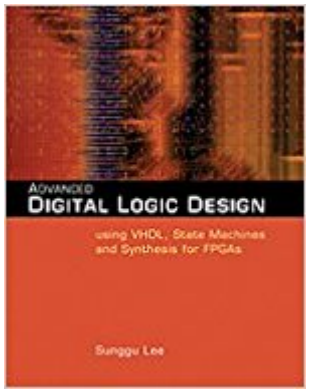
Advanced Digital Logic Design Using VHDL, State Machines, And Synthesis For FPGA's



Synopsis

This textbook is intended to serve as a practical guide for the design of complex digital logic circuits such as digital control circuits, network interface circuits, pipelined arithmetic units, and RISC microprocessors. It is an advanced digital logic design textbook that emphasizes the use of synthesizable VHDL code and provides numerous fully worked-out practical design examples including a Universal Serial Bus interface, a pipelined multiply-accumulate unit, and a pipelined microprocessor for the ARM THUMB architecture.

Book Information

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Customer Reviews

This book is a must read for transitions (in reference and learning, not state/ trigger/ algorithmic state machine transitions!). I put it at advanced undergrad in the US, advanced High School in China (assuming you agree that it is almost impossible to take linear algebra in High School in the US any longer). There are probably over 100 pages that I would consider grad level EE at a good school, as I teach robotics circuits including at "good" schools like Carnegie Mellon. I frequently recommend this to my free online students who are disabled, retired, or otherwise have limited resources for the $300 Springer texts.I say this especially since I got it for $5 US "like new" -- in today’s tough economic times, that is real value for the investment. The arithmetic processing information is in itself alone worth the price of the book at 10 times that, as there are code/pseudocode examples (including online leads and links) to processes that are both patented

and secrets in fields like HP and TI calculator design.My focus, perspective and bias is engineering and robotics, but I think any general programming student or practitioner who works at the circuit level will enjoy this. I apologize if you judge items on content alone, as I always include "ROI" and when a book of this quality can be had nearly new for the price of a Starbucks, so I vote highly recommended. Enjoy!

I purchased this book along with "Circuit Design with VHDL" by Pedroni. The Pedroni book was supposed to help me with syntax issues and general knowledge of vhdl while I wanted this book to learn some more advanced techniques. I found the two books very similar in level of difficulty. Chapter 8 on the Design of Fast Arithmetic Units and the section in Chapter 5 about designing an LCD controler are about the only advanced topics in this book that teach you how to design in VHDL. The section on implementing a RISC Thumb processor is more of an arichitecture lesson than how to implement it in VHDL on a FPGA. This book is more of an intermediate book than an advanced one. This is a good book don’t get me wrong its just not as advanced as I would have liked.

not good

Environment (Synthesis Lectures on Digital Circuits and Systems) Practical FPGA Programming in C