

A HANDS-ON INTRODUCTION TO VHDL SYNTHESIS AND FPGA PROTOTYPING

Hardware Descriptive Language (HDL) and Field Programmable Gate Array (FPGA) devices allow designers to quickly develop and simulate a sophisticated digital circuit, realize it on a prototyping device, and verify the operation of its physical implementation. As these technologies have matured, they have become accepted mainstream practice so that it is possible to use a PC and an inexpensive FPGA prototyping board to construct a complex digital system.

This book uses a “learn by doing” approach to introduce the concepts and techniques of VHDL and FPGA to designers through a series of hands-on experiments. *FPGA Prototyping by VHDL Examples* provides:

- A collection of clear, easy-to-follow templates for quick code development
- A large number of practical examples to illustrate and reinforce the concepts and design techniques
- Realistic projects that can be implemented and tested on a Xilinx prototyping board
- A thorough exploration of the Xilinx PicoBlaze soft-core microcontroller

Although the book is an introductory text, the examples are developed in a rigorous manner and the derivations follow strict design guidelines and coding practices used for large, complex systems. It lays a solid foundation for students and new engineers and prepares them for future development tasks. *FPGA Prototyping by VHDL Examples* is an indispensable companion text for introductory digital design courses and also serves as a valuable self-teaching guide for practicing engineers who wish to learn more about this emerging area of interest.

PONG P. CHU, PhD, is Associate Professor in the Department of Electrical and Computer Engineering at Cleveland State University in Ohio. He has taught undergraduate and graduate-level digital systems and computer architecture courses for more than a decade and has received instructional grants from the National Science Foundation and Cleveland State University.

Subscribe to our free Electrical Engineering eNewsletter at www.wiley.com/enewsletters

Visit www.wiley.com/electrical

 **WILEY-
INTERSCIENCE**
wiley.com

