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Review on Mobile Computing and its Implications in Healthcare and Businesses

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Abstract: Mobile computing has the capability of device control to form a trained model of machine learning. The devices use the network and relate to the wireless or wired networks which may be satellite, global, and cellular digital packet data (CDPA). The device's hardware included battery life, screen size, carriables, and inputs and outputs of the devices. The design mainly depends on the requirement of the organization's needs and its budget. The common software used in Mobile Computing MSDOS, Windows, PenDOS, Palm OS, and many others. The paper consists of a review of the current and previous research papers from various journals and the internet on Mobile Computing. The paper focused on the studies conducted on the Impact of Mobile computing in businesses and its implications. The review of various studies found that Mobile Computing provides access to technology in the hands and accessibility to the information in various areas of utilization such as education, technologies, healthcare, and disaster management.

Keywords: Mobile Computing, Machine learning,Education, Healthcare, Network, Business

I. INTRODUCTION

Mobile Computing is the usage of the computers available that can be transported for daily use providing all sorts of communication such as data, video, and voice. Mobile computing deals with mobile hardware, software, and communication preferences and properties.Mobile Computing provides the ability to access the feature at any point where the individual is located. The handheld devices are required to be connected to the Local Area Network (LAN) or a wireless network. Mobile Computing provides the ability to create the information, able to access the information, process it, store the data, and able to communicate the information without being restricted to a particular site.Mobile computing provides the ability to organize information and access it. The information is then processed, stored, and communicated through. Mobile computing is utilizing computers in transportation providing all sorts of communications including data, video, and voice activities.

Mobile deals with the three parts software of the systems, hardware of the systems, and communication properties. A local Area Network or a wireless network is required for the devices to run and fulfill the requirement. These devices do not mean the everyday mobile devices only but also the handheld devices used in various organizations to share data and connected to one network. The security field in information systems is very important in information technology businesses since it prevents the data from breaches and threats. The hardware associated with Mobile computing will be defined by the size, weight, processor. Storage, screen size, input, and output. The other aspect is battery life and communication abilities. The common software used in Mobile Computing MSDOS, Windows, PenDOS, Palm OS, and many others. The modes of communications provided are to be connected, weal connection, or disconnected. The available technologies for Mobile Computing are Wireless Local Area Networks, satellite connections, Cellular Digital Packet Data (CDPA), and global systems. The internet and infra-red technologies are also advanced in Mobile Communications.

II. REVIEW OF LITERATURE

Mao et al, (2019) in the study on collaborating the mobile computing devices in association with systems. The study involved eighteen projects in the detection of bugs in the systems after the collaboration of mobile computing. All the project is selected in a randomly to use mobile computing in their organization. The study concludes that the collaboration showed good popularity but a slower development. This shows the potential risks associated with collaborating the mobile computing systems without proper planning. Cybersecurity issues should be kept in mind

when collaborating with the mobile systems in the organization since the data might be compromised if measures are not taken properly.

Ma et al., (2019) studied Power Spatio-temporal Big Data in an organization using big data technologies with mobile computing. The study showed a great difference and efficiency in the work, but many challenges showed up in their study. The smart grid in the Power Spatio-temporal Big Data technology is dependent on mobile computing and architecture should be well designed in implementation to avoid the risks and challenges of the big data.

Yang et al., (2019) proposed a distributed Machine learning in the servers as an asynchronous parallel model that works on correcting the faults of the technology if any took place. The model showed effect by limiting the size of the barrier occurring in the server and reducing it to a minimal level of risk. The performance of systems showed improvements with the model with the cluster model. This shows the importance of security in information systems in mobile computing.

Nee & Tu, (2018) conducted a systematic review of the impacts of wireless and mobile computing in Social Economic, Environmental, Human Health, and Cybersecurity. The impacts on society economically are very big as the service providers, hardware equipment and shopping sector have been dependent on mobile computing. The use of radiofrequency equipment, using mobile phones while driving, and utilizing wearable devices like smartwatches, handheld devices are interesting topics found by them to have migrated the systems of delivering the services in organizations. The online education and courses showed that the student using the computers at school had bad results in academics. The chemical poisoning associated with manufacturing the devices for mobile computing has been a long discussion among society. Malware scams, phishing attacks are a big concern and impacting the cybersecurity of mobile computing. The study covered the political impacts, health impacts, environmental and social issues associated with the advancements in mobile computing.

Gikas& Grant (2013) researched the role of Mobile computing devices in education. As part of the research, they introduced mobile devices such as cellphones and smartphones in higher education. The perception of students is studied when using mobile devices for learning and the role of social media in high schools. Three universities are taken as part of the study and provided with the mobile computing devices for the course in two-semester of their study. Interviews are conducted for student groups about the benefits of mobile computing in education and the issues with mobile computing. The study showed the results with improved interaction and collaboration opportunities among the students due to instant connectivity for assistance with other learners and teachers.

Astarita et al, (2020) in their study on mobile computing for disaster emergency management operations showed that the mobile systems during situations of emergencies like a flood, earthquakes, and severe climatic conditions. The mobile computing devices showed a great impact on transferring the information to the people and providing the alerts and required information. A centralized system is responsible to manage all the systems and the information needed. A mobile phone-based platform is shown as the best source of the exchange of communication and information. The method showed that the centralized platform is effective in disaster management prevention and delivering information.

III. IMPACT OF MOBILE COMPUTING

3.1Effects of Collaborations in Developing Mobile Computing Systems

The development and collaboration of mobile systems in the organization will have a positive effect on the systems. The association of mobile computing in the organization will lead to quicker advancements of systems and the rise in creativity levels but may affect the quality. It is not correct in all cases and depends. GitHub is one place where it has integrated many mobile computing devices such as the Internet of things, Open Edge, and Cloud sim. Mao et al, (2019) in the study on collaborating the mobile computing devices in association with systems. The study involved eighteen projects in the detection of bugs in the systems after the collaboration of mobile computing. The study concludes that the collaboration showed good popularity but a slower development. Some projects with objective C show a slight chance of risks of fewer developments and slower projects. The study resulted in the detection of Bugs and possible risks by more than six percent.

3.2 Big Data Technologies and Mobile Computing

Power Spatio-temporal Big Data (PSTBD) is a technology of smart grid that is dependent on mobile computing which has become a huge growth of utilization in the organizations that are using the Big Data technologies. According to Ma et al., (2019) the comparison of the differences in the features, platform, and architecture in both regular technologies and PSTBD technologies. The PSTBD shows great efficiency but also has many challenges in implementing it.

3.3 Security Monitoring Based on Mobile Computing

The security field is very crucial in information technology businesses since it prevents data from breaches and threats. Mobile computing takes the capability of controlling the sensing devices to form a cluster for creating a trained model of

machine learning. Yang et al., (2019) proposed a distributed Machine learning in the servers as an asynchronous parallel model that works on correcting the faults of the technology if any took place. The model showed effect by limiting the size of the barrier occurring in the server and reducing it to a minimal level. The performance of systems showed improvements with the model with the cluster model.

3.4 Health care and mobile computing

Patient information can easily be accessed by the Medical staff on demand with mobile computing. The transfer of information will save time and costs. The mobile health devices will provide the staff access to electronic health records. Mobile computing also provides patients to track their information and updates from the health staff. It will make them ease to accessing to the information such as charts, reports, payments and scheduling the visits.

IV. Conclusion

Mobile Computing provides access to technology in the hands and accessibility to information in various areas of utilization such as education, technologies, healthcare, and disaster management. Mobile computing is coming up to date every day in the field of technology and people want to get the information in their hands. The education field shares the data commonly with student groups to work and monitor the submitting activity. But the healthcare field in sharing of the data only among healthcare professionals. Disaster management also showed help in using mobile computing. The mobile computing devices are modified with the requirement depending on the issues such as privacy, sharing, confidentiality. The review of literature on various studies shows the importance of mobile computing and how it to be handled in various areas of interest. The areas requirements are kept in mind but the issues like cybersecurity, meaningful use, and privacy must be given importance whatever the collaboration might be done.

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