

Algorithm 2 $\text{findPath}(\text{Probabilistic distance-aware graph model } G_{pdm}, \text{Tracking record } tr, \text{Tracking record } tr')$

```

1:  $neighbors \leftarrow \emptyset; path \leftarrow 0; paths[] \leftarrow \emptyset;$ 
2:  $R_s \leftarrow tr.deviceID$ 
3:  $R_d \leftarrow tr'.deviceID$ 
4:  $findAllPaths(G_{pdm}, R_s, R_d, paths)$ 
5: for each path  $p$  in  $paths$  do
6:    $T_{cal} = 0$ 
7:   for each reader  $R$  in path  $p$  do
8:      $R' \leftarrow$  the next reader in  $path$ 
9:     if ( $R' = R_d$ ) then
10:        $mtt \leftarrow G_{edd}.\mathcal{L}_E(R, R').tt$ 
11:        $mdt \leftarrow G_{edd}.\mathcal{L}_V(R').dt$ 
12:        $T_{cal} = T_{cal} + mtt + mdt$ 
13:       break
14:        $mtt \leftarrow G_{edd}.\mathcal{L}_E(R, R').tt$ 
15:        $T_{cal} = T_{cal} + mtt$ 
16:   if ( $tr.t_e + T_{cal} > tr'.t_s$ ) then
17:     delete  $p$  from  $paths$ 
18: for ( all paths  $\{\delta_m\}_{m=1}^n$  in  $paths$ ) do
19:    $path = \underset{m}{\operatorname{argmax}} \prod_{E_{ij} \in \delta_m} p_{i,j}$ 
20: return  $path$ 

```
