

Report

Why Modern Software Is So Advanced?

New technology affect our information technology environment. It rearranged the whole process, starting from the way most of programs follow to create and produce software, to the way we enhance our software to serve as required. The world tend to use the most recent technologies to improve the technical processes, and to compete with each other in order to save time, to save cost, and to improve the performance.

From cloud computing, security cameras, and to smart phones or tablets, technology becomes so active and a crucial part. To be at top, we need to move towards using these technologies as a daily basis to be successful and to be efficient. So, modern software will start to be more complicated to integrate using several technologies in one system or one software, which make the software so advanced compared to the past century.[1]

Software uses computers and servers, so it needs to use its memory, disk space, and sometimes its network connection. Besides, new devices need to be handled in different way, it should be written in a way that control the state in any accidental failure. So, that means, software need to handle complicated situations which are so sensitives to deal with. [2]

In addition, we need to take a look at the environment surround us and how it affect not only us, but also it affect how hardware and software can deal with each other.

There are some economic factors which have a real impact on the growth of computer nowadays, whether hardware or software. They are three factors, first, the relationship between software and hardware. Second, the cost per unit of computing power, and third, the cost effective ways of managing software.

Looking to these factors clarifies for us the reasons that affect software trading nowadays, and they specify the most important points which make the modern software so advanced. In addition, new technology affect the application developing cost and also the hardware resources cost.

Software has a strong relationship with hardware resources, since the first one consumes the second. In the past, the process of application development was so different than now, it was a manual process. Programmers only use their pencils and papers to write their software because hardware was very expensive, so they cannot consume it on software debugging process. Programmers starts the process by writing CPU instructions in binary language. Then, manually, they check the code in case there are some errors during writing process. After that, they use punch cards or any other tools in order to convert the binary (0s and 1s) to something can be read by computer. Finally, it is time to test the program work, if it takes lot of time for test and to be correct, then such a programmer is criticized because of consuming hardware too much. Thus, the relationship between software and hardware resources is too sensitive to the modern software development.

At the same time we can notice that the hardware cost is decreased a lot compared by the past, and that affect the cost per unit of computing power consuming which become less and has decreased rapidly.

Nowadays, writing a program using the past manual method to write and check is so boring and it becomes so expensive, because the new technology provides many automated tools and assistance which help programmers to save a lot of time. So, time now is to learn how to deal with these tools in order to support application development and computer operations.

Programmers tend to use several programming languages, and they are dealing with many development software to write CPU instructions, because development tools are so powerful. On the other hand application development software becomes complex which definitely consumes much more hardware resources, and here is the point.

Since hardware costs fall down, we can notice that hardware resources, which we need to use by development tools, become cheaper compared to labor resources which cost a lot without using these tools. Besides, the emergence of system software is also affect the modern software. So, for any information system we find that hardware is the cheapest component, and the cost of system or application software component become next.

Another important point that affects the modern software is the cost effective ways of managing software. It is clear that every system service substitutes a utility program, and each time a service is requested, application software will reuse these programs. So, a program translator will need to translate the original instruction every time. That's mean, that software is reused many times for many purposes which will increase the cost effectiveness.

In addition, modern development tools are examples of software reuse, since they include libraries that contain utility programs which reused many times.[2]

References:

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[2]: Klerk, A. (2015, April 19). Why software development is complicated and susceptible to errors. Retrieved November 23, 2015, from <https://www.linkedin.com/pulse/why-software-development-complicated-susceptible-errors-de-klerk>

[3] : Burd, S. (2010). The Role of Software. *In Systems architecture* (6th ed., pp. 50-51). Boston, Mass.: Cengage Learning.