

KEY IT TERMS TO KNOW NOT TO LAG BEHIND CUTTING-EDGE TECHNOLOGIES

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Abstract

Technology affects the way we live, work, learn, study, communicate, travel, and even think. Here is a survey of the mainstream ones and relevant vocabulary to keep afloat and succeed.

Keywords: cutting-edge technologies, trendy IT vocabulary, trailblazing revolution, blockchain, augmented reality, virtual reality, Metaverse, DARQ.

Анотація

Технології впливають на те, як ми живемо, працюємо, навчаємось, спілкуємось, подорожуємо. Тут описано сучасні технології та наведено терміни для їх успішного розуміння і використання.

Ключові слова: сучасні технології, новітня ІТ термінологія, блокчейн, доповнена реальність, віртуальна реальність, Метавесвіт.

Let me explain new expressions based on top technologies you should have paid attention to in 2021. **Blockchain** has so much more to offer than just cryptocurrencies. It has become a major combatant to deep fakes and fake news by fingerprinting the video at source it leaves a trail that can be traced back easily. As the name implies every chain consists of multiple blocks and each block has three basic elements. The data in the block, a 32-bit whole number called a **nonce**, short for “number used once”, which is a random number that can only be used once and a **hash, which** is a 256-bit number wedded to the nonce and unique like a person’s fingerprint. When the first block of a chain is created, a nonce generates the cryptographic hash. The data in the block is considered signed and forever tied to the nonce and hash unless it is mined. [1] **Tampering** or making a change to any block earlier in the chain requires re-mining not just the block with the change, but all of the blocks that come after. This is why it's extremely difficult to manipulate blockchain technology. We are seeing a widespread adoption of blockchain for transactions as it removes the need for an intermediary and improved security.

DARQ is an emerging technology that several major industries have their sights on. It is a combination of **distributed ledger technology, artificial intelligence, extended reality and quantum computing**. Those, who introduced DARQ believe, that these technologies combined could have an enormous impact on technology. As a whole, DARQ is now primarily geared towards the healthcare industry where it is expected to lower the cost of care, improve labor productivity and enable better experiences for consumers and partners due to its currently developing nature. [2]

We have already explained the main principles of blockchain, but we should dwell on the **ledger**. It has its origin in accounting, where it means a book, in which a business record how much money it receives and spends. One of the most important concepts in blockchain technology is **decentralization**. No one computer or organization can own the chain. Instead, it is a distributed ledger via the nodes connected to the chain. **Nodes** can be any kind of electronic device that maintains copies of the blockchain and keeps the network functioning. Every node has its own copy of the blockchain and the network must algorithmically approve any newly mined block for the chain to be updated, trusted and verified. Since blockchains are transparent, every action in the ledger can be easily checked and viewed. Each participant is given a unique alphanumeric identification number that shows their transactions.

There is a suitable expression to describe any advanced and prospective technology – **cutting-edge**. The technology of 3g and 4g have enabled us to browse the Internet, use data-driven services, increase bandwidths for streaming on YouTube and so much more. Similarly, **5G** services are expected to revolutionize our lives by enabling services that rely on advanced technologies like AR and VR. **AR** stands for **augmented reality**. Augmented reality is what it sounds like: reality, enhanced with interactive digital components. The most commonly used AR applications these days rely on smartphones to showcase the digitally augmented world: users can activate a smartphone's camera, view the real world around them on the screen, and rely on an AR application to enhance that world in any number of ways. Various devices can display AR, and the list is only growing: screens, glasses, handheld and mobile devices, and head-mounted displays. [3] **VR (virtual reality)** is a computer-generated environment with scenes and objects that appear to be real, making the user feel they are immersed in their surroundings. This environment is perceived through a device known as a **Virtual Reality headset** or helmet. VR allows us to immerse ourselves in video games as if we were one of the characters, learn how to perform heart surgery or improve the quality of sports training to maximize performance. [4]

It is worth mentioning Facebook's CEO Mark Zuckerberg who announced the new **Meta** name at Facebook's Connect 2021 conference on Oct. 28, with its new website branding it "a social technology company." "In the metaverse, you'll be able to do almost anything you can imagine—get together with friends and family, work, learn, play, shop, create—as well as completely new experiences that don't really fit how we think about computers or phones today...In this future, you will be able to teleport instantly as a hologram to be at the office without a commute, at a concert with friends, or in your parents' living room to catch up," Zuckerberg wrote in his 2021 Founder's Letter, released on Oct. 28. [5] The **metaverse** is a digital reality that combines aspects of social media, online gaming, augmented reality, virtual reality, and cryptocurrencies to allow users to interact virtually. Augmented reality overlays visual elements, sound, and other sensory input onto real-world settings to enhance the user experience.

In a nutshell, it looks like those technologies are here to stay. If you want to be a part of this **trailblazing** (new, exciting, and original) revolution, keep learning more about the important trends in this tech space.

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