Embedded Systems With ARM Cortex-M Microcontrollers In Assembly Language And C

Embedded Systems with ARM Cortex-M Microcontrollers in Assembly Language and C

Second Edition

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Synopsis

The second edition includes three new topics, including floating-point programming (FPU), interfacing with external HD44780-compatible LCD, and digital signal processing (DSP). The inclusion of FPU and DSP expands the coverage of this book to Cortex-M4 and Cortex-M7 processors. The second edition has restructured some chapters to make the book easier to follow. The book introduces basic programming of ARM Cortex chips in assembly language and the fundamentals of embedded system design. It presents data representations, assembly instruction syntax, floating-point operations, SIMD instructions, implementing fundamental controls of C language at the assembly level, and instruction encoding and decoding. The book also covers many advanced components of embedded systems, such as software and hardware interrupts, general purpose I/O, LCD driver, keypad interaction, real-time clock, stepper motor control, PWM input and output, digital input capture, direct memory access (DMA), digital and analog conversion, serial communication (USART, I2C, SPI, and USB), and digital signal processing.

Book Information

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Customer Reviews

I am not sure where does all these 5 stars come from. Maybe they are the author’s friends? I have bought hundreds of books online and this is first book I feel obligated to give a one star. I am shocked by the irresponsibility by the author. Typos and mistakes are everywhere. Sometimes you can find more than ten typos in a page. In some sections every r2 is printed as r6. Some sections
every '1' is printed as '2'. (I am not sure if the author is capable of counting from 0 to 9) To give you an example, let's see how the author solves the problem "counting the number of 1-bits in a 32 bit integer". Savor the masterpiece:// Count the number of ones in x// Result saved in counter

```c
main(void) { unsigned int x=0xAAAAAAAA; unsigned int y, z; unsigned int counter = 0; counter = x >> 31; while(x > 0) { y = x > 31; if (x < y) { counter += z + 1; } else { counter += z; } x = y; } while(1); }
```

I cannot tell you what's wrong with this program because I have no idea how the author's mind works. The author uses 2 pages to give you a detailed explanation of how that masterpiece generates a 16. Yes indeed 0xAAAAAAAA does have 16 ones in it. However the award winning piece also tells you 0xFFFFFFFF has 16 ones in it and 0x22222222 has 16 ones in it. Actually I would rather call this "program" a "16-generator". So I just want to give you an simple. Don't take it too serious. These kind of masterpieces is every in the book. I think it may take me 60-150 pages of A4 pages to list them all.

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