Digital Design provides a modern approach to learning the increasingly important topic of digital systems design. The text's focus on register-transfer-level design and present-day applications not only leads to a better appreciation of computers and of today's ubiquitous digital devices, but also provides for a better understanding of careers involving digital design and embedded system design.

THE BOOK'S KEY FEATURES INCLUDE:

- An emphasis on register-transfer-level (RTL) design, the level at which most digital design is practiced today, giving readers a modern perspective of the field's applicability. Yet, coverage stays bottom-up and concrete, starting from basic transistors and gates, and moving step-by-step up to more complex components.

- Extensive use of basic examples to teach and illustrate new concepts, and of application examples, such as pacemakers, ultrasound machines, automobiles, and cell phones, to demonstrate the immediate relevance of the concepts.

- Separation of basic design from optimization, allowing development of a solid understanding of basic design, before considering the more advanced topic of optimization.

- Flexible organization, enabling early or late coverage of optimization methods or of HDLs, and enabling choice of VHDL, Verilog, or SystemC HDLs.

- Career insights and advice from designers with varying levels of experience.

- A clear bottom-up description of field-programmable gate arrays (FPGAs).

ABOUT THE AUTHOR

Frank Vahid is a Professor of Computer Science & Engineering at the University of California, Riverside. He holds Electrical Engineering and Computer Science degrees; has worked/consulted for Hewlett Packard, AMCC, NEC, Motorola, and medical equipment makers; holds 3 U.S. patents; has received several teaching awards; helped setup UCR's Computer Engineering program; has authored two previous textbooks; and has published over 120 papers on digital design topics (automation, architecture, and low-power).

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