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Optimizing property management

with IoT and video analytics

IoT implementation offers improved efficiency, sustainability, and security through *video analytics* and connected technologies, leading to a better overall experience for tenants and *property owners*

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Introduction

The development of Internet of Things (IoT) has created a new information age in which data has taken unprecedented significance. Organizations are experiencing the advantages of collecting, storing, and utilizing data generated from smart, network connected devices to optimize their operations, increase their productivity and amplify their security. Particularly, the property management arena has seen valuable opportunities with the implementation of IoT in their buildings.

IoT makes a big difference in terms of efficiency and sustainability. Intelligent management of water and power resources can dramatically reduce operating costs for owners and property managers and satisfy the increasing demands of residents and tenants who are looking for eco-friendly, smart and efficient places to live and work. The adoption of IoT results in a more seamless experience for tenants and a better performance value of a building.

Video analytics play a pivotal role in the IoT, as connected devices generate an immense amount of data, with the potential of being visually assessed and utilized for the benefit of the property. With video analytics come elevated safety and security. Keyless entry with smart locks, virtual guards, facial recognition, and license plate recognition are just a few of the multiple video analytic applications, on the real estate industry, that promise a safer environment.

While these solutions are now available in the market, it is common that owners and property managers are not aware of their benefits, the ease of their implementation, and the various ways they can be integrated with other systems. This paper intends to clarify the subject and offer a clearer view on IoT, a revolutionary, more effective way to manage properties and keep tenants content.

What is the Internet of Things?

The Internet of Things is a term used to describe a network of interconnected “things” or devices on the internet. These “things” can be controlled remotely and feed data back into the network. The immense number of devices is exponentially growing each year and it is estimated that the number of “things” on the internet will surpass 25.4 billion in 2030.

These networks of smart devices are offering companies large amounts of data and incredible opportunities to remotely manage their business. The number of potential applications of IoT in property management is vast. These connections offer the possibility of automating critical tasks, improving resident experience and safety, and reducing operating costs.

For property managers, this is the chance to transform their premises into smart buildings, a concept that is becoming increasingly trending and asked for among millennials, a population renting at a higher rate than others due to their views on owning a house, marriage and children. Acknowledging this fact can help administrators cater more effectively to the needs of current customers (tenants).

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WAYS IOT IS REVOLUTIONIZING THE PROPERTY MANAGEMENT INDUSTRY

These are some of the ways IoT is modernizing the property management industry.

AUTOMATION

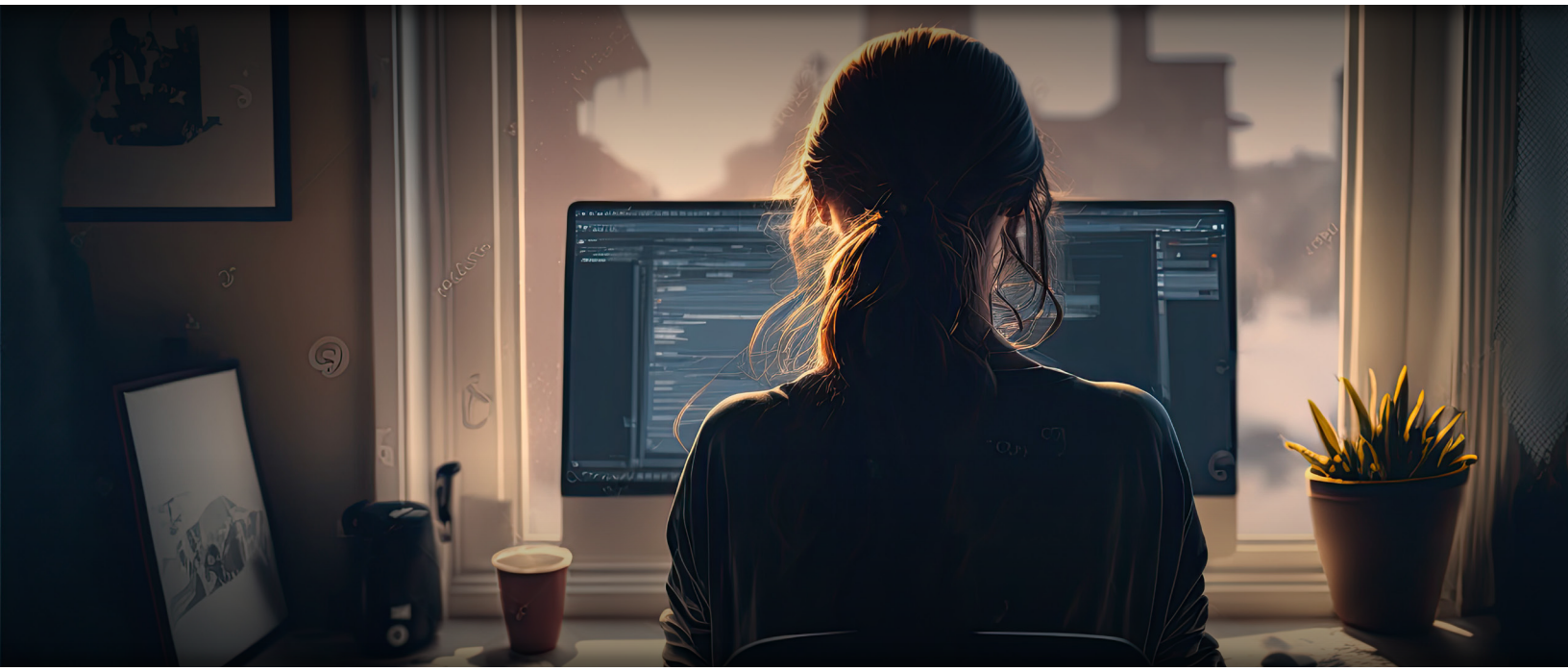
Reducing the amount of labor required on tedious tasks and lowering the margin of human error when performing those tasks is, undoubtedly, a big plus for property managers. IoT can be used to automate things like energy and water usage and other important components of managing a building, thus helping reduce water and energy costs. Predictive maintenance is a pillar in a smart building environment.

ANALYTICS

Analyzing and using the data gathered by sensors in the IoT environment with video analytics allows property managers to identify performance trends, make decisions on real, actionable insights, see spikes in utility usage, identify repair needs, and maintain optimal control on the building.

ENHANCED USER EXPERIENCE

Residents and tenants will directly benefit from adopting IoT. As more data is gathered about the characteristics of the building, the easier it is to adjust those conditions to meet the needs of inhabitants. Beyond comfort and functionality, security is also a huge advantage of implementing IoT.



EVALUATING WORKSPACE NEEDS

To assess the magnitude of “things” needed to be connected to the internet, property managers are encouraged to evaluate their workspace and buildings in detail. With the lifting of some COVID-19 restrictions and the return to work, determining the type of office work to be conducted is important to better understand the needs of the space.

For example, many organizations are opting to work in a hub & spoke model — a model where there is a main office (hub) and further satellite workspaces (spokes) for employee to have a professional place of work but with the possibility of working close to or from home — and provide a certain degree of flexibility to staff.

This is necessary to consider as flexible schedules and fluctuating attendance determine how much space and resources a property really needs to operate effectively. By using IoT enabled monitoring solutions, property managers can accurately identify how much space the entity requires for employees and make better decisions in terms of HVAC, lighting, and security.

Improved Efficiency

With the help of smart sensors, usage of the HVAC, lighting, and water systems can be optimized. Sensors gather information on the consumption of these services and facilitate the process of saving resources and reducing costs. For example, IoT can report if lights are being unnecessarily kept on all night when the common area or office is closed or empty. In addition, sensors can detect if air conditioning or heating is needlessly active when people are away.

Property managers can employ this data, set specific parameters, and reevaluate electric, gas, and HVAC requirements in order to minimize operating costs. IoT allows administrators to automatically turn all office lights off at a certain time at night or to turn off the HVAC toadapt to a tenant's holiday schedule.

IoT can also detect if there are leaks or malfunctions in the pipe system. Once a leak is identified, the system alerts owners/administrators, preventing further damage. The ability to accurately monitor and operate the above systems allows for real-time tracking, a vital factor since property owners and managers need to know what is happening in their properties at any given time.

PROMOTING SUSTAINABILITY

Utilizing energy efficiently contributes to maintaining an ecological balance and improves the reputation of the property in the area. Since buildings are major consumers of energy and water, being mindful on how these resources are used is vital to address the environmental concerns of modern lessees.

IoT can facilitate the process of improving energy consumption related to lighting, heating, and cooling. By integrating smart sensors into a connected infrastructure utility bills can be reduced and energy can be spent more efficiently.

Further, the data gathered from intelligent sensors can be integrated with forecasting and weather trends, daylight hours, and building occupancy, which permits to set the HVAC and other systems based on the actual requirements of the building at any given moment.

In contrast to traditional systems, IoT is capable of better tracking conditions of the space with the use of multiple sensors within the same HVAC zone. CO2 sensors can also be integrated to drive additional HVAC ventilation when CO2 levels get to a point that could impact employees' productivity and tenant's health. Additionally, tenants and employees can also impact the HVAC functionality through their indication of preferences of whether a space is too hot or too cold.

These are some of the possibilities:

- Smart temperature control
- Indoor air quality assurance
- Automated lighting
- Smart laundry

OPTIMIZING TRAFFIC FLOW WITHIN A BUILDING

One of the applications of IoT is video analytics, which can be effectively used to optimize traffic flows within a property. Video analytics permit the visualization of data to identify the areas, entry, and exit points with most traffic in order to avoid bottlenecks and underutilization of other spaces.

This intelligence can be applied, by property managers and owners, to take more methodical and coherent decisions about renting, selling, and utilizing building space in optimal ways. Parking — a common pain point for many properties — could also be improved by having sensors detect when the parking lot is full. IoT and video analytics provide estate managers with the necessary tools to make their buildings comfortably navigable.

COMFORT AND CLEANLINESS

Intelligent sensors and IoT are vital to ensure efficient and timely maintenance. When property managers know what areas are more popular, housekeeping could be prioritized effectively. Likewise, maintenance operations could be scheduled on movement trends and other patters depicted by IoT.

In buildings with shared laundry, IoT can also be a huge asset, allowing tenants to check on availability, pay the service, and monitor the process via mobile devices. Maintenance complains about a specific washing machine not functioning can also be done via an app or web portal.

Increased on-site safety

An improved user experience requires enhanced safety. IoT and video analytics offer outstanding solutions in this area by adopting connected cameras and wireless sensors, bringing high-performance processing of collected data, and providing residents with a set of *virtual guard services*. For instance, break-ins can be eliminated with IoT by allowing tenants to program when they will be away. With that information the system can track for potential movements or unusual activity and alert the property manager in real-time if something suspicious is detected.

Other security applications of video analytics deployments include:

Facial recognition
This type of biometric processing identifies various features, textures, and shapes of individuals for immediate cross-referencing with a secured database. With this technology, property managers can be notified when priority customers, exclusive members, fired employees, or unauthorized visitors enter the property. It can also identify if a tenant or employee gets agitated, helping management redirect resources and deescalate a dangerous situation.

Automatic License Plate Recognition
High resolution cameras can read and identify license plates of vehicles when they enter the community. Automatic License Plate Recognition (ALPR) can automatically grant access to vehicles displaying a plate registered in an approved visitor database. If the facility is not gated, ALPR can help maintain a record of all vehicles entering and leaving the facility.

Keyless entry with smart locks
Property managers should utilize smart locks to increase the safety of their facilities, without compromising a pleasant experience for residents. With the latest technologies, mobile phone and biometric credentials can be used to grant touchless access.

Going keyless means the elimination of unnecessary costs, such as rekeying or changing locks. Not only is security improved by using non-transferable credentials, but landlords won't have to go to the property in the middle of the night to assist a resident who locked himself out.

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Conclusion

Advances in technology are creating new ways in which property managers can now protect their tenants and offer a more comfortable experience to those who live and work at their properties. Internet of Things and video analytics are outstanding examples of futuristic solutions able to help property administrators save money, time and effort.

Giving rise to smart buildings, a necessity if keeping tenants content is a priority, can be achieved with IoT. Efficiently automating and managing energy, water, and HVAC systems can help owners and managers comply with environmental regulations, reduce utility costs, diminish the amount of labor necessary to operate such systems, and provide residents with the right indoor conditions. IoT also facilitates early detection of maintenance issues and malfunctions.

Beyond comfort and energy savings, video analytics and IoT can increase the security levels of any building. Regardless of the type of industry, security plays a critical role in the functioning of any organization. Nevertheless, for property management, security is determinative. Solutions such as virtual guards, smart locks, biometrics, and license plate recognition are among the innovations capable of protecting people, property, and assets.

An increased sense of security not only benefits tenants and residents directly. Property managers can also advertise their properties with an emphasis on safety to attract more customers and ensure leases get renewed. IoT and video analytics offer incredible opportunities for property managers to modernize their operations, protect their lessees, and save money. The question is not if, but when this inevitable transformation will take place at their buildings.

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For more information call **800.261.2041** or visit **security101.com**