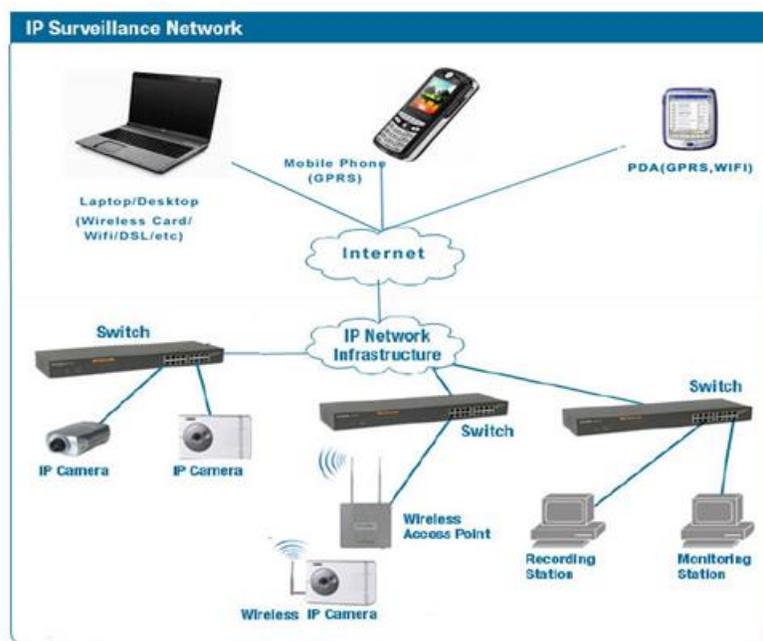


CANASA Scholarship Essay on Electronic Safety

Electronic safety refers to a net of arrays and systems that protect us on a daily basis through the means of technology; more specifically, an electronic safety system is electronic equipment that performs security operations for a facility. Electronic safety is provided to us in various forms, these include: CCTV surveillance, Fire detection/Alarming, and Access control systems. CCTV (closed circuit television) surveillance is a method of using cameras, or CCTV cameras to watch and monitor an area that may be at threat or of suspicion. CCTV depends on strategic placement of cameras and the observation of the camera inputs from a remote location. Some common applications of CCTV are security monitoring, traffic monitoring, monitoring hazardous locations from afar and much more. Close circuit IP cameras send video information to a remote access monitoring place, providing us with security updates on the facility. IP surveillance systems gives users the ability to record and control video/audio from an IP network.



Secondly, Fire detection and alarming systems play a vital role on our health and safety every single day in the forms of smoke detectors, and some type of alarming system.

The detector is composed of a sensor that senses changes in a room's Carbon monoxide levels, or intense heat changes. The types of sensors used vary according to the application requirements for example, the type of smoke/fire detector used in a home is different than that used in a warehouse or larger building. Once detected a nearby fire, the fire alarm system notifies the users by exhibiting an auditory sound that alerts and warns the people around to either extinguish the fire, or leave the premises and contact the nearby fire department. In Canada, Fire alarm systems have to follow the standards set by ULC to provide a safer and efficient experience to the customers.

The most common types of fire detection/alarming systems are: fire alarm control panels, initiating devices, and notification devices. Each one of these systems works differently, but has a universal purpose—to electronically secure us in our daily lives. In addition, access control systems are a fundamental building block of today's modern life as it protects our most used and hands on valuables. For example, when we "swipe to unlock" our iPhones, we control access to the cell phone through a motion password. Access control comes in various forms such as email passwords, phone passcodes, credit card PINS, etc. This form of electronic safety we are the most exposed to on a daily basis, and we use this the most as well, since it is at our fingertips! Access control refers to the selective restriction of access to a place or piece of data. Advanced forms of access control in today's updating technology are forms of biometrics including face recognition, iris/retinal recognition, and thumb-print recognition. There are 3 main types of access control systems: those that the user knows (PINs, passwords, passcodes

etc.), those that the user owns (keys, card, etc.), and those that the user is (thumb-print, iris recognition, etc.)



In conclusion, it is evident that electronic security plays a vital role in our technologically advancing world, and without it we would have been living in chaos!

Personally, my professional and extra-curricular development in the STEM field have led me onto believing strongly in electronic safety, and hope to pursue a related field. I aspire to pursue a job in fire safety, or access control; thus, my dream job would be to work for ULC as an electrical engineer. Currently I am studying first year electrical engineering at the University of Ottawa, in Canada, and hope to continue my education and complete an MBA at Schulich school of Business. I have volunteer experience tutoring students, volunteer experience with the IEEE, and volunteer experience helping my professors and Teaching assistants. In the past year, I have gained tons of connections and skills (technical and managerial), especially since my team's design for an automated home won first place at our university's "Design Day." Our job was to use

solar power energy to automate, and power a small home, and ensure that it provide shelter to families on an Aboriginal reserve just north of Ottawa. We successfully completed this design, and won first position out of twelve teams in this category. As you can see, I am truly passionate about electronics, and electronic safety; if you would like to receive further information on my engineering projects and experience please do not hesitate to ask!

Komal Javed