Utility programs and file management computer science essay

Technology, Computer

Utility program are programs that help in maintaining , controlling and managing the computer resources . the functions of utility program is that it performes a specific functions rather than a major function or applications, these programs help in the day to day activities performed in a computer and help the computer to run in high performance .

file management programs help us in managing files easily , a file manager is a program which provide a user interface to work with the file system , in this program the files is basically displayed in a hierarchy and some other file managers features are inspired by web browsers which have forward and backward navigation keys .

the newer graphical interfaces that comes with operating system like windows 95 version have reduced the need to have a alternate file management programs

For example the T- mode commander is a well k now orthodox file managing program.

The texA file manager program is a compter program that provides a graphical user interface to work with the file system, the commom operation performed on the files or a number of files are .

Create, Open , Edit , View , Print , Play , Rename , Move , Copy , Delete

And it also modifies attributes , properties and permission, some file manager provides network connectivity from protocols such as FTP , NFS,

SMB . this is achieved by the user to browse for a file server or by providing its own full client implementations for file server protocols.

Disk management program involves formatting and defragmenting the disks , defragmenting helps placing files on the disk so that the full file is in a order which reduces the time which helps in finding the file , some of the disk management programs let us chose a certain number of files that are often accessed , like the operating system itself and frequently used programs they are arranged in the fornt of the disk.

Defragmentation is a process which help reduce the amount of the fragmentation in file systems. This functions by organizing the contents of the disk to store the pieces of each file close together , it also helps and attempts to create large region of free space using compaction to impede the return of fragmentation.

Fragmentation occurs on the operating system when system cannot allocate enough space to store a complete file as a single unit , but it puts a part of it in gaps between other files . larger files and maximum number of files also contribute to fragmentation and result in systems performance loss.

Other type of defragmenters keep smaller file inside a single directory, as the files are often used accesed in sequence. The movement of the hard drives read and write heads over the areas of the disk when accessing fragmented files is slower compared to accessing a non fragmented file in sequence , without moving the read and write heads .

Memory management consists of software tools where the random access memory programs present data is displayed.

The memory simultaneously is enhanced by making maximum utilisation of memory which is lying unused making it useable.

Kernel uses the system memory and helps the data to access keeping security measures in mind as per requirement. segmentation results in virtual addressing. virtual addressing facilitates the kernel to display the original physical address in form of a virtual address.

The memory that is being processed in the virtual address and the original differs fron one another.

This helps in maintaining the excluisivity if the programs and avoids crashing.

On the system reference is made to the data whose memory is missing. virtual addressing helps the OS to store the data in other mediums like hard drive to replace the data from the main memory(RAM). Ending to enable the programs to use more memory than actual present.

Backup software :-

Backup software is a software which restores the backed up data , backup is essential if u have any data which is important and woe want to keep it for a while . this backup software will compress the data to take up the least space .

In other word back up is a process of backing up which makes copies of the data so that these additional copies may be used to restore the original data if there is a data loss event

There is two functions of backup . thr primary function is to recover data as a reaction to data loss it might be caused due to data deletion or corrupted data . and the second purpose of backup is to recover data from a historical period of time within the given constrains of user defined policy , it is configured within a backup application for how long copies of data are required , back up recovery is a part of disaster recovery plan bot all of the backup plans are able to reconstitute a computer system , or in other complex configurations such as a computer cluster , active directory servers or a database server by restoring data from a back up

A back up software contains one copy of the data which is worth saving in this the data starage requirements are considered . before data is stored in the storage location it is selected , extracted and manipulated . many different techniques have also been developed to optimize the back up procedure which includes optimization for dealing with open files and live data resources as well as compression , encryption and duplication among others

Data compression

Data compression it is a process of encoding information using the bits than the original representation would use . these programs squeeze the space generated by the formatting schemes

The data compression is helpful because it helps in reducing the consumption of the expensive resources such as the hard disk space compressed data must be decompressed to be used and this extra processing may be detrimental to some applications.

the data compression schemes therefore involves trade off among various factors , which include the degree of compression , and the amount of distortion introduced and computational resources required to compress and uncompress the data .

the oldest methods used codes such as ASCII and EBCDIC these are examples of block block codes

when source messages of variable lengths they are allowed many of the algorithms ,

for example in a text file processing each character may constitute a message or messages may be defined to consist of alphanumeric and non alphanumeric strings . for examples in a pascal source code each of the token represent a message .

Anti Virus :

Anti virus software administers the flow of viruses into a system from various modes which are contagious. They are very harmful to the system as they have a potential to crash the computer.

Antivirus software detects and removes viruses, worms and Trojan horses also prevents and removes adware , spyware and other malware

There are various strategies employed , signature based detection is a kind which searches for known patterns which states a valid code. there is possibility for a system to be infected with a new external malware which has no signature. heuristics is a better option to fight against such day to day threats.

One of the types of heuristics approach can identify the malicious codes or slight variations from which the viruses are born or come to existence.

Anti virus software has a potential to impair the functionality of a computer, people who are not so familiar with these hazards may encounter problems in understanding the feedbacks given by the computer and how to react towards it to solve the problem.

A anti virus detection process can be complete only when there is a adequate balance between the false negatives and false positives. false positive report s end up in destruction of the computers memory.

Operating systems

The operating system was created by the company that manufactured the processser and motherboard , so each of the operating system was proprietary that is unique for every manufacturer

Operating system performs many functions and is in very basic terms , an interface between your computer and the outside world , as a computer consists of several parts including the monitor , keyboard mouse and other parts , the operating system provides an interface to the drivers this is the reason why sometimes when you install a new hardware the system requires a driver to install the software

The operating system functions with system utilities that monitor performance and debug the errors and help in maintain the system , it introduces a set of libraries which is used by applications to perform the tasks to enable direct interaction with system components . the commom functions of operating system run transparent to the users .

The types of management include memory management that is allocation of the main memory and the storage areas for the system programs and the user programs and usefull data .

In input-output management co ordinates the different output and input device while one or more programmes are being executed .

File management is the storage of files of various storage devices and it helps all files to be easily changed by using the text editors

Common Operating Systems:-

The winner in the PC market was MS-DOS, Microsoft’s Disk Operating System, and its twin at IBM, PC-DOS, also written by Microsoft.

Windows 95 and Windows 95

The previous versions of Windows use DOS as the operating system and adding a graphical user interface which will do multitasking.

Windows Me

(Windows Millennium Edition) is an upgrade of Windows 98

Windows NT

The NT came from New Technology is an operating system for client-server type networks.

Windows 2000

Upgraded version of Windows NT rather than of Windows 98?