DTU Informatics
Department of Informatics and Mathematical Modelling

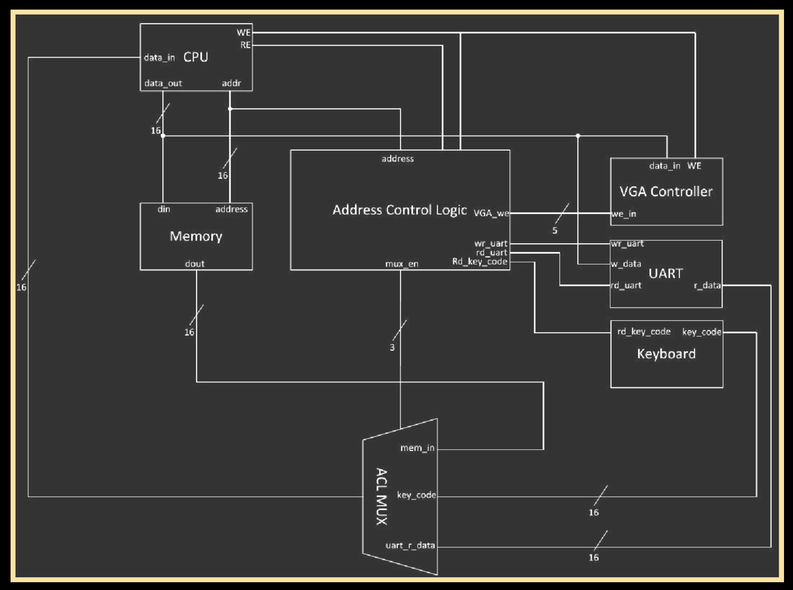
SPITFIRE
ALIEN RAMPAGE

VHDL

With our knowledge of VHDL, the necessary hardware components, to make Spitfire: Alien Rampage a reality, have been implemented over a 3 week period. This, resulting in a small LC3 embedded system, a small computer that is built inside the FPGA. Understanding how all wires should be connected and how the CPU talks to the hardware was a tough nut to crack .

C Logic

With the hardware we created, it has been possible to implement the logic of Spitfire: Alien Rampage on the LC3 computer using C. Limited memory space and restrictions on functionality in the LC3 libraries, has proven a challenge when designing the logic of our game.



About The Game

Spitfire: Alien Rampage is a side-scrolling 2D shooter game, inspired by original games like Scramble, R-type, and Nemesis.

The year is 1952 and the Earth is under heavy attack from hostile alien forces. Only one guy and his Spitfire fighterplane has the skills to maneuver from the incoming artillery and the accuracy to fight back the alien scum…that guy is you!

The pilot dodges alien monsters by swirling his aircraft up and down, shooting anything that crosses his path.

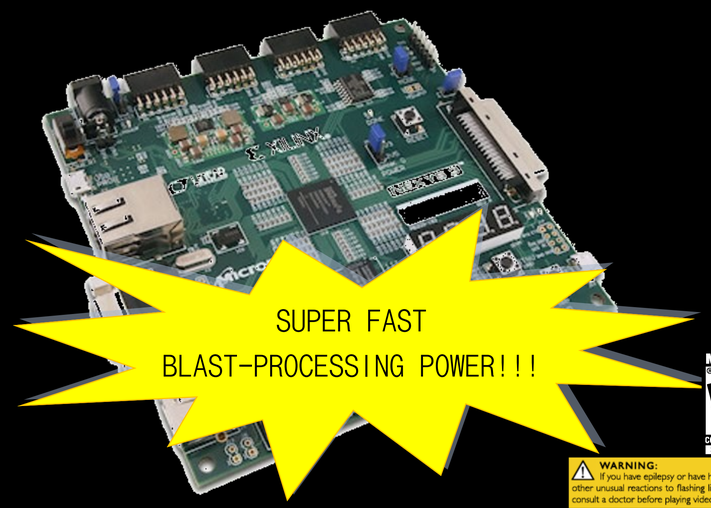
Armed with heavy rocket-launchers, your mission is to save the Earth from total annihalation, but be careful, you will not be able to take too much beating!

System Specifications

The game is run on an LC3 computer implemented on the Nexys3 board, which is based on the Xilinx Spartan-6 FPGA. A staggering 50MHz and 16Kb of fast block RAM lies at the core of this LC3 beast!!!

As the Nexys3 includes an FTDI FT232 USB-UART bridge and a Microchip PIC24FJ192 micro-controller, it allows for application communication using standard Windows COM-port commands along with providing utilization of Adept USB2 HID host capability

With cutting edge 640x480 resolution and 3bit VGA support, giving you 8 amazing colors, Spitfire: Alien Rampage delivers with razor sharp graphics that does not tire on the eyes. An advanced 3-button keyboard control setup, challenging ones competitive gaming reflexes, encourages this gem to be a perfect candidate for exciting tournament play.



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