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Course: ECE445L

A) ***Objectives*:**

1. In a few sentences, describe the purpose of the lab.

Purpose is to design an embedded system that can fit in an enclosure. We are building the Tpod, which is an Ipod like music player that stores song in an SD card, plays songs through headphones, and has touch display and can send messages over wifi. This lab builds the PCB for the system

B) ***Hardware Design Deliverables:***

1. N/A

C) ***Software Design Deliverables:***

1. I have pushed my project to GitHub for grading (Yes/No):
2. Deliverable 1: System design diagram of the modules created.

D) ***General Deliverables:***

1. Deliverable 2: Software Tests
2. Deliverable 3: Hardware Tests

Tested all the board voltages with a multimeter to make sure power worked.

Tested audio software test on PCB to make sure headphone jack worked.

Tested wifi communication on PCB to make sure it worked same as breakboard.

Tested potentiometer to make sure it worked for ADC on PCB.

Multiple iterations of enclosure to make sure PCB fits and buttons can be pressed

1. Deliverable 4: Power consumption

Launchpad Base – 86 mA \* 5V = 430 mW

Screen - 25 mA active \* 3.3V = 75 mW

Music – 14-144 mA volume range \* 5V = 70-720 mW

ESP –78 mA active \* 3.3V = 257.4 mW active

Total – 1.482W when music active, .832.4 W when music passive

1. Deliverable 5 (10pt EC): Characterization of the system N/A

E) ***Analysis and Discussion Questions:***

1. N/A