

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

Final Project Check Off Sheet

Project Title: Wireless Musical Electrocardiogram

Student Name: Amy Tang, Sinit Vitavasiri

TA Name: Jenny Lee

TA Signature/Date:

Design

State transition diagrams, Block Diagrams, Code for Wireless Sender and Receiver module. (Amy)

State transition diagrams, Block Diagrams, Code for Noise Filter module, LED Generator module, Heart-Beat and Rate Detector Module, and Abnormality Detector Module. (Sinit)

State transition diagrams, Block Diagrams, Code for Tempo module, Music Output module. (Both)

Functionality

Demonstrate correct EKG waves, wireless transmission working. (Amy)

Demonstrate correct noise filtering on received signal, heart beat detection displayed on LEDs, abnormality detection with output LEDs working. (Sinit)

Demonstrate outputting of temporally changed music working. (Both)

Demonstrate all four modes: monitor, heart-rate & beats, music and abnormality working. (Both)

Discussion

How was abnormality detected? What algorithm was used to change tempo for the music? How does binary to decimal conversion work? What was the most challenging part of this project?