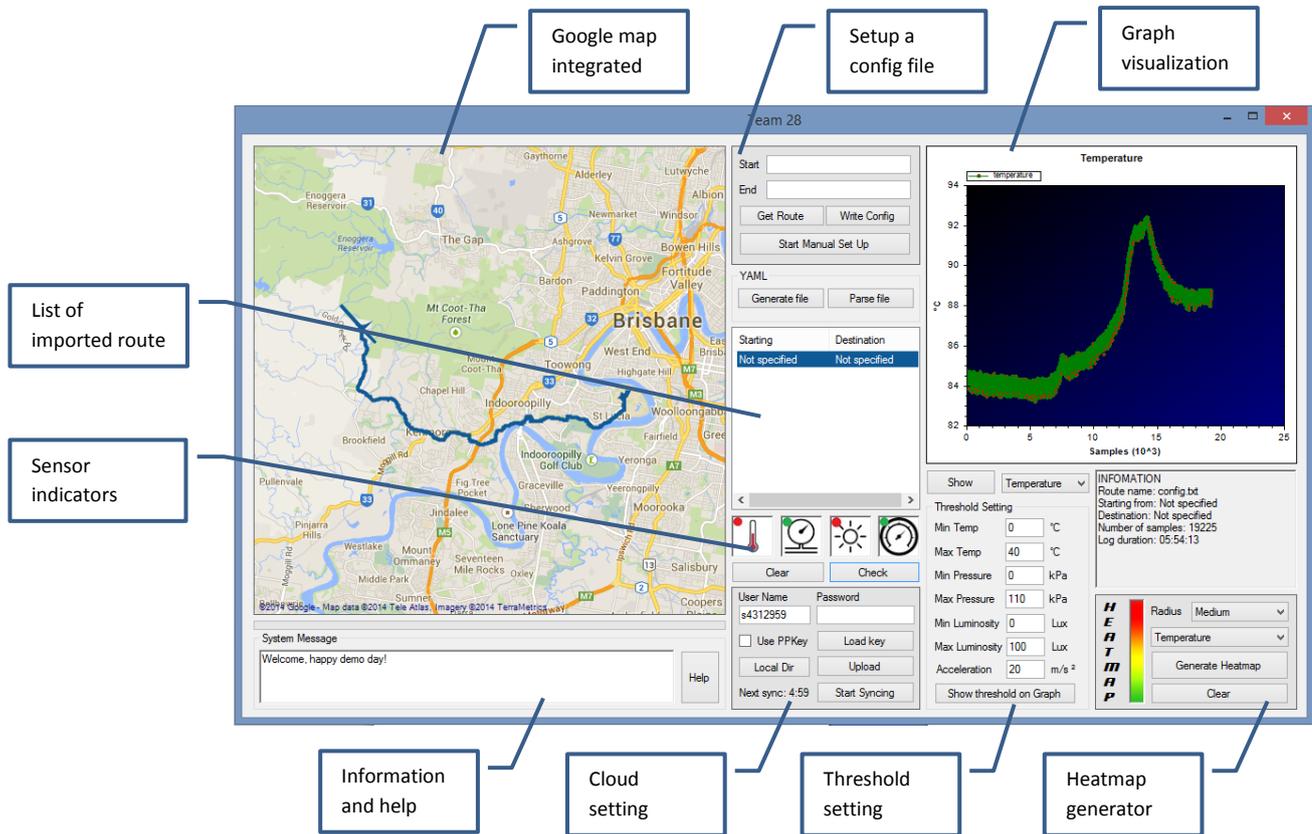


Software User Guide

Step 1: Unzip the packet Software.zip

Step 2: Browse for gMapForNet.exe and run the file

Step 3: The GUI will be display with the basic components as follows



Step 4: Click Help button for more detailed instruction.

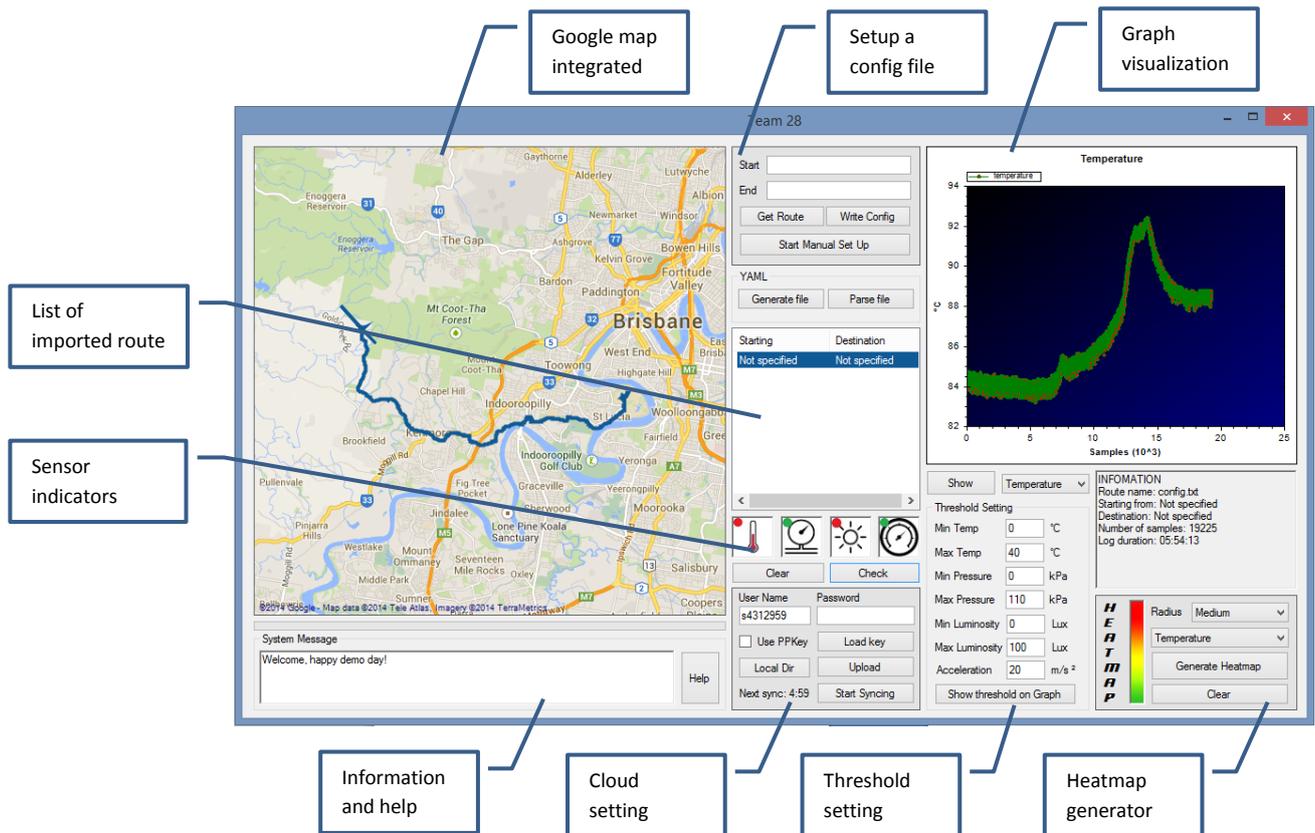
General

This Windows Form software is developed by team 28. Using GMap.NET library to integrating the Google map services the software written in C#.

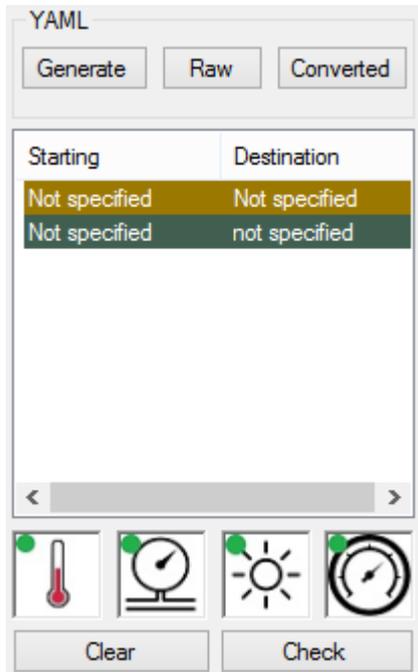
Use a computer mouse to work with the map.

- Hold Right-Mouse and drag to drag the map.
- Scroll to zoom in/out.

Always look at System Message box to get useful information and instructions.



Import a Log File and Check for Status



Step 1a: Click **Raw** to parse log file from team 28 circuit

Step 1b: Click **Converted** to parse log file formatted as specification

Step 2: Browse for a log file

Step 3: Wait for the parsing process to finish (indicated by progress bar below the map)

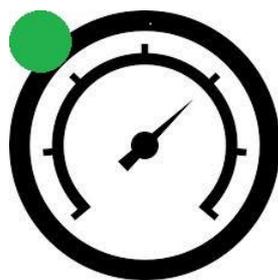
Step 4: Select the colour coded route on the list view

Step 5: Set desired threshold value at *Threshold Setting*

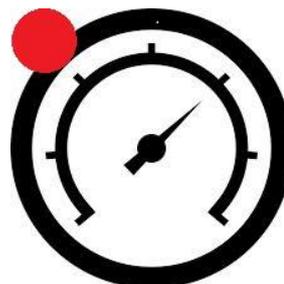
Step 6: Click **Check** to verify the imported route

Step 7: Click on **Bad Indicator** to see the location where the problem occurred

Note: There are four Indicators each of which to show the status of each Sensor's data. (From left to right: Temperature, Pressure, Luminosity and Acceleration)

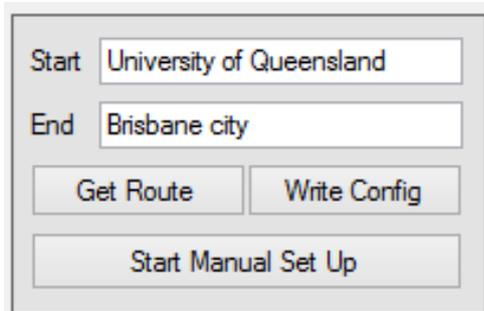


Good Indicator



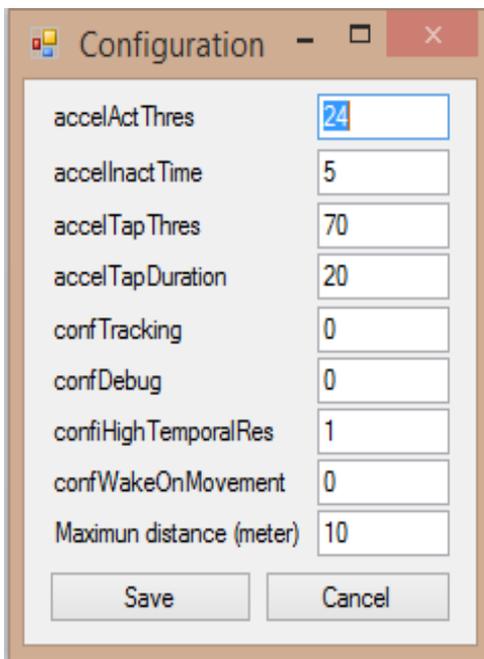
Bad Indicator

Setup a Configuration File



A dialog box for route setup. It contains two text input fields: 'Start' with the value 'University of Queensland' and 'End' with the value 'Brisbane city'. Below these are three buttons: 'Get Route', 'Write Config', and 'Start Manual Set Up'.

There are two ways to setup a configuration file: automatically get planned route by specifying departure place and destination, and manually set up planned route by selecting the way points on the map.



A 'Configuration' dialog box with a title bar containing a minimize, maximize, and close button. It lists several configuration parameters, each with a corresponding input field:

accelActThres	24
accelInactTime	5
accelTapThres	70
accelTapDuration	20
confTracking	0
confDebug	0
confHighTemporalRes	1
confWakeOnMovement	0
Maximun distance (meter)	10

At the bottom of the dialog are 'Save' and 'Cancel' buttons.

Get Route Automatically

Step 1a: Specify the start and end location by an address

Step 2a: Click **Get Route**, check if the software can find the route

Step 3a: Click **Write Config**, go to step 4

Get Route Manually

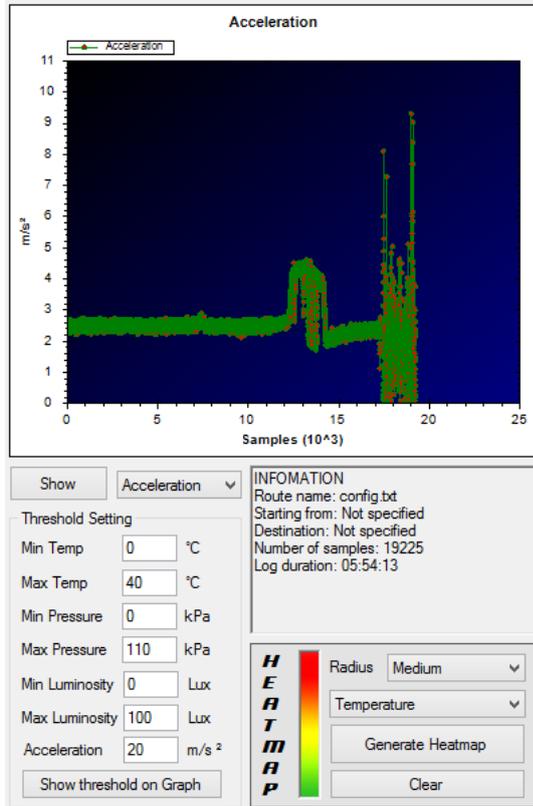
Step 1b: Click **Start Manual Set Up**

Step 2b: Left-Click on the map to set up the way points

Step 3b: Click **Done**, go to step 4

Step 4: Specify the configuration value on Pop-up Window, click **Save** to output Config file.

Graph Visualization



To visualise a data logged by a sensor, do as follows.

Step 1: Click on a desired route in list view

Step 2: Select a sensor in combo box below the graph

Step 3: Click Show

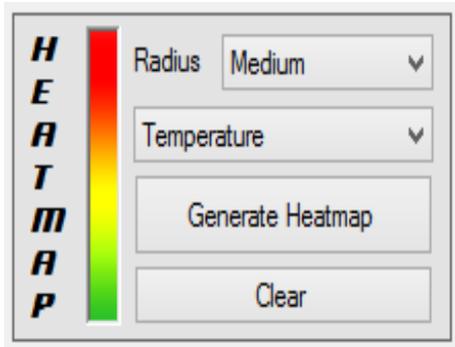
To display threshold lines on graph, do as following extra steps.

Step 4: Specify the threshold value in Threshold Setting

Step 5: Click Show Threshold on Graph

Note: Velocity in the sensors combo box is a bonus data calculated from GPS points and the timer.

Heat-map



To generate heat-map from multiple routes, do as follows.

Step 1: Select multiple routes from list view

Step 2: Select sensor's data from combo box

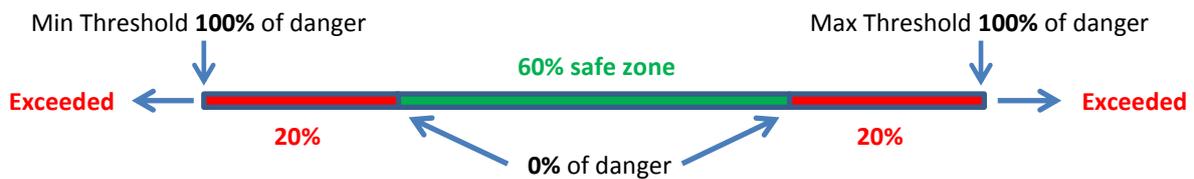
Step 3: Optional specify the Radius. Massive Radius is not recommended

Step 4: Click Generate Heatmap

How is the Heat-map generated?

The map current view is divided into 250x250 grid cell. The weight is calculated for each cell as follows.

The dangerous level of a sample is calculated in percentage. If the value is in safe zone, its weight is 0%. The weight reaches 100% at the threshold boundary, and goes beyond 100% as it exceed the threshold.



The weight of a cell is the sum of the samples' weight around it multiplied by a *distance factor*.

Distance factor is a value between 0 and 1. This factor has value of 1 when the sample is exactly at the centre of the cell, and gets decreased for the further samples. Samples outside of the cell's radius will not be taken into account.

Cloud Connection

User Name	Password
<input type="text" value="s4312959"/>	<input type="password"/>
<input type="checkbox"/> Use PPKey	<input type="button" value="Load key"/>
<input type="button" value="Local Dir"/>	<input type="button" value="Upload"/>
Next sync: 4:59	<input type="button" value="Start Syncing"/>

There are two ways to connect to the cloud server: using user name/password and user name/private key.

To use private/public key method, check the **Use PPKey** check box, and click **Load key** to load your private key.

To work with cloud, do as follows.

Step 1: Specify authentication information

Step 2: Click **Local Dir** to specify the local synced folder

Step 3: Click **Start Syncing** to sync the cloud content to your local directory

Step 4: Click **Upload** and browse for desired file to upload (/home/groups/engg4810g/engg4810g28)