
Final Exam, Course: - Mobile Computing

Deadline: - Mentioned on SIC

Marks: - 50

Program: - BS (CS), BS-SE

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Class and Section: 8th A

Q1: Provide the names of 4 challenges that exist in Adhoc Networks.

(4)

Ans:

- Medium access scheme
- Routing and multicasting
- Transport layer protocol
- Pricing scheme

Q2: How the nodes in the Adhoc Network know about the changing network topology. (2)

Ans:

In Ad hoc network the nodes keep the information of nearest nodes and they update their table when any node is added or removed. The source broadcasts route request RREQ. All nodes broadcast this message to their neighbour nodes until it reaches the target node. The target node sends RREP in the shortest path to the source. All nodes update their table according to the RREP.

Q3: Why is it important to minimize flooding of control packets in Adhoc Networks and how MPR achieves it? (4)

Ans:

It is important that the same message is not broadcast to the node which receives it before and to minimize the response time. It is achieved by using MPRs set of selected neighbour nodes. Multipoint Relay minimizes the flooding of broadcast packets in the network by reducing duplicate retransmission in the same region.

Q4: Explain briefly how Mobile Cloud Computing is different than simple mobile computing and simple cloud computing? (4)

Ans:

In Mobile cloud computing all the hardware intensive processes are done in cloud computers and the basic task are done by local hardware. It combines the traditional mobile with cloud computing. In simple mobile computing all task are done on same mobile device.

Q5: Explain the term MBaaS in your own words?

(4)

Ans:

Mobile Backend as a Service: it provides backend services. business logic and data management of an app. MBAAS deals with all the technical infrastructure necessities needed behind the scenes for an app to work properly.

Q6: Imagine you visit a completely new city. What kind of services a modern LBS can provide you at your location automatically?

(6)

Ans: A certain service that is offered to the users based on their locations. **it** can give you information about how far is hospital. What restaurants are near you Shows you school universes etc, A game where your location is part of the game play for example you position unlocks content or your movement make your avatar move in the game

Q7: Use your imagination as to how the following context can be used by a context aware application in mobile computing environment?

(8)

Ans: According to the context aware systems the date and time for the user should be provided by the system on his current location and provide user a option to change date and time according to his area of living it should be displayed on the screen by design made of user centric approach

Environment:

The environment is key factor in the context aware systems the system should focus on the how the system will react at the environment change for example in the noisy area or at night time or at daylight what's will be behaviours in different conditions for their Strong Statelet to Spa

Focus of attention:

The system should give importance to the attentions of user. Through context aware systems they can provide some services like in the phone call Avoid unnecessary interruption or when the message arrive on the Phone flashes a notification every 30 seconds Eventually the user will ignore it!

Orientation:

Orientation means the context aware system have capability to provide users device to adjust the screen in every change for example auto rotate mode in Smartphone to adjusts the screen to the orientation of the device, Apple Watch turns on display arm

lifted/rotated.

User preferences:

The context aware system maintains the user preferences by providing the user with certain options such as in the mobile phone colour density control, light or dark mode in the phone wallpaper or theme change control.

Calendar (events):

The context aware system focuses on the system time zones and global date and this way the user have the personalized calendar and keep track of the events which will occur different to different user according to his area.

Q8: Explain why energy efficiency is important in technologies like Bluetooth and ZigBee? (4)

Ans:

With all the talks about global warming, the governments, network device manufacturers, networks service providers and users are more concerned about energy efficiency of the wireless devices than before. The reasons for requiring the more energy efficiency in wireless are various, but most of them are worrying about design problem, the policy of green technology, saving the business cost, and final user satisfaction

Q9: Explain briefly how you use RFID technology at INU on a daily basis when present on the campus? Do you use an active or passive tag? (4)

Ans:

Its in Passive tag. It has no internal power, small range, It INU first we inter in small cabin There is a computer connecter with RFID reader which is emits energy, where we swipe our card. Then we go to class and attend class and give attendance with same machine but with deferent software. We swipe card and attendance is done. And with same machine we check transcript.it wiz machine but we again deferent software.

Q10: Explain how Wearable Computing can be employed in computer gaming? (5)

Ans:

You can use VR for Visualization of games. Use Tasla Suit for feeling the Bullets, Use giros for location trekking that where are you standing in room. where you moved what move you have done.

Q11: What kind of facilities and technologies must be present in order to call you own home a Smart Home? (5)

Ans:

It mast have internet,
have any of(google home, Siri, Alicia, Cortana, bigxby) smart assistance, which control

- lights,
- home appliances

- smart door locks

which home has these it can be call Smart Home