



Stakeholder Requirements		Weight	IMU	GPS	Storage Capacity	Battery Capacity	Size	Sample Rate	Cost	Connectivity	Thetis	Lowell	iPhone
SR 01	The system shall be able to record acceleration, rotation rate, orientation, and position	1	8	8	0	0	0	2	0	0	5	3	5
SR 02	The system shall be able to fit into a small IP67-rated, or better, enclosure	1	0	5	5	8	8	0	5	2	5	3	4
SR 03	The system shall be able to be powered by battery for more than 4 hours continuously	1	3	5	0	8	5	3	2	3	5	5	5
SR 04	The system shall be cheaper than \$200 per unit	1	5	5	2	5	5	0	8	3	5	1	1
SR 05	The system shall use components that are readily available COTS	1	5	5	3	3	5	0	8	5	5	3	1
SR 06	The system designs shall be open source for modification by students	1	3	3	3	1	5	0	2	3	5	1	1
SR 07	The system shall communicate intra-device using known IEEE standards (e.g. SPI/I2C/UART/etc)	1	8	8	8	0	0	1	0	3	5	5	5
SR 08	The system shall communicate extra-device using WiFi and USB	1	0	0	0	2	2	0	1	8	5	3	5
SR 09	They system shall have enough on-board storage for 4 hours of continuously logging at 64 Hz	1	3	1	8	0	0	8	1	0	5	5	5
SR 10	Thetis Revision G shall be able to communicate extra-device using CANbus	1	0	0	0	0	2	0	3	8	5	-	-
SR 11	The system shall have redundant storage for device and communication events	1	0	0	8	0	0	2	3	2	5	1	5
Importance Weight			35	40	37	27	32	16	33	37			
Relative Importance			0.14	0.16	0.14	0.11	0.12	0.06	0.13	0.14			
Measurement Unit			DOF	Meters, COE	GB	Wh	Cu. cm	Hertz	Dollars US	Ways			
Target Value			9	3	64	1.5	73.7	64	\$ 200.00	3			
Actual Value			9	3	64	1.5	73.7	100	\$ 150.00	3			
Lowell Instrument			6	-	64	1.5	122	64	\$ 900.00	1			
iPhone			9	3	128	6.7	63.8	100	\$ 649.00	2			