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.

Scientific supervisor: Hurska O.O.,
Senior Lecturer

UDC 004.42 (043.2)

Кatash K.A.
NationalAviationUniversity, Kyiv

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.

C++ is rather old language but it is still popular. You can use it almost everywhere because of its speed and multi-paradigm programming. Such programs like Adobe Photoshop and games like Assassins Creed are written on that language. Ubisoft company use in for all games developed by them. A huge part of OS Windows is written on that language too. Also it can accept other languages so you can write code on other language then compile it in library and use in C++ code.

Java is most popular language for object-oriented programming and it appeared at the end of previous century so it is rather modern. The best strength of Java is JVM (Java virtual machine), which helps programs to run on a different computers and operating systems. Java specialists have very well-paid jobs because of its popularity. So if your goal is money start to comprehend in right now. Learning its syntax it is a good idea even if you will never program on it. But because of this machine Java code is slower to compile than code written on other languages.

Python is also multi-paradigm programming language and used in such giant IT companies like Google and Ubuntu. Also it allows programmer to create a very readable code because of its philosophy. It is very popular language and used for a lot of tasks, so you can as easily find job as Java programmers.

PHP is the most popular language for web applications. You surely need to know this language to work with web. But it has very complicated syntax and a lot of ways to do the same task.

Life of programmer is difficultand very unique for different people but has a lot of positive moments. So what path you will choose depends only on your personal preferences.

Scientific supervisor: Denysenko N.H.,
Senior Lecturer

UDC 004.946 (043.2)

Kharchenko H.V.
National Aviation University, Kyiv

BENEFITS OF BLOCKCHAIN TECHNOLOGY

Blockchain is the way of storing data or, in other words, a digital ledger of transactions, trades, contracts. All kinds of data, that need separate independent entries and, if necessary, verification, can be stored in blocks of a blockchain. Blockchain is capable of storing data on granted loans, property rights, traffic violations, marriages. That means virtually any kind of data, especially government-related.

The main difference and the biggest advantage is that the ledger is decentered as it is not stored in only one place. It can be distributed among several hundreds and even thousands of computers all over the world. Any user of this network can have free access to the current version of the registry, which makes it transparent to all participants.

Blockchain is the public database of all transactions that have ever been conducted in the system. The chain of transaction blocks is a chain of transaction blocks built according to certain rules. The term first appeared as the name of a distributed database implemented in the Bitcoin crypto-currency.

Digital records are combined into "blocks", which are then linked cryptographically and chronologically into a "chain" using complex mathematical algorithms. Each block