

## **TRENDS IN THE DEVELOPMENT OF PERIPHERALS**

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People are becoming more and more engaged with devices in various areas of their lives, with peripheral devices playing an important part in a person's life. Every year, companies develop and release new devices that become more convenient, functional and efficient, while they rely on current trends and the needs of their users. This report will look at several key trends that affect the development of peripherals and will also present some interesting classes of modern peripherals.

Judging from the needs of ordinary users, it is important to mention that smartphones are playing more important role than computers for today's generations. That is why peripherals that can be connected to smartphones have become increasingly popular in recent years. These devices include smart watches, headphones, keypads and many others. This allows the user to use their smartphone as a central device to control various peripherals.

Picture and sound quality are also becoming very essential for many users. This applies not only to basic devices such as monitors or speakers, but also to peripherals such as headphones, microphones and cameras. Manufacturers place great emphasis on improving sound and image quality, making peripheral devices more comfortable and enjoyable to use. Besides, we should not forget about the introduction of modern peripheral devices in educational systems, which leads to the growth in popularity of interactive whiteboards and powerful projectors. As for the latter, the main challenge for manufacturers is to make them more compact and easier to carry, while maintaining high image quality and adding the ability to project images onto different surfaces.

One of the many requirements that are made to modern peripheral devices is an increase of battery life, so many companies are focusing their efforts on improving this feature. This not only results in higher battery capacity, but also in optimisation of hardware and software components to reduce power consumption.

At the same time, data traffic continues to grow and the need for smaller and more efficient data storage devices increases, so global demand for advanced USB devices is expected to grow. In particular, USB flash drives are expected to become an extremely popular tool for fast and efficient data exchange and storage. This opens up numerous expansion opportunities for players in the USB device market in the near future.

On the other hand, a few current trends that impact today's peripherals market are worth mentioning. For example, in recent years, much attention and effort have been put into ensuring the possibility for people with disabilities to use modern technologies. Obviously, this also applies to the modification of familiar peripheral devices or the invention of new ones. Microsoft has modified well-known peripherals to help people with disabilities. This has led to a range of adaptive PC devices such as the Adaptive Keyboard, Adaptive Mouse, Adaptive Controller, Adaptive Hub, and Adaptive Buttons [4].

A completely unusual solution in this direction are brain-computer interfaces and eye-tracking devices. Thus, BCIs allow people to control computers using their thoughts. Eye-tracking devices, by tracking the user's eye movements, allow the received data to be used as input to control a computer, device or applications [3].

Obviously, the devices just mentioned can be used not only by people with disabilities, but also by others, for instance gamers. And let's not forget that augmented and virtual realities have been increasingly talked about recently, so it would be strange not to create peripheral devices related to these concepts. In virtual reality, eye tracking is used to enable more natural and intuitive interactions with objects and characters. A truly indispensable peripheral device for virtual reality is a pair of haptic feedback gloves that provide users with a sense of touch and pressure on their hands [1]. Moreover, it's simply impossible not to mention VR headsets, which, by tracking head movements, display content in a 360-degree field of view [2].

To summarise, peripheral trends continue to change and evolve to meet the needs of users and improve their experience with computers and other devices. Peripheral manufacturers should pay particular attention to the compactness, usability

and versatility of the devices they develop. It is obvious, that the peripheral development sector has a good future ahead of it and there is every reason to expect a high rate of growth and increased global market share in the near future. The use of wireless technology, increased battery life, the development of peripherals tethered to smartphones, improved sound and image quality, voice and gesture recognition technology, the rise in popularity of gaming devices and virtual and augmented reality devices are all key trends that are already shaping the future of peripherals. And assuming that the development of peripherals is kept up to date and driven by current IT trends, we should also expect to see changes in peripherals related to the development of artificial intelligence, cloud computing, the popularity of the Internet of Things and many other things that until recently seemed like fantasy fiction.

### **References**

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### **SWIFT: EMPOWERING IOS DEVELOPMENT WITH ELEGANCE AND EFFICIENCY**

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Swift has emerged as the go-to programming language for iOS development, revolutionizing the way developers create applications for Apple's ecosystem. Combining modern syntax, safety features, and impressive performance, Swift offers a