10 trends in software development 2019

Software development is a field where trends come and go as easily as in fashion. Staying updated on these technological points will help you build a cutting-edge digital product. Even if you're not a developer yourself, have a look, not to be out of touch of the top IT trends.

ITIL 4

What for: Shift of IT company work efficiency

Setting standards for developers' work to help them implement the organisation'svalues and strategy into optimal development processes.

ITIL is an Information Technology Infrastructure Library that provides developers with the fullest guidance on the organisation of the development lifecycle. It describes all the processes and tools needed to deliver a high-quality product.

In 2019 the ITIL Foundation released the fourth version of the library, which is set to outshine existing methodologies like DevOps and Agile.

Advantages: A completely new set of practices on how to optimise the development management process that has taken the best from the Agile Manifesto, ITIL 3 and other popular methodologies.

Disadvantages: If you or your team has already worked with ITIL 3, you will have to transition from it to ITIL 4.

GitOps

Goal: Set the "single source of truth", where the actual version of your software is stored

GitOps is another methodology competing with DevOps for the attention of software developers. The main source of truth here is Git – a free and open source distributed version control system created to manage huge and small-scale projects quickly and efficiently.

Pros:

- Brings order to complex tasks in cloud-native systems computing.
- GitOps is transparent. A developer knows what to rely on when they have some doubts – Git.
- All the changes to the code are introduced through a Git repository, leaving all members of the team more options for auditing and error-tracking. The earlier you notice a bug, the better.

Cons: For some projects, traditional computing methods prove themselves more effective. The technology was announced in 2018, and its development is still in progress.

Low-code

Purpose: simplify the process of software creation

The desire to cut the time spent on priority development inspired the creation of platforms where software can be developed by "solving a puzzle" of different features in a graphical interface completely devoid of programming.

Pros:

- Using this platform, a person with no coding background can create customised software with drag-and-drop mode.
- Makes the delivery of digital products faster and brings benefit to entrepreneurs and startups without impressive investments.

Cons: The solution is okay for a standardised set of operations, but the integration of some unique functionality and complex features still demands traditional bespoke software coding.

Cases: Low code platform for businesses.

Customization

Task: customisation of the out-of-the-box software at a reasonable price

In 2019, integrated systems are becoming even more widespread. They threaten to displace the positions of bespoke software since they are faster and cheaper to make.

Benefits: Fast, not expensive, allows you to access all the data in one place.

Drawbacks: Integrated systems cannot completely take the place of bespoke software as their functionality is not enough to deal with all the declared issues.

Business Intelligence SaaS solutions

What for: big data mining and reporting

[BI software](#) is a great support to the business analytics department of every company. It successfully processes massive volumes of data and provides the results in clear, illustrative form. Using SaaS you can get valuable data even if you do not have own BI system.

Pros:

- According to statistics, BI digital solutions increase both employee and customer satisfaction.
- They streamline the whole process of analytics.

Cons:

- You can use off-the-shelf (SaaS) BI solutions for analytics too. However, these are not always adjustable to your company's needs.
- Custom-made software takes time and money to develop.

Cloud computing

Vocation: data storage and processing

When you store a lot of information on a server, data processing becomes slow and the server response can be delayed. In the case of cloud computing, the data is processed in the cloud as in the case of Google Services or Amazon Web services.

Stronger points:

- Cloud computing solutions function at lightning speed.
- They are quite secure if the third-party APIs, in turn, are well-protected.
- Clouds are easy to maintain and demand lower IT operating costs. You do not need deal with wires, electricity issues or air and humidity conditions for servers or hire an internal IT team to constantly control the hard drive's security via tests and backups.
- You can access data from any device and any location in the world, which makes the working process very convenient.

Weaker points: If something happens with the cloud, it will be very hard to recover the data if a backup has not been done in time.

Cases: The most widely-used cloud console internationally.

Blockchain
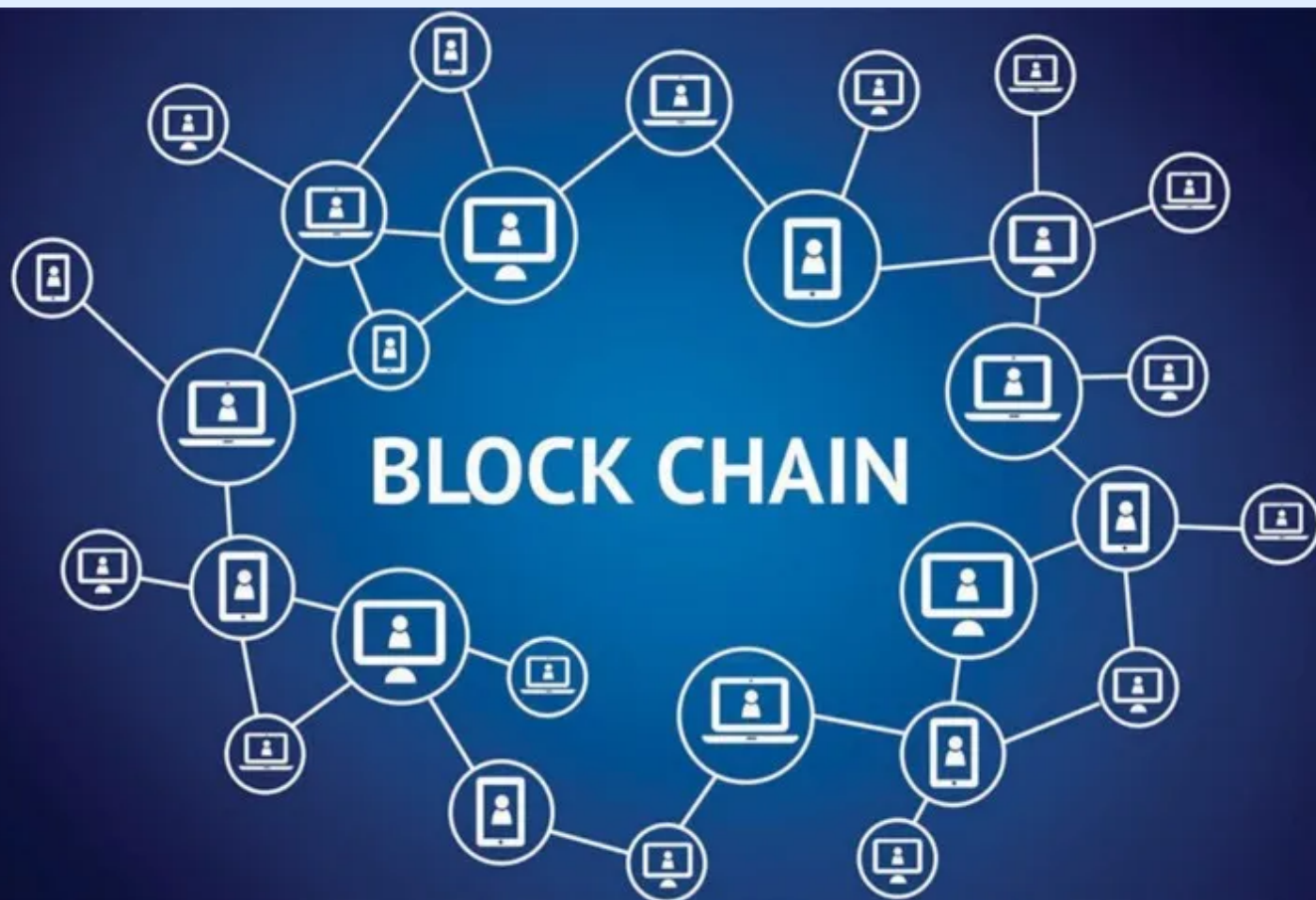
Task: secure information hosting

Cybersecurity is a major issue today, one which blockchain is empowered to solve. Though mostly associated with cryptocurrency, today such multi-level security control has proved itself to be effective.

- It is organised as a chain of encrypted data blocks where one transaction is equal to one block. Each contains data and hash numbers corresponding to the previous and the succeeding blocks, making it impossible to add new blocks or implement any changes unnoticed by the system.

Stronger points: Hacking a blockchain system is almost impossible due to its architecture.

Weaker points: Blockchain has some specific difficulties, as it is a complicated system where control over the data is distributed among all the participants of the chain and where the user cannot just do something privately.

Cases: The first virtual assistant for blockchain.

Artificial Intelligence

Artificial
INTELLIGENCE
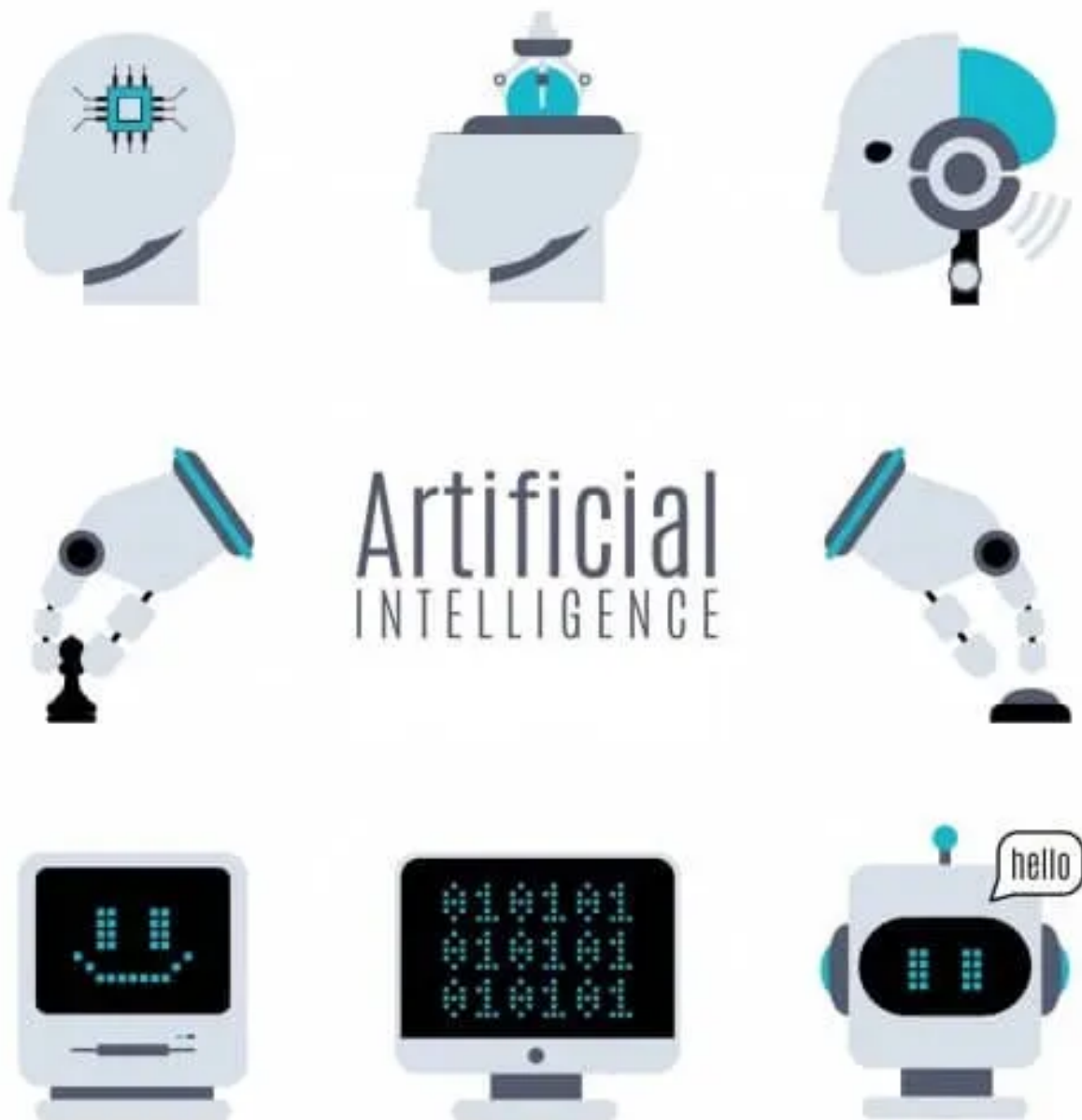
Function: labour automation, client service improvement

Trusting monotonous, high-accuracy or dangerous jobs to computers can be achieved with the appearance of intelligent computers that can conduct various operations even more effectively than humans.

- In 2016, the first cashier-less shop was introduced by Amazon and the cashier-less chain is now growing.
- Artificial intelligence-based, voice-activated virtual assistants speeding up information request processing, providing users with quick responses.
- Self-driving cars that increase the effectiveness of service and reduce labour costs are set to transport people around the 2022 Olympics in Tokyo.

Advantages:

- AI has already proved itself in being more effective than humans in certain fields – for example, in high-precision logistics or medical diagnosis.
- AI solutions permit the streamlining of operations and reduce labour and training costs.

Disadvantages: Expensive technology with a lengthy preliminary period for AI-education. Needs advanced hardware and software to be implemented and expert developers for maintenance.

Example: 4-level autonomous driving.

Automated testing

Task: invulnerability control

With privacy data protection regulations, the process of invulnerability of existing software solution testing becomes vital for any business. Manual testing thus becomes a never-ending vicious circle.

Numerous online SaaS speed up the control without compromising on quality.

Stronger points:

- Quick and professional invulnerability checks
- Automated online services are applicable for testing the drawbacks of your software without having to recruit new staff.

Weaker points: Automated testing cannot completely replace manual testing. Both methods work best when combined.

Projects: Selenium server for testing web software products.

Microservices
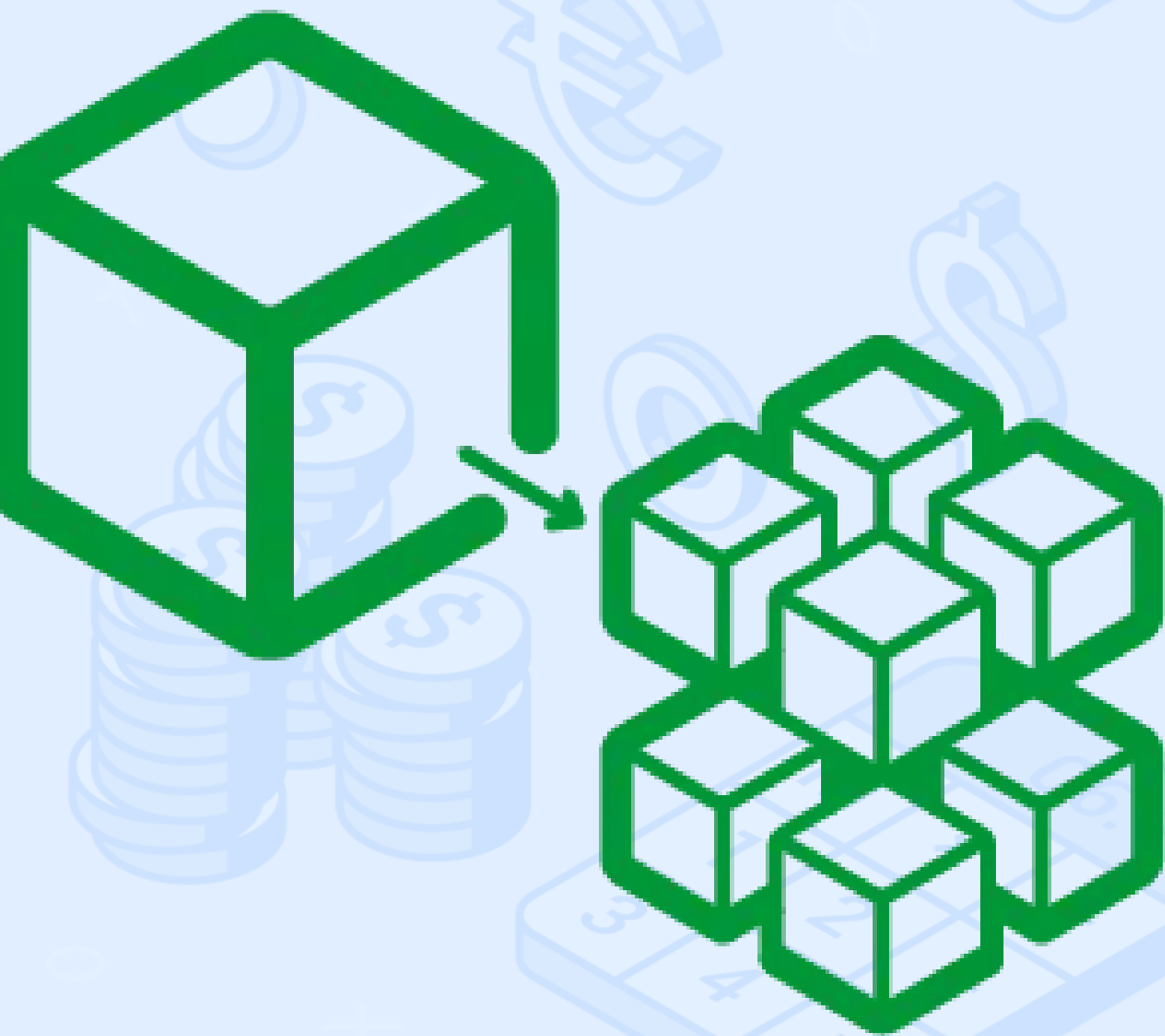
Task: rapid development and reliable team-coding

There are two main approaches to programming: monolithic code and microservices. The latter, which are basically sub-applications that work together, are now becoming more and more popular for the particular types of tasks as developers have realised their enormous potential for working on large projects. They are especially helpful when the software is frequently updated or scaled.

Strong points:

- No problem with community coding. Different teams work on parts of code simultaneously without the risk of breaking everything. This increases quality and reduces development time.

Weak points:

- Complicated to build without flaws and demands a skilled software architect.
- High overhead costs and complicated support requirements for the growing system.

Overall, the main trends in software development for 2019 are:

- Blockchain
- Artificial Intelligence
- Low code
- Integration
- Business Intelligence
- Cloud Computing
- Automated testing
- Microservices
- ITIL 4
- GitOps

If you're looking for a professional consultation to start your own tech startup or need to add advanced functionality to existing software, come into our London headquarters for a cup of tea and discuss the integration of trendy technologies with the Magora team – or just give us a chance to contact you by filling the form below.