Technology Information System, Smart Campus, Emerging Technologies.

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Application of 5G in Smart Campus

Smart Campus: The Journey Starts Here

COMMSCOPE®

5G, Wifi6 and Emerging Network Technologies

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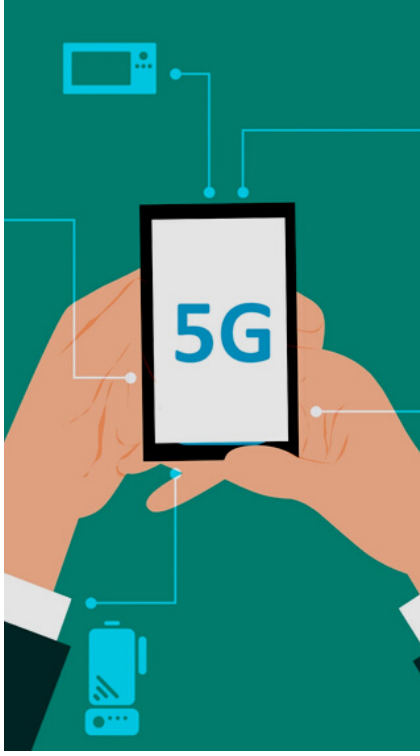
APPLICATION OF 5G

SMART CAMPUS

5G in Smart Campus

DECEMBER 2021



In order to provide a supportive and engaging environment, a **smart campus** makes use of advanced network infrastructure and internet-connected gadgets. In order to enhance safety and make the most of available resources, colleges can use this system, which connects people, devices, and apps, to make informed decisions.

Application

Smart Safety & Security using Facial Recognition

How does smart safety & security works

With 5G , campus safety is now more secured than ever as we combine together the lightning 5G connectivity with facial recognition technology to ensure fast and reliable security system.With the help of 360-degree camera, we can transfer real-time video to the cloud-based facial recognition technology to checks the faces who are not stored in the authorized database.If this happens, it will trigger the smart alarm that will then notify all the students with the smart campus application to be aware of the stranger while it also include a picture of the intruder.Cloud- based feature allow us to take care of the security remotely , and also the smart safety technology can replace security guard monitoring work for 24/7.Using 5G as the link between all those technology in this system, we can process all the procedure in a flying speed of just below 2 second to ensure a comprehensive security within campus.

Reflection

According to our opinion, the presence of 5G applications in smart campus can make a campus more sophisticated and versatile. As an example of smart safety and security, it is useful for all round campus safety for 24/7. With smart security and safety, propelled by facial recognition, intruders can be detected in an instant and with the help of smart alarm students can be notified by the situation and prepare themselves for any circumstances. Therefore,with the real-time security features, students can be more assure with the safety of the campus and allows them to enjoy their university life to the fullest. And also this features will lift a little bit burden from security guard job , as they can stay at one place and only move when the alarm rings.

INDUSTRIAL TALK 5

SMART CAMPUS:
The Journey Starts Here
(CommScope Malaysia)

SMART CITY:

Places physical infrastructure on its network infrastructure create situational awareness for new services, lower costs & public safety Using IoT to connect buildings, vehicles, people and things.
Technologically well developed urban areas with IoT devices such as voice/light/sound sensors. In order to reduce problems such as traffic jam, crimes like as snatching and etc these modernized infrastructures are built.
Information from officials can be reached to public in the smart city more faster and updated as collection and analytics of data are being done by machines. For instance, if there is water shortage in the area or short circuit happened residents would informed in a nick of time where they can prepare themselves.

IOT DEVICES:

SMART BULB

API DETECTOR

SMART SWITCH

SMART DOOR LOCK

SMART THERMOSTATS

VAPE DETECTOR

SMART CAMPUS:

1. **SMART LIVING** - Smart ID cards hold by students to register their presence at classroom/library or even in and out to campus. Smart lights which will turn on automatically when its dark. Thus, students can feel more secure.
2. **SMART LEARNING** - Digital portals are capable of storing students' data such as their grades/assignment submissions and etc. Virtual lab on other hand, can provide lab experience to students who couldn't attend themselves physically.
3. **SMART SAFETY** - Smart locks would restrict unauthorized access into officials' buildings in a more secure way such as require pin code or finger print. Tracking assets can detect students' movement at campus so that any misbehavior/dangerous act done by or to students can be detected quickly.

REFELCTION:

We've learned that this modern era is moving towards IoTs and smart gadgets. All infrastructures are being build with smart applications to reduce costs and improve efficiency of the place. Day by day technologies are getting improve as we humans demanding for more comfort and conducive life environment

INDUSTRIAL TALK 6

5G,WIFI 6 & EMERGING NETWORK TECHNOLOGIES

HUAWEI

EMERGING NETWORK TECHNOLOGY ON INFRASTRUCTURE

Wi-fi 6 and 5G have been designed to work together in many ways to optimize performance and user experience at the edge.Wi-fi 6 the latest generation,includes numerous improvements that make it better suited to large edge deployments than earlier generations of wi-fi.These deployments serve larger number of devices like camera,sensor,robot and smart building.Also 5G is capable of speeds many times those of 4G and support low-latency connections in ways 4G cannot.

Devices used:

Dell XPS 13 (2020

HP Spectre x360

Asus Chromebook Flip c436

Apple M1 MacBook Air

Lenovo Yoga c940

5G HEALTHCARE

5G vand IoT are driving network evolution to new level.This technology enable communication services provider to create and capture a range of new opportunities.The technological transformation of the healthcare sector is one of the example where communication service providers can enable improved patient experience and innovative care delivery to realize the full benefits,a collaboration between all the players in the digital ecosystem is essential.Consider a hospital which provides its patients with 5G-powered IoT devides for real time tracking and data analysis.The hospital partners with a service provider who equips it with its own private enhanced mobile broadband network slice to ensure uninterrupted high-quality image transfer and remote video consultations.The service provider is responsible for all infrastructure and connectivity acroos the hospital as well as its devices.

REFLECTION

From the industrial talk by Huawei Executive Industry Solution Manager,Mr Nicolas Yong,Students can benefit by gaining a new knowledge and experience from participate in this industrial talk.By now,student know what is 4G, 5G and the latest network technology which is 6G.In addition,this talk also mention the benefit of 6G wifi technology.For example,large bandwitdh,high concurrency,low latency(ping with a unit ms) and low power consumption.From this,from this benefit students are able to improve themselves and develop along the revolution of technology what we call 4th Industrial Revolution(4IR).