

# Ersatz Systems Machine Cognition, LLC (ESMC)

Colorado Springs, Colorado

Incorporated 2012

IP Cross-licensed with CEC Services, LLC (CECS<sup>SM</sup>), founded 1985, incorporated 1995

# ESMC develops embedded software

- Services for software development
  - Exclusive to the bi-valent branches of math and computing
  - Flat rate quotes and 100% portable solutions
- Tools for hardware development
  - Computing in irrational number bases, such as phi  $\varphi$
  - Logical arithmetic in the 16 symmetrical and 240 non-symmetrical connectives
- Products for sale and license
  - Kanban cell as a universal computer
  - Bi-valent neurons of Kanban cells
  - Self-timing computer embedded in smallest FPGA

# ESMC Software development services

Analysis based only on bi-valent mathematics and computing

Mathematics:        Geometry and topology; Information theory;  
                          Game theory; Cryptology; Signal processing  
Computing:         Turing machine; Software; Hardware; Interface;  
                          Sequential state machine; Irrational radix arithmetic

## Design using the Software Development Methodology (SDM)

The finished user's manual is the target requirements document.

Project resources with testing are estimated to within 100 person hours as  
= 7 x ( time of analysis + design), meaning flat rate work quotes.

100% portable, scalable, useable, maintainable (pSUM) code in

Structured query language (SQL)

Ada2012 and VHSIC Hardware Description Language (VHDL)

True BASIC®

# ESMC Hardware development tools

Computations in irrational number bases such as:

$$\text{phi } \phi = ( 1 - ( 5 ^ 0.5)) / 2;$$

$$\text{Phi } \Phi = ( 1 + ( 5 ^ 0.5)) / 2$$

Use of the Standard Form Notation of minimal 1's notation:

$$4 = 101.01;$$

$$5 = 1000.0001;$$

$$4 + 5 = 9 = 10010.0101$$

Logical arithmetic in 256-connectives, as those defined by OR:

$$\text{NOT}( p ) = \text{NOT}( p \text{ OR } p); \text{NOT}( q ) = \text{NOT}( q \text{ OR } q)$$

$$p \text{ AND } q \quad \equiv ( \text{NOT}( ( \text{NOT}( p)) \text{ OR } ( \text{NOT}( q))))$$

$$p \text{ EQV } q \quad \equiv ( ( \text{NOT}( p \text{ OR } q)) \text{ OR } ( \text{NOT}( \text{NOT}( p) \text{ OR } \text{NOT}( q))))$$

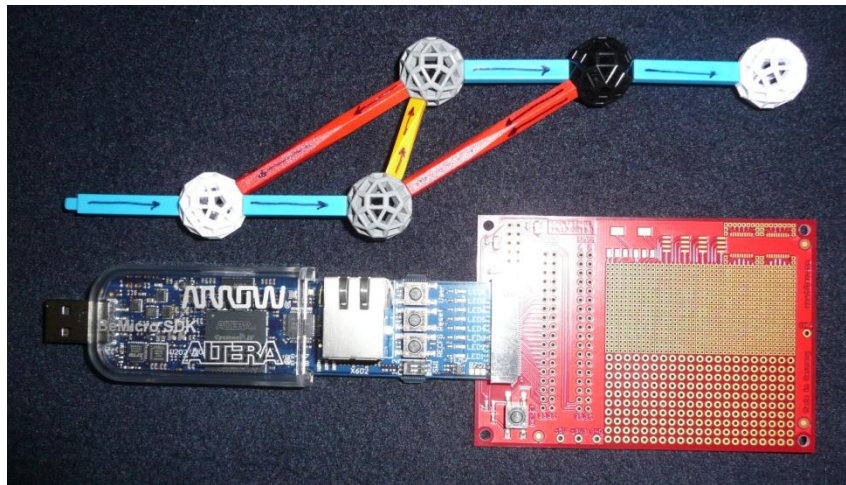
$$p \text{ IMP } q \quad \equiv ( \text{NOT}( ( \text{NOT}( p)) \text{ OR } q))$$

$$p \text{ IF } q \quad \equiv ( p \text{ OR } ( \text{NOT}( q)))$$

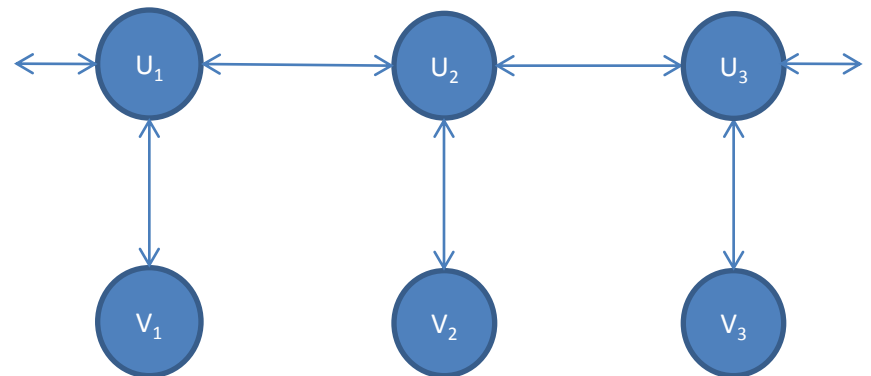
$$p \text{ RP } q \quad \equiv ( \text{NOT}( ( \text{NOT}( p)) \text{ OR } ( \text{NOT}( q))) \text{ OR } q)$$

# ESMC Products for sale and license

The Kanban cell as a universal computer; The self-timing computer as embedded in the smallest FPGA's



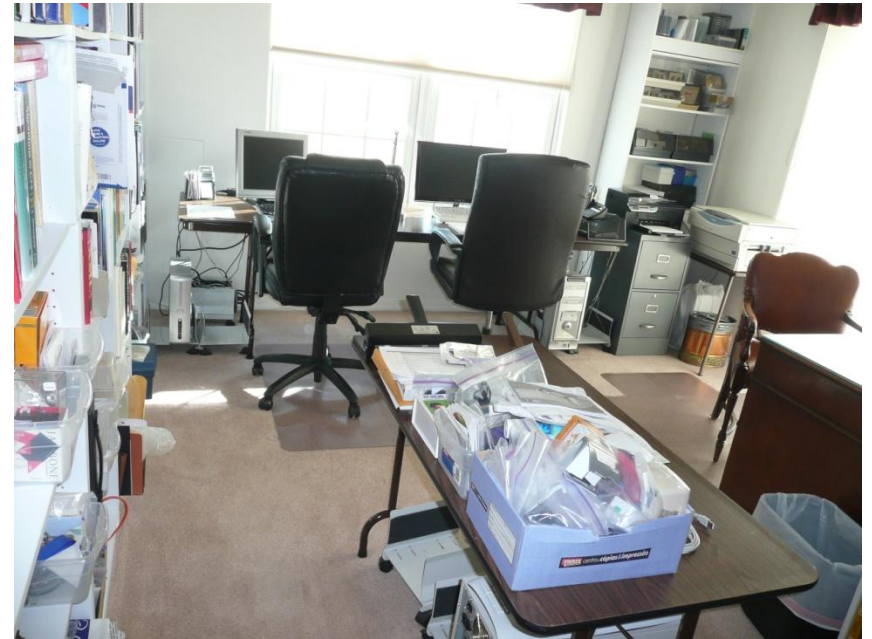
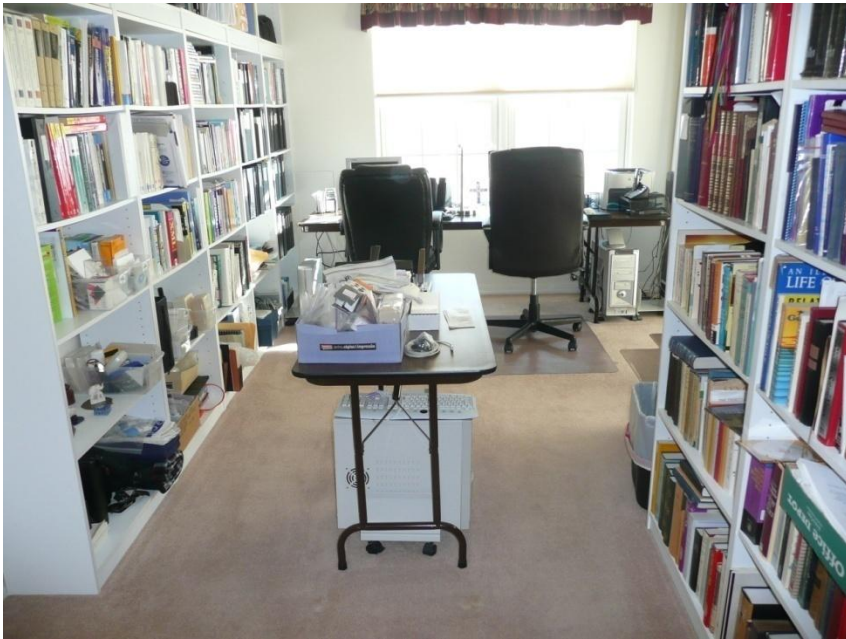
Bi-valent neurons of Kanban cells known as Bi-valent Neurons



# Savvy Mission Statement

Sell the company.

# Computer laboratory at principal office



# Corporate Staff

Zhang Wei  
Sales Administrator



Colin James III  
Director



Amporn Shields  
Fabrication Manager





# Corporation details

Corporate name: Ersatz Systems Machine Cognition, LLC (ESMC<sup>SM</sup>)  
Principal address: 3925 Elisa Ct, Colorado Springs CO 80904  
Date incorporated: 2012 February 6  
State incorporated: Colorado  
Corporation type: Limited Liability Corporation  
Director: Colin James III  
Federal EIN: 45-4457081  
D & B DUNS: 179259015  
Wholesale license: 01336550 (facsimile on request)  
IP Licensing: Cross-licensed with CEC Services, LLC (est. 1985)  
Business banking: Guaranty Bank and Trust Company, Colorado  
Web domains: ersatz-systems.com; ersatz-systems.net  
Employee number: 3 (includes one Chinese and one Thai speaking)