***What does it do? (600 words)***

**What is the state of the art of this technology?**   
As of now, cyber security is the go-to for safety measures when browsing the internet, but one thing to keep in mind while browsing is that its rather easy to fall victim to cases such as Credential stuffing, Spear phishing and Ransomwares if you are not careful. All of these cases involve stealing or hacking into an account and taking sensitive information for their own benefit.

Ever since the covid-19 outbreak in 2020, the number of data breaches increased significantly due to malicious hacking. With the number of people working from home increasing it is no surprise that the types of incidents that happened changed and not for the better. Data breaches were doubling, and ransomwares were on the decline compared to previous years. Because of this, citizens and industries had to be flexible in terms of online safety, otherwise they risk getting their sensitive information taken by hackers.

**What can be done now?**

In order to be better protected, it is important to know what types of cyber security there are. Some examples would be critical infrastructure security, network security, application security, information security, cloud security, data loss prevention, and end-user education. An explanation on what each of these terms do is listed below.

* **Critical infrastructure security**: Consists of cyber-physical systems such as electricity grid and water purification systems.
* **Network security**: Protects internal networks from intruders by securing infrastructure. Examples of network security include the implementation of two-factor authentication and new, strong passwords.
* **Application security**: Uses software and hardware to defend against external threats that may present themselves in an application’s development stage. Examples of application security include antivirus programs, firewalls, and encryption.
* **Information security**: Also known as InfoSec, protects both physical and digital data—essentially data in any form—from unauthorized access, use, change, disclosure, deletion, or other forms of malintent.
* **Cloud security**: A software-based tool that protects and monitors your data in the cloud, to help eliminate the risks associated with on-premises attacks.
* **Data loss prevention**: Consists of developing policies and processes for handling and preventing the loss of data and developing recovery policies in the event of a cyber security breach. This includes setting network permissions and policies for data storage.
* **End-user education**: Acknowledges that cyber security systems are only as strong as their potentially weakest links: the people that are using them. End-user education involves teaching users to follow best practices like not clicking on unknown links or downloading suspicious attachments in emails—which could let in malware and other forms of malicious software.

A good example of cyber security done well is Nord VPN. Not only does it provide the services stated above, it provides you with a secure, encrypted tunnel for online traffic flow. You are the only one that can see through this tunnel, nobody else can so its great if your looking for peace of mind when browsing the internet. Additionally, it secures personal information or work files, encrypts your internet connection so you can connect to public Wi-Fi without any difficulties, and keeps your browsing history private.

<https://nordvpn.com/country/australia/?vpn=brand&gclid=CjwKCAjwuIWHBhBDEiwACXQYsa4XZERlCokD8LLleiH4U1v5gzoc5z8Th3KOTC44knb457wuyHRJXRoCVzcQAvD_BwE>

**What is likely to be done soon?**

* Bug Bounty program

A program that rewards cyber security experts or everyday users for catching potential vulnerabilities and reporting them so they are fixed. This is so that bugs are taken care of as quickly as possible and as secure as possible.

* Diskless servers

Nord VPN plans to upgrade their infrastructure to RAM servers. This will allow them to create a centrally controlled network where nothing is stored locally. So, if anyone seizes any of these servers, there will an empty piece of hardware with no data or configuration files on it. This will make it an easier to manage and protect sensitive information in case of an emergency.

(I'm thinking of changing this since its plans for NordVPN)

**What technological/other developments that make this possible**

Ver-Sprite, a third-party data center in order to ensure the highest level of security going forward.

·         Comprehensive Penetration Testing

The key differentiator to our penetration testing method is in our ability to emulate cyber-criminal intent around invasion of countermeasures and quietly seeking to achieve target goals. By not limiting our approach to encompass only one set of controls (network, application, physical, system) to defeat, we are able to simulate a true attack scenario. A true attacker will not stop if the front door of your network is locked and neither will we.

·         Intrusion Handling

Ver-Sprite provides intrusion detection and analysis of networks and encompassing assets in order to derive the source, problem, and remediation planning efforts

·         Vendor Risk Management

Ver-Sprite’s expertise in vendor risk encompasses many layers: operational, technology, security, compliance, and legal risk. We go beyond audit questions and checklists. Our methodology centers around a contextual risk analysis of vendor services to our clients, coupled with security risk management frameworks that are relevant to your control objectives.

As for how Nord VPN works, it routes all users’ internet through a remote server run by the service, thereby hiding their IP address and encrypting all incoming and outcoming data. For the encryption, they use OpenVPN and internet  Key Exchange v2/IPsec technologies.

***What is the likely impact? (300 words)***

**What is the potential impact of this development?**   
The potential impact of these developments could lead to a higher standard for cyber security. This will lead to more demand for security intelligence, so the need for suitable candidates will grow, perhaps these workers will receive a higher salary.

* Business
* Crypto
* Through RDS,
* They encrypt everything,

**What is likely to change?**   
   
**.....**

**Which people will be most affected and how?**

Cyber security will be able to help everyone since it allows users to browse the internet without having to worry about any malicious intentions attackers may have. It can successfully change IP addresses and hide ISP information (Internet service Provider). Additionally, it has been tested by a DNS leak test tool and it resulted in no information being leaked. (Addresses for websites).

**Will this create, replace, or make redundant any current jobs or technologies?**   
Since there is a limit to how much technology can do by itself, it is important to know that sophisticated cyber attackers will break through the barriers eventually if they are not looked after. Therefore, a need for security intelligence is required. Technology has its weaknesses, and attackers aren’t afraid to take advantage of them, so it is important to identify and address them efficiently. Since the safety requirements are only increasing as time goes on because of the increased digital use, more anomalies are occurring, thus creating more job opportunities for cyber intelligence.

***How will this affect you? (300 words)***

**How will this affect me in my daily life?**   
Personally, this will not affect me that much since I work in customer service. However, the more we invest in cyber security, there will be a greater need for cyber intelligence to keep these types of technologies operational and optimized. As time goes on, the demand for cyber security will increase, which will lead to a higher salary and the need of a certain skill set, if the role cannot be filled. In this way it would be impactful to people since they would have to spend more time away from family.

**What will be different for you?**   
The main difference for me will be the upkeep of knowledge. The knowledge to understand advancements taken in both ends to properly defend myself from attackers, but with the services such as Nord VPN, protecting myself for any malicious intentions that will be significantly easier.

**How might this affect members of your family and friends?**   
Growth in this industry will lead to many positive aspects on my family personally. This can also provide a layer of protection when looking around the internet. So, in my opinion, having more job opportunities open up in the near future will be beneficial, but could easily cause stress for families.