



Impact of IoT (Internet of Things) on Libraries

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Abstract: Nowadays, We are using internet in communication with human –human. But Internet of things is a technology which provide communication to things . Any object will have a unique identification and address, so that every object can be connected. It is 1995 for IoT. We heard about today’s technologies in 1995 and now we are using them frequently. Around 50 billion devices and objects will be connected to by the year 2020. When every sector will connected with IoT, libraries also will need transform its services. An attempt has been made to explain Introduction of IoT, its growth and impact on service industry , Impact on library Services and its expanded use in library.

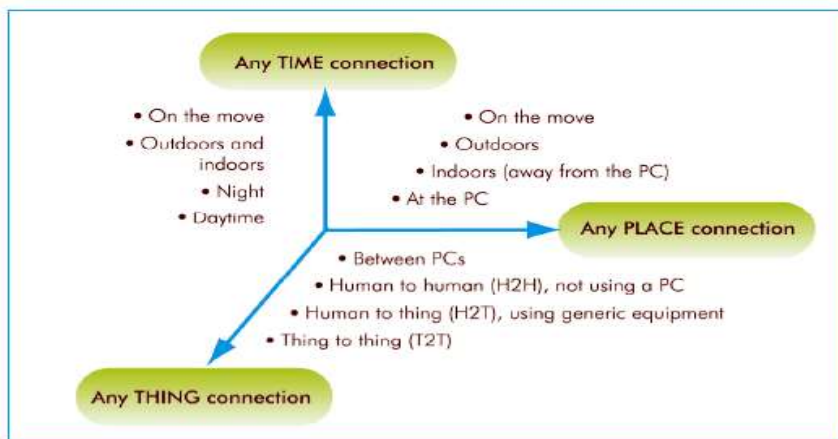
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I. INTRODUCTION

Today, the most of Internet Connections worldwide are used by humans, such as computers and mobile handsets. The main communication form is human to human. But in nearer future, every object can be connected. Things can be exchanged information by themselves and number of ‘things’ connected to the internet will be much larger than the number of people and humans may become minority of generators and receives of traffic. We mix the physical world and information world together. The future is not going to be people talking to people , it’s not going to be people accessing information. It’s going to be about using machines to talk to other machines on behalf of people. We are entering a new era in ubiquity, we are entering the internet of things era in which new forms of communication between human and things, and between things themselves will be realized. A new dimension has been added to the world of information and communication technologies: from anytime, anyplace connectivity for anyone, we will have connectivity for anything.

1.1 What is Internet of Thing Mean?

The Internet of Things (IoT) is a computing concept that describes a future where everyday physical objects will be connected to the Internet and be able to identify themselves to other devices. The term is closely identified with RFID as the method of communication, although it also may include other sensor technologies, wireless technologies or QR codes. The IoT is significant because an object that can represent itself digitally becomes something greater than the object by itself. No longer does the object relate just to you, but is now connected to surrounding objects and database data. When many objects act in unison, they are known as having "ambient intelligence." (Techopedia) (Definition of IoT). Fig.1 shows this new dimension



Source: ITU, adapted from Nomura Research Institute.

Figure-1 A new dimension

II. IMPACT ON SERVICE INDUSTRIES

We are seeing innumerable examples of IoT applications in different types of industries like manufacturing, home appliances, health sector, defense. Research, insurance etc. In case of service industry, IoT applied to monitor consumer's activities, in that case business is undertaken and risks are reduced. Almost all the sector of life will be influenced by Internet of Things by 2020. Some of them as below,

2.1 Home

To provide vivid example of the IOT in practice, the retailer Amazon recently announced the Amazon Dash. The Dash uses small buttons that are designed to be connected to an Amazon account. Users need to suppose to place these buttons in their home near their daily used products. As a example, if my toothpaste is out of stoke or very less in stock, Amazon dash will inform me about that. I will get message in my mobile or my watch. I can order it online or purchase from nearer shop. In that example I can add milk, vegetables, tea ,sugar etc.

2.2 Health care

IoT has great potential in health care industries. Recently , we heard about robot who can do operations. Human error can be less in these kind operations. Smart watches will be there and play as a personal care taker. It shows your sugar level, BP level ,heart bits, what you should eat and what you should not, how much exercise you need to do and how much to walk.

2.3 Automobiles

We already are using GPS technology in mobile. You will get empty milk carton information in car before you reach home. May be car inform to another car about bad roads, traffic jam ,best restaurants. May be driverless cars also will run on roads.

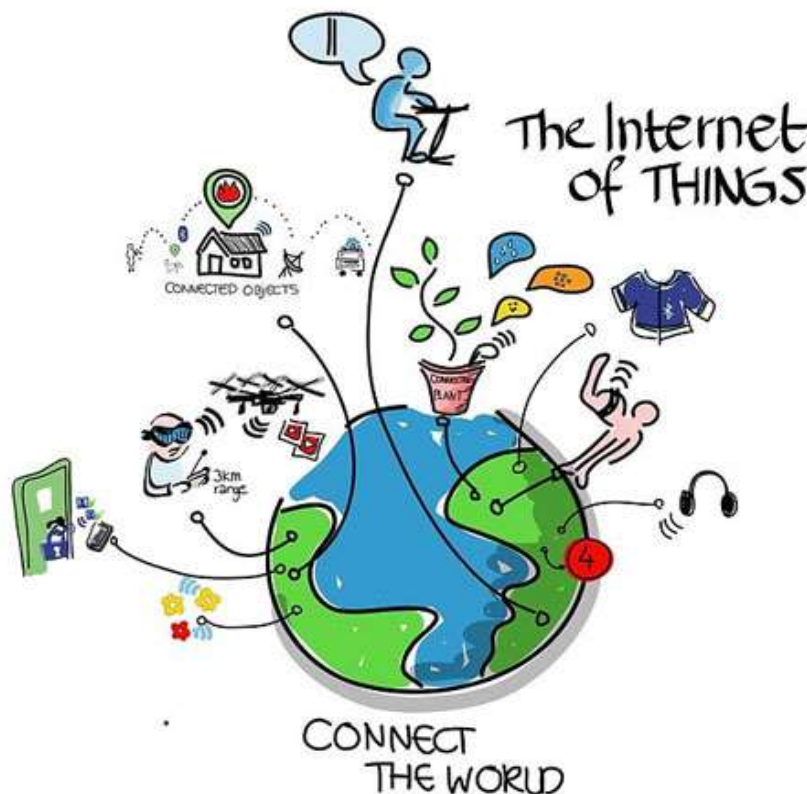


Figure 2 Impact on all the Sector

II. IMPACT ON LIBRARY SERVICES

Librarians are very much familiar and already using RFID Tags for the library management services like books transaction, books shelving ,security purpose. .RFID (Radio Frequency Identifier) is a pivotal enablers of the Internet Of Things. IoT is still in infancy but,it has great potential for libraries. Libraries will be competent to add more valuable services and offer rich library experience for users. In the case of IoT ,the main thing is different than RFID is that, the Internet Interacting with a thing or object. Libraries have many objects like books, Journals ,CD/DVDs, theses and many more physical object. IoT can be blessing to overcome from some constant library problems such misplacement of objects and their usage reports. It can be help in escalation tie between information and users. Most of the user have smart mobile apps, libraries can enable them to access and use library resources through virtual library card. Some examples of library services which may given excellent by the help of Internet of Things.

3.1. Book Transaction :

With integration of library collection with mobile devices of patrons with IoT application ,circulation of items and reminder of books can be on streamlined. The IoT will able to tell users about book's availability, missing or issued by whom. It may give automatic message them when their reserved book physical come in library. Their issued book may also give reminder when their return date on due.

3.2 Reference Service:

IoT can help to librarian to create user's profile through his/her recommendation and library resources usage reports. They can easily suggest resources to user as per their requirement. If user engaged with research ,library can automatically provide their desired material by mail.

3.3 Access to library resources:

Libraries, with help of mobile app may provide a virtual library card to its members, which will help member to access to library and use resources. When user will use online catalogue ,mobile app provide map of searched item as per its availability. It can also provide its information that where and when user can find it.

3.4. Collection Management

Collection management and stock verification both are very difficult in libraries with big collection. Libraries are having range of materials and different physical form also. Smart books, journals and documentation can be verified automatically. Missing of books can be reduce by this technology. It may help in ordering process and give usage report of ordered books. Librarian can check is that book is really in use or not.

3.5. Information Literacy

Information literacy or library orientation will be more easy and virtual. Every new user tour library virtually. IoT help library in providing self guided virtual tour. Libraries having setup beacons like wireless devices at different sections ,their mobile phone will play a video or audio explaining more about that section and how one can get maximum benefit out of it. It may able to provide special information about manuscript with photograph too.

IV. CONCLUSION

IoT has giant potentiality for libraries. Once IoT fully evolved, may sea change come in library service and its functions. Library building, Book selves, electronic gadgets, books and other material everything gone digital. Libraries need to take in consideration various issues before adopt any new technology. Firstly privacy and security of patron's data as there is a possible of sharing this data with third parties, which may lead of hacking. Secondly staff training, thirdly cost of technology and finally most important thing in decline in the use of physical library. It is evolving stage and it make sense for librarians to learn about this new the technology and wait until it's wide acceptance ,adoption and availability for better implementation in libraries. Libraries are prone for change and it has been observed over a period of history, hence IoT would be the giant technology after Internet, which is going to overabundance of changes to library.

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