User Guide

1. Data Description
This is a portion of GPS trajectory dataset collected in (Microsoft Research Asia) GeoLife project. A GPS trajectory of this dataset is represented by a sequence of time-stamped points, each of which contains the information of latitude, longitude, height, speed and heading direction, etc. These trajectories were recorded by different GPS loggers or GPS-phones, and have a variety of sampling rates. 95 percent of the trajectories are logged in a dense representation, e.g., every 2~5 seconds or every 5~10 meters per point, while a few of them do not have such a high density being constrained by the devices.

Note that each trajectory has a set of transportation mode labels, such as by driving, taking a bus, riding a bike and walking. There is a label file associated with each folder storing the trajectories of a user. Though this is only a part of the dataset used in the following papers, the scale of this released dataset can still support transportation mode learning.

2. Paper Citation
Please cite the following three papers when using this GPS dataset.

3. Data Format
In this dataset, each folder stores one user’s GPS log files, which have been converted .plt format. As most data was created in China, we use Beijing local time in the date-time property of each point. Regarding some trajectories generated outside China, e.g., USA, you need to re-convert the time of each point according to the corresponding time zones.

plt format:
Field 1 : Latitude - decimal degrees.
Field 2 : Longitude - decimal degrees.
Field 3 : Code - 0 if normal, 1 if break in track line
Field 4 : Altitude in feet (-777 if not valid)
Field 5 : Date - see Date Format below, if blank a preset date will be used
Field 6 : Date as a string
Field 7 : Time as a string

Note that OziExplorer reads the Date/Time from field 5, the date and time in fields 6 & 7 are ignored.

An example:
-27.350436, 153.055540, 0, 977, 36169.6307194, 09-Jan-99, 3:08:14
-27.348610, 153.055867, 0, 977, 36169.6307194, 09-Jan-99, 3:08:14

Transportation labels:

<table>
<thead>
<tr>
<th>Date</th>
<th>Start Time</th>
<th>End Time</th>
<th>Transportation Modes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007/4/13</td>
<td>15:01:26</td>
<td>15:18:02</td>
<td>taxi</td>
</tr>
</tbody>
</table>

First, you can regard the label of both taxi and car as driving although we set them with different labels for future usage. Second, a user could label the transportation mode of a light rail as train while others may use subway as the label. Actually, no trajectory can be recorded in an underground subway system since a GPS logger cannot receive any signal there. In Beijing, the light rails and subway systems are connecting two cities, like line 5 which is comprised of partial subways and partial light rails. So, users may have a variety of understanding in their transportation modes. You can differentiate the real train trajectories (connecting two cities) from the light rail trajectory (generating in a city) according to their distances. Or, just treat them the same.

4. Contact
If you have any questions related to this dataset, please contact Dr. Yu Zheng, a researcher from Microsoft Research Asia

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<< GeoLife GPS Trajectories >>

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