DESIGN OF AN eLEARNING PROCESS IN THE AREA OF DIGITAL SYSTEM TESTING

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ABSTRACT

A component of an ELearning environment process is presented for teaching circuit simulation (truth table), test generation and fault diagnosis in digital circuits. A low-cost tools for teaching, research, and training in various topics of digital system and test technology. The developed tool is simple in use and has explanatory windows. The platform used by the tool is simply Microsoft Excel. The produced tool supports teaching of many courses of various standard technical universities. Examples of such courses are as digital design, digital electronics, computer hardware, testing and design for testability, fault-tolerant computing and many others. The tool helps in learning by hands-on exercises on topics like how to generate tests, how to build self-testing systems, how to analyze the quality of tests or testing hardware and how to localize faults in hardware. The tasks chosen for hands-on training represent simultaneously real research problems, which allow fostering in students critical thinking, problem solving skills and creativity which are the current requirement of the survival.

Index Terms: Digital System Testing, Test Vector, Fault Diagnosis, ELearning environment, Designed Learning Tool, Web-Based Training, Research and Training. Learning Technologies
1. REFERENCES


