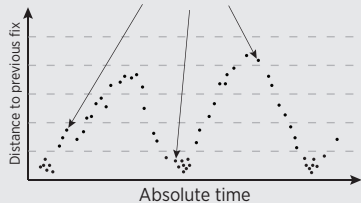


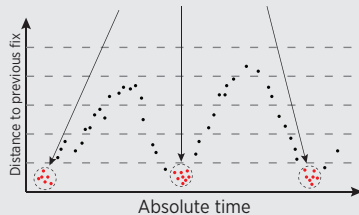
## Event source

Raw location updates are incrementally received from the stream of locations



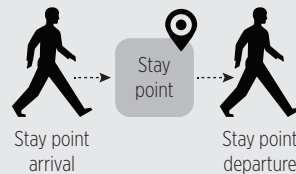
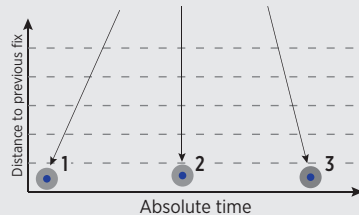
## Event processing

Location fixes are processed within distance and time threshold parameters of stay points detection algorithm



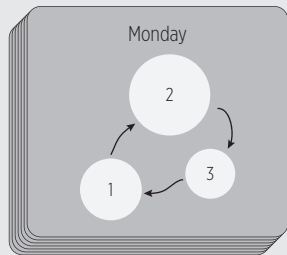
## Event handling

Stay points are detected as high level events ( $\text{lat}=\text{x}$ ,  $\text{long}=\text{y}$ , arrival time= $t_{\text{arrival}}$ , departure time= $t_{\text{departure}}$ )



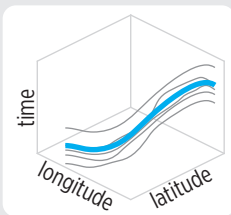
## Geofencing mechanism

→ A trajectory enhanced with ToD and probability



## Expanded spatial-time model

## Trajectory summarization ( $\delta_{\text{eq\_time}}$ )



Day of week (DoW)

	M	T	W	T	F	Sat	Sun
1	1	1	1	1	1	1	1
2		2	2	2	2	5	5
3		3	3	3	4	6	1
4						1	8
5							
6							
7							
8							

Stay point visits over the week

## Time analysis