Discussion on 24.07.2018

1. Structure:

   Two things:

   1. Staypoints
   2. States

   Cases during staypoint detection (online):

   1. No new location or „state“ is visited
   2. New location or „state“ is visited
      a. This may result in states with only a single visit (single staypoint)
      b. The count of stay-points contributing to a state can give a quick idea of how frequently is it visited.

   How do you find that out?

   Ø Snapping algorithm

   o Requires all contributing staypoints for a “state” to be within a bounded radius (e.g., 50 m)

   3. Irrespective of the above two cases:
      a. you also update the time-slotted data “TD-sp” with staypoint-IDs (e.g., on an hourly basis)
      b. you also update the time-slotted data “TD-states” with state-IDs (e.g., on an hourly basis)

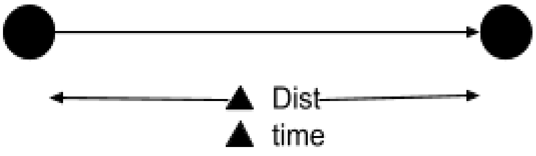
   Till now, we have: (1) TD-sp, and (2) TD-states

   Next step:

   1. Plot TD-states and look for consistent patterns of visits. If not present, try different time and distance thresholds for sp-detection.
   2. Compute transition matrix from the TD-states.

2 . Adding time to end trajectory and start trajectory points:

End of old trj. 1 Start of new trj. 2



Speed$_{avg}$ = Δdist / Δtime

δt = min(50m, Δdist) / speed$_{avg}$

If (δt + Δtime) > 10hrs: ignore

Else: $t^{end}_{trj1} + \delta t$

$t^{start}_{trj2} - \delta t$

3. Try staypoints github code

https://gist.github.com/RustingSword/5963008

4. Read the Geolife data paper and implement the same staypoint algorithm

https://www.microsoft.com/en-us/research/wp-content/uploads/2016/02/fp120-zheng.pdf