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Green Computing–An Environment Friendly Approach towards Computing

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Abstract

Computers are used almost in every facet of life like business, home, entertainment, schools and offices. Although computer have made our life easy but it has also given burden to us. Electronic waste is a global problem and is increasing day by day. E-waste disposes toxins that are hazardous to the environment and are dangerous to humans that are exposed to them. These toxins consist of mercury, lead, cadmium, arsenic, and selenium and when they are burnt they create toxic emissions that harm human health. Presently computing is not environment friendly. The study and practice of using computing resources efficiently is known as Green Computing. Green computing helps in reducing the use of hazardous materials, promote biodegradability of defunct products and factory waste and also maximizes energy efficiency during the product's lifetime.

Green computing is considered as one of the most important factor which contributes to green environment. It has a prominent impact on green environment as modern society is dependent on information technology for all works and operations and the production and disposal of computer wastes directly destroys our green environment. My paper is about how green computing can be helpful in making computing environment friendly.

Keywords: Green Computing, Green Environment, Electronic Waste.

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Introduction

Computers are used almost in every facet of life. Computers are used in business, home, entertainment, schools and offices. Newer and faster computers are regularly introduced as companies want to improve profit margins. Although computer have made our life easy but it has also given burden to us. Electronic waste or e-waste is a major problem of this global world and is increasing continuously. E-waste disposes toxins that are hazardous to the environment and dangerous to humans that are exposed to them. Some of the toxins include mercury, lead, cadmium, arsenic, and selenium. Toxic emissions are created by burning the toxins harm human health. So presently computing is not environment friendly.

Green color is a mixture of yellow and green and has pleasant effect on eye. In the 21st century, green is realized to have a deeper meaning related to environmental aspects. We all are aware that behaving in an environmentally sound way will be essential to our future. The living environment will not be sustainable for any creature if we do not reduce the rate and amount of toxic waste, such as carbon, nitrogen, and sulfur dioxide, which were released as emissions into our air, water, and land. The Greenhouse Effect (which may directly link to an escalation of the effect of global events such as the tsunami of 2004, and various earthquakes and typhoons) is perhaps be the final signal from Earth which warns us that we must strictly act now to rescue future generations. The three main approaches to accomplish sustainable environment are social responsibility, environmental protection, and economic progress.

Study and practice of using computing resources efficiently is Green Computing and its main objective is to minimize the pollutions of environment. Green computing has a significant impact environment as our modern society is dependent on information technology for all works and operations and the production and disposal of computer wastes directly pollute our green environment. My paper discusses what is green computing and how it is an environment friendly approach towards computing.

What is Green Computing?

- Computing which is environmentally sustainable is Green Computing.
- Environmentally responsible usage of computer systems and related resources can be described as Green Computing.
- The study and practice of effectively and efficiently designing, manufacturing, using and disposing computers, servers

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and associated sub- systems such as monitors, printers, storage devices etc. is green computing.

- It can also be termed as practice or study of efficient and eco-friendly computing.

Green computing means using computers or devices to preserve or save the environment, energy and money.

What is the need of Green Computing?

- Increases in power consumption is responsible for generating a large amount of heat and this results greater emission of greenhouse gases like carbon dioxide(CO_2) . It produces harmful impacts on our environment and natural resources.
- Personal computers and data centers using old techniques and with improper cooling system consume a lot of energy and pollute our environment.
- Large amount of CO_2 produced by all the Data Centres, Pc & its peripherals & networking. Large amount of CO_2 produced from Pc's are hazardous for environment because they are not biodegradable and the parts and pieces are not recyclable.
- Defective manufacturing techniques, packaging, disposal of computers and components causes environmental pollution. Manufacturing of computers uses toxic chemicals and when we use informal disposing they pollute our environment.
- Often computers are left switched on when not in use (CPU and fan consume power, screen savers consume power).

Core Objectives of Green Computing Strategies

- Energy consumption should be minimized
- Purchase green energy
- Reduce paper and other consumables
- Equipment disposal requirements should be minimized
- Reduce the travel requirements for employees/customers

Roads to Green Computing

- Green use: the electricity consumption of computers and other devices should be minimized
- Green disposal: Unwanted electronic equipment should be recycled
- Green design: Energy-efficient computers, servers, printers and other digital devices should be designed
- Green manufacturing: Waste produced during the manufacturing of computers and other subsystems should be minimized.

Approaches to Green Computing

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