

Niveluri de abstractizare

Niveluri	Descriere	Componente structurale	Obiecte fizice
Tranzistor	Ec.diferențiale, diagrame U/I	Tranzistori, rezistori, cap.	Celule analogice și digitale
Logic	Ec.booleene, FSM	Porți, elem. De mem.	Module sau unități
Procesor	Algoritmi, set de instrucțiuni	Sumatoare, comp., registre	Microcipuri
Sistem	Programe, Specificări de executabile	Procesoare, controlere, memorii, IP	Printed-circuit boards, System-on-chip

Etapele de design

Design and implement a simple unit permitting to speed up encryption with RC5-similar cipher with fixed key set on 8031 microcontroller. Unlike in the experiment 5, this time your unit has to be able to perform an encryption algorithm by itself, executing 32 rounds.....

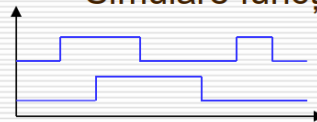
Specificații funcționare sistem

```
Library IEEE;
use ieee.std_logic_1164.all;
use ieee.std_logic_unsigned.all;

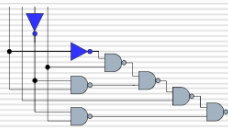
entity RCS_core is
    port
    (
        clock, reset, enor_decr: in std_logic;
        data_input: in std_logic_vector(31 downto 0);
        data_output: out std_logic_vector(31 downto 0);
        out_full: in std_logic;
        key_input: in std_logic_vector(31 downto 0);
        key_read: out std_logic;
    );
end RCS_core;
```

Descrierea folosind un limbaj de descriere hardware

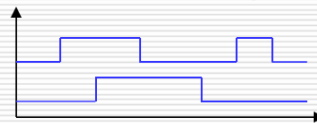
Simulare funcțională



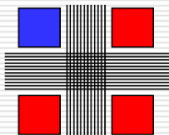
Sinteză



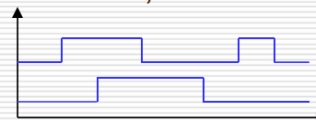
Simulare post-sinteză



Implementare



Simulare ținând cont de întârzieri



Configurare



Verificare/Testare pe platformă HW

