BOMBERMAN

16 bit!

Features

This is a recreation of the classic Bomberman game written entirely in C. The game compiles to assembler which then runs on our own 16 bit processor written in VHDL. The game runs at 100 MHz on a Virtex-II Pro FPGA.

Requirements

- Virtex-II Pro Development System
- VGA Monitor with a minimum resolution of 640x480
- PS2 Keyboard
- .bit file located here:

The Hardware (VHDL)

The hardware consists of the LC3 computing core, which fetches its instructions from the 16 bit wide RAM. The address bus is then attatched to the graphics subsystem (VGA), a serial communications module (UART), a Keyboard Decoder (PS2) and 6 hardware timers.

These modules are controlled by individual chipselectors which in turn are controlled by each device´s address (e.g. 0xFE22)
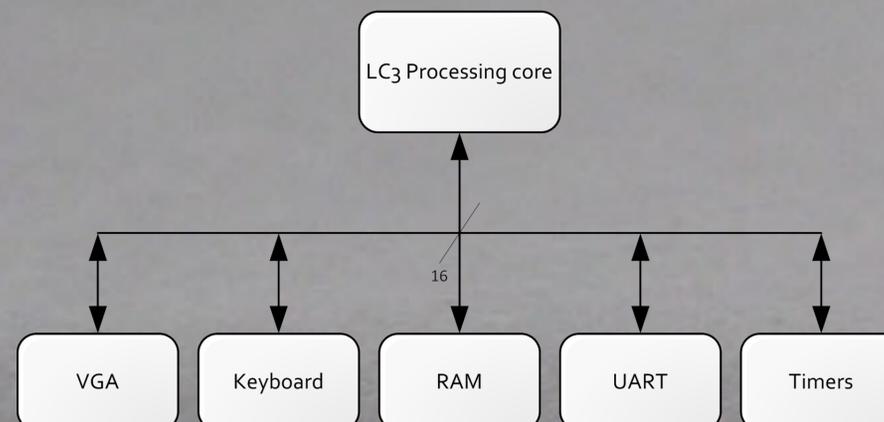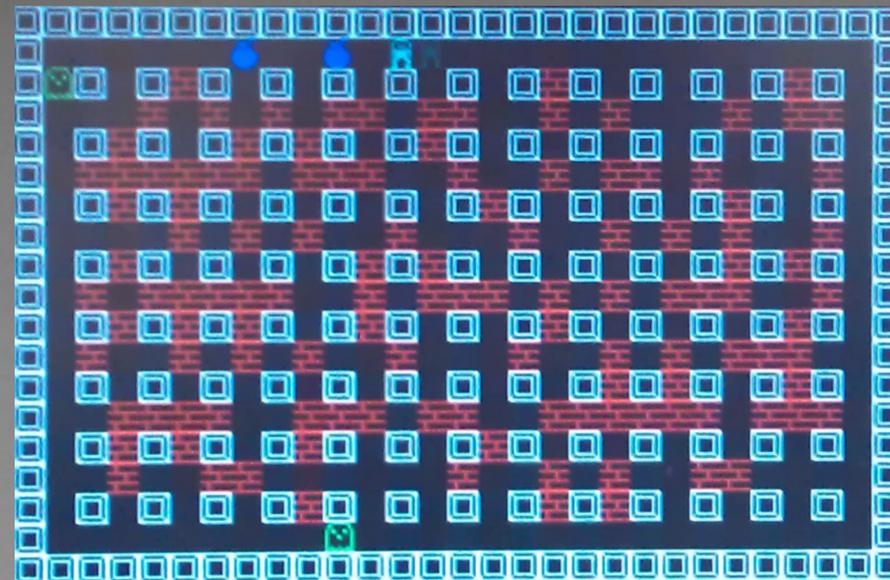
The Software (C)

The software manages everything regarding the gameplay. It sets up the playing area, polls the keyboard, communicates through UART and controls the opponents (Ghosts). Our systems uses the screen as a virtual playing board, moving each component one at a time and storing the placement in the video RAM.

LC3 Processing core

16

| VGA | Keyboard | RAM | UART | Timers |

S102669 - CHRISTIAN HOLM CHRISTIANSEN, S100247 - RASMUS RAAKJÆR VIND, S102017 - TUE MARQUARDSEN

Baggrund © boblille.dk 2012