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

Final Project Check Off Sheet

Project Title: Audio-Driver Laser Tetris

Student Names: Cameron Lewis, Xin Sun

TA Name: Jae Lee

TA Signature/Date:

**Design**

☐ State transition diagrams, Block Diagrams, Code

**Audio (Cameron)**

☐ Interfaces with AC97 codec to loop back audio input

☐ Extracts average intensity of a given frequency range

☐ Detects audio “events” based on intensity/cycles since last detection

**Tetris (Xin)**

☐ Randomized drop piece

☐ Left, right, turn, drop

☐ Vanishing rows

☐ Dropping blocks above vanishing rows

☐ Score keeping

☐ Variable pace

☐ VGA display
Laser (Cameron)

☐ IR syncing/timing (flash LEDs corresponding to hsync/vsync on scan)
☐ Adapt 75 Hz display to laser scan rate (image feeder/raster image formatting)
☐ Modulate laser light accordingly to draw pixels (verify on logic analyzer or scope)
☐ Display the projected images in real-time on a remote surface

System Integration

☐ Tetris game control corresponds to user input
☐ Piece drop rate varied by music
☐ Laser and VGA display are synced
☐ Tetris read & write I/O is handled in a robust manner to avoid concurrency issues