DESCRIPTION

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; and a thorough exploration of the Xilinx PicoBlaze soft-core microcontroller.

ABOUT THE AUTHOR

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FEATURES

This book is different from existing digital design or HDL books. It is unique in several respects:
• It uses a learning-by-doing approach to introduce the concepts and techniques for HDL, synthesis, and FPGA

• It provides a collection of clear, easy-to-follow templates for quick code development

• It contains a large number of practical examples to illustrate and reinforce the design concepts and techniques. All examples can be implemented and tested on a prototyping board.

• The codes provided follow strict design guidelines and prepare the reader for developing large, complex systems in the future.

• Most codes were written in a device-independent and software-neutral fashion and are not tied to a particular device or synthesis software package

• The book contains four chapters for the Xilinx PicoBlaze soft-core microcontroller

• The book covers the design of all I/O modules of the Digilent Basys prototyping board and has prepared constraint files, project files, and configuration files. When used with this board, the book and board combo becomes a self-contained "turn-key" solution for introductory and advanced digital design experiments and projects.

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