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

Final Project Check Off Sheet

Project Title: Piano Dance Revolution
Student Names: Helen Liang, Wendi Li, David Meyer, Lucia Tian
TA Name: Theodoros Konstantakopoulos
TA Signature/Date:

Design

- ☐ State transition diagrams, Block Diagrams, Code for Projection Screen (Helen)
- ☐ State transition diagrams, Block Diagrams, Code for Position Detection
  Video input, frame buffer, interkit communication (David)
  Ankle band location detection and key identification (Wendi)
- ☐ State transition diagrams, Block Diagrams, Code for Audio Output (Lucia)
- ☐ State transition diagrams, Block Diagrams, Code for Game Mode (Team)

Functionality

- ☐ Display (Helen)
  - Generate 3-octave stacked piano image
  - Setup a 2-projector system to show image
- ☐ Position detection
  - Demonstrate color camera input on monitor (David)
  - Demonstrate communication between labkits (David)
  - Demonstrate detection of red ankle band (Wendi)
  - Demonstrate determination of key pressed based on input of ankle band location (Wendi)
- ☐ Audio system (Lucia)
  - Demonstrate all note audio outputs from frequency input
  - Demonstrate stored song playback
- ☐ Demonstrate operational piano and game mode (Team)
  - Demonstrate sound playback in reaction to step
  - Demonstrate display reaction to step
  - Demonstrate game mode and scoring display

Discussion

- ☐ 1. What are the important timing issues for audio and video?
- ☐ 2. What are the issues in color/position detection?
- ☐ 3. How can we extend the system to improve game play?