PROJECT SUMMARY

Summary

Based on the project requirements, we as a team brainstormed the idea of implementing a noncontact temperature sensor following the product development the process described below.

We scheduled weekly meetings and created the timeline described below based on the available time duration. From this, product requirements were converted into hardware and software requirements. During meetings, everyone was actively involved in selecting the parts and components of the system. In order for the project to be completed on time, all of the modules had to be ordered and integrated together in a mechanical shell, along with testing the code for each block. Based on the firmware requirements, the required pin connections were provided along with net names for designing the baseboard schematics. After completing the final firmware code, product testing was performed, which included black box testing and system verification. The key lesson learned from this project as a team is the importance of team collaboration, how to assist your team members when they need help or clarification, and how to plan ahead and effectively submit all required materials by the deadline.

START DATE:	**4/1/2021**		
ACTIVITY	**START**	**END**	**NOTES**
Project Start	4/4/2021		
Product requirements gathering	4/5/2021	4/5/2021	Writing PRS (product requirement specification) document
Hardware requirements gathering	4/6/2021	4/6/2021	Writing HRS (hardware requirement specification) document
Software requirements gathering	4/7/2021	4/7/2021	Writing PRS (software requirement specification) document
All requirements review and sign off	4/8/2021	4/8/2021	Review of PRS, HRS, and SRS documents and sign-off
Parts/Components selection and procurement	4/9/2021	4/9/2021	Identifying the core modules like the Microcontroller platform, touch display module, thermal sensor, motion sensor, and speaker based on the HRS and SRS documents
Schematic design	4/10/2021	4/16/2021	Based PCB schematic to integrate all modules
Firmware flow chart	4/17/2021	4/18/2021	System firmware flow chart

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Individual module firmware development	4/18/2021	4/25/2021	Touch display, SD Storage, Motion Sensor, IR Temperature Sensor, Audio System
Schematic reviews	4/17/2021	4/20/2021	Base PCB schematic review, change list and correction
PCB layout design	4/21/2021	4/25/2021	Base PCB layout design, review and correction
PCB Gerber files release, DFA, and DFM analysis	4/25/2021	4/26/2021	PCB Gerber files release, DFA, and DFM analysis
Module level testing	4/27/2021	5/4/2021	Each sensor module firmware tested and verified
Integrated code development	5/5/2021	5/15/2021	All sensor firmware codes integrated code development
Product Testing	5/15/2021	5/22/2021	Black box, system level verification, and Bug Fix
Project report	5/23/2021	5/25/2021	Final project report, design artifacts, and project summary document
Final demo	5/26/2021	5/24/2021	Product demo video capture, and final presentation ppt predation