

Unlock the Power of Embedded Computing with "15 Projects With The Low Cost Avr Attiny85 Board"

For those passionate about electronics and tinkering, embedded computing offers a fascinating realm to explore. At the heart of many embedded systems lies the microcontroller, a tiny yet powerful computing device that controls and interacts with the physical world. Among the diverse range of microcontrollers available, the Atmel AVR ATtiny85 stands out for its affordability, versatility, and ease of use.

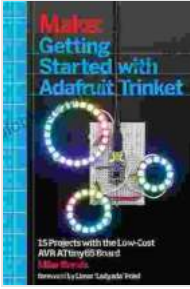
In his groundbreaking book, "15 Projects With The Low Cost Avr Attiny85 Board," esteemed author and electronics enthusiast Jimmy Brehm empowers readers to harness the capabilities of this remarkable microcontroller. With meticulously detailed instructions and real-world examples, this comprehensive guide unlocks the potential of embedded computing, empowering you to design, build, and program your own innovative projects.

"15 Projects With The Low Cost Avr Attiny85 Board" is not just a book; it's an invitation to embark on an immersive and rewarding learning journey. Through a series of carefully curated projects, Brehm introduces readers to the fundamentals of embedded computing, from basic programming concepts to advanced hardware interfacing techniques.

Getting Started with Adafruit Trinket: 15 Projects with the Low-Cost AVR ATtiny85 Board

★★★★☆ 4.3 out of 5

Language : English



File size : 68946 KB
Text-to-Speech : Enabled
Screen Reader : Supported
Enhanced typesetting : Enabled
Print length : 260 pages



Each project presents a unique challenge, guiding readers through the process of designing, assembling, and programming their own microcontroller-based devices. Along the way, they will learn about:

- **Input and Output (I/O) Management:** Master the art of controlling digital and analog inputs and outputs, enabling interaction with external devices such as buttons, sensors, and displays.
- **Timers and Interrupts:** Explore the efficient use of timers and interrupts to manage time-sensitive tasks and respond to external events.
- **Serial Communication:** Establish communication between the ATtiny85 and other devices using various serial protocols, including UART, I2C, and SPI.
- **Advanced Hardware Interfacing:** Connect peripherals such as LCD screens, keypads, and even GPS modules to expand the capabilities of your projects.
- **Real-time Operating Systems (RTOS):** Enhance the performance and reliability of your embedded systems by incorporating real-time operating systems.

The heart of "15 Projects With The Low Cost Avr Attiny85 Board" lies in the collection of captivating projects that showcase the versatility of the ATtiny85 microcontroller. Each project is carefully designed to provide a hands-on learning experience, ranging from simple beginner-friendly projects to more advanced challenges.

1. **Blinky:** A classic to microcontroller programming, this project teaches you to control an LED using the ATtiny85.
2. **Button Debouncing:** Learn how to handle button presses effectively to prevent false triggering.
3. **Analog-to-Digital Converter (ADC):** Measure analog signals from sensors and convert them into digital data.
4. **Pulse-Width Modulation (PWM):** Generate variable-width pulses to control the brightness of LEDs or the speed of motors.
5. **Timer0 Overflow Interrupt:** Utilize interrupts to perform periodic tasks at precise intervals.
6. **External Interrupt:** Respond to external events and trigger appropriate actions.
7. **UART Serial Communication:** Send and receive data over a serial interface to communicate with other devices.
8. **I2C Serial Communication:** Connect to I2C-compatible devices, such as sensors and displays.
9. **SPI Serial Communication:** Transfer data at high speeds using the Serial Peripheral Interface (SPI) protocol.

10. **LCD Display:** Interface with character-based LCD displays to display text and graphics.
11. **Keypad:** Build a custom keypad for user input and control.
12. **GPS Module:** Connect a GPS module to the ATtiny85 to track location and time.
13. **Real-time Clock (RTC):** Keep track of time even when the microcontroller is powered off.
14. **Servo Motor Control:** Control servo motors to create dynamic movements and robotics applications.
15. **EEPROM Data Storage:** Store non-volatile data in the ATtiny85's EEPROM memory.

Jimmy Brehm, the author of "15 Projects With The Low Cost Avr Attiny85 Board," brings a wealth of experience and expertise to the table. As an electronics engineer and avid maker, he has a deep understanding of embedded computing and a passion for sharing his knowledge with others.

Throughout the book, Brehm provides clear and concise explanations, accompanied by detailed schematics and code examples. His meticulous attention to detail and ability to convey complex concepts in an accessible manner make this book an invaluable resource for both beginners and experienced embedded developers alike.

If you're looking to delve into the fascinating world of embedded computing, "15 Projects With The Low Cost Avr Attiny85 Board" is the perfect starting point. Here's why:

- **Affordability:** The ATtiny85 is an exceptionally cost-effective microcontroller, making it an ideal choice for beginners and hobbyists.
- **Versatility:** The ATtiny85 can be used in a wide range of applications, from simple control systems to complex data processing tasks.
- **Ease of Use:** The Atmel Studio development environment and the Arduino platform provide user-friendly tools for programming and debugging.
- **Community Support:** The Atmel AVR community is large and active, offering a wealth of resources and support to help you along your embedded journey.

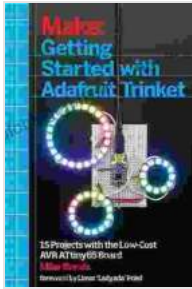
With "15 Projects With The Low Cost Avr Attiny85 Board," you'll embark on an exciting adventure into the realm of embedded computing. Whether you're a complete novice or an experienced developer, this book will empower you to build, program, and control your own microcontroller-based devices.

Free Download your copy today and unlock your embedded potential!

- [Atmel AVR ATtiny85 Product Page](#)
- [Atmel Studio Development Environment](#)
- [Arduino Platform](#)
- [Jimmy Brehm's Website](#)

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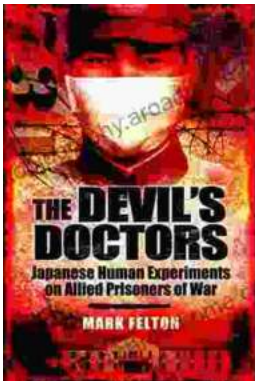
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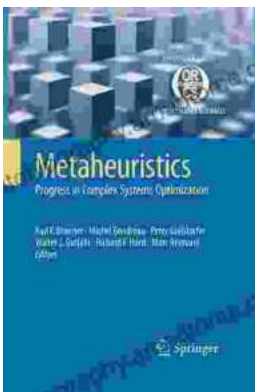
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