C"
- 17. Now right click on Source group 1 and click on "Add files to Group Source"
- Now you will get another window, on which by default "C" files will appear.
- 19. Now select as per your file extension given while saving the file
- 20. Click only one time on option "ADD"
- 21. Now Press function key F7 to compile. Any error will appear if so happen.
- 22. If the file contains no error, then press Control+F5 simultaneously.
- 23. Then Click "OK"
- 24. Now Click on the Peripherals from menu bar, and check your required port as shown in fig below
- 25. Drag the port a side and click in the program file.
- 26. Now keep Pressing function key "F11" slowly and observe.
- 27. You are running your program successfully

IV. RESULT ANALYSIS

1 RF Transmitter and Receiver are used for starting the two wheeler, if he/she is

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not wearing the helmet, the motor will not start.



Fig.4. Smart Security Alerting System

2 The alcohol sensor is used to sense the alcohol consumption and it will lock if drunk.



Fig.5. Transmitter Side



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send a message automatically when he/she met an accident with helmet on.

V. CONCLUSION AND FUTURE SCOPE

CONCLUSION:

The present situation in our country we are not using this type of two wheeler and this technology. To reduce the manual efforts and human errors, we need to have some kind of automated system monitoring all the parameters and functioning of the connections between the two wheeler personnel and the parents.

- 1 "PREVENTION IS BETTER THAN CURE".
- 2 "SAVE LIVES FROM ACCIDENTS".
- 3 So finally we have to spread this smart technology to all over the country.

FUTURE SCOPE

In future we have to use this smart technology in cars as seatbelt. These sensors &components are placed in the seat belt. By using this smart technology we can avoid accidents to some extent.

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