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