

HEALTHCLOUD

REALTIME  
HEALTH  
MEASUREMENTS



## HEALTHCLOUD (HC) APP

Health Cloud is an app that uses the apple watch for detecting real-time heart rate, heart rate variability, oxyhemoglobin saturation.

Data collecting from HC app include the coordinate, weather, real-time psychological and physiological data of the specific location. The tool supports HEALS Design step 5.

## Definable parameters:

- Project name: module/field
- Task (optional): choose and set pop up task interval time (/minute)
  - Pop quiz (short questionnaire which can be rated by one to five stars)
  - Stroop test
  - Photo taking
  - Sound Db testing

## Output:

- Data info: date/time/module/field/test ID
- Location info: longitude/latitude/elevation
- Whether info: temperature/humidity/wind speed/wind degree
- Physiological info: heart rate (HR), heart rate variability (HRV), oxyhemo globin saturation by pulse oximetry (SpO2)
- Task result: pop quiz score/ Stroop score/ photos/ sound Db

The screenshot displays the 'Health Cloud' configuration page. On the left, there is a sidebar with navigation options: 'Map Display', 'Data sheet', 'Data report', 'Google image', 'Image selection', 'Photo database', 'Admin management', 'Configuration', and 'User Management'. The main area is titled 'Configuration' and shows settings for a module named 'Module name 7'. The settings are organized into sections: 'Upload Frequency' (set to 1 Min), 'Distance' (set to CN), 'Weather' (set to CN), 'Priority of Tasks' (with a list of tasks including Photo Taking, Pop Quiz, SpO2, HRV, Sound Test, SPL Meter, and Attention Test), 'Interval of Task Concurrency' (set to 0 Hour), 'Photo Taking' (set to 0 Hour), 'Attention Test' (set to 0 Hour), 'Sound Test' (set to 0 Hour), 'Period of Sound Test' (set to 0 Hour), 'Pop Quiz' (set to 0 Hour), 'Period of Pop Quiz' (set to 0 Hour), 'SPL Meter' (set to 0 Hour), 'Period of SPL Meter' (set to 0 Hour), 'SpO2' (set to 0 Hour), 'Period of SpO2' (set to 0 Hour), 'HRV' (set to 0 Hour), 'Period of HRV' (set to 0 Hour), and 'Questionnaire Link' (set to Input link). At the bottom, there is a section for 'Informal Consent' with a link to 'Upload Questionnaire' and a note in Chinese: '選擇答案 | 未選擇任何答案'.

# Multiple Tasks

## Pop Questions

Reply to the question with the watch



## Stroop Test

Take the test with the smartphone

Stroop

## HRV and SpO2

Measure with the watch



## Environment Sound

Record the sound of the environment with the smartphone



## SPL Test

Measure the sound decibels of the environment with the smartphone



## Image Capture

Take photos of the environment with the smartphone



# Background Information

## Time and Date

## Weather

Temperature, Humidity, Wind speed, Wind direction

## GPS Location

Latitude, longitude, altitude, GPS track

## Heart Rate

Average heartbeat per minute

## Image Comparison

Predict health benefits



# DASHBOARD

## Health Cloud

Dashboard >

- Dashboard
- Browser
- User Feedback
- Analysis
- Google Api
- Periodical
- Periodical Upload
- Periodical List
- Admin
- Configuration
- Set Fields
- User Management

Display All:

Please select a field



# BROWSER

## Health Cloud

Data sheet >

Time: 2023-12-06 00:33 X 2023-12-08 12:33 X

Tester ID:

Search

- Dashboard
- Browser
- User Feedback
- Analysis
- Google Api
- Periodical
- Periodical Upload
- Periodical List
- Admin
- Configuration
- Set Fields
- User Management

#	Date	Time	Module	Field	Test ID	Heart Beat	Elevation	THR	HRV	Sp O2	TSp O2	GPS Latitude	GPS Longitude	Distance	Weather	Sound Db	Stress	Temp	Humidity	Wind Speed	Wind Deg
2023-12-06 12:08	03:38:06	MSU_older	Adults	03Street_elderly	23120171	102	18.04728126525879			25.013781	121.540164	3616.110509198887	Clouds-scattered clouds		290.38	82	2.57	90			
2023-12-06 12:08	03:37:06	MSU_older	Adults	03Street_elderly	23120171	102	18.004587173461914			25.013796	121.540164	3614.4882244969879	Clouds-scattered clouds		290.38	82	2.57	90			
2023-12-06 12:08	03:36:06	MSU_older	Adults	03Street_elderly	23120171	102	18.004430770874023			25.013793	121.540174	3613.389720654002	Clouds-scattered clouds		290.38	82	2.57	90			
2023-12-06 12:08	03:35:06	MSU_older	Adults	03Street_elderly	23120171	102	18.053071662597456			25.013754	121.540110	3605.6568716487473	Clouds-scattered clouds		290.38	82	2.57	90			
2023-12-06 12:08	03:34:06	MSU_older	Adults	03Street_elderly	23120171	102	16.511070201464844			25.013790	121.540180	3597.589641398526	Clouds-scattered clouds		290.38	82	2.57	90			
2023-12-06 12:08	03:33:06	MSU_older	Adults	03Street_elderly	23120171	102	18.013195037841797			25.013761	121.540167	3594.123917841946	Clouds-scattered clouds		290.38	82	2.57	90			
2023-12-06 12:08	03:32:06	MSU_older	Adults	03Street_elderly	23120171	102	18.06601091003418			25.013781	121.540165	3591.9636997740345	Clouds-scattered clouds		290.38	82	2.57	90			
2023-12-06 12:08	03:31:06	MSU_older	Adults	03Street_elderly	23120171	102	18.059632525004883			25.013791	121.540204	3587.848668036602	Clouds-scattered clouds		290.38	82	2.57	90			
2023-12-06 12:08	03:30:07	MSU_older	Adults	03Street_elderly	23120171	102	18.03767204284668			25.013788	121.540164	3583.7790488187848	Clouds-scattered clouds		290.38	82	2.57	90			
2023-12-06 12:08	03:29:06	MSU_older	Adults	03Street_elderly	23120171	102	18.0138132092285156			25.013796	121.540164	3582.9122370147006	Clouds-scattered clouds		290.55	82	2.57	90			
2023-12-06 12:08	03:28:06	MSU_older	Adults	03Street_elderly	23120171	102	18.048690795898438			25.013793	121.540169	3582.32004164121	Clouds-scattered clouds		290.55	82	2.57	90			
2023-12-06 12:08	03:27:06	MSU_older	Adults	03Street_elderly	23120171	102	16.520429611206055			25.013798	121.540198	3579.3679538378324	Clouds-scattered clouds		290.55	82	2.57	90			
2023-12-06 12:08	03:26:06	MSU_older	Adults	03Street_elderly	23120171	102	18.0066795979614258			25.013750	121.540392	3567.46511621429	Clouds-scattered clouds		290.55	82	2.57	90			
2023-12-06 12:08	03:25:06	MSU_older	Adults	03Street_elderly	23120171	102	18.04779815673828			25.013769	121.540126	3563.4750795928373	Clouds-scattered clouds		290.55	82	2.57	90			
2023-12-06 12:08	03:24:06	MSU_older	Adults	03Street_elderly	23120171	102	18.0502730102539			25.013767	121.540313	3562.993036938375	Clouds-scattered clouds		290.55	82	2.57	90			
2023-12-06 12:08	03:23:06	MSU_older	Adults	03Street_elderly	23120171	102	18.0119400202441406			25.013796	121.540134	3561.87880611411	Clouds-scattered clouds		290.55	82	2.57	90			
2023-12-06 12:08	03:22:06	MSU_older	Adults	03Street_elderly	23120171	102	18.051420211791992			25.013771	121.540147	3560.4490413193593	Clouds-scattered clouds		290.55	82	2.57	90			
2023-12-06 12:08	03:21:06	MSU_older	Adults	03Street_elderly	23120171	102	18.01138687133789			25.013754	121.540313	3557.986736781812	Clouds-scattered clouds		290.55	82	2.57	90			
2023-12-06 12:08	03:20:06	MSU_older	Adults	03Street_elderly	23120171	102	18.00319480889596			25.013793	121.540186	3550.9070876370703	Clouds-scattered clouds		290.55	82	2.57	90			