Sound Sensitivity Traffic 3

Overview:

System based off of the sound(dB) in an ambient setting. I.e the tracks the sounds across the day and finds the best times to (study). For example the sensor reads 60dB throughout the day but at 4 PM it reaches a low of 50dB. The website would show the user that 4 PM would be the ideal time to study. AVG's and other statistics could be displayed to the user as well.

Project Features List:

- Most Quiet Time at Location

This feature of our software displays the user specific times during the open hours of a location on campus that we have tested sound(db) measures thoroughly and that the sound(db) tested is at its lowest for the day. The user will promptly pick the location from our interface and then will be shown a time interval in graph format.

- Loudest Time at Location

This feature of our software displays the user specific times during the open hours of a location on campus that we have tested sound(db) measures thoroughly and that the sound(db) tested is at its highest for the day. The user will promptly pick the location from our interface and then will be shown a time interval in graph format.

- Display Data for Specific Time and Location

This feature of our software promptly asks the user for a location and a specific time interval that they want to see displayed. We will show the user in graph format the sound(db) measures of that location during the given time interval.

- Display all Data at Specific Location

This feature of our software will have the user pick a specific location in our interface and then we will display all of the given sound(db) data in graph format to the user.

- Average Sound(db) Reading at Specific Location

This feature of our software will promptly ask the user to choose a location from our interface and we will display the average sound(db) of that location.

Requirements:

Functional Requirements

- The user is displayed a graph of the most quiet time interval in a given location
- The user is displayed a graph of the loudest time interval in a given location
- The user is displayed a graph of the sound(db) data for a time interval and location of their choosing
- The user is displayed a graph of all sound(db) data in a location of their choosing
- The user is displayed the average sound(db) data in a location of their choosing

Non-Functional Requirements

- The sensors that measure sound(db) need to be working correctly and record data
- The data recorded from the sensor needs to be passed into our database
- The database needs to parse all of the sound(db) data and correctly find a time interval for the lowest sound(db)
- The database needs to parse all of the sound(db) data and correctly find a time interval for the highest sound(db)
- The database needs to parse all of the sound(db) data and correctly find the average sound(db) calculation
- The database needs to take user input and correctly parse the data and return the sound(db) interval for the given user location and time interval

Project Plan:

See Project

Project Name - Sound Sensing at CU				2019												2009
				OCT				NOV				DEC				
Deliverables		**Owner**	**Duration**	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	
Planning phase			**3 w**													
	Task I	All	1 w													
	Task II	All	1 w													
	Task III	All	1 w													
Team phase			**2 w**													
	Task I	Aidan O'Connor ;	1 w													
	Task II	Bennett Miller, K	1 w													
Prototype phase			**2 w**													
	Task I	All	1 w													
	Task II	All	1 w													
Implementation phase/ Debug			**2 w**													
	Task I	All	1 w													
	Task II- Debug	Bennett Miller- H	1 w													
Closure phase			**1 w**													
	Task I	All	1 w													
Annotations				Planning Week 1	Planning Week 2	Planning Week 3	Team Phase 1	Team Phase 2	Prototype Phase	Prototype Phase	Implementation F	Finalize Product/	Closure Phase			
				Discuss Final Pr	Finalize on which	Discuss Schedul	Order Parts Req	Begin Testing Pa	Discuss Final Pr	Discuss Final Pr	Hardware and St	Finalize Product	Turn in final documents			

Group Members:	Aidan O'Connor	Bennett Miller	Kolin Newby	Ria Thakkar	Sam Sly	Yi Wu	
Week 1:	Come up with 1 p	Come up with 1 p	Come up with 1 p	Come up with 1 p	Come up with 1 p	Come up with 1 project idea each	
Week 2:	Vote on Project I	Vote on Project I	Vote on Project I	Vote on Project I	Vote on Project I	Vote on Project Ideas	
Week 3:	Chosen Role: Sc	Chosen Role: Ha	Chosen Role: So	Chosen Role: Sc	Chosen Role: So	Chosen Role: Software- Hardware/Software Integration	
Week 4:	Order Parts	Find best sound	Begin Database	Begin Database	Order Parts	Begin Database/ Python Integration	
Week 5:	Write Basic Pyth	Figure out how t	Begin Writing Da	Begin Writing Da	Begin Writing Da	Take data to display on website(rough form)	
Week 6:	Show final displa	Finalize data out	Figure out how to	Figure out how t	Make website dit	Figure out best way to display data	
Week 7:	Debug Graphs/ C	Debug Final Hard	Debug arduino/R	Debug Database	Debug Database	Debug Database backend/frontend	
Week 8:	Verify Graphs Di	Verify hardware (	Verify Backend w	Verify Backend v	Verify Frontend I	Verify everything works as intended together	
Week 9:	Make sure my pi	Make sure my pa	Make sure my pa	Make sure my pa	Make sure my pa	Make sure my part of project is complete	
Week 10:	Turn in docs	Turn in docs	Turn in docs	Turn in docs	Turn in docs	Turn in docs	

** Note that dates correspond to Friday of this week. Meaning that everything needs to be done by Friday at the latest