Эссе 1

The Future of Programming

main idea

In our lives, computers are becoming more and more important, computers are developing very rapidly, and programming models are constantly changing. The speaker mentioned four important ideas in the video, namely Direct Manipulation of Data, Programming Using Goals, Spatial Representation of Information and Parallel Programming Model. He also provided his own thoughts and insights on these methods and discussed the possible future trends in the field of computer programming.After watching it, I had deep thoughts about the future development of computer programming.

Characteristics of the practical and scientific significance of the material

First of all, I was deeply impressed by the idea of "Direct Manipulation of Data" discussed in the video. This idea subverts the traditional programming method and no longer relies on traditional imperative programming, but emphasizes the manipulation of data. Direct processing to achieve goals.

Programming Using Goals makes the program more flexible and is no longer subject to fixed program instructions, but can achieve goals more autonomously.The speaker talked about Programming Using Goals, which involves setting goals and constraints and letting the computer figure out how to achieve those goals. This idea may replace traditional imperative programming when achieving high-level goals, making computers more intelligent. Related to this is a reference to logic programming, by setting goals and letting the computer find solutions on its own, rather than hand-coding detailed steps.

Spatial Representation of Information is another compelling idea. With the development of video display devices, we may no longer rely on traditional text files to represent information. The visual expression method mentioned in the video made me imagine the possible form of future programs, which can present information in a more spatial way.This makes the program more intuitive and easy to understand.

Finally, Parallel Programming Model caused me to think about future computer hardware and software architecture. Traditional threading and locking models have problems in large-scale parallel processing, and the Actor model proposed by the speaker may be able to better adapt to the development of large-scale parallel hardware in the future. It is inspired by the interaction of particles in physics.This idea made me very interested in the future of computer performance and programming.

Together, these four ideas describe the possible future evolution of the field of computer science.

Reasoning on the topic

This video shows us an open and innovative way of thinking by reviewing the history of computer programming and thinking about possible futures. It reminds us not to be bound by inherent programming models, but to remain sensitive to new ideas in order to promote the development of the field of computer science. There is a Chinese idiom called sticking to the past, which tells us that only continuous innovation and bold practice can promote development. So I think this video is an enlightening read for us

Эссе 2

How technology loses out in companies, countries & continents and what to do about it

main idea

This is a thought-provoking video that tells us about the innovation crisis that many large companies are trapped in today. The speaker uses the telecommunications industry as an example to discuss the great changes that technology companies have experienced in the past 20 years with profound insights and personal experience. It analyzes companies' over-reliance on outsourcing and the decline of technical expertise, thereby showing how a transition from the field of innovation to market operation. As far as I know, this will lead to negative growth in the company's technical capabilities, and may even lead to outstanding technical personnel in the company not wanting to stay in the company and switching to other companies.

Characteristics of the practical and scientific significance of the material

One of the highlights of the article was the speaker's unique toaster metaphor, which vividly illustrates companies' overreliance on outsourcing. By deconstructing the various components of a toaster, such as power plugs, fuses, microcontrollers, source code, knobs, etc., the speaker cleverly demonstrated that in business operations, companies do not have to manufacture every component themselves. However, he emphasized one point: companies cannot give up control of core technology because this is the key to innovation. Speakers warned that if companies over-outsource and separate technological innovation from actual operations, they will ultimately lose the power of innovation. This is a profound point of view, triggering a profound reflection on the company's operating model and innovation culture. The article highlights the passion and desire of technologists to play a role in actual product development, not just in marketing and financial activities.

Another example is about Boeing. The speaker pointed out that Boeing over-outsourced the development process of the 787 Dreamliner, leading to almost bankruptcy. This case illustrates a fundamental truth: by outsourcing production to other companies, you do not make it any easier because things that are no longer done in-house must now be done by others. I think this is the same as the operation of a country. Many countries rely too much on imports. Once these import channels disappear, the entire country will not be able to operate well. And it is like a butterfly effect. Because companies over-outsource and cannot attract excellent engineers, innovation will be threatened, and this will be a vicious circle. The speaker quoted a line from the Boeing report: "If a company manufactures less than 10% of its products, it has no control over its own destiny."

This perspective emphasizes the importance of maintaining core technical capabilities.

The speaker next used Europe as an example to highlight how this trend has become a continental issue. He pointed out that Europe, which abandons actual manufacturing and only focuses on intellectual property rights, will ultimately be unable to maintain its independent status. This view profoundly demonstrates that there is an inseparable link between innovation and actual manufacturing, otherwise countries and continents will lose the basis for sustainable development. This is not a one-sided aspect. It can be seen in different fields, such as communications, office software, hardware development, server operation and maintenance, etc. Even some companies that advertise themselves as technology companies, such as Nokia and Ericsson, cannot Not relying on expertise from other countries.

There is also a certain antagonistic relationship between technical staff and company executives. Technical staff are often difficult to understand in decision-making and are often critical of management's decisions. This resulted in the alienation of technical staff from senior management, ultimately resulting in the loss of the technical voice in company decision-making. When a company transforms, if technical staff just sit there and complain without taking actual actions, they will not be able to change the company's destiny. This also highlights the sense of responsibility of technical personnel, who should actively participate in the company's changes rather than passively accept decline.

Reasoning on the topic

All in all, this video provides an in-depth analysis of the current situation of the telecommunications industry. The speaker puts forward a series of thought-provoking perspectives and inspires people's attention to innovation, technical professionalism and company culture. It is a profound reflection on contemporary business practices. Provides the audience with motivation to think and act. And I myself agree with the speaker's point of view. Many times we cannot take care of everything, but we need to at least grasp the most important part (core technology). This is the decisive reason for whether you can make a comeback.

Эссе 3

Диалектика Гегеля и Закон Седова как способ верификации IT трендов с примерами из Автоматизации тестирования (Антон Семенченко

main idea

The speakers shared their professional experiences in the IT field, as well as their thoughts on philosophy, systems thinking and software development. The video unfolds in the form of an autobiography, reviewing the speaker's career path, and combining the concepts of philosophy and systems thinking to provide an in-depth analysis of software development and his own career choices. An in-depth and comprehensive exploration of development trends in the technology field, focusing on aspects such as automated testing, network protocols, and programming languages. The speaker used his own career experience as an example to analyze the evolution of the technology industry, presenting an incisive and unique perspective to the audience.

Characteristics of the practical and scientific significance of the material

First, the speaker emphasized the importance of systems thinking and philosophy in software development by introducing the concepts of them. The mentioned five laws of complex systems, dialectics, analysis of subjectivity and objectivity and other ideological tools provide readers with a more comprehensive and profound thinking framework. This not only helps readers better understand the dilemmas and challenges in software development, but also provides a new perspective for solving these problems.

In the video, I deeply felt the author's insight into technological development and his solid theoretical foundation. Through detailed cases and personal experiences, he witnessed the tremendous changes in the field of information technology from the 1970s to the present, mentioned the emergence and demise of various technologies, and vividly demonstrated the changes in technology from the past to the present. For the discussion of automated testing, he mentioned some specific tools and standards, emphasizing how the evolution of technology affects our daily work. The discussion on technology selection and development direction makes people think about the technology environment they have been in at different times and how to better adapt to changes.

The importance of standardization is also mentioned in the video. As pointed out through the example of network protocols, a lack of standardization can lead to fragmentation and instability of the technology. Standardization not only improves development efficiency, but also creates conditions for interoperability between different technologies. Through his own experience, he illustrates how, without standards, technology systems can become confusing and difficult to maintain.

Secondly, when talking about programming languages, the speaker emphasized the differences between old and new programming languages and demonstrated the evolution of technology through comparison. This made me consider that when choosing skills and fields to study, we need to consider the development trends of technology and future needs more comprehensively, rather than just pursuing currently popular technologies.

Finally, I was also impressed by the reflections and advice on individual careers in the video. Speakers shared their own professional experiences and emphasized the need for individuals to maintain an attitude of flexibility, adaptability and continuous learning. This has inspired me to focus on personal development direction, enrich my skills, and maintain sensitivity to changes in the industry in my career planning. These suggestions are very inspiring for me who is currently engaged in technical work.

In general, throughout the video, the speaker not only shared his career journey, but also through in-depth thinking and theoretical knowledge. Through unique perspectives, profound insights and specific cases, it comprehensively and vividly depicts the development process of the technology industry. After reading, I have a clearer understanding of the evolution of technology and a clearer direction for my career plan. This is an article worthy of deep thought and repeated reading, and has positive implications for the majority of practitioners.