A PLATFORM OF INTERNET OF THINGS IN VARIOUS DOMAINS - A SURVEY

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ABSTRACT

An article is to address the features of Internet of Things in different sources in various region of a domain. Nowadays, learning is through electronic media, which is nothing but an Internet. This journal tells you about the application of IoT and how IoT change into an E-Learning. The applications of an IoT such as smart cities, smart homes, smart grid, smart health, smart transportation and mobility. The network of physical objects defines Internet of Things or "things" embedded with electronics, software, sensors, and connectivity allowing them to exchange data with the manufacturer, operator, or other connected devices.

Keywords: IoT, applications of IoT, IoT to e-learning, Internet of Things, smart cities.

I. INTRODUCTION

The Internet of Things is changing everything, and eLearning is no exception. As the world continues to change and become
More interconnected, watch out and plan for the following 6 changes, so you can stay at the top of the E-Learning industry. The International Telecommunication Union's Global Standards Initiative has been done through, network of all kinds of things embedded with sensors, electronics, software, and so on, connected to the Internet[3]. The term IoT encompasses an unbounded, growing set of devices and technologies, and as the IoT technologies gain traction globally, the need for experts that combine knowledge from various technical fields' increases. IoT projects are likely to need designers, system integrators, developers and technicians in order to take an idea from inception to execution. Such diverse requirements can create an understanding gap between business-oriented individuals and their ideas, and the actual implementers that deal with realistic constraints. [4]

It is an intelligent interconnection of all things via the Internet, to communicate and exchange information through information sensing devices in conformance with agreed protocols. Achieving the goal of intelligent identification, location-tracking, monitoring, and managing things. It intertwines many day-to-day objects surrounding us into networks in one or the other form. Varied smart technologies like RF identification [RFID] and sensor technology shall be embedded into a wide spectrum of application.

II. APPLICATION OF INTERNET OF THINGS

There are many applications in IoT such applications are:

- Smart cities
- Smart home
- Smart grid
- Smart Health and
- Smart Transportation and Mobility

A. Smart cities

Smart cities may still be viewed as cities of the future and smart life, and by the innovation. By the IoT, cities can be improved in many levels, by improving infrastructure, enhancing public transportation World Scientific News (2017). By connection all systems in the cities like transportation system, healthcare system, weather monitoring systems and etc., in addition to support people by the internet in every place to accessing the database of airports, railways, transportation tracking operating under specified protocols, cities will become smarter by means of the internet of things[8].

Fig1

Fig 2

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B. Smart Home

Wi-Fi have started becoming part of the home IP network and due the increasing rate of adoption of mobile computing devices like smart phones, tablets, etc
Security: Video door monitoring, motion sensors, gas leakage detection, intrusion sensors, curtain sensors, fire detection and control.

Features

Lighting control: Remote on/off, presence detection.

Electrical: Smart air conditioning, smart refrigerators.

Entertainment: AV controls, gaming consoles.

Communication: GPS navigation connected to entry and exit, proximity door unlocking.

Fig 3

C. Smart grid

A smart grid is related to the information and control and developed to have a smart energy management. A smart grid that integrate the information and communications technologies (ICTs).Many applications can be handling due to the internet of things for smart grids, such as industrial, solar power, nuclear power, vehicles, hospitals and cities power control. Smart grid applications today's grid is very reliable and can deal with normal electricity fluctuations and it will take a step further towards using a low carbon energy system, by allowing integration between the renewable energy and green technologies, and offering many benefits to customer in cost savings through efficient energy use at home[8].
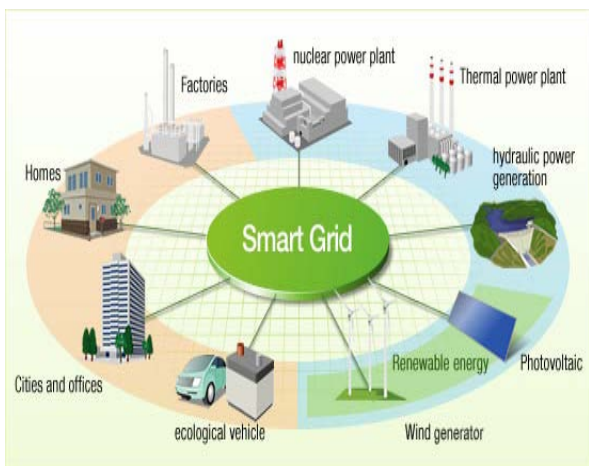

Fig 4

D. Smart Health

Smart health replaces the process of having a health professional come by at regular intervals to check the patient's vital signs, instead providing a continuous automated flow of information.

Fig 5

E. Smart Transportation and Mobility

The development in transportation is one of the factors to indicate the well being of the country. A road condition monitoring and alert application is one of the most important of IoT transformation application. The main idea of the concept of smart transportation and mobility is to apply the principles of crowd sourcing and participatory sensing. The process began with user identified the route wishes and marked some points as pothole in the smart phone's application.

Fig 6

III. IoT TO E-LEARNING

The Internet of Things is changing everything, and eLearning is no exception. *"To study effectively through e-learning gives self-motivation and go beyond success".* As the world continues to change and become more interconnected, watch out and plan for the following changes, so you can stay at the top of the eLearning industry.

A. People Will Consume Content Differently

It's estimated that the number of IoT-connected devices in 2018 will surpass the number of mobile devices for the first time in history. It's

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projected that there will be over 6 billion smart phones and 50 billion IoT-enabled devices in the world by 2020. For reference, the world's population is 7.6 billion and growing. That means everyone-from teachers to students to marketers-will need to change the way they develop and write content.

Even in the past couple of years, the world has become much more visual. For example, video has trumped copy as the preferred way to consume content-and video itself has changed. One study found that adding an interactive aspect to a video gets 40% more engagement than those videos without this feature.

Video is easily integrated into small IoT-enabled devices and can say more at a glance than the written word, so eLearning students and teachers will have to change the way they deliver content. In short, that content needs to do a lot more than optimize for mobile in the coming months and years.

B. The Flexible Will Survive And Thrive

No business succeeds when it stands still-the same goes for teachers, students, and entrepreneurs in eLearning. It's critical to stay up to date with current IoT facts and trends; look at data that shows how, when, and where your audience is spending time online; and capitalize on that.

Achieving these goals might require more nimble movements over time, but that flexibility can help you succeed in this ever-evolving digital landscape.

C. Testing Will Change

With internet access on your phone, pens, and, who knows, maybe even sneakers someday, how will teachers test students in a fair, cheat-proof environment? Perhaps testing will change from memorized question-and-answer exams to research-based projects.

For instance, instead of answering multiple choice questions, students will have to use the internet to locate answers and expand on these findings. With the internet at our fingertips for practically everything, it makes sense to utilize that information in a productive way. As an eLearning teacher, you'll just have to think about the best way to test your students.

D. Expectations Will Shift

The IoT doesn't just change the way people connect to the internet-it also changes the lifestyles, expectations, and habits these individuals form. With Artificial Intelligence (AI) and IoT come home security, faster coffee, efficient energy use, and even faster streaming. Smart home automation is a great example of this shift.

As one of the biggest trends relating to the IoT right now, home automation gives people convenience and peace of mind like never before. Once people get used to this ease of living, it'll become the new norm for how they expect to access other information too.

When you're developing any new eLearning materials, think about how to make your eLearning courses cheaper, more interactive, and

convenient to help attract more students and stand out from other classes.

E. New Majors Will Surface

With rising IoT-related developments and data points, new jobs will surface. Teachers will need to develop entirely new curricula and majors to account for this change—and students will need to look toward the future to plot out career prospects relating to these new fields, especially in technology-centered careers.

F. Job Competition Will Be Global

E-Learning is a globalization of education; people from anywhere can learn in virtual classrooms and get degrees. With the IoT also bringing the world closer together by connecting everyone to the web, it's safe to assume that jobs themselves will become more competitive and more students will be turning to eLearning to get the affordable and accessible education they need. Specific skills, advanced accreditation, and guidance will be in high demand. eLearning teachers may want to consider diversifying their classes and coursework while offering the best learning materials compared to their own competition. Doing so may help their students get an edge up on soon-to-be globally competitive career fields. It's incredible to imagine where the world will be after another 20 years of technological advancement. Stay ahead of the curve in eLearning with the merge of the IoT by remembering these points [7].

Conclusion

Thus Internet of Things gives new shapes to the living being by communicating among smart things. Internet of Things (IoT) is somehow a leading path to the smart world with ubiquitous computing and networking to ease different tasks around users and provide other tasks, such as easy monitoring of different phenomena surrounding us.

REFERENCES

[1] CSI Communications "INTERNET OF EVERYTHINGS" volume no:41/Issue No.4/July 2017

[2] M.U. Farooq, "A Review on Internet of Things (IoT)" International Journal of Computer Applications (0975 8887) Volume 113 - No. 1, March 2015.

[3] Prof. Dr. Srisakdi, International Journal of the Computer, the Internet and Management Vol.23 No.3 (September-December, 2015) pp. 1-4 1 "Applications of Internet of Things in E-Learning"

[4] Zorica Bogdanović, Konstantin Simić, Miloš Milutinović, Božidar Radenković and Marijana Despotović-Zrakić, "A PLATFORM FOR LEARNING INTERNET OF THINGS" International Conference e-Learning 2014

[5] Somayya Madakam," Internet of Things: Smart Things"

[6] Dr.R.P.Ram kumar, Hima Sampathrao, Vijay Kumar Burugari and Sanjeeva Polepaka, "Applications Domains of Internet of Things: A Survey" International journal of Engineering Technology science and Research IJETSR www.ijetsr.com ISSN 2394-3386 Volume 3,Issue 10 October 2016

[7] https://elearningindustry.com/internet-of-things-is-changing-elearning-6-ways

[8] "Internet of Things Applications, Challenges and Related Future Technologies", Zeinab Kamal Aldein Mohammeda , Elmustafa Sayed Ali Ahmedb, WSN 67(2) (2017) 126-148 EISSN 2392-2192.