DRONES:
PERSONAL GUIDE TO DRONES
CAMERA, AIRFRAME, RADIO & POWER

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A PERSONAL GUIDE TO DRONES

Drones have now stepped out of the realms of science fiction and become an integral part of human existence in various spheres. We take a look at Drones and their impact on society.

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Introduction

Drones- the very name conjures images from science fiction movies and hi-tech battles. Yet the question at the back of our mind remains- are drones a blessing or a curse? Do the benefits outweigh the drawbacks or is the opposite true?

Human nature has always been interested in the unknown. Man has been curious about things around him and is always keen on exploring those things that he feels have a mystery somewhere.He is always looking out for a new conquest. Wanting to conquer the unconquered, beat the unbeatable, and enjoy the thrill of of revealing the mystery that lies hidden.The sky has always been among the toppers in man's list of mysteries. In fact, science fiction is closely linked to the sky and the mysterious comings and goings of spacecrafts and the likes!

"How many times must a man looks up before he really see the sky??"

This question sums up the very core of human nature. Human curiosity makes him want to see the depth of the ocean and the vast spaces in the universe all at once. Yet it is the immeasurable length and breadth of the sky that fascinates him the most. In a bid to to explore the skies, man made various flying machines from parachutes and air balloons to airplanes and helicopters! Next in line came spaceships and space explorations and finally science fiction came alive with the latest generation of drones governed by Artificial Intelligence.

Understanding Drones

The craze for power and mastery over all of land, earth and sky can be attributed to the very idea of creating a drone. In fact, the creation of these super machines can be traced to the basic human want to conquer and dominate.

Tracing the History of Drones

Drones can trace their origins to the 1800s. During this period, as part of the war against Venice, the Austrians sent bombs in unmanned balloons. The 1900s saw drones being inducted into the military and were used extensively to train officers in the art of warfare. World War I saw drones being used in warfare. Each passing year saw extensive research dedicated to the development of drones

Drones are unmanned aerial vehicles that are controlled either manually or through pre-programmed computers. In other words, they are essentially aircrafts that are controlled either from the ground or from an aircraft. The Oxford English Dictionary describes drones as 'a remote-less controlled piloted aircraft or missile'. Understood in such sense, drones came into first use after World War II, when unmanned jets started field operations.

Although WW I saw the creation of the first flying drones, they were not used in combat until WWII. The V-I, nicknamed the 'Flying bomb' was responsible for the loss of a substantial number of pilots and their fighter planes. In assorted sorties, the Germans destroyed a substantial part of the British capital. Post-war, drones were utilized for intelligence gathering and surveillance. Yet defense spendings continue to support drones. The 'official' drones range from tiny bird types to like prototypes like the famous missile launcher- the Predator.

The use of drones was restricted in the US for quite a few years. However, the congress has made substantial efforts to meet the expectations of the entire population. Although the use of drones is being encouraged, the government plans to release a set of

regulations through the Federal Aviation Administration that will control the usage of drones.

Personal Guide to Drones:

With all the hype surrounding Drones and the rapid strides being seen in technology, a personal guide to drones is the need of the hour. This book will help us understand the various types of drones, their uses, the advantages and disadvantages as well as the ethical issues that surround the widespread use of drones.

Uses of Drones:

Drones are used for both personal and professional uses. Drones are used for myriad functions including surveillance, weather forecasting, warfare, security, journalism, and so on. Drones used for personal use include toys and cameras for personal use. Professional drones include camera drones used for security, protection of wildlife and so on. Other types of professional drones include radio drones, power drones and so on. This technology is a gray area with lot of curiosity and debate associated with drones and their use.

Types of Drones:

Drones may be classified into various categories based on their basic functions. The most common types of drones are camera drones, airframe drones, Radio Drones and Power Drones.

Camera Drones:

Drones - marvels of engineering and themost innovative creation to date, are being used in various applications. The industry has enormous scope and opportunities for growth. Infact, imagination is the only constraint for innovation. Imagine recreating your personalized 3-D view of the surroundings. There is more to a camera drone than just mere specifications. The applications of camera drones are spread across military, research, weather forecasting, film industry, photography and broadcasting.

When in the typical military ideology, the implications can range from spying on a terrorist organization to mapping of criminal spots, in research the implications transform into monitoring the gestures and behavior of tagged experiments in a laboratory. In the areas of high risk and probable sensitive activities, camera drones can cater to a broad segment of media application and broadcasting. Many a times drones are employed for shooting in harsh terrains at unimaginable angles.

There is a lot of choice of camera drones now a days. You can literally handpick each drone based on your applications. For beginners, the best suited ones are ready to fly or RTF drones. In terms of low resolution activities, you need not bother about other complicated features of a drone. Going in with a Hubsan X4 (H107C) will be enough for basic usage here. If the emphasis is on a shooting application and over the top, a high profile professional one, then all you need is a Parrot BeBop Drone, phantom 3 or any other camera drone with a HD or a better pixel count.

Drones like phantom 3 now come with a 4K video with 12 megapixel photos and live HD streaming to your mobile device. Also auto take-off and less bulky construction are key parameters to look for in camera drones because they can often mess with your overall thrill of using a drone initially. Axis stabilization of a drone is again one very important aspect that needs to be considered while choosing a drone. For camera applications, one should look for 3 or 6 axis stabilization. The cost of a drone is proportional with the intricacies one should be expecting from it. These complex structures might be very difficult in terms of deciphering functionalities and needs a patient learner.

The idea of flying surveillance cameras would raise the expertise of humans in securing them from their own race. One can expect a live view of the traffic and roads ahead. Monitoring your vehicles in parking or collaborating with babysitters to know the well being of your kid would be easier for working parents. The whole world will lie before your eyes and there would be no secrets about the things you care the most.

The multi cam technology of drones that allows you to shuffle between and sync amongst various drones is definitely the much required boon for wildlife sanctuary managers. The experience that camera drones are offering makes you both friendly and hostile at the same time.

Airframe Drones:

Drones are exceeding their capabilities to levels lying in the infinities of human imagination. The demand from drones in the industry has far surpassed the stage of "demand of showcasing". Drones have already been exposed in the battle field as in the widely known example of the US and the Iraq war. The intervention in Afghanistan and the assassination of Osama bin Laden were are well executed thanks to the help of these superior machines.

Yet, these drones are just not fragile machines. Their architecture is being fast adapted to strengthen their use as robust devices worldwide. The introduction of resistant drones has opened up a new research field related to the framing of cellular drone segments in optimum and efficient ways possible. Much in trend now-a-days is the famous game of drones at which the whole tech-savvy generation is marvelling. The architecture of drones is a unique amalgam of three branches in science- mechanics, electronics and computer science.

FX-61 is a genius drone that splits into a tri-piece device for much simpler transportation. All due to its amazing body, this wonderful drone has very high stability maintenance at all speed levels. In addition to its above attributes, drone lovers are all the more enthusiastic about its landing and takeoff ease. The wingspan of a drone, the height it can attain, time period of its flight are more or less attached with the internal design backbone. The Skywalker 2014 is yet another very renowned airframe drone in the timeline of drones. This particular drone has enormous fuselage space plus it also enables stiffer landings.

Another important factor in the checklist ofan airframe drone is its aerodynamics. Two prevalent names that come up with respect to this attribute are techpod and penguin. Both of these are used for conservation applications. The later one has an advantage of built-in landing gear over other drones.

The intense attention that is focused nowadays on these airframe drones, the heights of human curiosity are also being tested. There is an impressive sense of innovation cropping up with these marvels of engineering. These innovations are enabling waterproof and crash proof models to be created. The airframe drones are getting way more intelligent with the internal motherboards being programmed to take acute and precise decisions in the situations where even the human minds err. There is being left no instance of any errands weather minute or large scale.

The prototypes of airframes drones undergo rigorous testing in open space. This test, tests their robustness, their flight timing, and their dynamics. How streamlined can a drone become? This is the question that is uppermost in the mind of many an innovator. This testing might involve attacks by water drones and piping obstacles in the paths. Many airframe drones are also made gunfire resistant.

With the increased participation of individuals, both young and experienced, the drones are evolving with each passing day. Everyday there are 'n' numbers of DIY drone models being worked upon and re- built. The expertise in airframe drones has endowed the human race with this inherent curiosity and the capability to bring ideas to life. Not just scientifically, but also the in the industry of gaming the shift to real life drone fights in some of the interesting terrains are to be watched out for.

Radio Drones

Technology now a day is progressing quickly and so are the drone's architectures and operations. Radio controlled drones or Quadcopters often communicate with a

particular radio frequency with their controllers. The communication on a particular frequency helps in providing an unhampered operation of your drone. There are four prevalent radio drones categories in the market or online sites, namely blade quadcopters, DJI phantom range, quadcopters spares and RTF quadcopters.

Talking about the blade quadcopters, it employs SAFE technology. It is best suited for the applications of aerial cinematography. It provides an alternate mode option for flight. It is a smart device with integrated HD cameras. The downlink facilities provided in this device enable multiple receivers to be operated at the same time. Many of its variants require no start up heavy works for flying operations. The devices come ready to use.

Next in lane is the DJI phantom range. The transmitter of phantom 2 vision plus enables a comfortable LOS range, which is dependent on the type of application one is trying to implement. It also has a 14 MP camera. Assembling this wonderful drone is a simple process and needs no specialized assembler devices. Younger innovations in this range of radio drones enable intuitive flight controls, collision protection and mishap prevention.

Coming on to the Quadcopter spares, there is a lot of additional touches you can give to your drone. From batteries to LEDs every spare part available, online or offline is much comfortable to be incorporated in the drone. There spares are available in all ranges and there are a lot of available choices to pick up from.

Taking an example of SYMA X11C Hornet 2.4GHz Micro Quadcopter, one can easily imagine the scope of RTF radio drones. The stability of this particular drone is appreciable. It can record videos and stills with the incorporated SD card storage. One interesting feature of this RTF radio drone is the guard ring around its geometry. This ring provides the drone with the protection from clashes and knocks. There are certain variants in this domain which have taken the drone acrobatics to the next higher level. These free loop inverters are capable of flying upside down, adding extreme flexibility to the radio drones.

One recent drawback of a radio drone also needs to be considered here. This drawback comes from the invention of a device called as drone defender. This particular device halts the radio drones and can force them to return. This feature in a drone defender has been made possible by the utilization of a jamming technique.

There is a rise in other devices which can either disable or destroy a drone in the air. These upcoming challenges in the drone industry will have to be dealt with sooner or

later. In future one can expect the usage of hardcore frequency encryption techniques and CDMA to be widely researched on for incorporation in the radio drone architecture. For now the war between the drone manufacturers and drone defender devices is expected to take the circuitry of radio drones to the next level.

Power Drones

The introduction of drones in various industries is fast reciprocating with a widespread positive response in efficiency. With the drones being welcomed by various industries, the biggest concern is about their power banks. More and more drone manufactures are engaging their top notch experts so as to discovervarious path breaking ways to enhance the flying time and power capabilities of a drone. Everything is being put under the microscopes for best results.

Implementation of fuel cells in the architecture of drones is serving as a power booster for the device. Taking the example of the enhanced Stalker XE 240, which can stay in the air four times more than its petroleum burnt counterparts. The improved performance is a direct consequence of using small propane fuel cell. This advancement, which allows the drone to stay in the air for 8 hours at a stretch, is definitely a much awaited boon in the surveillance industry. The lithium ion batteries replacement with fuel cells is not a very extensive change in comparison with the stepped up responses in efficiency.

In communication services, the power drones acting as a relay are much in need for range broadening. Ion tiger, a drone which has achieved an airtime of 23 hours in one of the tests uses hydrogen fuel cell. But discoveries have shown that fuel cells are not the only alternative to enhance the endurance capabilities of fuel cells. Establishing the connection of these drones with a powerful system for recharging on ground has provided them with even better results when using lasers.

The prospective of collaborating power drones with solar cells are also being monitored. Facebook's infamous drone named Aquila is also solar powered. This internet drone has been developed to surmount the whole planet under it for widespread internet connectivity. This 14 months marvel is aimed to cover all the rural areas and is one of the most successful attempts in the present world.

The power drones are vastly being accepted in the military applications too. Here the power factor is the most crucial factor as the operations are usually long and tedious. The battery backups and power banks of drones here are one of the detrimental factors in

deciding that which drone is ideal for the applications required.

These upcoming advancements in power drones are in fact a matter of national security.To be safe you need to be updated at each instant. Most of the drones are also equipped with missile launching capabilities which again require a long airtime for precise prediction and tracking of mostly, mobile targets.

What the future holds for power drones can be seen in the application of more renewable sources of powering these drones. There is a lot of pending work for the scientists. The application of drones in power line surveillance is again an interesting field to be considered looking into. In place of manual checking, which is often prone to errors, one can implement drones all day long thus preventing many lapses. Power drones are fast becoming an undetachable entity of various systems.

Application of Drones

Although drones are extensively used in military for needs as varied as training for defense and attack, there are various other sectors where these UAVs are used as well. Some of the common uses are listed below:

Delivering Products

These non-military drones are used for commercial processes by various companies. These super machines are used extensively for delivering goods to customers efficiently. Amazon's 'Octocopter' is such a fascinating drone that delivers ordersat customers'doorstep within thirty minutes.

Safeguarding Wildlife

[Drones](#) are also being used in many countries like the U.S. for protecting the wildlife from poachers and the like. The use of drones ensures minimal manpower and maximum effectiveness. Drones are programmed to monitor certain areas and safeguard the fauna there. The use of drones in this area helps concerned authorities, including local government to track and prevent unauthorized practices like illegal hunting or poaching in the area under surveillance. Interestingly, WWF has plans of launching surveillance drones over the African jungles on a large scale. They are of the opinion that this move will help cut down the instances of poaching that is rampant in the area.

Weather Forecasting

Many countries abroad are increasing the use of Surveillance dronesor weather surveillance. Countries that do experience severe typhoons and hurricanes use drones for observing these catastrophes. The drones help in monitoring and understanding them

better. Since no pilot is needed to fly the UAVS, lives are not at stake. Global Hawk UAVS can easily stay airborne for around thirty hours. These drones can at most cover about eleven thousand miles approximately.

Providing Internet

Drones that provide internet service are expected to be launched very soon. The primary objective of launching these UAVs is to provide isolated areas with internet services. This is an attempt to bridge the technical divide seen in between rural and urban areas around the globe. Thesedrones shall be powered by sunlight and would be endowed with the ability to stay in midair for approximately five years.

Rescuing Lives

Professional drones programmed to rescue lives in cases of natural calamities and catastrophes like floods, earthquakes, fire breakouts, as well as other unforeseen events are also being launched shortly. These professional drones can be used to locate people under distress much faster than manned aircrafts or rescuers.

Photograph Different Locations

Yet another use of professional drones is in photography. These UAVs can be used by farmers, multinationals, construction companies andreal estate agents for taking aerial photographs of different corps, buildings and properties. These multi angled photographs would give a better insight into the product for the users.

Understanding these applications of Drones and their unparalled benefits helps proves that they have many interesting uses besides the much touted military purposes.

How do Drones Function?

Small UAVs have several advantages in the remote sensing. Cheap and optimized,these well-planned UAV that are capable of carrying out missions of an hour andcost between $5,000 to $50,000. Cameras onboard UAVs have extremely high resolutions when compares to conventional helicopters and airplanes. A UAV based camera has an accuracy of one to three centimeters per pixel, while manned aircraft and satellites have an accuracy of a meter per pixel. Drones can be launched autonomously. These machines and their operators do not need any pilot training or flying experience. With a smartphone or tablet it is easy to operate an UAV using appropriate software.

Advantages of Using Drones

In a world where everything is at stake, there exists a much greater requirement of keeping an eye on each single motion of opponents. Using manual spies might seem a comfortable option while considering operations, which are less prone to risks. But when considering real-time situations and environments like monitoring a terrorist hideout, a least detectable and more accurate device is required. Drones come into pictures here.

The deployment of drones by the US and UK military services isn't hidden to the rest of the world. Time and again there are instances where drones are used to burn out terrorist camps. For extracting the data manually one requires a substantial man power. To monitor these many men at work again is a tedious task. Life has just got pretty simpler by narrowing down the entire mission to one single drone.

Besides surveillance in military practices, drones can also be deployed to monitor crops. At large plantations, with multi-cropped sectors, situated over a wide area one drone can be employed to take care of all necessary data collection. Stealing of crops or harming of crops by pests is easily detectable by higher resolution camera drones. If information is received in time, it can save loss of money and resources.

Drones are also beneficial in ensuring law enforcement practices. Traffic rule violators are easily captured and tracked by continuous surveillance. The tracking by drones is highly reliable. In search and rescue operations, their use can render far better results than manual rescue operations alone. These UMVs can be fed with inputs and the methods of using face recognition software or voice recognition systems. Implanted speakers on drones can track threatening conversations.

Connectivity between various drones can provide us with a wider network of

mapping. Thanks to their small physical statures, these machines can be sent to restricted areas without fear of being noticed. The data collected can also be retained as long as it is considered valuable in the investigation. In communication sector drones serve as relays for broadening the spectrum of possible communication practices. Weather forecasting practices can also depend on drones. These machines can be used for tracking the climatic conditions in rough terrains. Tidal motion is captured easily by using camera drones.

In the future there is immense scope for drones in the medical sector. Monitoring patients in a bunch of ICUs or in emergency wards 24X7 will be a cakewalk. The doctors and nurses will also not be stressed if drones are employed in such activities can help reduce their workloads. These machines can monitor patient behavior and provide inputs to psychologists and counselors, who can put this information to good use by providing speedy and accurate treatments.

In schools and colleges, drones can detect anti-ragging practices and take snapshots or clips of defaulters. On accident prone zones, drones can be used to monitor vehicles and victims. Heinous crimes like rapes, theft, murders on the streets would be checked for, in the wee hours. In these cases often no eye witness agrees to show up. This can be accounted for by drones.

Manpower cannot be deployed everywhere but drones can be employed in place of men. This will provide increased efficiency. This particular vision of drones is just one-sided. As each invention has its own setbacks, drones also are not in exception zones themselves.

Ethical and Legal Implications of using Drones

While the use of drones has increased extensively, there are many ethical and legal issues associated with the increased usage. The ethical issues are listed below

Exaggerated Precision -Drone attacks do not differentiate between militant and civilian:

In war torn areas like Afghanistan, where the US military has been using drones extensively, studies show that the attacks are only focused on human population and do not differentiate between the civilians and militants. The ordinary man lives in constant fear of being killed in a drone attack since these machines are pre-programmed to identify certain suspicious behavior or conform to specifications like age or gender.

Lack of justice for the victims of the attacks

Post drone strikes, the US are obliged by international law to not only investigate all potential unlawful killings and deliver justice; but also provide the information to international organizations and local governments. However, the U.S. refuses to even acknowledge these strikes, raising questions about the very ethics of the entire operation.

Potential war crimes:

International humanitarian law clearly states that only individuals, who are actually a part of armed conflicts, should be targeted in counter strikes by governmental departments. Under these principles, the attackers must demonstrate thatthe use of intentional, lethal force was used strictly for the protection of life under unavoidable circumstances. They need to prove beyond doubt that it was the last option and all other less harmful means had already been explored without any positive results. All positive efforts to protect civilians must be done at all costs.

Poor Due Diligence:

Drones can create many physical obstacles that prevent the identification of civilian deaths thus revealing their limitations. The lack of firsthand informationfrom the war torn areas makes it is difficult to accurately record the casualties of war. The lack of information is a deterrent to providing acknowledgment or/and financial support when innocents are killed in drone attacks.

Losing Credibility:

The United States pays a heavy price for its denial of civilian impact and losses by drone strikes. They lose the support of persons from the affected communities. These persons feel that they have been lied to and this feeling creates new terrorists. This feeling of injustice drives peopleto take up arms and become part of militant groups who use the silence of the US to increase their followers.The refusal to acknowledge the number of civilian deaths and outrages only intensifies the matter and agitates the local population further.

Compensate civilian victims:

There must be a system of prompt, meaningful compensation for all civilian losses and injury to life and property. The system should be implemented to ensure that any damage from unlawful attacks is minimized to the maximum possible extent. A robust system that addresses this backlash caused by public outcry against civilian deaths, that compensates victims of drone attacks is the need of the hour.

Investigate the strikes:

Through, impartial and prompt investigations into all probable cases of targeted drone strikes that may have resulted in loss to civilian property or life is the need of the hour. Bymaking the findings public and seeking criminal prosecution or disciplinary measures as appropriate, the faith in international organisations and laws can be restored.

A Lack of Transparency

Lack of transparency and a tendency to cover up bitter facts is a commonly observed phenomenon. The various international bodies need to take appropriate measures to overcome the antipathy towards law enforcement that is a direct result of lack of transparency and belief in the system.

Strategic Failure:

The ill-will caused by drone strikes are not reducing the threat of terrorism but increasing it. While there were many individuals who once had positive views of the United States, new polling shows the anti-American sentiment effect of drone strikes. Such sentiments discredit diplomatic and NGO efforts to address the civilian and political issues in sveral countries, and potentially drive people into the ranks of militant organizations. Finally, in the very long run, they share our concern about the danger of setting precedent. They envision a future where not only do countries have the ability to indiscriminately attack people, but that dangerous and radical non-state actors can do so as well.

Congressional Oversight:

Committees like the congressional oversite can do much more to encourage public debate in the US. This encourages the local administration to disclose hidden aspects of the civilian-protection protocols in place within their drone program. In order to address this problem, the normal military oversight procedures wherein its activities, including the drones program, can come under public scrutiny.

The general public acceptance of drones could go a long way in ensuring that drones remain an intrinsic part of counter-terror strategy. Unless the general public outcry for proper monitoring and regulation in the use of drones is implemented, it would continue to attract negative publicity about civilian harm involvement.

How Are Surveillance Drones Used?

Surveillance drones usage is a much debated issue globally both in positive and negative lights. Although the discussion has yet not given way to any inference but seems that countries have already started intercepting into each other's LOCs using these drones. The predominant country in the usage of drones is the United States. The facts that have come in light regarding the usage of these drones are both astounding and expected at the same time.

Definitely with the rising sensitivity of security issues, each nation is searching for a fool proof methods to ensure the safety of its high profile agendas, secrets and civilians. In an attempt to clear terrorism, extensive operations have already been implemented by US involving deployment of various drones for surveillance purposes.

These drones are capable of carrying virtual towers which can easily decipher the location of the desired individual by tracking their call records or text messages. Advanced drones also carry less lethal weapons. The high resolution cameras are capable of collecting data from higher altitudes. Sometimes the wifi access, or rather hacking is also carried out by these drones to determine relevant information over a network. There is a multispectral targeting system incorporated in its internal body for high precision and accuracy.

Drones are used in places where a normal rescue is often risky and dangerous. In situations such as hostage-keeping by terrorist or decoding strategies of rival country's security agencies, their use is critical. At an average a drone remains in air for an estimated 17 hour period.

Most commonly used drones over Pakistan and Afghanistan are MQ-1B Predator and MQ-9 Reaper. Both of them carry a huge bunch of sensor, image intensifiers, heat sensors, etc. They also contain laser-guided missiles. These drones are piloted by trained and highly experienced professionals at base or ground stations. The information collected by these drones is analyzed for deciding upon the next set of actions.

The UK has also used the drone named Hermes 450 for determining road bombs ahead of their patrols in Iraq and Afghanistan. DRDO in India has also developed a UAV

named Rustom for army, navy, air force of Indian armed forces. With the rising terror attack threats, the drones are being considered as vital means for desensitisation of these threats.

The basic idea behind using the drones for effective surveillance is making them as coveted as possible. Their physical description should be less susceptible to suspect. Gathering information should be as smooth as possible with the least amount of activity over the hit-list locations. In terms of missile actions, the drones are programmed to wait for confirmation. As the whole operation can affect the civilians nearby, their use is often discouraged and debated. World is divided over their use to take out anti social elements who are hiding in places where it is too dangerous for foot soldiers and artillery to embark on a lengthy and sustained battle.

Being cheaper than helicopters drones can find use in surveillance practices related to agriculture like monitoring crops. Their use can also be extended in law enforcing strategies. These intelligent devices can be considered for replacing manual patrolling and relatively cost effective. Their deployments can serve well in establishing a peaceful yet controversial globe.

Drones and UFOs

The hype surrounding UFOs has created a cult of UFO watchers. Yet the evidence points to the fact that most UFO sightings might have been early drones practicing in the countryside! This is supported by the pictures of some of the early drones that have a remarkable resemblance to the pictures of UFO sightings.

The various movies and books that have been the result of a wild imagination and UFO sightings togather, bear testimony to the hype surrounding UFOs. An interesting story about an enterprising individual who has been attempting to start classes that help persons to distinguish between drones and UFOs is a remarkable story doing the rounds across the world.

The probability of UFOs or Undefined Flying Objects being confused with drones is strong. This can be attributed to the fact that drones were a part of a highly secretive planning by the defense department of countries like the US, UK and Canada. In fact, UFO reporting Centres have recorded at least 7000 plus sightings of UFOs to date!The Truth remains that the two cannot be confused with each other, even if it might have been drone sightings that lead to the rise of The UFO crazy cult.

Drones and Robots

Drones are essentially a type of artificial intelligence or moving computer that is fitted into an unmanned aircraft. Robotics is a different line of study altogather. Both UAVs and Robotics are fast developing technologies and were an essential part of science fiction not too long ago. The rapid strides made in technology have played a significant role in both technological developments.

Robots and Drones are now at a stage where the integration of the two seems inevitable. The intelligence of the 7th generation robots with the latest drone technology is what was thought of as impossible not too long ago. As technology continues to make rapid strides, it is but natural that the latest technologies would have a significant impact on practical implementations of these techniques. The latest versions of drones and robots as well as the integration of the two are a case that support this argument. Artificial intelligence is on the way forward, but it needs certain tools to pace its stride. The invent of droens has opened the doors for that opportunity.

Conclusion

Drones and similar lightweight airborne observation aircrafts are being used extensively for research. They are also being used to garner information about certain geographical areas that are inaccessible to human beings. The human curiosity factor has been instrumental in the birth and growth of this innovative technological breakthrough,that was kept under lock and key for a substantial time period.

Statistical reports indicate that the US military is now the proud owner of more than 7,000 UAVs almost allacquired over the last decade! The military engages a huge variety of drones from mini humming bird shaped prototypes to the missile launching model called Predator. The US government has also put in place regulations that will not only protect drones, but also the various individuals or businesses that use them as it looks like these fanged mechanical birds are here to stay.

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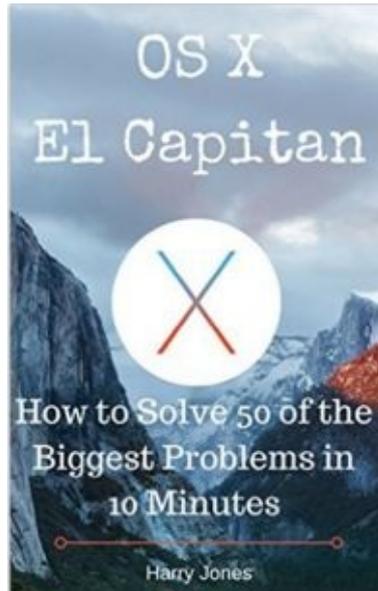
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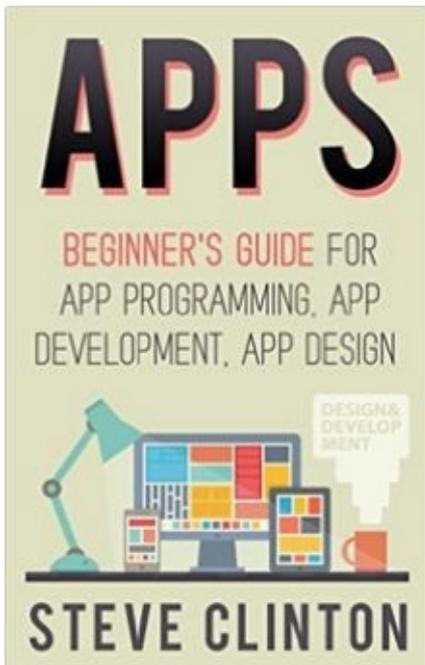
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