## **Non-contact Temperature Scanner Project Summary**

Adam Farhat, Darius Salagean and Yovany Lopez

The goal of this project was to create a system that could calculate and display a human body temperature without requiring contact with the user. The system was to be self-contained and save data for a minimum period of 24 hours. The system also needed to be intuitive and simple to use without direct instruction. Along with these requirements, the group also decided that the system needed to be able to display both Celsius and Fahrenheit as well as respond quickly to the user, within 5 to 10 seconds.

The development of the system was broken up into three parts: sensors, microcontroller, and data transmission. Each individual was responsible for designing and implementing one of these three systems. The first part of the system was centered around each sensor contained within the device. These sensors include the temperature sensor, the motion sensor, and the distance sensor. The second part of the system was centered around the LCD screen, microcontroller, and power system. The microcontroller was responsible for taking in the measurements from every sensor on the Smiley Scanner and outputting to the display. Two 9v batteries were used for the power system. Development and design of the PCB was also tackled within this part. The last part of the system was centered around saving the system's data. A radio frequency transmitter was decided to be used. Code was written for a separate microcontroller which would be plugged into a computer. A Python program would take the readings from the receiver and organize them into an excel spreadsheet.

After the completion of the Smiley Scanner project, a few places we have considered making improvements were towards the power system and enclosure design. Rechargeable batteries would make the system last longer and not require the system to be opened up when power runs out. The text on the enclosure can be improved to be more reliable using different colors, as well as adding a feature on the backing to allow for easier wall mounting capabilities would be beneficial to future designs.

Our biggest takeaway was to be more mindful of errors in 3D printing. When designing the enclosure there were some features that did not have enough clearance and parts did not fit smoothly into designated spaces. Planning for more clearance will help prevent design errors.

PROJECT TITLE		Contactless Temperature Sensor					COMPANY NAME	ECE 342 Ju	nior Design II								
PROJECT MANAGER		Adam Farhat, Yovany Lopez, Darius Salagean					DATE			3/3/22							
																	_
	7. OV 7. T	-				PCT OF TASK	NOTE A	342 Design	WEEKA	HITTY A	METTY F	342 Build	1477777	HITTYA		342 Pre	sent
WEB NUMBER	TASK TITLE	TASK OWNER	START DATE	DUEDATE	DURATION	COMPLETE	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEKS	WEEK 6	WEEK /	WEEK 8	WL:		WEEK 10
	Perfect telefation						MIWRF	MIWRF	мтук	PMIWK	FMIWR	FMIWR	FMIWRI	- MIWRF	MIT	NRFI	M I W R F
1	Project initiation																
1.1	Project Charter	Given	1/6/22	1/6/22	1	100%		_									
1.2	Requirements	Everyone	1/10/22	1/10/22	1	100%											
1.3	Design Research	Everyone	1/10/22	1/14/22	5	100%											
2	Block Definition																
2.1	Block Diagram and Interface Definitions Draft	Everyone	1/13/22	1/14/22	4	100%											
2.2	Part list	Everyone	1/13/22	1/18/22	3	100%											
2.3	Budget	Everyone	1/13/22	1/18/22	6	100%											
2.4	Ordering of Parts	Adam F	1/18/22	1/21/22	7	100%											
3	Initial Prototyping																
3.1	Temperature Sensor Building	Yovany H	1/26/22	1/28/22	3	100%											
3.1.1	Temperature Sensor Testing	Yovany H	1/27/22	1/28/22	2	100%											
3.2	Motion Sensor Building	Yovany H	1/28/22	2/1/22	5	100%											
3.2.1	Motion Sensor Testing	Yovany H	2/1/22	2/2/22	2	100%											
3.3	Power Supply Bulding	Yovany H	2/2/22	2/4/22	3	100%											
331	Power Supply Testing	Yovany H	2/3/22	2/4/22	2	100%											
3.4	Receiver/Transmitter Building	Adam F	1/26/22	1/28/22	3	100%											
3.4.1	Receiver/Transmitter Code Creation	Adam F	1/26/22	1/31/22	4	100%											
3.4.2	Receiver/Transmitter Testing	Adam F	1/31/22	2/2/22	3	100%											
3.5	Audio Feedback Bulding	Adam F	2/1/22	2/4/22	3	100%											
3.5.1	Audio Feedback Testing	Adam F	2/3/22	2/4/22	2	100%											
3.6	Display Bulding	Darius S	1/26/22	1/28/22	3	100%											
3.6.1	Display Testing	Darius S	1/28/22	1/31/22	4	100%											
3.7	Microprocessor Code Creation	Darius S	1/31/22	2/2/22	3												
371	Microprocessor Testing	Darius S	2/2/22	2/3/22	3	100%											
3.8	Bread Board Prototype Creation	Everyone	2/3/22	2/9/22	6	100%											
3.8.1	Bread Board Prototype Testing	Everyone	2/9/22	2/11/22	3												
4	Final Protovping																
41	PCB Schematic Creation	Evening	2/14/22	2/16/22	2	100%											
411	PCB Design	Veryone Veryone	2/14/22	2/10/22	2	100%											
412	PCB Ordering	Vovers M	2/10/22	2/10/22	1	100%											
42	Enclosure Design	Darius S	2/10/22	2/16/22	3	100%											
4.2.1	Enclosure Creation	Darius S	2/16/22	2/18/22	3												
4.3	Final Prototype Creation	Everyone	2/21/22	2/23/22	3	100%											
4.3.1	Final Prototype testing	Everyone	2/23/22	2/25/22	3	100%											
5	Project Presentation																
51	Poster Creation	Everyone	2/28/22	3/2/22	3	100%											
5.2	Report	Everyone	3/2/22	3/4/22	3	100%											
5.3	Presentation Preparation	Everyone	3/7/22	3/9/22	3	100%											
			0///24	3/ 9/ 66	-												

## 342 GANTT CHART