

「天水圍新市鎮的發展」實地考察(簡短路程版) — 測量和記錄環境數據

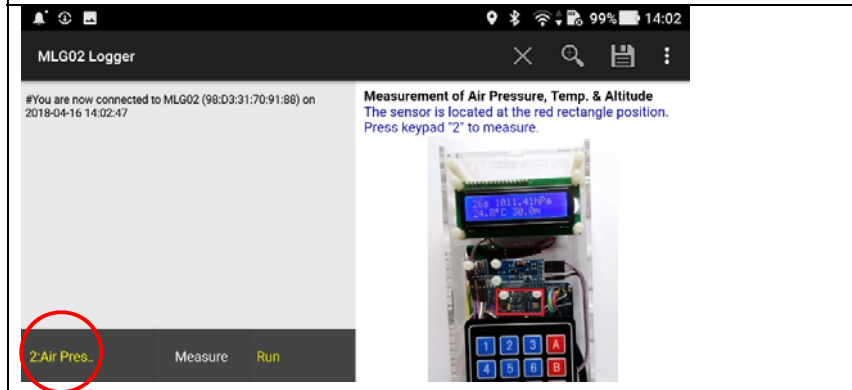
Date: 3/7/2018 (星期二)

Time: 3:00 – 3:30 pm

Location: 天水圍

Routes and check points: (1) South East route: 經(a) 天耀站, (b) 天水圍站 至 (c) 天耀足球場. (2) South route: 經(a)天耀站, (b) 天盛商場 至 (c) 屏山聚星路 1 號(屏山文物徑). (3) West route: 經(a) 天耀廣場停車場, (b) 天水圍消防局至 (c) 天河路遊樂場. (4) North route: 經(a) 天耀邨耀盛樓巴士站, (b) 裘錦秋中學(元朗) 至 (c) 天水圍運動場.

Measurement by using the App

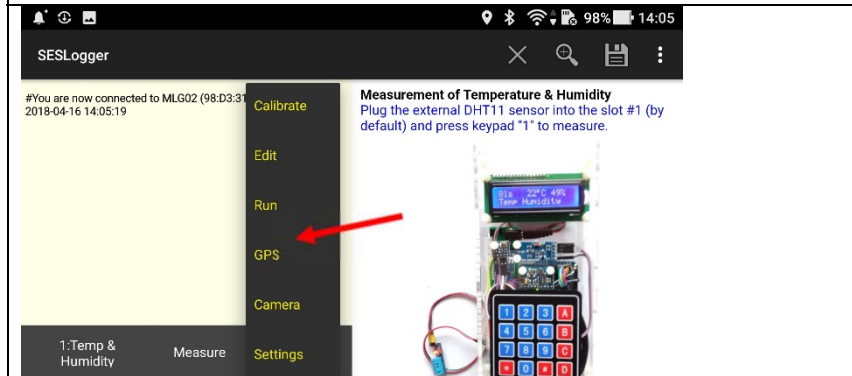


1. Click the “item” (first grid from left) at the bottom left menu bar.

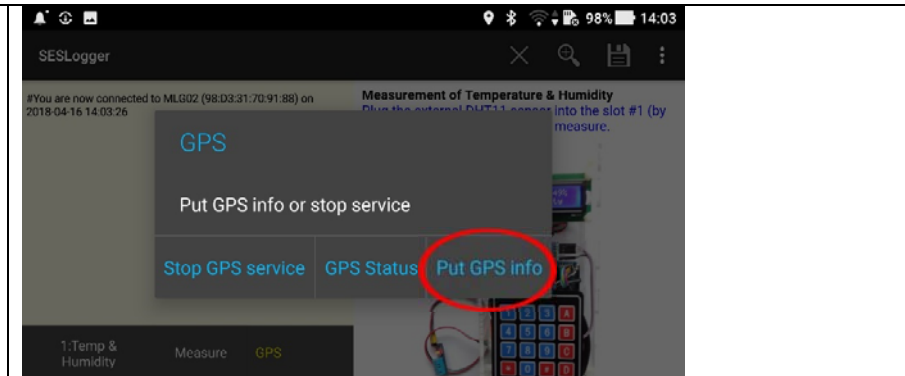


2. Select the parameter you want to measure from the scroll bar (arrow).
3. Click “Measure” when you want to log the data (circle).

Record the GPS information



1. Click the “settings” (third grid from left) at the bottom left menu bar.
2. Select “GPS” (arrow).



3. Record the GPS location by clicking “Put GPS info” in the pop-up window.

Activity I: Trial use of the mobile logger and sensors 活動一：試用環境數據記錄器及傳感器

Sensor and its connection 傳感器及連接埠	Keypad 按鍵	Measurement and results 測量及結果																
Temperature & Humidity (external sensor connected to slot#1) 溫度與濕度(外置傳感器已連接至埠#1)	1	i) Record the room temperature (T) and humidity (H): 記錄室內溫度(T)及濕度(H) T=_____ °C H=_____ % ii) Breathe out some air towards the sensor and take the measurement again: 向傳感器呼氣及再次測量數據 T=_____ °C H=_____ %																
Infrared(IR) Surface Temperature (external sensor connected to slot#6) 紅外線表面溫度(外置傳感器已連接至埠#6)	7	Place the sensor around 2-5cm away the object surface and measure the surface temperature of different objects, ground or walls of buildings (or various parts of human body): 將傳感器放置於離物件表面 2-5cm 處，並測量不同物體、建築物的地面、牆壁（或人體各部分）的表面溫度： <table border="1" data-bbox="1099 691 1939 783"> <tr> <td>Object 物件</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Temp 溫度(°C)</td> <td></td> <td></td> <td></td> </tr> </table>	Object 物件				Temp 溫度(°C)											
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Temp 溫度(°C)																		
Noise Level (external sensor connected to slot#7) 噪音強度(外置傳感器已連接至埠#7)	0	Record the noise level in different environment/conditions: 記錄不同環境/情況下的噪音強度: <table border="1" data-bbox="1099 866 1964 1058"> <tr> <td>Environment 環境</td> <td>Quiet environment 寧靜環境</td> <td>Talking with loudspeaker 用擴音器說話</td> <td></td> </tr> <tr> <td>Noise Level 噪音強度(dB)</td> <td></td> <td></td> <td></td> </tr> </table>	Environment 環境	Quiet environment 寧靜環境	Talking with loudspeaker 用擴音器說話		Noise Level 噪音強度(dB)											
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PM sensor (external sensor connected to slot#8) 細懸浮微粒(外置傳感器已連接至埠#8)	D2	Place the sensor in different environment and press keypad “D” and then “2” to get particulate matter levels in ng/L (=µg/m ³): 將傳感器放置於不同環境下，先按數字鍵上的“D”，再按“2”來測量以 ng/L (=µg/m ³)作單位的懸浮粒子的濃度 <table border="1" data-bbox="1099 1217 1946 1434"> <tr> <td>Environment 環境</td> <td>Indoor 戶內</td> <td>On Ground 地上</td> <td></td> </tr> <tr> <td>PM_{1.0}</td> <td></td> <td></td> <td></td> </tr> <tr> <td>PM_{2.5}</td> <td></td> <td></td> <td></td> </tr> <tr> <td>PM₁₀</td> <td></td> <td></td> <td></td> </tr> </table>	Environment 環境	Indoor 戶內	On Ground 地上		PM _{1.0}				PM _{2.5}				PM ₁₀			
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Activity II: Collection of environmental data in Tin Shiu Wai field trip 活動二：天水圍新市鎮的實地考察的環境數據記錄

Routes:

- (1) South East route: 經(a) 天耀站, (b) 天水圍站 至 (c) 天耀足球場.
- (2) South route: 經(a)天耀站, (b) 天盛商場至 (c) 屏山聚星路 1 號(屏山文物徑).
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Observation items 觀察項目		Air Temperature (°C) / humidity (%) 空氣溫度(°C)/濕度(%)	Surface temp (°C) of the pavement 行人 路的表面溫度(°C)	Noise level (dB) 噪音強度 (dB)	Air pollutants PM _{1.0} / PM _{2.5} / PM ₁₀ (ng/L) 懸浮粒子濃度(ng/L)	
Checkpoint (a) 觀察點(a)	1	/			/	/
	2	/			/	/
	3	/			/	/
	Avg. 平均值	/			/	/
Checkpoint (b) 觀察點(b)	1	/			/	/
	2	/			/	/
	3	/			/	/
	Avg. 平均值	/			/	/
Checkpoint (c) 觀察點(c)	1	/			/	/
	2	/			/	/
	3	/			/	/
	Avg. 平均值	/			/	/

After taking all measurement in each checkpoint, remember to put GPS info and save log data to a file so that a Google map of the data could be drawn. 在每個觀察點進行所有測量後，請謹記要(1)加上全球定位(GPS)資訊和(2)存檔，以便隨後可以把數據繪製在谷歌(Google)地圖上。

Website for resources 資源網站: <http://has.eduhk.hk/seslogger/>