Homework

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# Response to Question 1

Mobile computing is the term used to denote human-computer interaction where mobile devices allow to access and share information to perform different services (Desai, 2016). Mobile computers can be utilized at all the management levels to perform different functions.

News Reporter: A mobile computer allows a news reporter to take note of everything that happens around. Information sharing has become a lot quicker and easier, and the job of a news reporter relies on quick information sharing. In addition, the news reporter can have access to all the events and happenings write quick short stories on mobile in spare time and can communicate with the team members when necessary.

Manager in a supermarket: A manager's role is very dynamic; a store manager has to keep a check on everything, from sales to human resources. Mobile computer can allow the supermarket manager to access inventory records quickly; their system can be connected to the POS, that can allow the manager to keep an eye on sales data and statistics. Through one device, the manager can ensure the smooth flow of the supermarket's operations.

# Response to Question 2

Interactive systems allow for significant human-computer interaction. ATM machines we use in daily life are an excellent example of an interactive system that responds to multiple human commands to perform their job.

Batch OS collects data together in a batch before they begin processing. The best example of daily life is a photocopy machine. It takes order in a queue and produces multiple copies at once. The payroll system is another example of BOS.

A real-time is a special-purpose system designed to run in the environments. In real life, these systems can be found in medical, military, and engineering such as VxWorks OS used in cars.

Embedded systems can be found in real-life appliances used that help to perform daily routine tasks. Home security systems and digital cameras are good examples (Heath, 2002).

# Response to Question 3

Relocation and Compaction refine the efficiency of memory by optimizing its use. Its basic job is to reduce memory waste and ensure each job fits into space (McHoes, 2013). It should be done when a percentage of memory is busy performing the job when tasks are pending and already determined time for a job is over. However, compaction is time-consuming and memory management becomes complex. Thus more compaction results in disadvantages and the actual job is delayed. Thus, it should only be performed when the system seeks to reclaim fragmented space.

# Response to Question 4

Memory fragmentation means when the system is having enough technically free memory but is unable to make use of it. Internal fragmentation and external fragmentation, both are a kind of wasted space. The first one occurs when the memory allocator leaves some space free inside some memory block already allocated to perform a job for a client. However, the latter happens when extra space has been left between portions of assigned memory in the form of unused memory blocks. The preference of each depends on the ongoing process.

# Response to Question 5

Page Map Table is an information structure that is used by a virtual memory framework and aims to store the mapping between physical and virtual locations. Physical locations are used by the equipment whereas virtual location is utilized by the program executed to complete the processing. Page Map Table is an essential component of the virtual location interpretation that is vital to obtain information in the memory. Every active job in the memory has its own PMT, which has all the important data for every page. Entries in PMT are always sequential; hence there is no need to list page number with every entry.

# References

Desai, N. S. (2016). Mobile cloud computing in business. *International Journal of Information*, *6*(1/2).

Heath, S. (2002). *Embedded systems design*. Elsevier.

McHoes, A., & Flynn, I. M. (2013). *Understanding operating systems*. Cengage Learning.