

Green Computing: Save Power, Save Environment

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Abstract:- In today's world computers are most important part of human life. Because of speed, storage capacity & programming ability computers are used in everywhere in human life. But more use of computer creates harm to environment. Computer consumes more electricity. Toxic, carbon dioxide produce by computer material. But use of computer is necessary in human life. Existence of Green Computing to overcome negative effect of computer to environment. Green computer provides way to lower the power consumption of computer system. It also provides way to minimize pollution by computer material. This paper gives idea of saving energy & environment which helps to save money.

Keywords: Power Consumption, Save Money, Save Energy

I. Introduction

Green Computing is a philosophical approach to computers. Its goal to reduce the environmental impact. This includes making computers as energy efficient as possible, using materials that can be recycled or are biodegradable, and using fewer toxic materials and disposing of them safely[3].



Green computing supports devices are progressively designed to minimize energy use and have less of an impact on the environment. It also feature materials and use manufacturing processes that are less energy-intensive than traditional methods and even use renewable and natural materials when possible. Green Computing is the application of environmental science to offer economically viable solutions that conserve the natural environment and resources, and curb the negative impacts of human involvement.

II. Need of Green Computing

The rapid productivity of data centres required the constant addition of server, cooling and ventilation equipment that led to an ever-increasing demand of energy and increased presence of toxic and hazardous substances such as lead, mercury, cadmium, and others. This made people look at

ways to apply green technology in computing to mitigate the serious environmental and health concerns. Electronic devices are a complex mixture of several hundred materials. A mobile phone, for example, contains 500 to 1000 components. Many of these contain toxic heavy metals such as lead, mercury, brominated flame retardants, cadmium, beryllium and hazardous chemicals. Polluting PVC plastic is also frequently used. These dangerous substances cause serious pollution and put workers at risk of exposure when the products are produced or disposed of. Of particular concern is the exposure of children and pregnant women to lead and mercury. These metals are highly toxic and can harm children and developing fetuses even at low levels of exposure.

III. Save Power

One of the advantages of green computing to reduce the Power Consumption. Different technics are used to save power

- 1) Keep computer in Standby mode when it is not in use and therefore it can be reduced the energy consumption by 70% to 80%.
- 2) Activate "hibernate" or "deep sleep" mode can reduce the energy consumption by 96% as offering greater savings [1].
- 3) Desktop computer uses six times more energy than laptop as much as 80% less? When we consider about monitors, large Cathode Ray Tube (CRT) monitors and high resolution models use more energy than small ones. The Liquid Crystal Displays (LCDs) which are used in laptop computers are more energy efficient and also the use 10% - 20% of power.
- 4) Power management devices are used in computing environment.
- 5) GE's data centre is one of the first in the world to be awarded the Leadership in Energy and Environmental Design (LEED) Platinum Certification. The award is presented by the US Green Building Council for IT projects that go

- beyond standing codes, implement green technology, and create energy efficient buildings.
- 6) These hot and cold aisle energy efficiency tips aim to help you reduce your energy consumption within the data centre. Take a look to see if you're using a cooling technique that is wasting energy rather than saving it.
 - 7) Software programs like Local Cooling can calculate how much electricity your computer uses and adjust the settings of your power options to help minimize it. Physical devices like the Earth Watts Power Supply can help increase the efficiency of your computer's power supply and keep the computer cooler, so the fan doesn't have to work as hard.

SAVE ENVIRONMENT

Green Computing save the environment from pollution by computer material. Different ways are provided in green computing for environmental benefit

- 1) Minimize carbon Emission: The computer material generate gaseous such as methane (CH₄), nitrous oxide (NO₂) and fluorocarbons (CCl₄). Temperature of earth is increasing because of this gase. In green computing companies are started manufacturing computer material which generate less amount of such gases.
- 2) Reduce Paper wastage. In computer operation we use more papers for printout purpose which is wastage. Here are some suggestions for reducing waste:
- 3) Take less amount of printout to save paper or indirectly save trees. Try to use store much amount of data on storage devices.
- 4) Recycle waste paper as many times as you can.
- 5) Recycle the computer material
- 6) It is necessary to plant trees to maintain environmental stability
- 7) There are actually a lot of great things your old mobile devices can do for people. Whether that means helping soldier's overseas talk to their families or helping victims of domestic violence, they can be a lot more than clutter for your junk drawer. Here is a list of several worthwhile charities.
- 8) Reuse ink cartridge.

- 9) Use eco-friendly energy sources such as bio fuel, wind power ,solar water heating ,hydro electricity,Geo Thermal sources ,Tidal power

IV. Conclusion:

Biggest advantage of green Computing is that it saves money. As the above stated idea of power saves and environment saving gives the benefit to save money. The IT industry has the potential to change the way society operates on an environmental level if it is willing to take the plunge and make those big investments but initiatives have to be well structured, well planned and well-coordinated.[2]

Reduction in energy consumption gives chance to money saving. Use of power management devices reduce the the consumption of electricity which support for money saving. Paper save is save of environment. This provide idea to save money. Such as in this paper has given different ideas which are used to save energy consumption as well as which are safe to environment. It directly indirectly effect of saving money of individual, companies as well as government. Green Computing helps to save environment as well as power. It indirectly help to save money

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