

THE MAIN ASPECTS OF MAINTAINING EFFECTIVE CYBERSECURITY

Cybersecurity is known as a set of methods used for protecting the integrity of networks, programs and data from attacks, unauthorized access and damage. Protecting information and systems from major cyberthreats is thought to be the essential functionality of cybersecurity. Moreover, the following cyberthreats can be presented as ransomware, malware, application attacks, as well as phishing, exploit kits. It's commonly known that cyber adversaries have tried to launch automated and complex attacks applying these methods – at lower and lower costs. Consequently, emphasizing cybersecurity strategy, techniques and operations is considered a challenge, especially in government and business networks where cyberthreats, in their most disruptive form, often take aim at political, secret, infrastructural or military assets of a nation, or its people.

As the complexity, sophistication and volume of cyber attacks increase, organizations and enterprises, especially those that are involved into safeguarding data relating to health, financial records, or national security, need to take measures to protect their personnel information and sensitive business. In accordance with famous sources, the global cybersecurity market is going to reach 170 billion in several years.

Cyberterrorism is disruptive usage of information technology by terrorist entities to spread their political or ideological agenda. It can be presented as attacks on significant computer systems, networks and telecommunication companies.

Cyberwarfare includes nation-states using information technology approaches to employ another nation's networks in order to cause disruption or damage. Cyberwarfare attacks can be mainly implemented by hackers who are experienced and trained concerning applying the intricacies of computer networks, and work as a rule under the auspices and support of nation-states.

Cyberespionage is the practice of information technology usage to obtain secret information without permission from its holders as well as owners.

Cyberespionage is mostly used to take advantage of economic, strategic, political or military issues, and is performed by means of malware and cracking methods.

Currently, we cannot be sure in full protection of any meaningful system. For instance, cyber attacks can cause the Internet disruptions during any significant events all over the world. The cyber attacks can damage Internet access, block websites, not allowing users to print out reservations and attend some ceremonies.

It is obvious that the most challenging problem in cybersecurity is the ever-developing nature of security risks themselves. As a matter of fact, enterprises and the government have concentrated essential part of their cybersecurity resources on perimeter security to defend only their most critical system components and protect against known disasters, dangers and treats.

Nowadays, this approach is supposed to be inadequate, as the threats evolve and modify more quickly than organizations can keep up with. In conclusion, advisory companies provide effective treatment to cybersecurity.

In a like manner, there were presented guidelines by the National Institute of Standards and Technology in its risk assessment framework recommending real-time assessments and continuous monitoring, a data-focused approach to security as opposed to the conventional perimeter-based model.

All things considered, it should be stated that an ever-evolving field, cybersecurity best practices must develop to accommodate the increasingly sophisticated attacks committed by attackers.

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ADVICES FOR STARTING PROGRAMMERS

From the second part of past century programming is becoming an increasing industry with a millions of people working in it.

Computer nowadays is not only an instrument for different tasks, but also a multimedia center, an area for different games and also a way to earn some money.

People who create programs are known as a programmers. Programmer is a person who can solve almost any task using only a computer and their brains. They know a lot about computer engineering, developing of a programs and related fields in such branches of science like math and physics.

Statistics states that modern person use gadgets almost 80% of their time. It means that programmer is one of the most popular professions in our world. A lot of people now get a degree in that field because of its popularity and prevalence.

The first step to become a good (senior) programmer is to have extensive knowledge in both math and physics, because both of this two specialties formed the basis for computer sciences. Second step is to have a special kind of thinking called “algorithmic”. Algorithmic thinking will help you to achieve a good level in object-oriented programming (which is used in development of all modern programs). You must think like machine, you need to distribute task on smaller ones and handle it one at a time.

Second step in becoming a programmer is to choose a programming language for your future work. All programming languages are divided in three parts: imperative, declarative and procedural, depending on process how programmer write code.

Imperative languages use command that changes the programs state. Programmer feeds commands to a computer, which explain how program should get a result.

Declarative languages use directly opposite paradigm: program focuses on the final result, but not on the way how to achieve it. They are harder to understand and to start from because of a lot of functions dependent on logic.

Procedural languages call some objects (functions or routines) and operate with them. They contain small steps to achieve a result.

Starting programmers often start from imperative languages like C++, Java, Python or web-languages like PHP. They find simplicity and clarity in them, but this languages are not weak, guru programmers find in them complexity and depth. All of them has strengths and weaknesses and you can choose them for different tasks.