

прикладного программного обеспечения, или виртуального онлайн симулятора должен быть обоснован образовательными задачами. Использование исключительно такой методики на уроках технологии не сделает из обучающихся специалистов в области электроники (а перед школой такая задача и не ставится), но изучить основы этого направления для поступления в вуз на соответствующие направления подготовки вполне позволит. Поэтому при наличии в общеобразовательной организации материально-технической базы, квалифицированных специалистов – учителей технологии, имеющих хорошую подготовку в области электроники, и педагогов дополнительного образования внедрение виртуализации сборки электрических цепей в процессе освоения школьниками предметной области «Технология», а также в рамках дополнительного образования является вполне оправданным.

Список использованной литературы:

1. Универсальный симулятор электронных цепей «Qucs». – URL: <http://qucs.sourceforge.net/>.
2. Прикладное программное обеспечение для моделирования и программирования схем для аналоговой, цифровой и силовой электроники в областях образования и исследований «Multisim». – URL: <https://www.ni.com/ru-ru/support/downloads/software-products/download.multisim.html#312060>.
3. Симулятор электронных схем «Circuit Sims». – URL: <https://falstad.com/circuit/>.
4. Симулятор электронных схем «DcAcLab». – URL: <https://dcaclab.com/>.
5. Симулятор схем для ОС Android «Proto». – URL: <https://play.google.com/store/apps/details?id=com.proto.circuitsimulator&hl=ru&gl=US>

SECURITY PARAMETERS IN PROTECTION OF INTELLECTUAL AND AUTOMATED SYSTEMS.

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Annotation: *This study provides theoretical information about the security of information systems. It provides a systematic analysis of the types of attacks on the network and organizations that provide information about their prevention, threats, and types of information security, the concept of threats to protected information, and its structure.*

Keywords: *Information systems, information security, security, threats.*

Currently, the development and improvement of information system security tools is relevant. All over the world, a number of works are being carried out to protect information systems. Based on this, we will list a number of public organizations that provide information about the types of network attacks and their elimination.

1. American Society for Industrial Security (ASIS) – an American organization for industrial security: offers the necessary security training and conducts the Certified Protection Professional certification. Information about its members and field departments website - www.securitymanagement.com

2. Computer Emergency Response Team Coordination Center (CERT / CC)- Computer Emergency Response Team Coordination Center: was founded by the Defense Advanced Research Projects Agency of the U.S. Department of Defense to study computer and network attacks, find ways to protect systems, and disseminate key information about attacks, and is currently located at the Carnegie Mellon University Software Development Institute. Website: www.cert.org.

3. Forum of Incident Response and Security Teams (FIRST) - Forum of Incident Response and Security Teams: an international organization for security, whose members are more than 100 educational institutions, administrations and commercial organizations. FIRST

was created to help prevent incidents and respond quickly to them in local defense and international security. Website – www.first.org.

4. InfraGard: A private industrial consortium and a U.S. Federal Agency, led by the CIA, that exchanges information to protect the infrastructure of critical U.S. information systems. Source for more information about InfraGard: www.infragard.net

5. Information Security Forum (ISF) – Information Security Forum: Created by Coopers and Lybrand as the European Security Forum, the organization expanded through its international activities and became the ISF in 1992. The ISF focuses its activities on "practical research" through publication and placement at regional summits. You can learn more about this organization www.securityforum.org you can find out on the website.

6. The Information Systems Security Association (ISSA) is an information systems security association: It is also an international organization dedicated to training and research in the field of computer security. ISSA helps sponsor many certification programs, such as the Certified Information Systems Security Specialist (CISSP), the Certified Systems Security Practitioner (SSCP), and the Certified Information Systems Auditor (CISA). For information about the organization of the ISS, please visit this website: www.issa.org

7. National Security Institute (NSI) – National Security Institute: provides information on all types of security breach threats. The computer security part of this organization includes hazard announcements, research papers, information for supervisors, and information about regulatory documents and government security standards. Web address – nsi.org

8. SysAdmin, Audit, Network, Security (SANS) Institute – Institute of System Administrator, Audit, Network, and Security: offers information, training, research, and other resources for security professionals. Based on the SANS Institute Global Information Assurance Certification (GIAC) program, this organization offers a full training program in the United States and internationally. It provides online safety training along with paternity programs. SANS Internet Storm Center Institute (Internet Storm Center – isc.incidents.org), who founded. The Institute's website – www.sans.org

The threat of information security and its types. Objectives and conceptual framework for information security.

In general, the purpose of information protection can be expressed as follows:

- prevention of leakage, theft, distortion, falsification of information;
- prevention of threats to the security of the individual, society, and the state;
- prevention of illegal actions, such as deleting, modifying, damaging, copying, blocking information;
- prevention of other forms of illegal influence on information resources and information systems, ensuring the legal regime of documented information as an object of personal property;
- protection of the constitutional rights of citizens by maintaining the confidentiality and confidentiality of personal data contained in the information system;
- preservation of state secrets, ensuring the confidentiality of documented information in accordance with the law;
- ensuring the rights of subjects in information processes and in the design, development and application of information systems, technologies and means of their support.

The effectiveness of information protection is determined by its timeliness, activity, continuity and complexity. Comprehensive implementation of protective measures ensures the elimination of potentially dangerous channels of information leakage. It is known that only one open channel of information leakage dramatically reduces the effectiveness of the entire security system.

The concept of threats to protected information and its structure.

According to the general orientation, threats to information security are divided into:

- Threats to the development of the country's information, telecommunications and communications industry, to meet the needs of the domestic market, to bring its products to the

world market, and to ensure the collection, storage and effective use of local information resources;

- Threats to the normal functioning of information and telecommunications systems implemented and created on the territory of the republic, the security of information resources. Therefore, the protection of information systems should be carried out taking into account the above information.

Conclusion. The study analyzed the security parameters in the protection of information systems. At the same time, organizations that provide information about the types and methods of repelling network attacks, threats to information security and their types, the concept and structure of threats to protected information were systematized.

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ELEKTRON TA'LIM TIZIMINING AFZALLIKLARI VA KAMCHILIKLARI.

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Annotatsiya. Bugungi globallashuv jarayonida ta'limning jadal elektronlashib borayotganiga barchamiz birdek guvoh bo'lmoqdamiz. Elektron ta'lim tizimi o'quvchilarga barcha o'quv materiallaridan to'plangan bilimlarni turli test to'plamlaridan foydalangan holda o'z-o'zini tekshirish va shu material ustida qayta ishlash imkoniyatini bermoqda. Ta'limda ham bir muncha murakkabliklar paydo bo'layotgan bir paytda elektron ta'lim vositalari o'quvchining o'zlashtirish xususiyatini anchagina yengillashtirmoqda desak yanglishmagan bo'lamiz. Ushbu maqolada elektron ta'limdan foydalanishning hamda uning muhimligi haqida so'z boradi.

Kalit so'zlar: Moodle, e-learning, oliy ta'lim, ta'lim modeli.

Elektron ta'lim - bu platformalar yoki raqamli muhitlar orqali bilimlarga kirishni targ'ib qiluvchi ta'lim modeli hisoblanadi. [1]

Elektron ta'lim resurslari yordamida darslarni tashkil etish jarayoni, bunda talabalarning olayotgan bilimlarini na faqat eshitish, balki ko'rish sezgilari orqali ham qabul qilishlari va tushunchalarning g'oya va mazmunini chuqur anglab yetishlariga samarali yordam beradi. [2]

Raqamli axborot va internet resurslaridan foydalanishning huquqiy asoslarini bilish zamonaviy o'qituvchi uchun juda muhim, chunki u ham elektron resurslarning iste'molchisi, ham ularni ishlab chiquvchisi sifatida ishlay oladi. Masofaviy ta'lim texnologiyalari doirasida elektron materiallardan foydalangan holda o'qituvchi talabalarni mahalliy va global tarmoqlardan foydalangan holda ma'lumot almashishga jalb qiladi. O'qituvchi Internetdan qanday qilib qonuniy ravishda foydalanishi mumkinligini bilishi muhimdir. U o'z talabalari bilan tarmoq aloqasini tushunarli qonuniy asosda qurishi, ularning e'tiborini muammoli masalalarga qaratishi va malakali axborot xatti-harakatlarining namunalarini ko'rsatishi kerak. [3]

Elektron ta'lim platformalarining ham yutuqlari va kamchiliklari mavjud bo'lib, bunga bafurja to'xtalib o'tsak.

Ushbu turdagi platformalarning ba'zi bir **afzalliklari**:

- Avvalambor moslashuvchan va arzon o'qitish.
- Internet bilan texnologik uskunalar kuchining birlashtirilganligi.
- Geografik va vaqtinchalik masofalarni bekor qilish.
- Minimal bilim bilan platformadan foydalanishga imkon beradi.
- Taklif qilingan vaqtda o'rganish va tezligidagi erkinlik.

Elektron ta'lim platformalarining **kamchiliklari**

- Yuzma-yuz kursdan ko'ra talabning va bosimning yuqoriligi.