

DESIGN PORTAL OF A WIRELESS LINKED NAVAL SUBSTATION FOR INTERNATIONAL BOUNDARY SCANNING AND SURVEILLANCE SYSTEM

S.Abirami^{#1}, M.Abinaya^{#2}, Mrs.Philomina^{*4}

[#]Final year, B.Tech/ECE, Bharath University

¹abirami2610@gmail.com

²abinaya.ece7@gmail.com

^{*}Assistant Professor, Bharath University

⁴philomina.november83@gmail.com

Abstract: The peninsula island and the coastal countries had their boundary limit in the sea. The people's life in that type of country has the work of fishing in the sea, due to carelessness or without knowing the boundary limit of their country they tend to cross the borders. In such situation the lives of fishermen continue to be difficult. If they face bullets from the enemy Navy they get killed. They are being abducted and their boats are being captured. Nowadays people living in coastal areas lose their valuable life unknowingly. Fishermen are shot dead by the neighborhood militants, saying that they are crossing the borders. So our project is designed to avoid such kind of accidents and to alert the fisherman about the border areas.

Keywords: Fisherman, safety, Boundary

I.INTRODUCTION

The main aim of this project is to offer an advance security system to the peninsula island and the coastal countries that had their boundary in such situation that the lives of fishermen continue to be difficult. If they face bullets from the enemy navy lot were killed. They are being abducted and their boats are being captured..Nowadays people living in coastal areas lose their valuable life unknowingly. Those people are shot dead by the neighbourhood militants, saying that they are crossing the borders.

So our project is designed to avoid such kind of accidents and to alert the fisherman about the border areas

II.RELATED WORK

- To implement a system for international boundary scanning and surveillance and also produce alert in a necessary conditions

III.POWER SUPPLY :

The operation of power supply circuits built using filters, rectifiers, and then voltage regulators. Starting with an AC voltage, a steady DC voltage is obtained by rectifying the AC voltage, Then filtering to a DC level, and finally, regulating to obtain a desired fixed DC voltage. The regulation is usually obtained from an IC voltage regulator Unit, which takes a DC voltage and provides a somewhat lower DC voltage, Which remains the same even if the input DC voltage varies, or the output Load connected to the DC voltage changes.

ARM:

The ARM is a 32-bit reduced instruction set computer (RISC) instruction set architecture (ISA) developed by ARM Holdings. It was known as the Advanced RISC Machine, and before that as the Acorn RISC Machine. The ARM architecture is the most widely used 32-bit ISA in terms of numbers produced. They were originally conceived as a processor for desktop personal computers by Acorn Computers, a market now dominated by the x86 family used by IBM PC compatible and Apple Macintosh computers. The relative simplicity of ARM processors made them suitable for low power applications. This has made them dominant in the mobile and embedded electronics market as relatively low cost and small microprocessors and microcontrollers. ARM processors are developed by ARM and by ARM licensees. Prominent ARM processor families developed by ARM Holdings include the ARM7, ARM9, ARM11 and Cortex. Notable ARM processors developed by licensees include DEC Strong ARM, Free scale i.MX, Marvell (formerly Intel) X Scale, Nintendo, Nvidia Tegra, ST-Ericsson Nomadik, Qualcomm Snapdragon, the Texas Instruments OMAP product line, the Samsung Hummingbird and the Apple A4.

IV. INFORMATION

ARM: The ARM is a 32-bit reduced instruction set computer (RISC) instruction set architecture (ISA) developed by ARM Holdings. It was known as the Advanced RISC Machine, and before that as the Acorn RISC Machine. The ARM architecture is the most widely used 32-bit ISA in terms of numbers produced. They were originally conceived as a processor for desktop personal computers by Acorn Computers, a market now dominated by the x86 family used by IBM PC compatible and Apple Macintosh computers. The relative simplicity of ARM processors made them suitable for low power applications. This has made them dominant in the mobile and embedded electronics market as relatively low cost and small microprocessors and microcontrollers. ARM processors are developed by ARM and by ARM licensees. Prominent ARM processor families developed by ARM Holdings include the ARM7, ARM9, ARM11 and Cortex. Notable ARM processors developed by licensees include DEC Strong ARM, Free scale i.MX, Marvell (formerly Intel) X Scale, Nintendo, Nvidia Tegra, ST-Ericsson Nomadik, Qualcomm Snapdragon, the Texas Instruments OMAP product line, the Samsung Hummingbird and the Apple A4. Serial communication is basically the transmission or reception of data one bit at a time. Today's computers generally address data in bytes or some multiple thereof. A byte contains 8 bits. A bit is basically either a logical 1 or zero. Every character on this page is actually expressed internally as one byte. The serial port is used to convert each byte to a stream of ones and zeroes as well as to convert a stream of ones and zeroes to bytes.

V. SPECIAL FEATURES

- POWER SUPPLY
- ARM-7 MICROCONTROLLER
- ENCODER/DECODER MODULE
- RF MODULE
- RS232 COMMUNICATION MODULE
- LCD DISPLAY
- IR-Port

VI.MICRO-CONTROLLER SELECTION

ARM FEATURES:

- Barrel Shifter in data path that maximize the usage of hardware available on the chip.
- Auto increment and Auto decrement addressing modes to optimize program loop .This feature is not common in RISC architecture.
- Load and Store instruction to maximize data throughput.
- Conditional execution of instructions, to maximize execution throughput.

FEATURES OF ARM LPC 2148:

- 16/32-bit ARM7TDMI-S microcontroller in a tiny LQFP64 package.
- 8 to 40 kB of on-chip static RAM and 32 to 512 kB of on-chip flash program memory
- 128 bit wide interface/accelerator enables high speed 60 MHz operation.
- In-System/In-Application Programming (ISP/IAP) via on-chip boot-loader software.
- Embedded ICE RT and Embedded Trace interfaces offer real-time debugging with the on-chip Real Monitor software and high speed tracing of instruction execution.
- USB 2.0 Full Speed compliant Device Controller with 2 kB of endpoint RAM. In addition the LPC2146/8 provides 8 kB of on-chip RAM accessible to USB by DMA.
- One or two (LPC2141/2 vs. LPC2144/6/8) 10-bit A/D converters provide a total of 6/14 analog inputs, with conversion times as low as 2.44 μ s per channel.
- Single 10-bit D/A converter provide variable analog output.
- Two 32-bit timers/external event counters (with four capture and four compare channels each), PWM unit (six outputs) and watchdog.
- Low power real-time clock with independent power and dedicated 32 kHz clock input
- Multiple serial interfaces including two UARTs (16C550), two Fast I2C-bus(400 kbit/s), SPI and SSP with buffering and variable data length capabilities.
- Vectored interrupt controller with configurable priorities and vector addresses.
- Up to nine edge or level sensitive external interrupt pins available.
- 60 MHz maximum CPU clock available from programmable on-chip PLL with settling time of 100 μ s.
- On-chip integrated oscillator operates with an external crystal in range from 1 MHz to 30 MHz and with an external oscillator up to 50 MHz.
- Power saving modes include Idle and Power-down.
- Individual enable/disable of peripheral functions as well as peripheral clock scaling for additional power optimization.
- Processor wake-up from Power-down mode via external interrupt, USB, Brown-Out Detect (BOD) or Real-Time Clock (RTC).
- Single power supply chip with Power-On Reset (POR) and BOD circuits:– CPU operating voltage range of 3.0 V to 3.6 V (3.3 V \pm 10 %) with 5 V tolerant I/O pads.

- Flash Magic
- ORCAD
 - Capture
 - Layout

6.1.1 KEIL C:

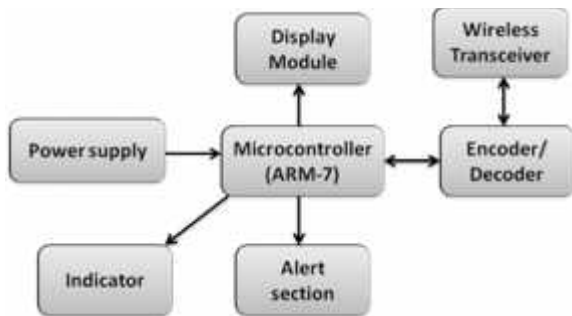
Keil software is the leading vendor for 8/16-bit development tools (ranked at first position in the 2004 embedded market study of the embedded system and EE times magazine). Keil software is represented world wide in more than 40 countries, since the market introduction in 1988; the keil C51 compiler is the de facto industry standard and supports more than 500 current 8051 device variants. Now, keil software offers development tools for ARM. Keil software makes C compilers, macro assemblers, real-time kernels, debuggers, simulators, integrated environments, and evaluation boards for 8051, 251, ARM and XC16x/C16x/ST10 microcontroller families. The Keil C51 C Compiler for the 8051 microcontroller is the most popular 8051 C compiler in the world. It provides more features than any other 8051 C compiler available today.

The C51 Compiler allows you to write 8051 microcontroller applications in C that, once compiled, have the efficiency and speed of assembly language. Language extensions in the C51 Compiler give you full access to all resources of the 8051.

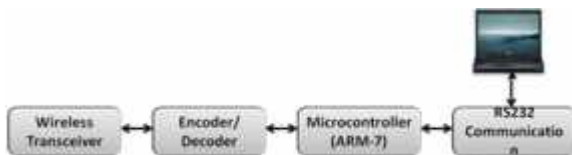
The C51 Compiler translates C source files into re-locatable object modules which contain full symbolic information for debugging with the µVision Debugger or an in-circuit emulator. In addition to the object file, the compiler generates a listing file which

BLOCK DIAGRAM

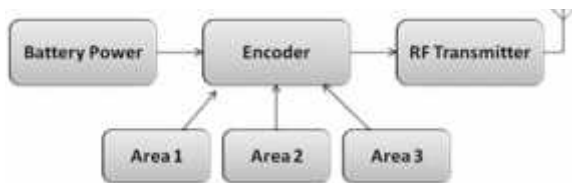
Fisherman Boat section



Navy control section



Sea section



VII.SYSTEM ANALYSIS

TYPES OF TOOLS:

- KEIL C

may optionally include symbol table and cross reference

- Nine basic data types, including 32-bit IEEE floating-point,
- Flexible variable allocation with bit, data, b data, I data, x data, and p data memory types,
- Interrupt functions may be written in C,
- Full use of the 8051 register banks,
- Complete symbol and type information for source-level debugging,
- Use of AJMP and ACALL instructions,
- Bit-addressable data objects,
- Built-in interface for the RTX51 real time kernels,
- Support for the Philips 8xC750, 8xC751, and 8xC752 limited instruction sets,
- Support for the Infineon 80C517 arithmetic unit.

FLASH MAGIC:

Flash magic can control the entry into ISP mode of some microcontroller devices by using the COM port handshaking signals to control the device. Typically the handshaking signals are used to control such pins as Reset, PSEN and VCC. The exact pins used depend on the specific device. When this feature is supported, Flash Magic will automatically place the device into ISP mode at the beginning of an ISP operation. Flash Magic will then automatically cause the device to execute code at the end of the ISP operation.

ORCAD

ORCAD really consists of tools. Capture is used for design entry in schematic form. You will probably be already familiar with looking at circuits in this form from working with other tools in your university

courses. Layout is a tool for designing the physical layout of components and circuits on a PCB. During the design process, you will move back and forth between these two tools

VIII.EVALUATIONS

Alert system for fisherman..Low cost and compact device. Boundary scanning and surveillance system. Wireless communication for transferring information. Alert system for fisherman. Low cost and compact device. Boundary scanning and surveillance system. Wireless communication for transferring information

IX.CONCLUSION

From this we implement image-recognition techniques that can provide the important functions required by advanced intelligent Car Security, to avoid vehicle theft and protect the usage of unauthenticated users. Secured and safety environment system for automobile users and also key points for the investigators can easily find out the hijackers image. We can predict the theft by using this system in our day to day life. This project will help to reduce the complexity and improve security, also much cheaper and 'smarter' than traditional ones.

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