Design 2 Bi-Weekly Report 2

Smart Vibes

February 6, 2017

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1 These Past Two Weeks

In summary, these past two weeks were spent working on the Adafruit Feather that Jordan ordered, revising the BOM to make sure all the components are compatible with each other, and revising the functional diagram to more accurately depict our design.

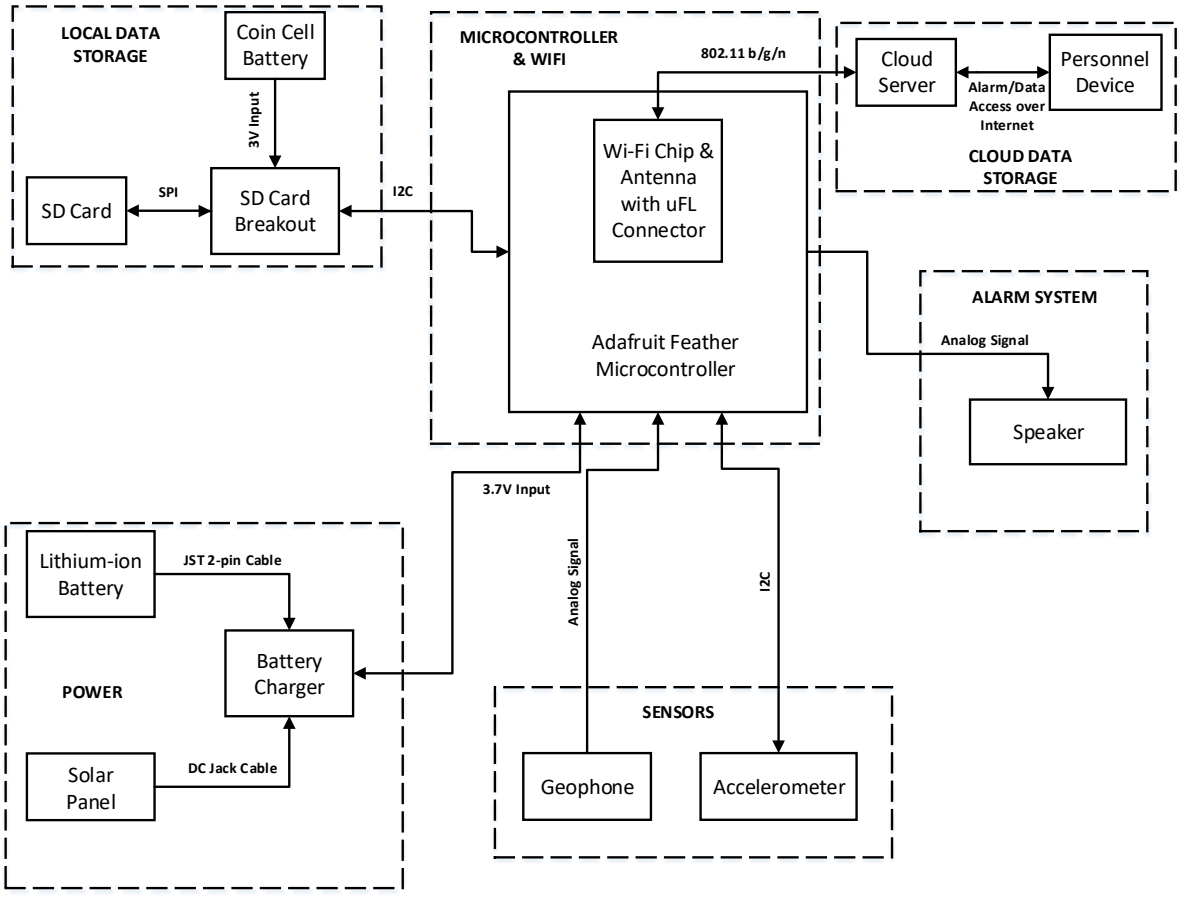

Figure 1: Functional diagram for the vibration sensor designed by Smart Vibes. This latest revision highlights the main subsystems of the sensor and depicts the connection between all the components.

Vendor ID	Part Number	Quantity	Price/Unit	Part Description	Cost	Vendor	Datasheet
1120	LSM303	2	$14.95	Accelerometer	$29.90	Adafruit	PDF
2693	N.A.	2	$19.95	16GB MicroSD Card	$39.90	Adafruit	Website
2922	N.A.	2	$8.95	SD Card Breakout with Coin Cell Battery	$17.90	Adafruit	PDF
3061	N.A.	1	$34.95	Adafruit Feather	$34.95	Adafruit	PDF
353	N.A.	2	$29.50	6600 mAh 3.7V Lithium-Ion Battery	$59.00	Adafruit	PDF
2747	N.A.	1	$88.95	Solar Panel	$88.95	Adafruit	Website
579-MCP73871-2CCI/ML	MCP73871-2CCI/ML	1	$1.94	Battery Charger	$1.94	Mouser	PDF
N.A.	474-SEN-11744	1	$61.25	Geophone	$61.25	Mouser	PDF
39RL33	N.A.	1	$34.75	White Nylon Filament for 3-D Printer	$34.75	Grainger	Website
2788	N.A.	1	$0.95	DC Jack Adapter Cable for Battery Charger	$0.95	Adafruit	Website
581-TAP475K016SCS	TAP475K016SCS	1	$0.67	Tantalum Capacitor for Battery Charger	$0.67	Mouser	PDF
261	N.A.	1	$0.75	JST 2-pin Cable for Battery Charger	$0.75	Adafruit	Website
PMT-37N28AL01-04-ND	PMT-37N28AL01-04	1	$8.57	Speaker	$8.57	Digi-Key	PDF
2308	N.A.	1	$2.50	Antenna with uFL Connector	$2.50	Adafruit	Website
Total Cost					$381.98		

Table 1: Bill of materials for the vibration sensor designed by Smart Vibes. This latest revision ensures compatibility between all the components.

2 Responsibilities

The responsibilities of each group member has not changed since the last report. The distribution of work in Smart Vibes is as follows:

Joshua Watkins - *Mechanical/Design* - Responsibilities include designing an enclosure for the sensors that will maximize the sensor's capabilities while minimizing cost.

Marc-Edwin Rigaud - *Programming* - Responsibility is to program the microcontroller, and arrange website and cloud-based services.

Jordan Faison - *Electrical/Design/Programming* - Responsibilities will be assisting in design from an electrical aspect, as well as software development.

Ezequiel Juarez G. - *Electrical/Programming* - Responsibilities include assembling the vibration sensor system using all of the electronics at our disposal and aiding with the programming/debugging of software.