## Project Requirements Document:

1. Overview
   1. Objectives: Why are we doing this project? What is the purpose?

Purpose is to design an embedded system that can fit in an enclosure. Test interactions of multiple HW and software modules

* 1. Interactions with Existing Systems: Include this if you are connecting to another board

Will connect to another board to pass messages using TCP sockets with the ESP2866

* 1. Terminology: Define domain specific terms used in the document.

Tpod – name of the embedded systems device

ILI9341 – name of the display

1. Functional Description
   1. Functionality: What will the system do precisely?

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.

* 1. Performance: Define the measures and describe how they will be determined.

Performance well if song can be played in real time, latency for display interactions is under 0.2 seconds, wifi can send messages through the server within 10 seconds.

* 1. Usability: Describe the interfaces. Be quantitative if possible

Wifi interface will interact with server to handle message passing.

Menu interface to navigate features across the Tpod

5 button interface to navigate the menu

Possible touch screen interface to navigate menu

SD card interface to store songs to play

Audio interface with DAC, amp, and headphone jack to play the stored songs

1. Deliverables
   1. Roles and Responsibilities: Who will do what? What is the purpose?

Prithvi does PCB and enclosure

Wyatt does music, sound and buttons

Siddhant does ILI9341 display drivers and SD card interface

Joon does wifi communication protocols and message server

* 1. Reports: Simply state the reports for Labs 7 and 11 will be written

Lab 7 report is written

* 1. Outcomes: What are the deliverables? How do we know when it is done?

Project is done when each interface is completed and works concurrently with the menu. It is done when each module can perform together and still meet the end user latency requirements