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Final Exam, Course: - Mobile Computing Deadline: - Mentioned on SIC Program: - BS (CS), BS-SE

Marks: - 50 Dated: 24 June 2020

## <u>Q1:</u> Provide the names of 4 challenges that exist in Adhoc Networks.

- ANS) 1)Infrastructure-less design include complicatedly in defect management and detection.
- 2)Dynamic topology aftereffect in packets loss and route revolution or diversity.
- 3)Scalability is even now unsolved , challenges work in routing , interoperability , addressing configuration management , etc.
- 4)Varied link/node capabilities create mobile processing capabilities.

## <u>Q2:</u> How the nodes in the Adhoc Network know about the changing network topology

- ANS) Nodes in the Adhoc Networks are not familiar about the changing networks topology , and have to discover it:
- An unused node declare its existence and hear out for announcements broadcast by their neighbors.
- Every node take information from their close one and how to approach and determine them.

### **<u>Q3</u>**: 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 it using individually multiple point relay nodes to convey data in the network to its neighbors.
- Number of control packets can be reduce by reducing the remake transmission. If we require to reduce flooding we should need to used slight node relay points to send data.
- <u>Q4</u>: Explain briefly how Mobile Cloud Computing is different than simple mobile computing and simple cloud computing?
- ANS) The difference between Mobile Cloud Computing , simple mobile computing and simple cloud computing are given below
- Mobile computing relates to the broadcasting of new devices and interfaces.
  Smartphones and tablets are mobile devices that work just like pc and laptop work. Mobile computing purpose also include accessing the internet through

 Browsers , now it support more then one software application with a core OS, and the sending and receiving of different types of data . The mobile OS as an interface , supports users by giving inherent icons similar to searching technologies and very easy for touch-screen commands.

Simple cloud computing:

In simple word cloud computing mean storing the data program over the accessing internet instead at your computer harddrive the cloud is just metaphor for the internet.

The cloud computing and mobile computing have to use wireless systems to transfer data beside this the two term absolutely different.

**Cloud computing:**cloud computing links to the unquestionable design of new technology and services that accept data to be send over dispense networks, across wireless connections, to remote secure location that is normally provided by a vendor.

- Cloud service supplier supply multiple clients. They approach between the clients local or closed networks, and their own data storage and data backup systems.
- So it mean that the vendor can intake data is sent to them and store it securely, while delivering services back to a client through these carefully maintained connections.

#### •Q5) Explain.....

- Ans )mBaas stand for mobile back end as a service . Now it is a critical component from past few year when to evolve mobile apps both B2C and B2E mobile apps
- Diffination:
- To know the meaning of mBaas you need to have a better understanding of how a mobile app is made. A mobile app consist of :
- A front –end-the user interface mean what you see on screen
- A back-end-the different method been hostedon a web that are rendering data

- needed for the front-end to display the right content.
- now the mobile developer team work as : front-end team on one side back-end team on the otherside.
- some code of front end is running directly on the OS of the mobile device.
- the main problem is that their are different smart phones out their in the market having different OS for example
- iphone i pad , window phone and android phones etc.
- so different codes are developed for every phone mentioned above.
- that is why a few vendors like Appcelerator developed crossed platform development tools
- so that you can easily develop with a single JavaScript source code base that automatically run into all local OS codes.

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

- ANS)Visiting new city location based services provide (LSP) used the individual location data to provide information like about nearest ATM resturants and stores
- Modern LBS can provide you at your location automatically are
- Google map , google street view, GPS , map kit frame work for accessing and manipulating maps (street view , satellite view etc)
- Region monitoring
- Location manager services
- Google tracking device.

#### Q7)Use your.....

- ANS)Date/Time
- Date/Time both can be seen on the screen of the mobile .Time can be adjust from time zone.
- Orientation:
- Accommodation the screen of the smartphone by an orientation of the device.
  Orientation is resolved by applying both an accelerometer and gyroscope.
- Environment:
- Brightness of the screen of the phone display accommodate on the based of the surrounding area.
- Emotional state:
- As stand by context receptive system emotional state of user is efficient mobile computing environment for example a loud ideal for all situations. In the same way language change, colour should be according to the user.

- Focus of attention:
- The system should give importance to the attention of user. Through context aware systems they can provide some service 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.
- Calendar(event):
- The context aware system focuses on the system time zones and global date and this way the users have the personalized calendar and keep track of the event which will accur different to different user according to his area.

## <u>Q8:</u> Explain why energy efficiency is important in technologies like Bluetooth and ZigBEE?

- ANS)Energy efficiency is important in Bluetooth because low energy is designed to give appreciably overcome power consuming and cost while control a same communication range.
- Energy efficiency is important in ZigBEE because it is a wireless tech and IEEE 802.15,4/ZigBEE . It is used to develop special range networks with low –power , small radios , like medical device data collection, home automation and another low-power bandwidth essential.

#### <u>Q9:</u> 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)RFID work on AIDC (Automate identification and data machanisim AIDC automatically look for the object and collect data together about them in our INU this technology is better than iwiz card machine swap method because this method just identify the object and mark it presence.
- In university we used ACTIVE RFID tag because active tag has both microchip and antenna which have more power and capabilities.

## <u>Q10:</u> Explain how Wearable Computing can be employed in computer gaming

• ANS) Wearable computing in computer gaming mean the advanced Hi-tech in which we can wear vests, bands, helmets with slight sensors on our hands, forehead, legs, chest etc so the player of the game can function as we can move our body.

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

- ANS)Finest smart bulb : Lutron and Wyze, Philips
- Finest smart thermstate : Ecobee and Google .
- Finest smart vaccums : Eufy and Roomba.
- Finest smart plugs :AUKEY and Belkin.