

Project Details – Raspberry Pi and Python

Record Data from sensors interfaced to Raspberry Pi at the following sampling rates

Temperature sensor	2 second	Celsius
Light sensor	1 second	Number between 0-1023
Sonic (Distance)	0.1 seconds	cm
3-axis accl	0.1 seconds	Meter / second ^ 2
9-DoF IMU (only for bonus points)	0.1 seconds	Record mag and rotation
Time	For every sensor sample recorded	Current date and time (upto ms resolution)
Button	You can choose depending on the functionality explained further to experience non delay response	No need to record data. Use for mode change

Mode of operations:

- Push button will be used to select “mode of operation”
 - Regular operate mode, Record Data mode, Only Record Data

Mode	Invoked by / Stopped by	Indicated by	operation
Regular operation	When program runs first	LED OFF	Explained in next slides
Record Data	Push button pressed and held for 2 seconds /	LED ON	Records the data from the sensors stated in slides 3 at the rate stated. Regular operation still takes place during record data mode.
Only Record Data	Push button pressed and held for 5 seconds	LED blinking (2 Hz)	Only recording, No regular operation