Tic-Tac-Toe

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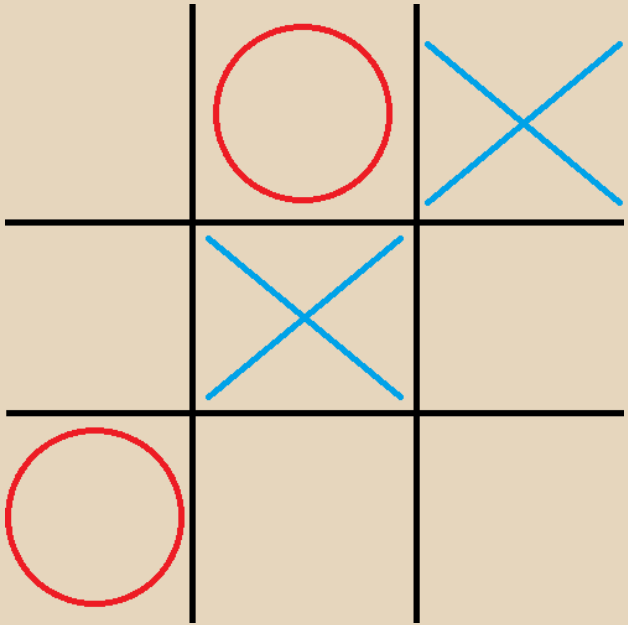
Introduction

- Typical 80’s game console
- 3x3 tiles
- A player wins if they have 3 symbols in a row
- Each player has a steering cross to move symbols



Problem Statement

Core problem:

Control content of a LCD display with user input.

More elaborate:

Construct a complete embedded system to play Tic-Tac-Toe

Remarks

- Paging on x-axis is difficult
- Reversed y- and x-axis
- Display data RAM never resets
- Write generic data would require an advanced algorithm
- Unfriendly LCD data sheet
- Not possible to use delays while debugging

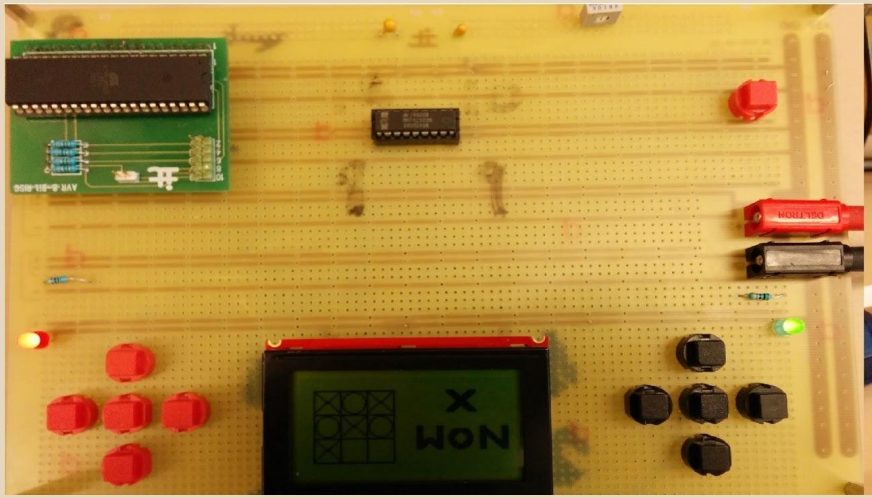
Components

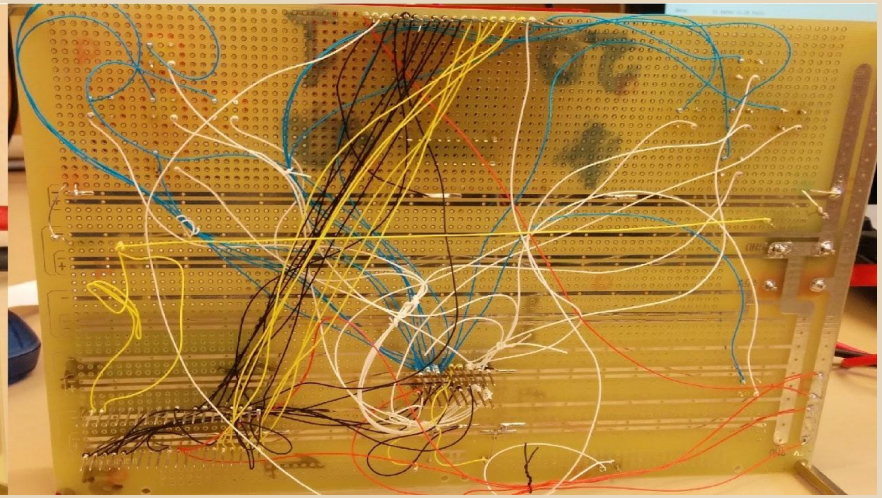
- ATMega16(L) processor
- Graphic LCD display
- 16 bit Key Encoder
- 11 Buttons
- Two diodes
- Circuit components (conductors, resistors etc)

The Software

- tic-tac-toe.c (main)
- LCD.h
- game.h
- board.h
- macro.h

Results





Questions?

No? Okay bye bye