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-- Company:
-- Engineer:
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-- Create Date: 04.01.2022 11:58:00
-- Design Name:
-- Module Name: chrono_SW - Behavioral
-- Project Name:
-- Target Devices:
-- Tool Versions:
-- Description:
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-- Dependencies:
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-- Revision:
-- Revision 0.01 - File Created
-- Additional Comments:
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library IEEE;
use IEEE.STD_LOGIC_1164.ALL;
use IEEE.NUMERIC_STD.ALL;
```

```
entity chrono_SW is
    Port ( CLK : in STD_LOGIC;
           EN : in STD_LOGIC;
           CLR : in STD_LOGIC;
           S : out STD_LOGIC_VECTOR (6 downto 0);
           ENAN : out STD_LOGIC_VECTOR (3 downto 0));
end chrono_SW;
```

```
architecture Behavioral of chrono_SW is
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```
    signal EN_1ms: STD_LOGIC;
    signal EN_ticks: STD_LOGIC_VECTOR(7 downto 0);
    signal Temps: STD_LOGIC_VECTOR (31 downto 0);
    signal EN_SW: STD_LOGIC;
```

```
begin
```

```
    disp : entity work.Disp4D
        port map (A=>Temps(15 downto 12),
                  B=>Temps(19 downto 16),
                  C=>Temps(23 downto 20),
                  D=>Temps(27 downto 24),
                  CLK=>CLK,
                  S=>S,
                  ENAN=>ENAN);

    tick : entity work.TICK_1ms
        port map (CLK=>CLK, Tick=>EN_1ms);

    ms : entity work.Cnt0toN_EN generic map (N=>25)
        port map (CLK=>CLK, EN=>EN_SW, CLR=>CLR, Cout=>EN_ticks(0), Q=>Temps(3 downto 0));

    csu : entity work.Cnt0toN_EN generic map (N=>10)
        port map (CLK=>CLK, EN=>EN_ticks(0), CLR=>CLR, Cout=>EN_ticks(1), Q=>Temps(7 downto 4));

    csd : entity work.Cnt0toN_EN generic map (N=>6)
        port map (CLK=>CLK, EN=>EN_ticks(1), CLR=>CLR, Cout=>EN_ticks(2), Q=>Temps(11 downto 8));

    su : entity work.Cnt0toN_EN generic map (N=>10)
        port map (CLK=>CLK, EN=>EN_ticks(2), CLR=>CLR, Cout=>EN_ticks(3), Q=>Temps(15 downto 12));

    sd : entity work.Cnt0toN_EN generic map (N=>6)
        port map (CLK=>CLK, EN=>EN_ticks(3), CLR=>CLR, Cout=>EN_ticks(4), Q=>Temps(19 downto 16));

    mu : entity work.Cnt0toN_EN generic map (N=>10)
        port map (CLK=>CLK, EN=>EN_ticks(4), CLR=>CLR, Cout=>EN_ticks(5), Q=>Temps(23 downto 20));

    md : entity work.Cnt0toN_EN generic map (N=>6)
        port map (CLK=>CLK, EN=>EN_ticks(5), CLR=>CLR, Cout=>EN_ticks(6), Q=>Temps(27 downto 24));

    EN_SW <= EN and EN_1ms;
end Behavioral;
```