DTU Informatik
## Institut for Informatik og Matematisk Modellering

MICE MAZE

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Two mice meet in an epic deathmatch, only one mouse is going home with the cheese! Who will it be?!

Game guide
5 game modes - one goal: get all the cheese!
This game is designed for two players.
player one(mus1) use WASD.
Player two(mus2) use arrow keys.
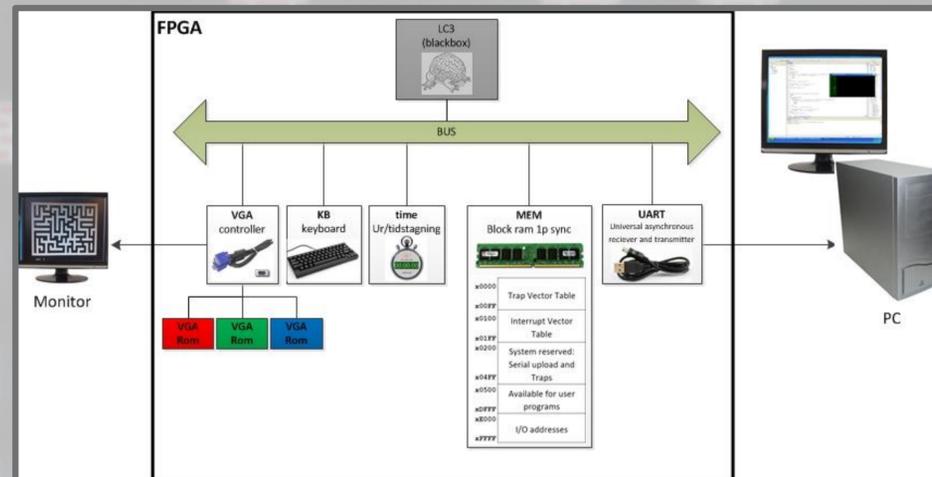
Component overview – overview over the different components that are used in this project.

The FPGA and the IO devices
We Create a new computer on the FPGA board by using the components we used in this course. We asemble those in Xilinx® the interface on every component is important because only one component at a time is allowed to transmit to the bus.

What we need on the FPGA board:
- **memory** we need a place to store the assembly code.
- **lc3(black box)** it desides how the assembly code should run.
- **keyboard** the players input into to program.
- **VGA** output to the monitor and definition of the grapics.
- **timer** a timer to control logic in the game with timings.
- **UART** the UART is essential when updateing the c code.

What we need in the c code:
- **game logic** Alot of game logic that uses all the IO devices.

The mice maze game – a look at one of the game modes, this one is the basic version where you need to collect 6 cheeses before the other player does .
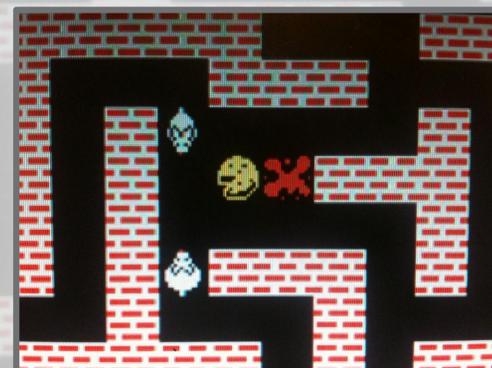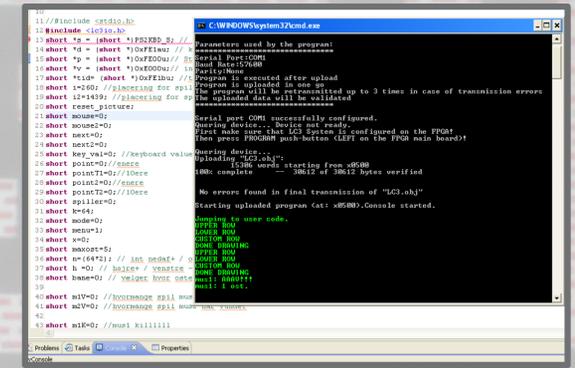

One on one – who will get the cheese?! The fat mouse or the thin mouse?

Tile list - Overview over the 3 tile roms that represent the program on the monitor. The 3 tile roms are red, green and blue (RGB)
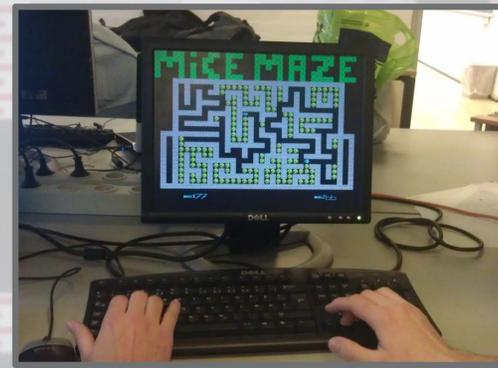
Two players in a match to get 100 cheeses before the other one gets them.

The console – in the console (the black window) you communicate with the FPGA through the UART with the PC. The code behind the console is some c code.