

Final Exam, Course: - Mobile Computing

Deadline: - Mentioned on SIC

Marks: - 50

Program: - BS (CS), BS-SE

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

Ans :

1. No Centralized entity.
2. Mobile host is no longer host and end system.
3. Acting as an intermediate system.
4. Changing network topology.

Q2: How the nodes in the Adhoc Network know about the changing network topology?

ANS:

Ad hoc incorporate set of mobile nodes connected wirelessly during a self organized healing, network while not having a set infrastructure Manet nodes are liberated to move indiscriminately because the network topology changes often. Every nodes behave as a router as they forward traffic to other specific node within the network

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

ANS:

It is important to minimize flooding of control packets in Adhoc Networks because flooding can be costly in terms of wasted bandwidth.while a message may only have one destination it has to be sent to every host.In the case of a ping flood or a denial of service attack, it can be harmful to the reliability of a computer network.Messages can become duplicated in the network. Further increasing the load on the network as well as requiring an increase in processing complexity to disregard duplicate messages.Multipoint relay minimies 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?

ANS:

MCC is a large term as compare to simple mobile clouding. MCC is the services provider it may or may not includes mobiles while simple mobile clouding is a user of MCC. In terms of simple mobile MCC is a larger terminology and it is a sort of network to simple mobile clouding.

Q5: Explain the term MBaaS in your own words?

Ans:

MBaaS is a service which helps application to connect to backend cloud storage for web devolpers and apps makers. User mangements push notifications and dealing

with social networking is also a service of MBaaS. All these are done with the help of SDKs and APIs

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

Ans:

LBS can help us in directing our way and finding what we want. For example we want to eat something we can check and find it through such as restaurants coffee shops. It also helps us in finding routes and where we want. In many cities lbs has develop its system to exact streets and houses. LBS is a complete world live map now to us.

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

(8)

Date/Time

Environment

Emotional state

Focus of attention

Orientation

User preferences

Calendar (events)

Browsing history

ANS:

Date/Time

The date/time is important an user environment such as when the person entry in office and when he leave and also use for reminding some important work by mention date and time.

Environment

In context environment the application when student entry in the class the mobile automatically switch to silent mode and when he leave the class it back to normal mode.

Emotional state

According to context aware system emotional state of user can effect mobile computing environment for example .A loud alert is not ideal for all situation in the same way language change colour should be according to the user.

Focus of attention

The system should give important to the attention of user through context aware system can provide some services like in the phone call avoid unnecessary interruption or when the message arrive on the phone flashes a notification in every 30 second.

Orientation

Orientation means the context aware system have capability to provide user device to adjust the screen in every change for example auto rotate mode in smart phone

User preferences

The context aware system maintain the user preferences by providing the user with certain option such as in the mobile phone color density control.etc

Calendar (events)

The context aware focus on the system timezone and global date this way the user personalize calendar and keep track of the events

Browsing history

The context aware of browsing is when system off due electricity or some other issues the system browsing system the history or automatically restore the recent pages.

Q8: Explain why energy efficiency is important in technologies like Bluetooth and ZigBEE?

ANS:

Bluetooth is a very common technology of nearby connection. It can be used for sending files connecting with audio devices cars etc. Energy efficiency technologies are used because it helps and complete the needs of users, it is used to consume less battery and works more with a higher range.

ZigBee is an uncommon technology to be used for vehicle communications, as it was designed for smart home device networks, being capable of fast data transfers (at low data rates) between a substantial number of devices. ZigBee may use fixed (pre-selected) channels, that may be chosen far enough from usual interference in 2.4 GHz frequency band. ZigBee uses an interference mitigation technique (frequency agility mechanism), that can be divided into three phases: interference detection, channel evaluation and interference mitigation. The main feature of this technology is its very efficient use of energy. As we will present in the following sections, it is proven to be a very reliable communication, more reliable in fact than Wi-Fi or Bluetooth. Adding the layered network topology and the reduced price of the equipment, we consider it to be the most suitable technology to be used in wireless sensor networks.

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?

ANS:

We will use RFID for item tracking at INU on daily basis when present on the campus. We will use active RFID for item tracking because it requires low signal strength and high range passive,

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

ANS:

Wearable computers can be use as gaming computers as some of products are available in the market which can be wear and play games. VR headsets are the best example for the wearable gaming computers. These type of technologies use gyroscope and tracking sensors for the better experience of gaming.

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

ANS:

Having a smart home means connecting max of electrical appliances to mobile phone such as fridges , air condition , water pumps, electrical other appliances such as medical instruments ie bp set steaming and exercising machines. Connecting mobile phones mean that it can be easily access from any place through internet. Having Smart home is much safer and easier life.