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Abstract of Bachelor Thesis

Optimalization of PC based on user requirements

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Main goal

The aim of this work is to describe in detail the architecture and history of the individual components. The aim is to summarize the current range of computer components and technologies. Clarify the scope of work, briefly their functioning and most importantly, what they mean to their individual functions and parameters for the user. On the basis of these documents is also to show some solutions to computer configurations according to the requirements and methods of their use. The first will be an office machine. As a second office will be analyzed for the household and family use and last a powerful gaming machine.

Methodics

The first part is dedicated primarily to create an overview of existing facilities and technologies. For general principles of their functioning was often used effectively literature in book form. The majority, however, lags far behind the development. For example, in the book of the year 2009 focused on hardware, we find only a portion of the technologies that are now widely available. It is due to the enormous speed of developments in this sector. Therefore it was necessary to also focus on other publications, often in electronic form. The first part of this work was drawn from a combination of sources.

In the practical part, the author used primarily collected and analyzed information recorded in the first part of this work. His experience in selecting hardware and own knowledge gleaned during university studies are also to some extent utilization. Based on this knowledge and experience is designed several sets according to current criteria. These reports are characterized by different requirements for working focus, performance and price. For better orientation in today available hardware and its prices, it was also necessary to turn to specialized online stores.

Practical part

For effective writing the practical part, which was the optimal choice of components for specified types of configurations, to be pumped into the features and prices of components from the online stores www.alza.cz, www.mironet.cz, www.czc.cz and from the manufacturer's website.

Also there will be system requirements which were collected from office and multimedia applications and from latest game titles. Office and multimedia applications and latest game titles were chosen by authors prefer.

Office PC

Office PC will have as the main criteria for low cost and powerful enough to handle smooth running undemanding office applications. And from that it is good for this type of focus on low consumption. When it is not geared to a performance, so it would not be a problem. In this type of computer we can save practically in everything. After all, if your computer has to perform office duties effectively for a longer time, better to properly think through what may be necessary requirements for two years and have little power reserve. Also a selection of less-known components of cheaper manufacturers may have a negative effect in the form of disorders.

Home PC

Price is not as a priority criterion as purely office machines, but it is good also to look on that. We are looking for basically the best balance between performance, price and options not having computer for a long period of time to improve. This computer is characterized mainly by a wide focus. If the computer captures household, so it requires the fulfillment of a wide range of requirements. At a minimum, playing movies and even in HD, playing music, any video editing and last but not least to some gaming. The computer should have an acceptable game performance. Do not have to run it off the newest titles at the maximum possible detail, but most new games should be a modest adjustment handle. It will not be a straight strong game machine. It is characterized by high consumption and higher prices. For our purposes, it is more preferable to something cheaper. At least components like the CPU, memory and graphics card, determining from most gaming performance, can choose less expensive. With playing and playing back movies is also linked with image quality. Selection of the monitor will be a little more thorough, than was the case with office machines.

Game PC

In this specimen focus and major requirement will be clear. More than anything it will be a performance, but with the price we will also be handled carefully. We will look back on it less. There is a few who have unlimited funds to build a computer. Avid gamers will certainly willing to sacrifice his machine more money than was the case in the previous two configurations. After all, wants to play all the latest game titles in high quality and stutter-free and wants to be endured while these options. Thus, the obvious choice of machines with the highest possible power reserve and higher future upgrades. Mainly here is discussion about the graphics card, which is the highest demands. Operating memory quickly cease to provide sufficient capacity and speed, but the capacity

can be easily solved by purchasing additional modules. Processor becomes obsolete in terms of gaming performance noticeably slower and its replacement, over time rarely performed. Among other things, due to the possible future pieces incompatibility with our motherboard socket.

Conclusion

One aim of this work was to create an overview of current technologies and components of computer assembly. Clarifying their specifications, a brief statement of their roles and functions with a focus on the user. This objective was fully met in the first part of the thesis in a way appropriate to the extent thereof. By analyzing and processing information contained in books and electronic resources, has created a comprehensive overview facilitates orientation in the offered components greatly simplifies the correct choice.

Using data from the first work was also achieved the second objective. Thus was creating optimal designs computer configurations. Also author has provided information about how to choose the right components and suggested from his point of view to think about certain things before buying an assembly. Reports focused on office, home and play the latest games. Each was different in terms of the criteria for office equipment on the price, which eventually came to a very reasonable 8200 CZK from Mironet. There was not big difference on price between stores. With system requirements for usually used office applications of a minimum 1GHz processor, 1GB of RAM memory, more than 3GB of disk space, and with a minimum display resolution 1024x768. Low power consumption are reflected on the regular cost. At home kits was no longer so much about the price, but to optimize the best performance, affordable prices and eliminating the need in the short term to improve performance. System requirements for multimedia applications and games with a minimum requirements was at least 2GHz quad core processor, 2GB of RAM memory, more than 15 GB of disk space, graphics card with a minimum 1GB memory, with display resolution 1366x768 and DVD drive. The choice was therefore focused more on middle-class facilities. Thanks to the findings of the first part has managed to create a design exported home computer, whose main advantage is not having 29 590 CZK price from Mironet, but the possibility of functioning as a player, HD movies, and especially the fact that our machine lasts a long time in terms of performance provided. At home assembly but it is still relatively high price and thus been disclosed a series of compromises so as to bring the price more favorable to 27 490 CZK. The last proposed gaming machine had its price about 56 150 CZK from CZC definitely lacks focus on low price. For this type of machine was collected recommended system requirements from latest game titles which

was at least Core i5 quad core processor, 8GB of RAM memory, more than 35GB of disk space, graphics card with a minimum 4GB memory and Full HD display resolution and DVD drive. The selection was made but some compromises that amount not climbed even higher. Even so successfully design a very powerful gaming machine with a good possibility of future expansion, and to keep up with new game titles. Now think about the future us a little more spending at the beginning can save much larger sum in the future. This applies generally to each group. Finally the most expensive store is Mironet, the cheapest is CZC. And Alza has optimal prices.

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