

Massachusetts Institute of Technology  
Department of Electrical Engineering and Computer Science  
6.111 - Introductory Digital Systems Laboratory

**Final Project Check Off Sheet**

**Project Title:** Multi-Core Beta Computer

**Student Names:** Christopher Celio, Matt Long

**TA Name:** Amir Hirsch

**TA Signature/Date:**

**Design**

Overall system block diagram

Block Diagrams, Timing Diagrams, Code for Matt

Block Diagrams, Timing Diagrams, Code for Chris

**Functionality**

Functional 2-stage Harvard-architected Beta processor module (Chris)

Memory manager that demonstrates simple multi-core processing (Chris)

Memory decoder to redirect memory writes/reads to/from the appropriate memory block based on address. Also, processes data to produce correct bit-widths as needed by each endpoint. (Matt)

Design a graphical protocol to control communication between the Beta cores and the display controller via video buffers. (Matt)

Display controller with two modes that display 1) the OS textual prompt, and 2) The Game of Life. (Matt)

Functional computer capable of demonstrating The Game of Life (Matt & Chris)

**Possible Extensions (i.e. optional)**

Visual representation of system performance statistics, e.g. game cycles per second, processor usage, cycles spent on memory access, etc. (Matt & Chris)