ISSN No: 2348-4845
International Journal & Magazine of Engineering, Technology, Management and Research
A Peer Reviewed Open Access International Journal

A Review: Mobile Computing: An Introduction

Trisha Agarwal
M.Tech(CSE) Student
Faculty of Engineering and Technology,
Agra College, Agra.

Abstract:
Computers are one of the major inventions of the world [1]. Later in 21st century "mobile computing" a new technology was developed. It is a rapidly expanding technology of cellular communication, wireless LANs and satellite services will make information accessible anywhere at any time. Mobile computing system provides access to the user to use the service from anywhere on any public device or corporate and even in personal information sales.

Keywords: ***mobile computing, devices, characteristics, functions, limitations, applications, issues.***

1. Introduction

Mobile computing is a form of human-computer interaction by which a computer is expected to be transported during normal usage [2]. It can be defined as the computing environment over a physical mobility; the user can access the service anywhere from any devices in any network while stable or moving.This technology also allows the transmission of data over a computer. To make the mobile computing environment existing everywhere, it is necessary that the communication bearer is spread over both wired and wireless media. It is the fastest growing sector of computing. It is growing 25% per year.

Mobile computing has a various aspects: mobile communication, mobile hardware and software. Mobile communication deals with communication issues in the network, infrastructure, communication protocols and technologies. Mobile hardware deals with the devices and components whereas the software deals with mobile computing taking all necessary files. Mobile computing is human-computer interaction by which a computer is expected to be transported during normal usage [3].

2. Devices

Many types of mobile computers have been introduced since the 1990s including the computer, personal computer, personal digital assistant, smart phone, tablet, ultra mobile PC [4], pager portable computer, wearable computer.

3. Characteristics

- Provide user freedom to move from one physical area to another and use the same services.
- It gives user mobility to switch from one network to another network.
- Bearer service allows the transmission of data between two networks. It allows users to move from one network to another network within the use of same service.
- User can also shift from one device to another device as it is device mobility.

4. Functions

- The user device may be like desktop computer, fixed telephone or portable devices like mobile phones, PC, palmtops etc.
- The user can also use different types of network over a mobile like CDMA, GSM, WLAN, Bluetooth etc.
- Another function is the Middle ware which handles the presentation and rendering of the content on particular devices.
- Gateways are required to interface different transport bearers. These gateways convert one specific transport bearer to another one.

ISSN No: 2348-4845
International Journal & Magazine of Engineering, Technology, Management and Research
A Peer Reviewed Open Access International Journal

5. Limitations

- Insufficient Bandwidth: The channel capacity available in wireless system is much lower than capacity available in wired networks.
- Security Standards: Security is greater concern in wireless system than in wired system it requiring careful use of VPN.
- Power Consumption: Mobile nodes are battery operated, the power required for transmitting and receiving must be minimized in mobile wireless system.
- Potential Health Hazards: Many accidents are related to the mobile devices used by the people during driving. It may causes health problems.
- Human Interface with Devices: Screens and key boards tend to be small, which may make them hard to use. Alternate input methods such as speech or hand writing recognition require training [7].

6. Advantages

- Location Flexibility: It give users to work from anywhere in the world with a establish connection. User can be fixed or in a moveable state.
- Save Time: The time we spend in travelling from one are to another area as one can access their files or documents over their PC.
- Enhanced Productivity: Users can work effectively and efficiently from wherever they find comfortable.
- Economy: People can increase the economy of the world while doing more amount of work while sitting anywhere.

7. Applications

- Distance Learning: Applications related to distance learning may be very desirable for countries with digital devices.
- Job Facilitator: many websites or information or alters related to jobs are provided.
- Agricultural Information: Farmers can use the information available regarding harvest and save the scare water resources.
- Interactive Games: Many different types of games related to each field can be played over a mobile.
- Shopping: Online shopping or shopping of different types can be done over a network over a mobile or PC etc.
- News: A big basket of application having different types of news.

8. Security Issues

Security is focused on network security, system security, information security and physical security of mobile devices.

Prevention from the unauthorized access of the information of an organization.
Ensuring that only the accessed users or the authorized users can access the particular confidential information.

Prevention from the hackers/threats who hacks the ID's, mail, passwords etc.

9. Conclusion

Mobile computing is a very important and much more evolving technology now days. It allows one to effectively communicate and interact within a stable or portable state over a network and everywhere. Within the development of technologies mobile computing requires many more other new technologies to be generated and collaborated to fulfill the user demands with the growing world.

References

1.Bedre Heeramani 1, B.Nagaraj 2, " Research Dimensions of Advanced Mobile Computing Technology Security Issues for the Complex Applications", International Journal of Advanced Research in Computer Science and Software Engineering, Volume 3, Issue 4, April 2013.

ISSN No: 2348-4845
International Journal & Magazine of Engineering, Technology, Management and Research
A Peer Reviewed Open Access International Journal

2.Jochen Schiller, "Mobile Communications", Addison –Wesley, 2000.

3.Devashish Goswami, "Mobile Computing", International Journal of Advanced Research in Computer Science and Software Engineering, Volume 3, Issue 9, September 2013.

4.Hamachar, Jacky and Varensic, "Computer Organisation".

5.http://en.wikipedia.org/wiki/mobile_computing.

6.http://www.tutorialspoint.com/mobile_computing.

7.Bedre Heeramani, B.Nagaraj," Emerging Technologies Trends of 2012-2013 Data Flow Supercomputer design Issues for Challenging Applications", International Journal of Advanced Research in Computer science and Software Engineering, Volume 3, Issue 3, April 2013.

8.Tanenbaum," Computer Network".

9.Charles Perkins,Ed., "AdHoc Networking", Addison-wesley, 2000.

10.Basagni, Conti, Giordano and Stojmenovic, EDS, "Mobile AdHoc Networking", IEEE/Wiley Press.