

IOT in Education

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Abstract

Many technical communities are doing researches that contribute IOT (Internet of Things). IOT is the interconnection of machine share data and notify needable information. Many apps, sensors, remote device, avatar or robots made our daily life easy. Now easily most of things in our fingertips as like communication, transportation. Bharat still needs to be focused much more on the consistently growing sectors like, Higher Education Systems, Hospital Services, Tourisms, IT, Research & Development under PPP model Infrastructure, Industries, Foreign Direct Investments, , foreign collaborated Service Industries, e-Governance in a more better way. Higher education system is also growing, but comparatively slow. This research article is focusing on the essence of Education with IOT for Smart Bharat.

Keywords: IOT, Education

Introduction

Today, the objects around us are becoming smarter due to the innovations in technology and various industries are getting disrupted. But, when compared with sectors like home automation, industrial automation, etc education sector has not been in the forefront of adopting latest technologies. The Internet of Things (IOT), the new technological paradigm is conquering the entire world by connecting various objects around us. But, as said earlier, education sector is falling back in leveraging IOT.

But, today, this started changing slowly as various educational institutions are now realizing the significance of introducing technology, especially IOT, into their daily teaching methods. Very soon, many schools and colleges will have IOT embedded into their day-to-day activities and there are a few reasons for this.

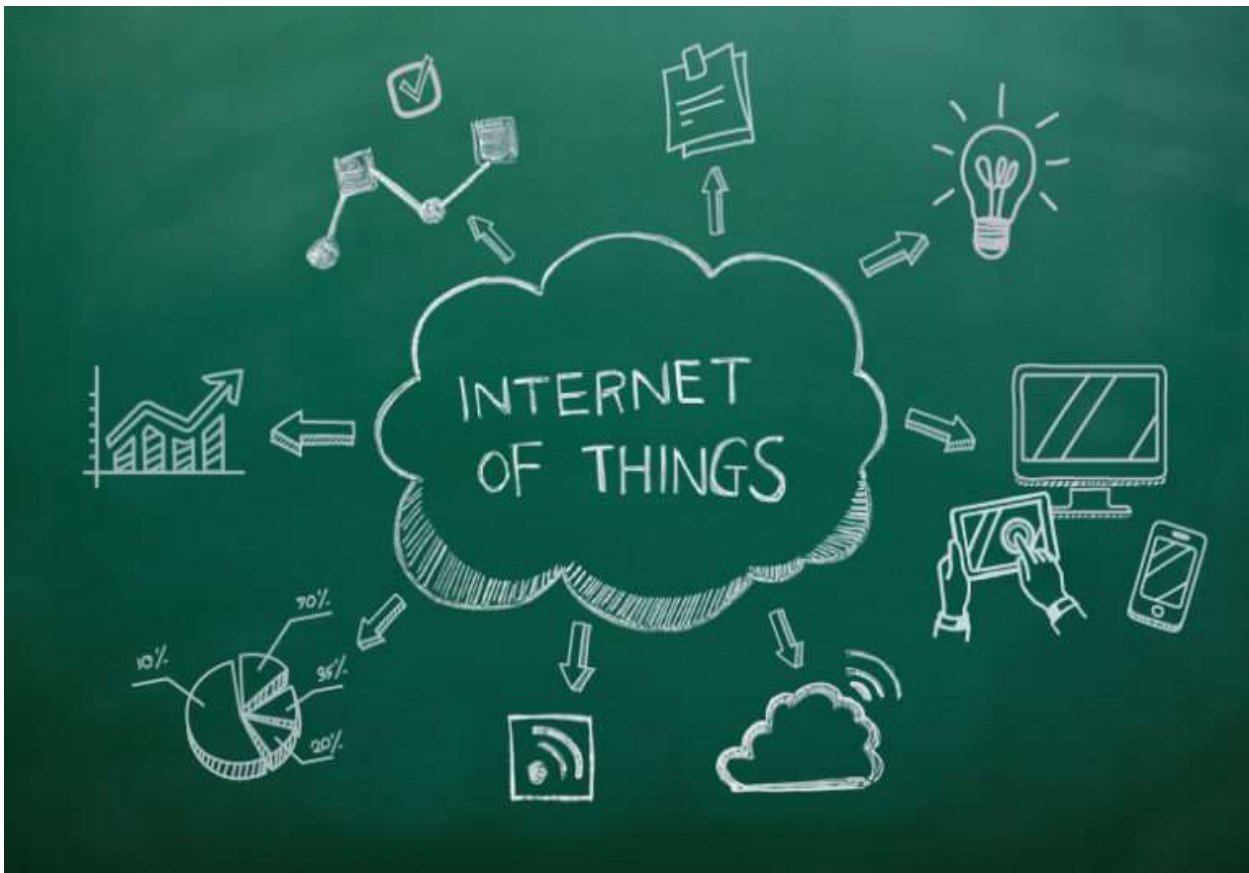
A school in Richmond, California, embeds RFID chips in ID cards to track the presence of students. Even if students are not present for check-in, the system will track and log their presence on campus.

What is IOT?

The **Internet of Things (IOT)** is the network of physical objects—devices, vehicles, buildings and other items embedded with electronics, software, sensors, and network connectivity—that enables these objects to collect and exchange data. By the Internet of Things, objects recognize themselves and obtain intelligence behavior by making or enabling related decisions thinks to the fact that they can communicate information about themselves.

IOT is applied in many industries including finance, travel, teaching, telecommunication, and so on. When it comes to implementing IOT in the education sector, the major reason is the IOT enhances the education itself and provides advanced value to the structures and environment.

A computational IOT nervous system for colleges and schools helps to keep track of major resources, create smarter lesson plans, design secure campuses, enhance information access, and much more. With its set of advanced tools, IOT can be regarded as a new method of classroom management.



Education

Education is the process of facilitating learning, or the acquisition of knowledge, skills, values, beliefs, and habits. Educational methods include storytelling, discussion, teaching, training and directed research. Education frequently takes place under the guidance of educators, but learner may also educate themselves.

Education is commonly divided into such stages as primary school, college, university or apprenticeship. Primary school is the first stage of education in which we got the knowledge of basics of whole. Second stage is college level where we select our future and educated according that and chooses related materials. After that in university got enhance knowledge and can be proceed for research.

Under various articles of the Bharatn Constitution, free and compulsory education is provided as a fundamental right to children between the ages of 6 to14. Lake of information doesn't have any help. If divided these according educational stages its' all of modules of three years.

Today's IOT in Education can help a lot because many devices like C pen used to development. IOT creates educational environment.

IOT Applications in Education

Some of the applications of IOT in the education sector are as follows.

Learning

Learning is not so much limited as text or images. Many textbooks are joined to web-based sites that incorporate additional videos, materials, animations, assessments, and other materials to aid the learning process.

Privacy and data Security

As there will be many students present in a class of any educational institution, monitoring the where about and activities of each and every students is not an easy task. Moreover, the students in an educational institution are more exposed to risks and require smart security when compared with the population at any other places of work. IOT can add an immense value in terms of enhancing the security of schools, colleges, and any other learning centers.

Smart schools

Today's smart schools have an infrastructure that can develop and progress into digital learning centers as more and more IOT devices are deployed frequently.

Educators can keep track of students, staff and resource to improve operational efficiency and reduce costs. Although IOT in education is still in its infancy, many schools are now adopting new technologies to track student attendance, transport and oversee security systems [3]. For example, RFID (Radio Frequency Identification Device) installed in ID cards or wearables can monitor attendance and track young students' whereabouts in schools. Real time information of devices can also help maintenance departments quickly repair or replace devices to avoid disruption in classrooms.

Educational Apps

These kinds of apps can be considered as game changers as they provide a large number of educational games. These games provide numerous features that offer interesting possibilities in teaching and learning. This makes education more appealing than ever before.

Increasing Efficiency

In many schools and colleges, a lot of time is spent on activities that do not add any value to the core aim of their very existence. For instance, attendance of the students' needs to be taken several times a day. Additionally, this data has to be sent to the central office for different purposes. The IOT can put an end to this inefficient system.

With the help of IOT end-devices, this data can be collected and sent to the central office server automatically eliminating the need for any human intervention. Due to this revolutionary shift towards the IOT, the tedious task of teachers and students can be minimized. This allows them to concentrate more on teaching and learning which the core function of any center of learning is.

Shortcoming of IOT in Education

Low Financing

A Government cannot invest so much money on Educational IOT projects because it required special hardware with some extra software. But wearable devices like beacons and wristband together with interactive whiteboards are not cheap at all. But growing interest in IOT shows that it will be change earlier.

Low compatibility between devices

Integration is the common problem for IOT entirely. No Matter what's the field is educational or healthcare. Their software can also have malfunctions in working with each other.

Low Security Level

As there is a lack of security standards as well, you should now that IOT network is huge and it consists of many gadgets and devices that connect to each other. As a result, it is much easier for hackers to breach the security of one device, and it will lead to failures in the functioning of the whole network. The situation can be improved if each device will be secured properly with authentication tools and strong firewalls. But all service providers must take care of it.

Conclusion

IOT will be growing in educational sector in earlier future. As study and schools go for high tech education creates fast or reliable data for future generation. Understanding between teachers, students and parents will increase. Using these aspect educations available anytime anywhere to anybody. Our understanding of education must shift if we want to integrate IOT into the education. The organizations that create reasonable, practical products the administrators, students, and teachers can get behind are the ones that get benefited first. This research paper provide another way for the development of Education using IOT in Bharat.

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