

QE for CS546 Wireless Mobile Internet (each 20 points)

1. $WCETT = (1 - \alpha) * \sum_{i=1}^L ETT_i + \alpha * \max_{1 \leq j \leq k} T_j$ where ETT_i is the expected transmission time of link i in a path of length L and T_j is the sum of the transmission times on a particular channel j .

Describe WCETT based on the above and is it possible to avoid the hidden terminal problem in a flow using WCETT?

2. What is a way to reduce the handoff delay in WiFi?
3. Propose a way to detect hidden terminal problem in WiFi network?
Is it possible to detect it completely? Why or why not?
4. Why the VoIP capacity per Access Point is around 10 % of its max data rate?
5. What could be a way to provide indoor localization service using sensors in smartphones?