RECENT CHALLENGES IN MOBILE COMPUTING

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ABSTRACT

My research study will give answer to, "unique and conceptualization difference about mobile computing". Application development for mobile computers is a different task. The main survey is about the decreasing size of computer components and the increasing availability of wireless communication technology in mobile computing. It describes the design of distributed systems in mobile computing. The goal of mobility is to provide a abstract that reduce developed effort to offer programming paradigms that makes a developing powerful mobile application is easy.It provides a powerful and flexible paradigm for access to remote data and service.

I. INTRODUCTION:

The combination of wireless communication in between an infrastructure paradigm is called a mobile computing to a wireless mobile networks is typically characterized by server constraints and resources. and portable computers devices has laid the foundation for a new network computing such as bandwidth and battery power and by the system software must provide to the developers of both location independent and location-dependent application on mobile networks. Wireless network interface make it possible for mobile computers to be connected to a wireless network, a mobile user can download news or documentation, send or receive electronic mail, or even share a visual display with other users in real time. Accepting such limitations enables mobility at a cost in performance. Wireless networking greatly enhances the utility of carrying a computing device. Mobile computing environment has three main components.

II. MOBILITY:

In Mobile Internet Protocol is other name of (Mobile IP), a **mobility** agent is a routing facilitates in a Internet traffic forwarding for a mobile nodding when its location is changed to somewhere other than home network. There are two different categories of an mobility agent: 1. home agent 2.foreign agent.

1. **ADDRESS MIGRATION**: In information technology, it is the process of moving from the usage of one operating environment to another operating environment i.e., in most cases, thought to be a better one. Migration can involve upgrading to new hardware and software or both.

2. MOBILE IP: Mobile Internet protocol is an Internet Engineering Task Force (IETF) standard communications protocol that is designed to allow mobile device users to move from one network to another while maintaining a permanent IP address.

3. **HANDLING MOBILITY**: Handling a mobile computing is a human–computer interface by which a computer is expected to be transmitted during normal usage, which allows for transmission of text, voice and video. Mobile computing involves mobile communication with hardware and software.

III. CHARACTERISTICS OF MOBILE COMPUTING

1. HARDWARE: Mobile computing hardware refers to the physical devices of a computer and related devices. Internal hardware parts include motherboards, hard drives & RAM. External hardware parts include monitors, keyboards, mouse, printer, and scanner.

2**. SOFTWARE:** Computing make us Software can be thought of as the variable part of a computer and hardware the invariable part. Software is often divided into application software programs that do work users are directly interested in and system software (which includes operating systems and any program that supports application software).

3. **WIRELESS COMMUNICTION:** Mobile devices can handle communication with other mobility devices, with wireless computers and smart phones.

IV. APPLICATION OF MOBILE COMPUTING:

1. TRANSPORTING ORGANIZATION: The real time drop shipments or pickups can be achieved using Computer Aided Dispatch (CAD). Customer service can be enhanced with time tracking system for prompt delivery. In mobile network system the double sided communication can be achieved, that is between the drivers and the dispatch centers. The real time customer information broadcasting can be done at Bus Stops, Kiosks and Bus stops.

2. MANUFACTURING AND MINING INDUSTRIES: The Local Area Network extension problems can be resolved using broad spectrum networks. With the advancement of mobile computing applications, the portable computers find space in shop floors, vehicles and mines. They can be used for in- process monitoring. It can be used with real time asset management such as parts, tools and materials.

3. BANKING AND FINANCIAL INSTITUTIONS: Wireless banking transactions such as funds transfer, checking of account balance and the payment of the bill can be fulfilled from a PDA or a smart phone. The handheld devices are connected wirelessly to ATM's through Bluetooth. Experts can respond

to the customer queries on the spot through sales promotional automation system that makes use of mobile computing applications.

V.   ADVANTAGES:

1. Increase in Productivity- Mobile devices can be used out in the areas of various industries, therefore reducing the time and cost for customers and themselves.

2. Entertainment- Mobile devices can be used for entertainment purposes, for personal and even for presentations to people and clients.

3. Portability- this would be one of the main advantages of mobile computing, you are not restricted to one location in order for you to get jobs done or even access email on the go

4. Cloud Computing- This service is available for saving documents on a online server and being able to access them anytime and anywhere when you have a connection to the internet and can access these files on several mobile devices or even PCs.

Fig 1: Merits of mobile computing

Fig 2 : Merits of mobility

VI.   DISADVANTAGES:

1. Quality of connectivity: As one of the disadvantages, mobile devices will need either Wi-Fi connectivity or mobile network connectivity such as GPRS, 3G and in some countries even 4G connectivity that is why this is a disadvantage because if you are not near any of these connections your access to the internet is very limited.

2. Security concerns: Mobile VPNs are unsafe to connect to, and also syncing devices might also lead to security concerns. Accessing a Wi-Fi network can also be risky because WPA and WEP security can be surpassed easily.

VII.   CONCLUSION:

New challenges always bring new problems. Mobility makes information dynamic. Portability entails limited resources available on board to handle the variable mobile computing environment. The important constraint for mobile computer developers is to incorporate wireless communication, mobility, and portability to adapt the system designs that have worked well for old computing.

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