

stopwatch

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We used VHDL and FPGA circuit board, coolrunner II



The stopwatch is able to count from 00.00 seconds to 99.99 seconds



It uses button for start/stop



The numbers are displayed on the board's seven-segment display using its anodes and cathodes



There are four modules needed in order to get this stopwatch to work

introduction

Stopky (Top)

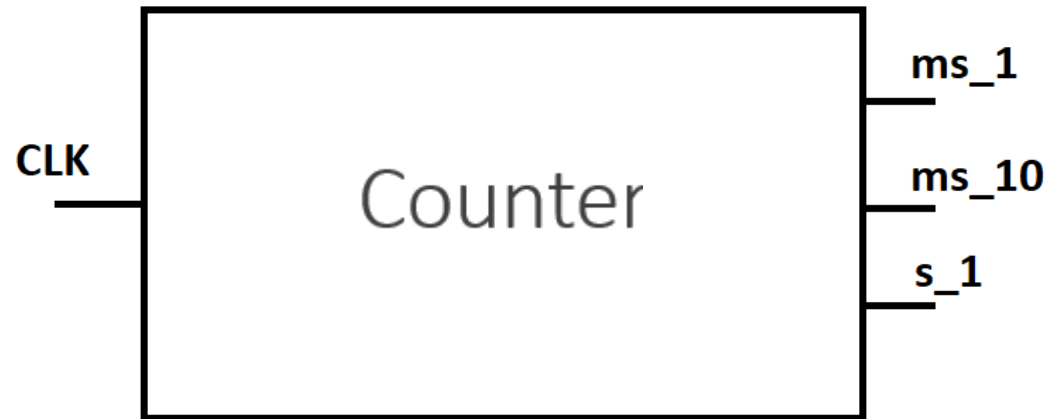


Counter

Time_core

Display_module

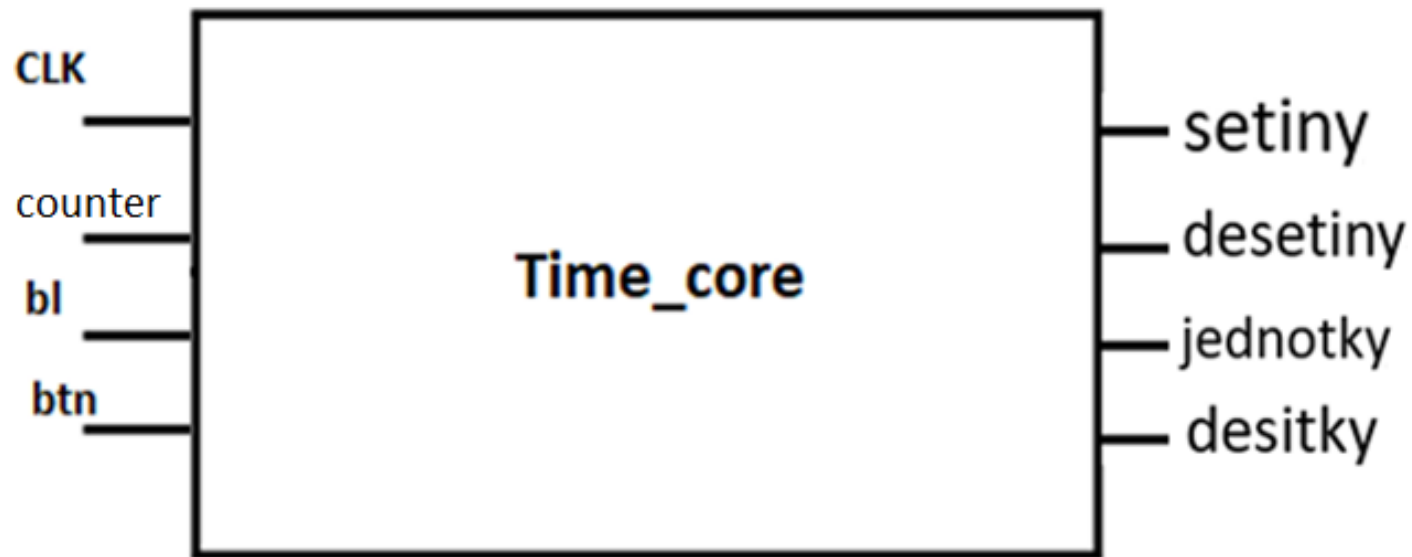
modules



Counter

Inputs : clk

Outputs: ms_1, ms_10, s_1



Time_core

in: CLK, Timer, bl, btn

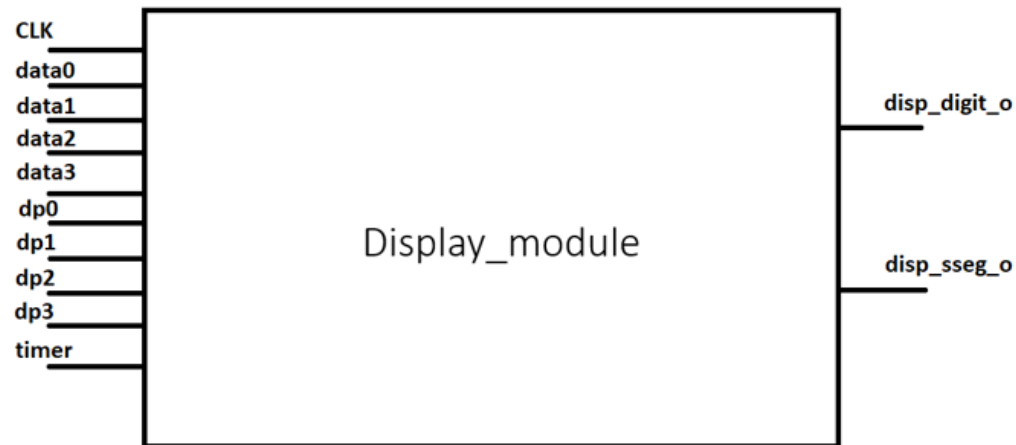
out: setiny, desetiny, jednotky,
desitky (4decade data for
displaying)

Display_module

This display module has two timers from the clock module, and two outputs for displaying digit and segment

It has four onebyte dataports, which allows us to connect logic levels

It can display numbers from 0 to 9, otherwise the segment will turn off

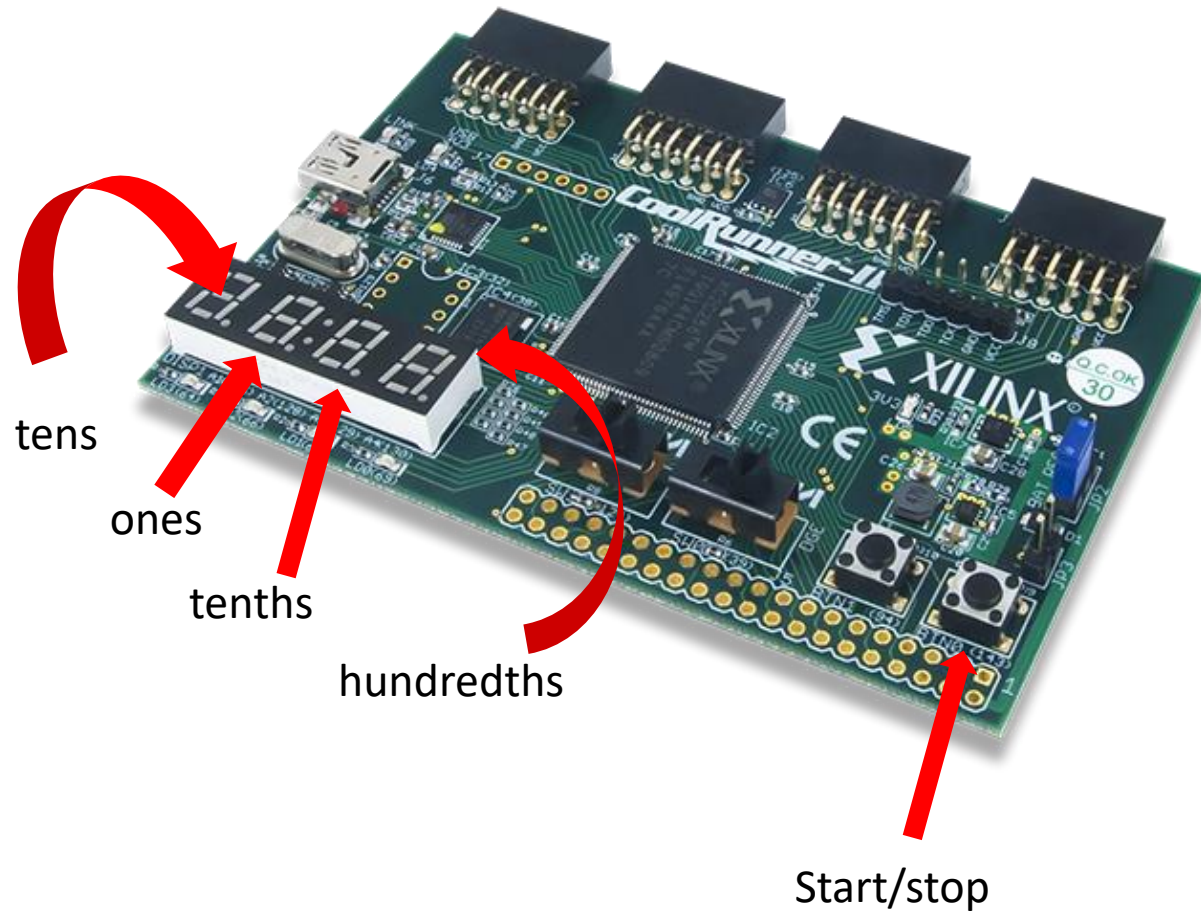


Stopky (top)



Constraints

NETting buttons, clk, 7segments and displaydigit to the ports on Coolrunner



Conclusion

We built a working stopwatch that counts from zero to 99:99

It can start/stop counting with button

In the future we should implement reset button

Thanks for your attention
