# From Gates to Embedded Systems: a Bottom-up Approach to Digital Design
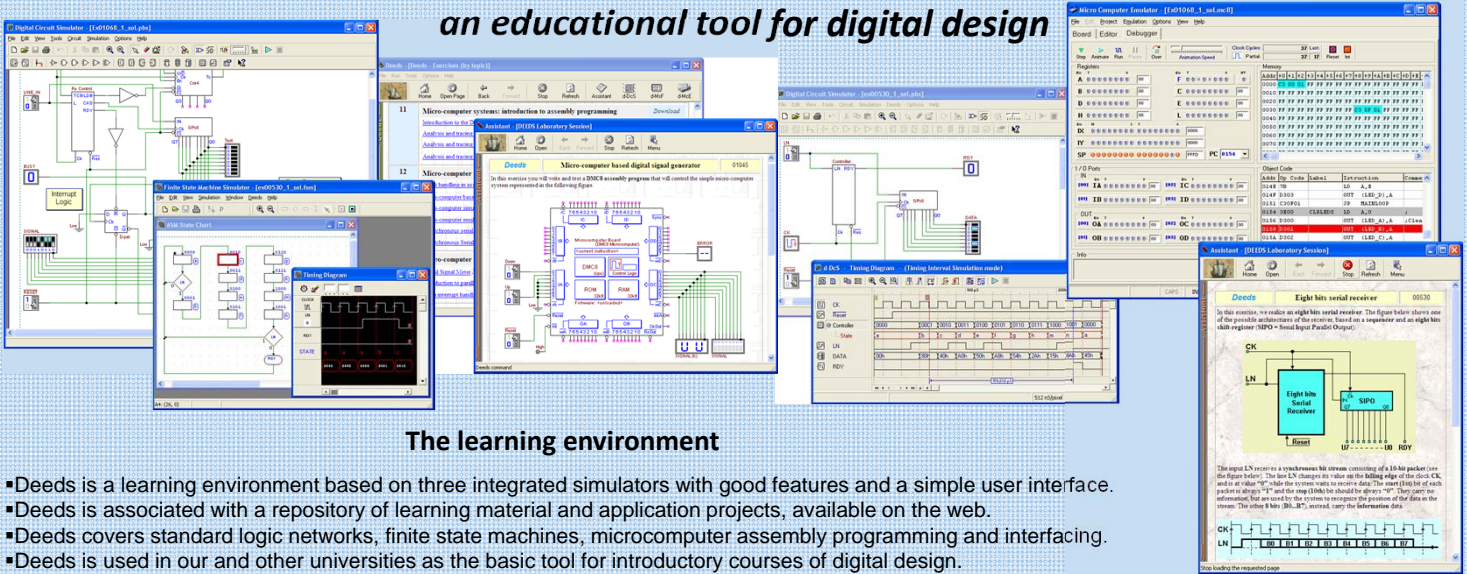
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## The *Deeds* (Digital Electronics Education and Design Suite): an educational tool for digital design



### The learning environment

- Deeds is a learning environment based on three integrated simulators with good features and a simple user interface.
- Deeds is associated with a repository of learning material and application projects, available on the web.
- Deeds covers standard logic networks, finite state machines, microcomputer assembly programming and interfacing.
- Deeds is used in our and other universities as the basic tool for introductory courses of digital design.
- Deeds guides learners from simple gates circuits to the hardware/software foundations of embedded systems.
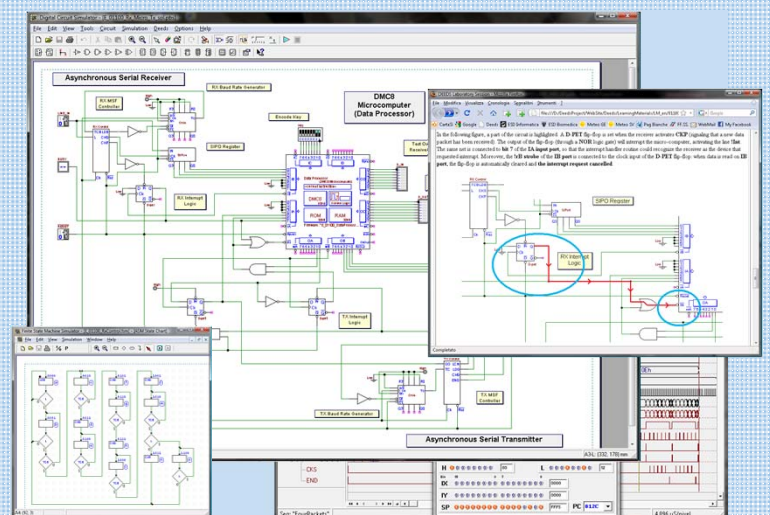
## Examples of learning materials and projects
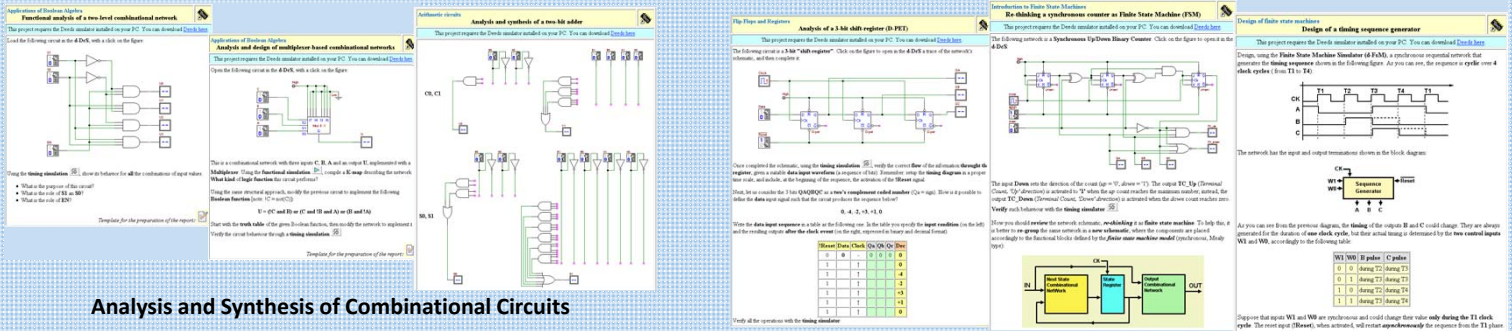


**Analysis and Synthesis of Combinational Circuits**

**Analysis and Synthesis of Sequential Circuits**
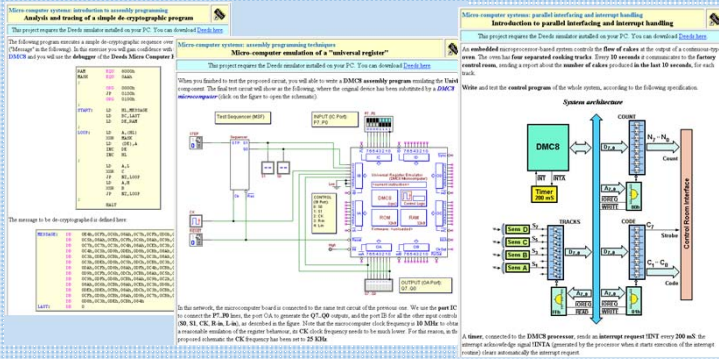
**Micro Computer programming and interfacing**

**Introduction to Embedded Systems Design**

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