

Mini-Assignment 5: Wireless Localization

(Due : Thursday, October 17 , 2013 @ 3pm)

True or False:

False 1. PinIt shows that the multipath profile of nearby RFID tags is more correlated than the multipath profiles of further away tags.

Why ? *The multipath profile of further away tags might be more correlated. That is why PinIt uses DTW.*

False 2. The accuracy of Arraytrack increases in multipath environments.

Why ? *Arraytrack relies on the fact that the strongest path is the direct path and hence its accuracy decreases in multipath.*

True 3. Both Arraytrack and PinIt localize an item with respect to some references in the environment.

Why ? *Arraytrack uses the APs as references. PinIt uses the RFIDs as references.*

False 4. If WiFi nodes were as cheap and small as RFIDs, PinIt can be used to localize WiFi nodes in the same way as it is used to localize RFIDs.

Why ? *RFIDs only reflect signals and hence are naturally synchronized to the transmitter/ reader. Wifi nodes generate their own signal and hence are not synchronized with the reader. Thus as the reader moves, the phase will change due to lack of synchronization and hence it will not be able to simulate an antenna array.*