Windows Vista

BASICS

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Introduction

The target of this material is to give you a good overall picture of the various features of your computer, Windows Vista operating system and the desktop. This material is suitable for 24-35 hour courses, but it also is a useful tool for shorter training courses.

Studying goals

You should set goals for your studying. The goal of this material is to make you familiar with the basics of Windows Vista. The material introduces you to the most important features and functions useful for automatic data processing.

After carefully familiarizing yourself with the material you can:

- Use the Start menu; start and shut down the programs
- Use input devices, keyboard and mouse
- Use **Taskbar** and switch between programs
- Perform basics Windows Explorer tasks; create new folders and files, search and handle them (Disk management)
- Save files and open, close and handle them.

✔ Set goals for your learning. You get most of your studying, when you are target-oriented and motivated. This way learning new things will be easier and more efficient for you. If you find the subjects useful, you will also remember them better in the future. To reach your own goals, you should be active and participate in improving the course by presenting questions and ideas.

I wish you pleasant and enjoyable studying!
Kari J. Keinonen

Why do you need the operating system?

To be able to work on the microcomputer you need a disk operating system. The disk operating system controls the computer, so that the other programs can use it. The task of the disk operating system is to transform:

- the commands you give into a form that the computer understands and
- the data the computer handles into a form that you understand.

With the start up of the computer, Windows operating system will be loaded from the hard disk into the main memory. It will control the programs and peripherals. In Windows Vista, a graphic user interface, a desktop, has been built for the users. With the help of the desktop it is easier for you to use the operating system. You don't have to remember the commands to control the computer.

The tasks of the operating system are:

- Starting the programs
- Controlling the peripherals
- Memory management of the computer
- Processing the files
- Transferring the data from one program to another

✔ You create files with the programs in your computer. When these files are printed, they are called documents.

Start Up and Shut Down of the computer

Start Up

1 Firstly, switch on all the peripherals, also the screen.

2 Switch on the central processing unit.

3 The system will be loaded into the main memory.

After a while, a dialogue box will appear on your screen. Please select your **user account** by clicking and type your personal **password**. If your original password is written in small letters, you must always type the password in small letters.

✔ Home computers do not normally have passwords. Therefore, The Windows Desktop will automatically appear.

After you have given the correct log-in information, the computer will start up and The **Desktop** (picture on page 10) will appear. The use of the computer is done at the desktop.

Shut Down

1 Quit the data processing by shutting down all the **programs**. **Save** all the files you have created when exiting the program.

2 On the **Start** menu, select the **Shut Down** or press **Alt + F4** keys.

✔ You don't have to use the **power** button to shut down the computer, modern computers shut down with the **Shut Down** command automatically.

✔ By using **Restart** on the **Start** menu you can restart the computer. On the **Start** menu you will also find **Log Off** which logs off your user account. This is necessary especially with the multiple access computers.

It is also often necessary to restart the computer, when the programs crash. In this situation you should press **Ctrl + Alt + Del**. In the appearing dialogue box, click **Shut Down** on the bottom right hand corner, and select **Restart**.

Data processing orientation

In electronic data processing you will enter information into the computer by using the mouse or the keyboard. You will handle and enter **objects**, which can be selected and handled as a whole. As a device you will use computer programs and databases. The processor in the central processing unit will process the information you have entered. The computer will then write out the information on screen and/or paper.
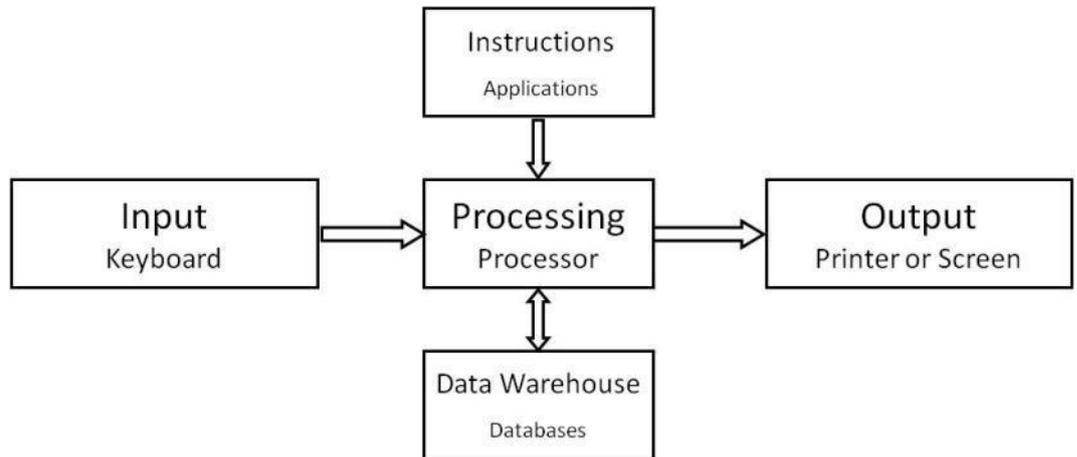
Figure 1   In the picture you can see the data processing orientation. Computer data processing differs from the traditional typewriter data processing as far as the functions in the middle are concerned. When using the typewriter, the information is not being processed in the processor, but you see the results of your work e.g. on paper.

Input device

Mouse and keyboard are the input and control devices of your computer. With both of them you can enter information and execute commands.

Keyboard

Function keys

Function keys are used for controlling (using) both the operating system and the programs. By pressing **F1**, help for Windows or program will pop up. If you press **F3** while at the desktop or Windows Explorer, **Search Results** dialog box will appear. With the help of the dialog box you can search for information on the disks by different search criteria.

Numeric keypad

These keys are used for entering numerical values and operands (+ - / *) into the charts.

Cursor control keys

Cursor control keys are used to move pictures on the screen, at the same time the cursor will move. At the new position of the cursor you can change the file. In many programs the **Home** key takes you to the beginning of the line and the End key to the end of the line.

QWERTY

With the help of QWERTY you can enter characters into the files. It is good to remember a couple of shortcut combinations in order to control the computer by using the keyboard. The shortcut combinations usually consist of **Shift, Ctrl** and/or **Alt** together with some basic keyboard key. Using the shortcut keys will speed up your work. Press the **F1** key and you'll get additional information about using the shortcut keys by using the index word **Shortcut keys**.

Mouse

Cursor

When you move mouse the **cursor** moves on the screen. Please find examples of the shape of the cursor below:

Pointing

Move the cursor over the object.

Click

Click the left mouse button and release it. By clicking you activate the object, open a pop-up menu or execute a menu command.

Dragging

Move (drag) the mouse, either the left or right mouse button pressed down, so that:

- the chosen object moves along (left button)
- the cursor chooses the key string or other objects (left button)
- the context menu will pop up (right button), and you can choose any function you want.

Double click

Click the left mouse button quickly twice. With **Double click** you can open files, folders or select whole words. You can choose a word by double-clicking it.

Clicking the right mouse button

By clicking the right mouse button you can make the context menu of the object to pop up. On the context menu you can choose different functions related to the object.

Windows Desktop

After studying this section, you are familiar with the **Windows Vista Desktop** and you can use different Windows objects. You can open and close programs and use windows and folders. You also know menus and commands, taskbar and function keys. Additionally, you know the status line and the icons.
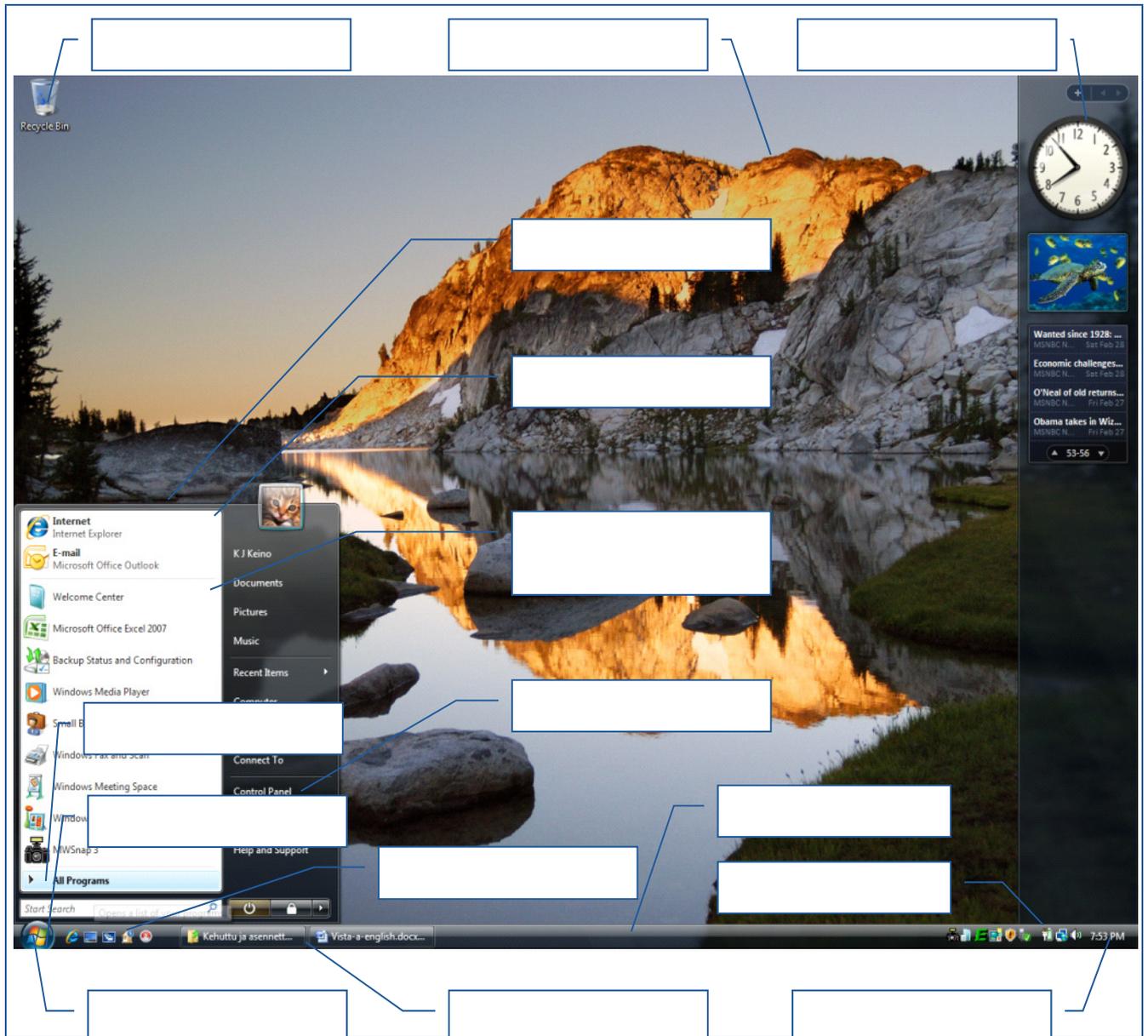
Figure 2   In the picture there is the Windows desktop and its objects (parts, elements). At the bottom part of the window there is the Taskbar and the Start menu. They are the key to use the operating system. With the help of the Start menu you can access the whole wide cyber world (Internet Explorer program), the Intranet of your workplace (Network program) and you can open the installed programs and work with them. By using the tabs of Taskbar you can move from one open program to another. With the help of the Recycle bin you can delete everything you find unnecessary.

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Start menu

At the bottom of the desktop there is the **Taskbar**. At the left end of the **Taskbar** there is **the Start** button. By clicking the **Start** button or the **Windows** key (at the keyboard), a drop-down menu will appear, where you can open the programs you want by clicking the command line. If you don't see the program you're looking for in the list, click open the **All Programs** submenu, where you can find all the programs installed to your computer.
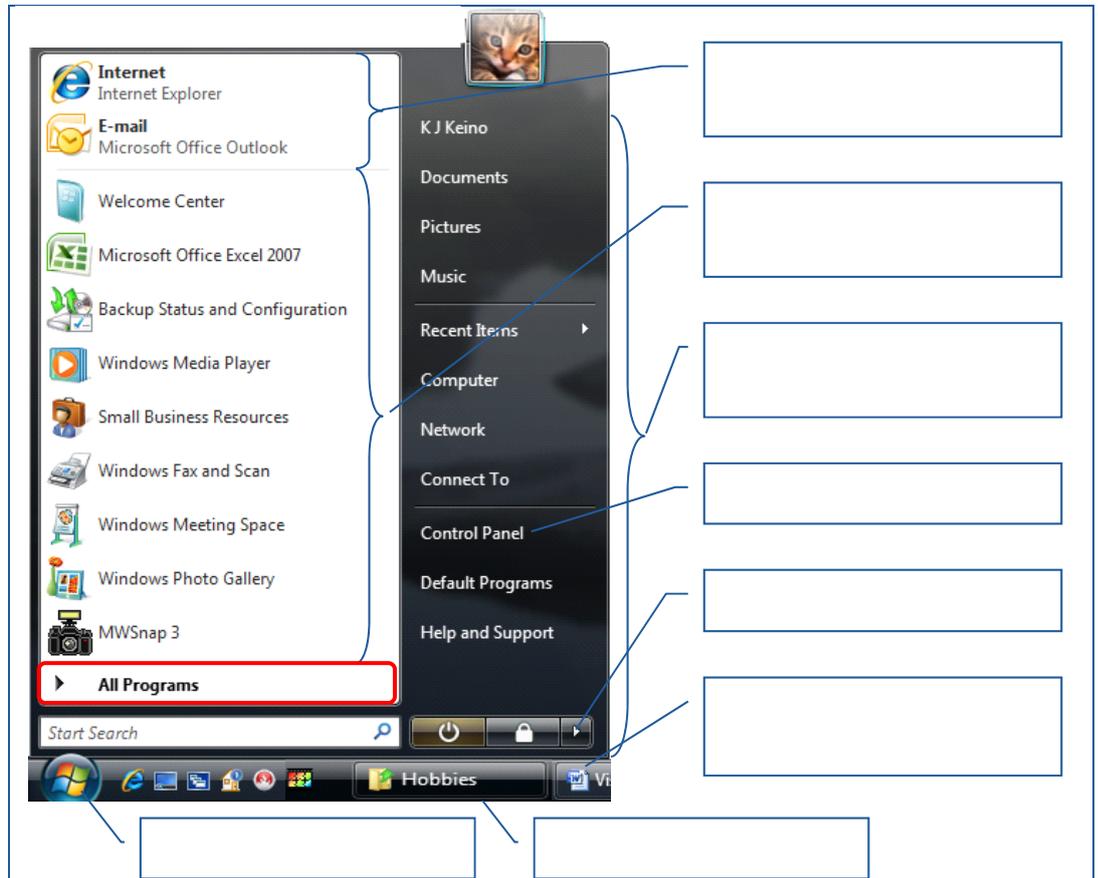
Figure 3   In the picture there is the Start menu of **Windows Vista**. At the lower left section of the menu there is the **All Programs button.** By clicking the button you can see all the programs, which are installed on the computer. In the right pane there are functions, which help with the use and settings of the computer.

On the **Start** menu there are other important functions, too. The **Shut Down** command shuts the computer down safely. By using the commands in the right pane of the menu you can open the files that you have recently opened. By clicking the **Control Panel** command you can change the settings of the operating system. You can use the **Help and Support** command to open Windows help, familiarize yourself with it.

Using Taskbar

Windows Vista is a multiprocessing operating system. It means that you can use many programs at the same time. You can see all the programs that you can use at the **Taskbar**. You can switch between programs by clicking the program buttons at the Taskbar.

The Taskbar is situated at the bottom of the screen. You can move **Taskbar** to the upper section of the screen by dragging it (I recommended). Moving the Taskbar requires that you first unlock the Taskbar by clicking Lock the Taskbar at the context menu of the Taskbar. Drag the Taskbar up using on its empty part. After moving the Taskbar, lock the Taskbar again by clicking **Lock the Taskbar**.

Figure 4   In the left corner of Taskbar there is the **Start menu.** Next, there are the Quick Launch buttons. You can add the programs that you want to the quick launch buttons. At the middle of the Taskbar there are buttons for open programs, by clicking them you can switch between programs. In the right corner there is the Notification Area. By clicking it with either the left or right mouse button you can open a menu, where you can change the settings of the accessories. Some accessories of the Notification Area can be opened by clicking, others by double-clicking.

The number at the beginning of the name of the **Taskbar's** program button means that several copies of the files are open. In the right corner of the program button there is a triangle upside down. The triangle you can make the files appear by clicking. The name of a file you can start processing the file by clicking.

Windows

In Microsoft Windows, windows are the places where all the work is done. All windows are being handled in the same way. The same principles also apply to other operating systems equipped with a graphic user interface.
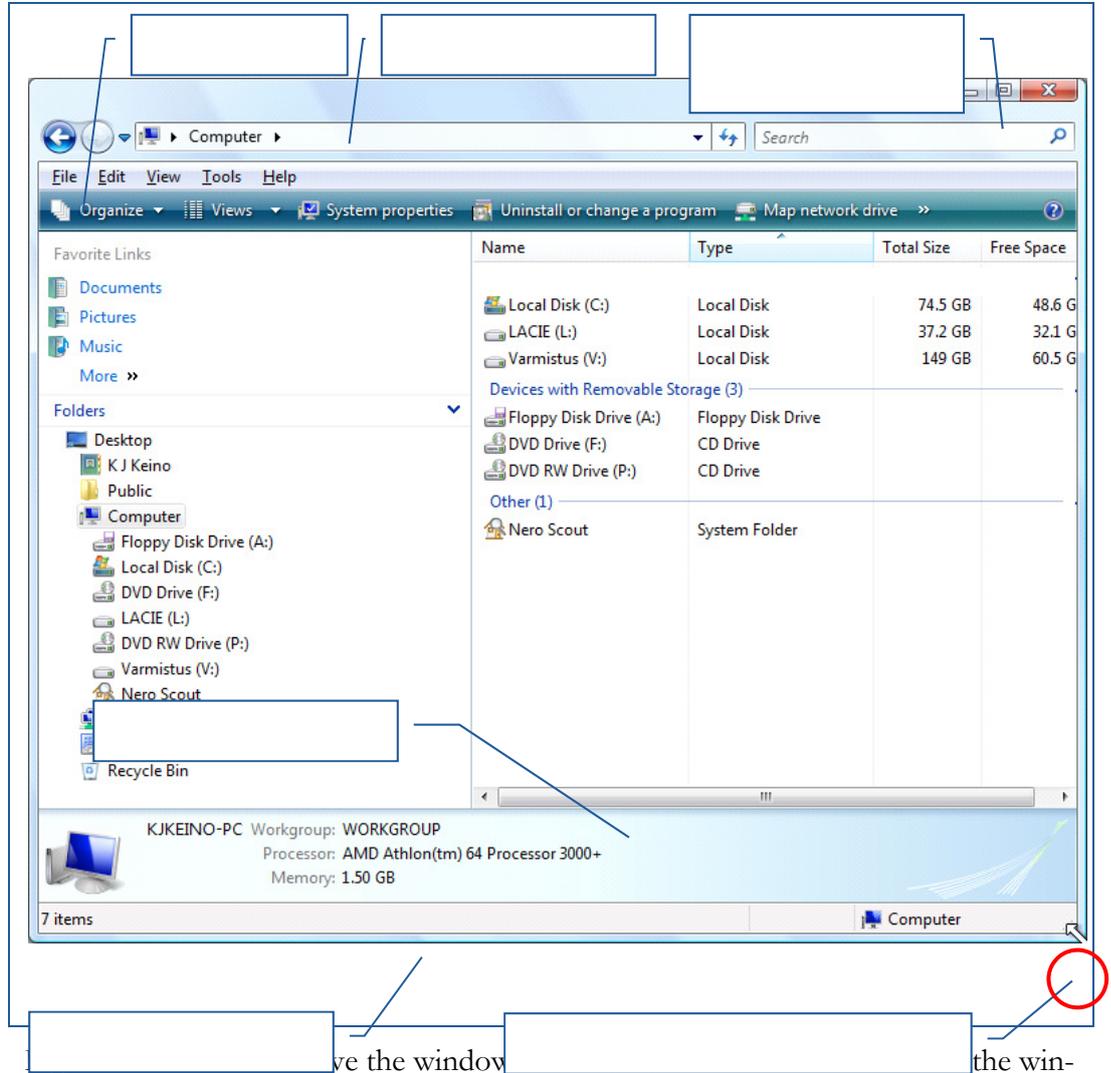
...ve the window...the windows there is a menu bar at the upper section. If the menu bar is not visible, press the Alt key. This menu bar has all the commands necessary for handling the windows (programs).

You can change the size of the window by using the control buttons or by dragging the borders or angles of the window. The Maximize button you can enlarge the window to be the size of the screen by using. The Minimize button you can diminish the window to fit the taskbar by using.

With the help of the scroll bar you can make the hidden contents of the window to appear. You can close the window by using the Close button. There is a status bar at the bottom of the window, if it has been made to appear in the settings. The status bar gives you useful information and instructions.

Context menu

Context menu is Windows' most important auxiliary function. Context menu is a context-specific menu, where you can see the commands available to handle the object. Context menu appears, when you click the right mouse button on the object or press the Context menu key on the keyboard. There is **Properties** command in the context menu of nearly all objects (often last command). You can adjust the settings of the object (pages 16 and 25) with the help of this command.

The **Context menu** function is available everywhere in Windows, both in the operating system and the desktop programs. You can work much more effectively, when you learn how to use the context menu to execute the commands.
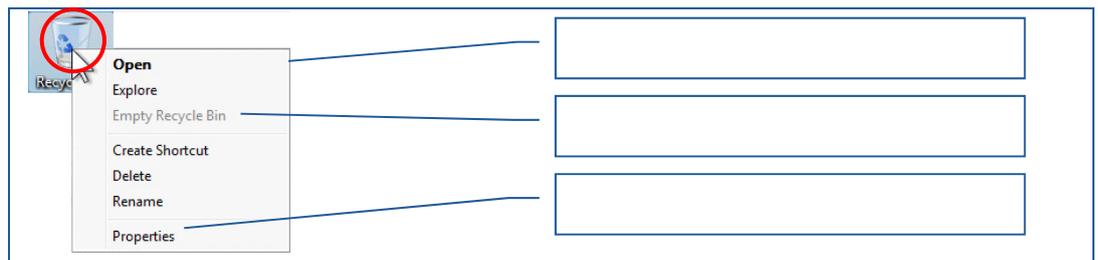
Figure 6   In the picture, the **Recycle Bin icon has been** right-clicked**. The context menu of the Recycle bin will appear, and there are commands for processing the bin. After you have moved the files, which you want to delete, to the Recycle bin, you can empty the recycle bin by clicking **Empty Recycle Bin.**
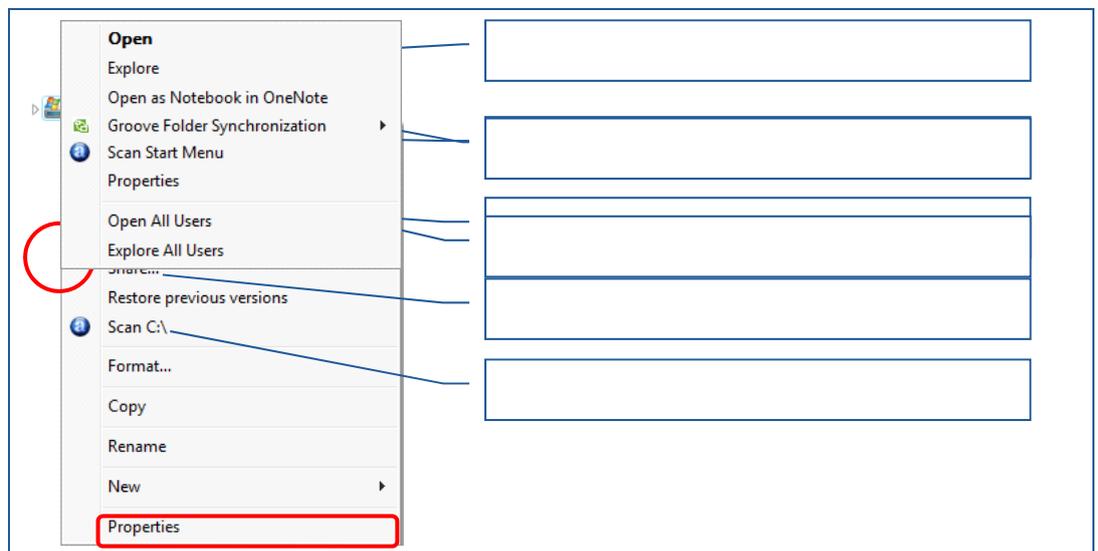
Figure 7   The most important command of a disk, folder or file is **Properties.** With the help of this command you can see the size and other important information of the chosen object.

Windows Explorer

In this section it is my goal to familiarize you with the file management in the hierarchical tree structure of **Windows Explorer**.

The **Windows Explorer** program shows all the resources of the computer in one tree: disk drives, network drives, network device, printers, folders and files.

Windows Explorer can be started by clicking on the **Start** menu → All Programs → submenu Accessories command or by pressing Windows + e.

Windows Explorer window
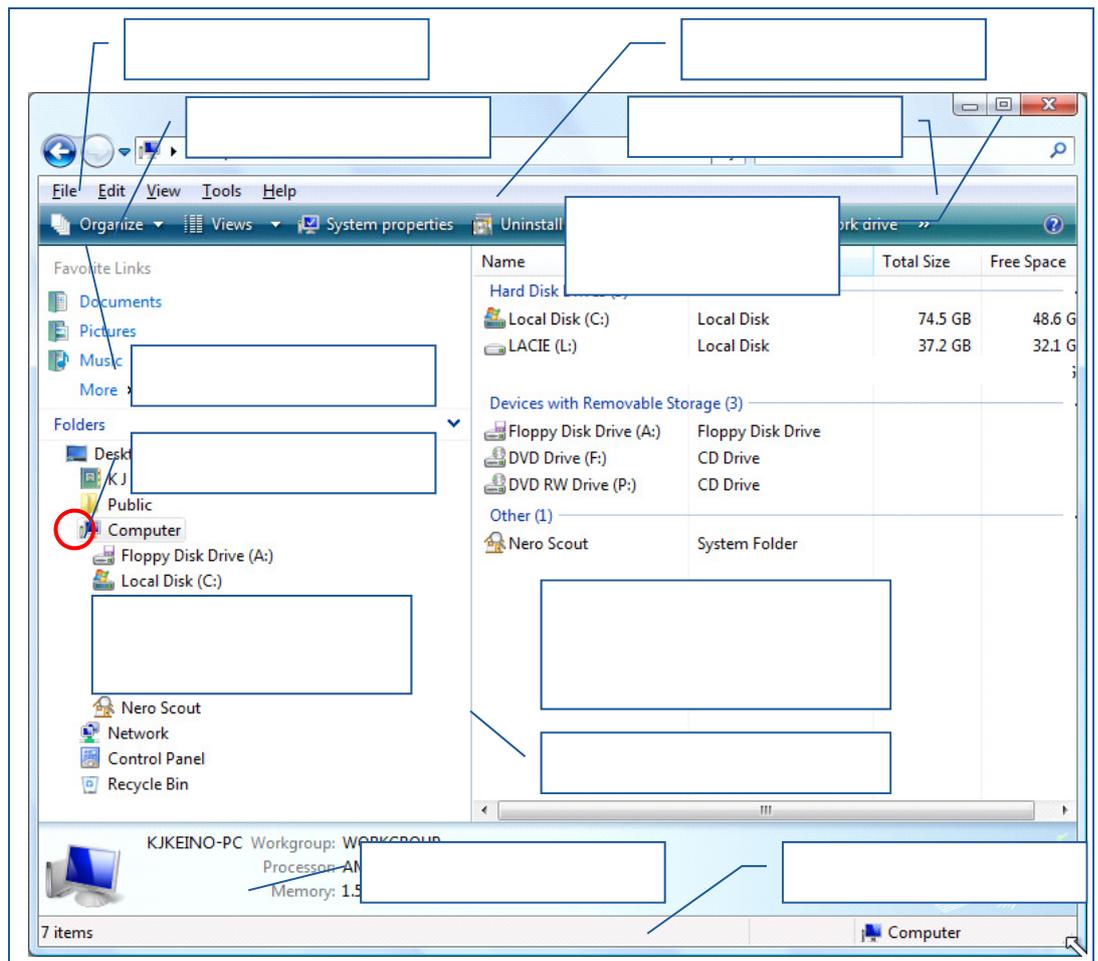
Figure 8   At the picture you can see the Windows Explorer window and its parts. By clicking the triangle in the tree of the directory window you can open the disk or folder and see the contents of the resource in the file window. You can minimize and maximize the windows with the control buttons. By pressing the Close button you close the window. You can make the menu bar to appear by pressing the **Alt** key.

Disk Drive

Disk drives are named with disk drive codes, which are familiar from old operating systems (in brackets).

- A: (and B:)   Disk drive for 3.5 inch diskettes
- C: Start Up hard disk
- D: tai E: Often CD or DVD drive
- F: - Z: Other disk drives (memory sticks, external hard disks etc.)
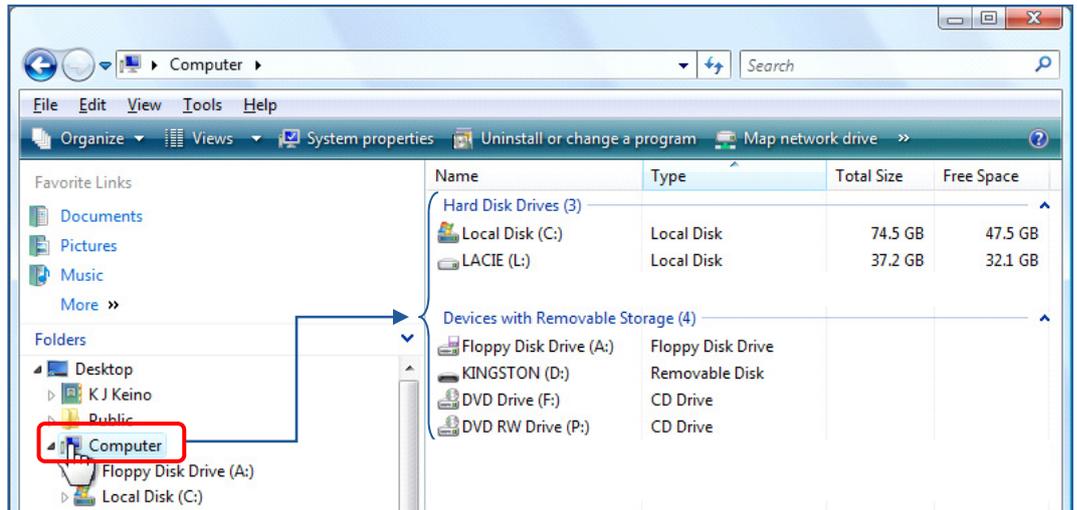
Figure 9   By clicking the Computer icon you can see the contents of your computer in the file window. The disk drives have an explicit name in addition to the names familiar from the DOS system. You can display the menu bar by pressing the **Alt** key.

Disk drive properties

By clicking the disk drive icon with the right mouse button you can make the context menu appear. Click the **Properties** command.
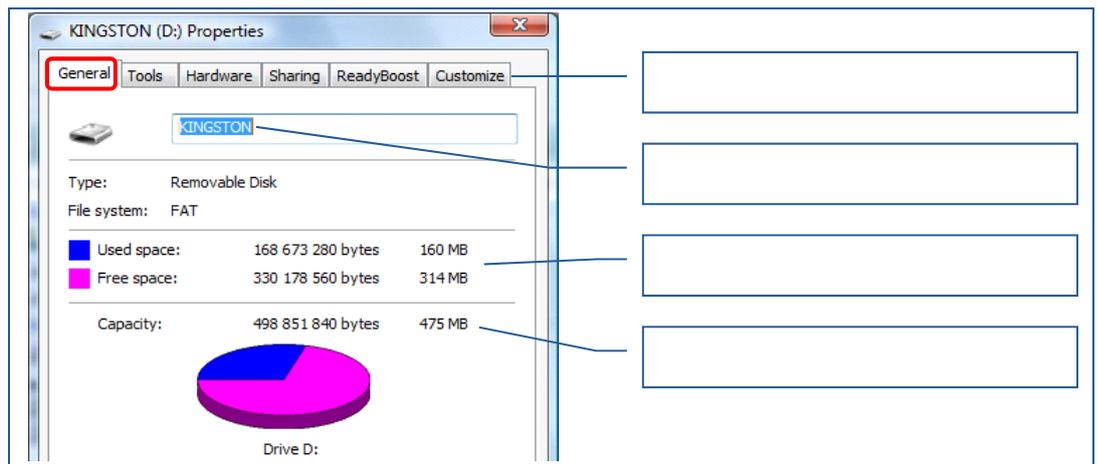
Figure 10   In the picture you can see the properties of the **KINGSTON (D:)** drive on the **General tab.** You can name the peripherals in the name box. In the middle of the window you can see the size, used space and free space of the disk.

There are many tabs in **Properties** dialog box . Familiarize yourself with the contents, but don't change the settings unless you are sure it's useful.

Folders

To the disk drives you can create directorial structures, where you can create folders. In these folders you can save all you work, in other words the files. Name the folders and files carefully according to their contests. For additional information on naming, please see the files on page 19.
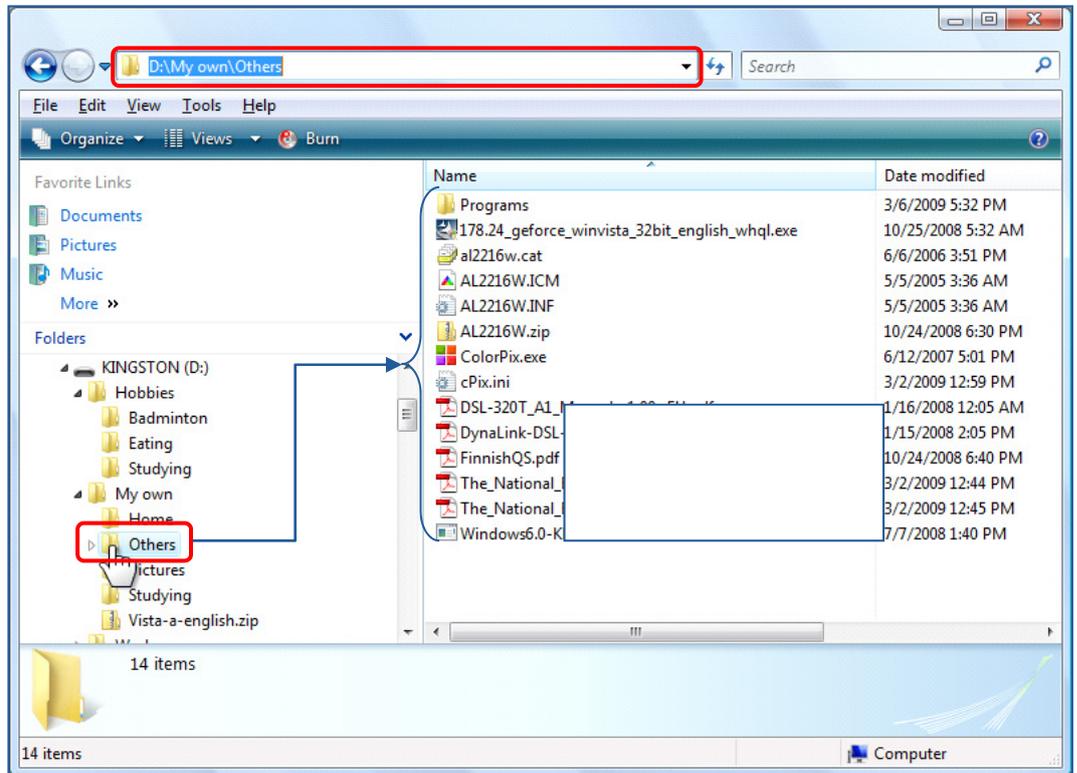
Figure 11   In the file window you can see the contents of the directory **D:\My own\Others**. After clicking Location you see the path of the folder traditionally presented. **D:** means disk drive, under (\) which there is the folder **My own under which there is the subfolder Others.** The objects in the file window have been sorted by the name, but not grouped. At the bottom part of the screen there is the **Details Pane, where you can see the number of the objects in the chosen folder.**

Files

Files are pieces of work, which have been created by using applications. They can be handled and saved electronically, and when they are printed they are called documents.
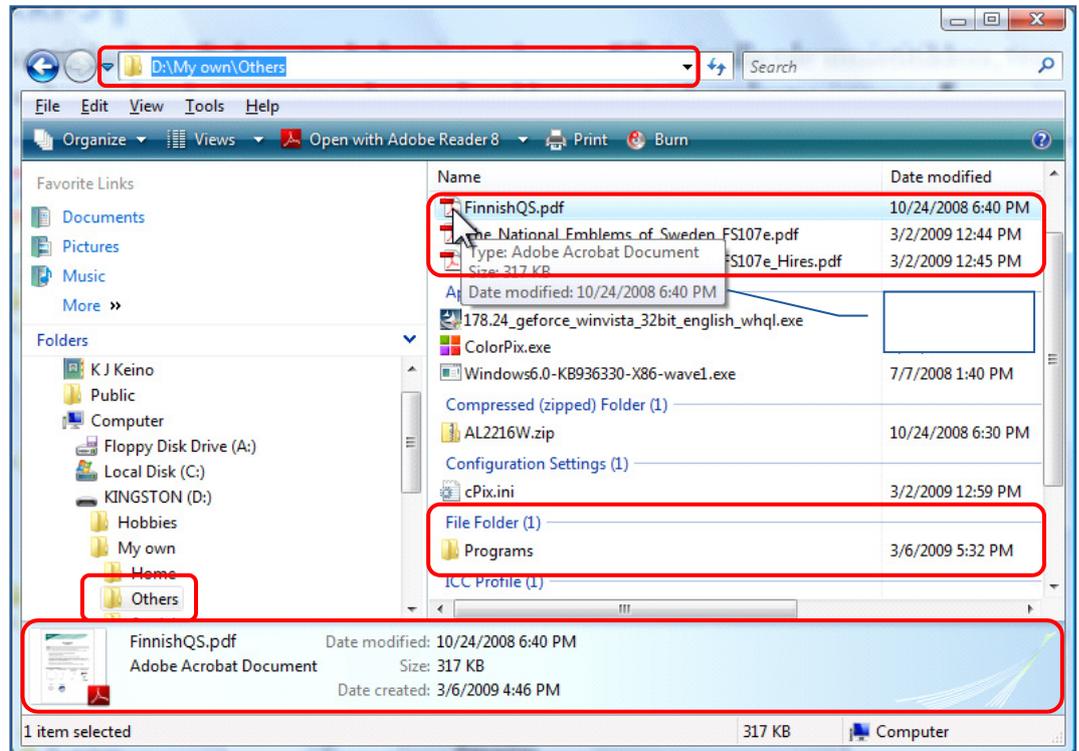
Figure 12 The Folder **D:\My own\Others** has been chosen. On the right you can see the contents of the folder: files (1) and subfolders (2). The menu bar will appear when you press the Alt key on the keyboard. If you activate a single object in the folder, you can see the details of the chosen object in **Details Pane at the bottom of the screen.**

Files (and folders) can be opened in **Windows Explorer** by double-clicking the icon of the file. At the same time you will open the application, which you have used to create the file.

File management

You can handle and manage the files in the **Desktop.** Files are managed best with the **Windows Explorer**. The easiest way to open the Explorer is to press the **Windows + e** key combination.

File management means organizing the contents of the files and directory structures in meaningful order. File management also means handling the folders and files, in other words creating, searching, copying, moving, deleting and naming them with descriptive names.

It is important that you save the programs in separate folders. You should name the files you have created in folders that you have carefully named.

File and folder names

Files and folders (also other objects like disks) should have descriptive names. Name the files logically when you save them, and place them in the right folders. Naming of the files and folders can be done quite freely, Windows Vista limits the name length to 215 characters (maximum 256 characters including the file path). You should name the files and folders reasonably and give them short names; the recommended length is 32 characters or less.

Old MS-DOS naming rules

It's useful for you to know the old MS-DOS naming rules. They will help you especially if you use the files in old operating environments.

File name can have

- no more than **eight (8) characters**
- alphabets **a ... z**
- numbers **0 ... 9**
- special characters **_, %, & or !**

File name cannot have:

- Scandinavian characters **å, ä** and **ö**
- other special characters like **space, - . +, * : ; / | \ ( ) etc**...

Diskette handling

A diskette is a storage medium, where you can save a lot of information. Using diskettes is rather rare nowadays, but is still quite an eligible storage medium. The most common diskette is the **3,5** inch HD diskette (1,44 MB diskette). With the help of the diskettes you can transfer information from one computer to another and back up files made earlier. If you transfer information to another environment, you have to check whether there is a diskette drive in the computers in question.

You should format it before you start using the diskette. Formatting prepares the disk so, that it can receive information. Formatting also **empties** the diskette. By formatting the diskette you also check its condition. If the formatting succeeds, you can use the diskette safely. Remember that you can store information on a disk only for a limited period of time. That time varies from 3 to 15 years depending on the diskette and the storage conditions of the diskette.

You can format the diskette by clicking **Floppy Disk Drive** icon in the directory structure with the right mouse button. Some other drive must then be active. Choose Format command on the context menu. Make the settings you want in the appearing dialog box and click Start.

Creating a new folder

You should create an organized tree structure on the hard disk where all your programs and files are in their respective folders. It is useful to create a folder for the memory stick and CD disk; otherwise it is hard to find the information.

You can create a new folder under the selected folder by selecting the **Folder** command on the New submenu on the context menu. You should give the folder a descriptive name and accept it by pressing the **Enter** key on the keyboard.

Selecting files and folders

Files and folders can be selected by clicking the mouse.

Several files and folders can be selected one by one by keeping the **Ctrl** key down and clicking the file icons in the window. Several files can also be selected by drawing a frame around the files and folders.

All the open files can be selected at once by pressing the **Ctrl + A** key combination on the keyboard.

Copying files (Ctrl + c)

Information is expensive, not computer. Files and folders can be copied to ensure the **back up.** When you store the information you have created in two places, losing the other one will not be dangerous or expensive.

Copy the files and folders into the disk or memory stick. You can copy files also into CD or DVD disks, if your computer has a burning drive. With these storage media you can easily carry information with you. It is necessary when you want to work on two different computers, for example at work and at home. Be careful when carrying these media with you, so that they are not lost and the information doesn't fall into the wrong hands.

You can copy files and folders in the Explorer file window. Select one or more files or folders. Click first on the **Edit** menu and then the **Copy** command or press the keyboard shortcut **Ctrl + c**. Open the folder, in which you want to copy the files and folders. Click **Paste** command in the Edit menu or keyboard shortcut **Ctrl +v. Copying** files means **multiplying** the information.

Copying can also be made using the mouse. You can **drag** the files and folders to the desired folder pressing and holding down the Ctrl key. In the bottom right hand corner of the icon, that you are dragging, there is a plus character showing that you are copying.

Moving files (Ctrl + x)

You should move your files to logical locations. When you files are located in the folders according to the subjects, you can easily find the information you need by browsing the directory structure.

✓ When you move a file to a disk or a memory stick, it is easy to take along with you. After this, the file **doesn't exist** in your hard disk any more.

When moving the files and folders from the opened folder, select one or more files or folders. Select the **Cut** command on the Edit menu or press the keyboard shortcut **Ctrl + x**. Open the folder, where you want to move the files or folders. Select the Paste command on the Edit menu or press keyboard shortcut **Ctrl + v**. Moving the files changes their location.

You can move files and folders also by using the mouse. Select the file or folder and drag it to the folder you want holding down the **Shift** key. When you move a file or a folder to another folder in a same drive, you don't have to press the **Shift** key, in this
✓ case dragging is moving - but be careful!

Removing files

You can remove a file (or folder) by dragging it over the **Recycle Bin** icon. The selected file will also be removed by pressing the Del key. The file will not be completely removed from the drive by using either of these methods. Therefore, the Recycle Bin must be emptied from time to time to remove the files from the drive. Emptying the Recycle Bin can be done using the Empty Recycle Bin command on the context menu of the recycle bin.

You can remove the file (folder) from the drive once and for all by dragging the icon over the **Recycle Bin** holding the Shift key down. Then answer the warning window OK. The selected file can be removed from the drive for good also by pressing the keyboard shortcut combination Shift + Del.

Searching files (F3)

Chasing for the lost file can be rather hard. Be careful already when saving the files. Save files by names that describe the subjects logically.

Recently used files

Windows Vista collects the **15** last used files into the Recent Items submenu on the Start menu. Many programs collect similar lists on files opened in the program.
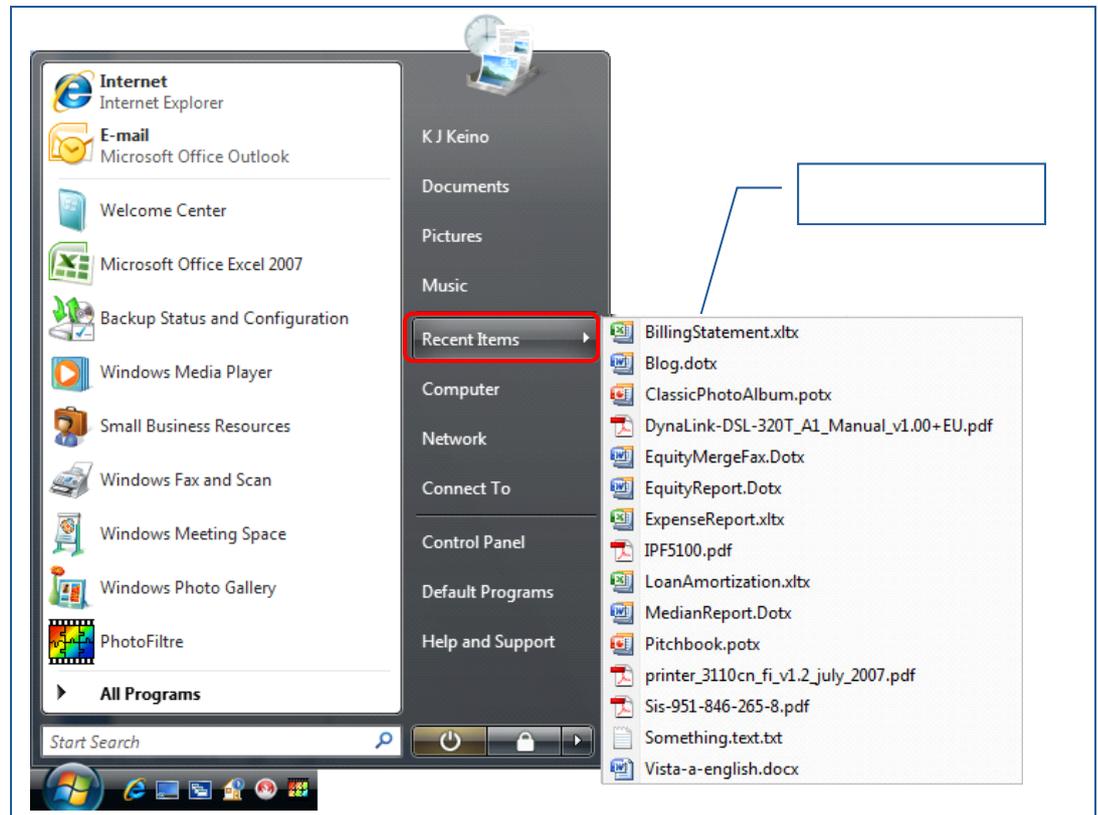

Figure 13   Open the **Start menu and click Open** on the Recent Items submenu. If you find the file you are looking for, open it by clicking the command line.

Substitute characters (Wildcards)

Substitute characters are **asterisk** (*) and **question mark** (?).

Asterisk (*)

Asterisk character (*) replaces any character string. You can use an asterisk when you want to find **all** files and folders whit any name.

Additional instructions for file searching

Additional instructions for searching files and folders can be found in the **Start** menu's **Help and Support** service with the search phrase **Tips for finding files.**

Renaming files

When you are creating files and folders, you often give them names, which you want to change later. When naming the folders, give them proper names describing the subject of the files in the folder. Give the files names, which describe the contents.

To change the file name, **click** double times (not too quickly) the name line to select the name. You can also select the name by pressing the F2 key. The chosen name will be replaced with the new name you typed. You can move in the name line by clicking the place you want with the mouse. You can also move by pressing the End key, the Home key or the arrow keys on the keyboard. Like this, you can add characters to the beginning, between or in the end of the name characters.

Properties of folders and files

Display the context menu by right-clicking the folder or file. Click the **Properties** command on the context menu.
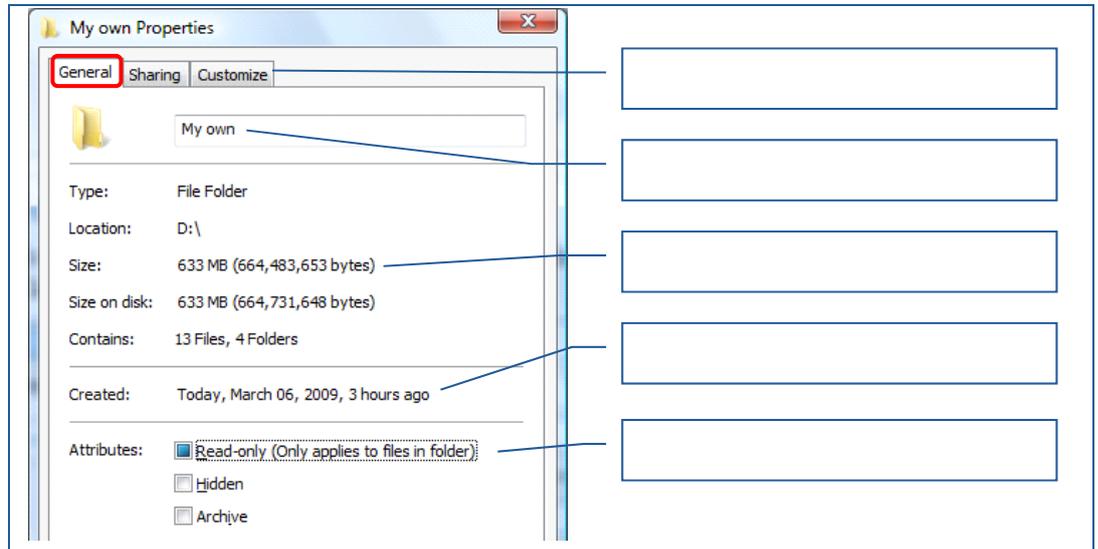

Figure 14   In the picture you can see the properties of the My own folder in drive D: shown on the General tab. Name the folder in the name box. In the middle of the dialog box you can see the size of the folder, its size on the disk and how many files and subfolders the folder contains. With the help of the attributes you can hide a folder or file. You can also make them only readable with the Read-only command.

✓   The Microsoft Windows Help tells that "setting to **Read-Only** can help protect a file from unintentional or unauthorized changes". When the file is set to read-only, it cannot be changed.

Compressing files and folders

It is often useful to compress the files and folders. Compressing reduces the size of the file even by 90% at its best, often at least by half. Not all types of files are compressible, for example photographic images (e.g. JPEG). This is because they already are compressed. It is quicker to send smaller files as e-mail attachments. Smaller files can also be downloaded quicker from the network. Vista has a separate function for compressing and uncompressing. The extension **.ZIP** in the end of the file name tells you that the file is compressed.

Microsoft Help tells that "you can combine several files into a compressed folder, making it easier to share a group of files, since you only need to attach one folder to an e-mail message instead of several files. You can work with compressed files and folders in the same way that you work with uncompressed files and folders."

You can compress the files or folders by first selecting one or many files or folders. First select the **Send** to submenu from the context menu and then click on the Compressed (zipped) Folder command.

Creating Shortcuts

A shortcut is a link to the original file. By double-clicking the shortcut, you open the original program and file. Shortcut is like any other icon, and you can handle it in the same way. You can change the name of the icon, remove it or move it. If you move or remove the original file, the shortcut will no longer work.

If you often use same files or folders, create a shortcut on the desktop or in a folder in the drive. You can create shortcut to most file types, also to Internet addresses. You can easily create a shortcut by dragging the file or folder to the desired location holding down the right mouse button.
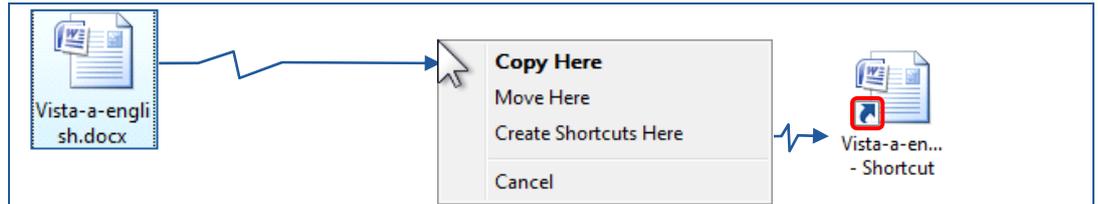

Figure 15   Drag the file icon to the desktop holding down the right mouse button. Click **Create Shortcuts Here command**. An icon of the shortcut will be created on your desktop. You can distinguish a shortcut from the original file by an arrow which appears in the left corner of the icon.

Office tools basics

You produce data files by using applications

Data, in other words files, are created by using **office tools**. The most important applications are word processing, spreadsheet and database programs. All information created in your work community is valuable, one year of your work costs over 35.000 euros to your community.

Created information must be found

It is important to find the information. It is easier to find the information, when it is saved in a logical location. Give the files logical names describing the contents of the file.

Information must be secured

As there is always a risk that the computers might be damaged, it is **important that the valuable information is secured**. Your home computer the hard disk is a logical location to save the information, in organizations the information is normally saved into the server of the network.

You can change information created earlier

If you have worked with information for years, you have done many things already. The documents you have created earlier can often be used as good templates for new documents. Therefore, it is good to look for the existing information first before starting to create a new one. By editing old information and copying parts of it you can save a lot of time.

Unnecessary information must be removable

When some piece of information becomes out-dated and/or unnecessary, you have to be able to remove it. Unnecessary information must be removed, so that you don't mix it with new information and that your computer doesn't run out of space.

Using programs

By using the programs you can create files, for example documents with text, calculations, registers, data bases, drawings or music. All the programs that are installed into your computer function with the same principles. You open and close the program always in the same way. You copy or move the objects in the files always in the same way. The **Undo** command functions in the same way in all programs.

Opening programs

You can open a program on the **Start** menu's **All Programs** submenu. Click the command line in the program group. This way you can always create a new file when opening the program, you can see it in the program window.

Opening files (Ctrl + o)

You can open the files you want by selecting the **Open** command from the Microsoft Office 2007 Office button, clicking on the Open button or pressing the keyboard shortcut combination **Ctrl + o.**

Saving files (Ctrl + s)

Save the necessary files into the hard disk. Save the files by selecting the **Save** command from the Microsoft Office 2007 **Office** button, clicking on the Save button or pressing the keyboard shortcut combination **Ctrl + s.**

Printing files (Ctrl + p)

You can print the necessary files on paper. Print the files use by selecting the **Print** command from the Microsoft Office 2007 **Office** button, clicking on the **Print** button or pressing the keyboard shortcut combination **Ctrl + p**.

Closing files (Ctrl + F4)

When you open the program, a file window will appear "floating" in the program window. Close the file window by selecting the **Close** command from the Microsoft Office 2007 **Office** button, clicking on the **Close** button or pressing the keyboard shortcut combination **Ctrl + F4**.

Exit programs (Alt + F4)

You can close **Windows** programs by selecting the Exit command from the Office menu or clicking the Close button in the end of the header line (picture on the left). You can also close the program with the keyboard shortcut combination **Alt + F4**.

Essential working principles

All of us make mistakes. Therefore, programs have the **Undo** function. By using this function you can return to the previous situation.

When you are using computers, never type the same text or draw the same picture twice. Use the **Copy, Cut** and Paste functions in the programs. With the help of these functions you never have to write the same contents twice.

Undo (Ctrl + z)

All programs have the **Undo** function to undo the mistakes you have done. Use this function to undo a mistake a mistake just after it was made or at least when you notice your mistake. You can also undo with the keyboard shortcut **Ctrl + z**.

In most programs the **Undo** function operates so, that you can undo several consecutive functions.

Copying (Ctrl + c)

When you are creating documents on a computer, you probably create contents which you can also use in other documents. Copying text from old documents to new ones will save a lot of your time. You can also copy all contents of a document by opening a file created earlier and by renaming it. This way you can get the most benefit from everything that you have done earlier and you can edit it as you want.

Four steps of copying:

1   Select an object (text etc.)
2   Copy it by clicking the **Copy** button or pressing the keys **Ctrl + c**.
3   Choose the location where you want to place the object.
4   Place the object by clicking the **Paste** button or pressing the keys **Ctrl + v**.

Cutting (Ctrl + x)

When you are creating documents on your computer, you often want to move texts from one place to another. There are the Cut and Paste functions built in the programs to move the objects.

Four steps of cutting:

1   Select an object (text etc.)
2   Cut it by clicking the **Cut** button or pressing the keys **Ctrl + x**.
3   Choose the location where you want to place the object.
4   Paste the object with the **Paste** button or pressing the keys **Ctrl + v**.

Pasting (Ctrl + v)

The cut or copied object can be pasted into a new location in the document with the Paste function. You can paste the last copied or cut object into the same document or other documents as many times as you want.

Two steps of pasting:

1   Choose the location where you want to place the object
2   Paste the object with the **Paste** button or pressing the keys **Ctrl + v**.

Accessories

Vista has useful accessories. You can do basic calculation with the **Calculator**, write short messages with the Notepad and draw bitmap images, or paint pictures, with the Paint drawing program. The most important program is the Character Map. With the help of it you can add special characters into files made with any programs.

You can find the accessories on the Start menu by clicking the submenu All Programs and then clicking the command line of the program in question under Accessories.

Calculator

Windows operating systems have for years had the **Calculator** accessory. The Calculator functions as any pocket calculator. With it you can quickly do basic arithmetical operations with the help of mouse or keyboard.
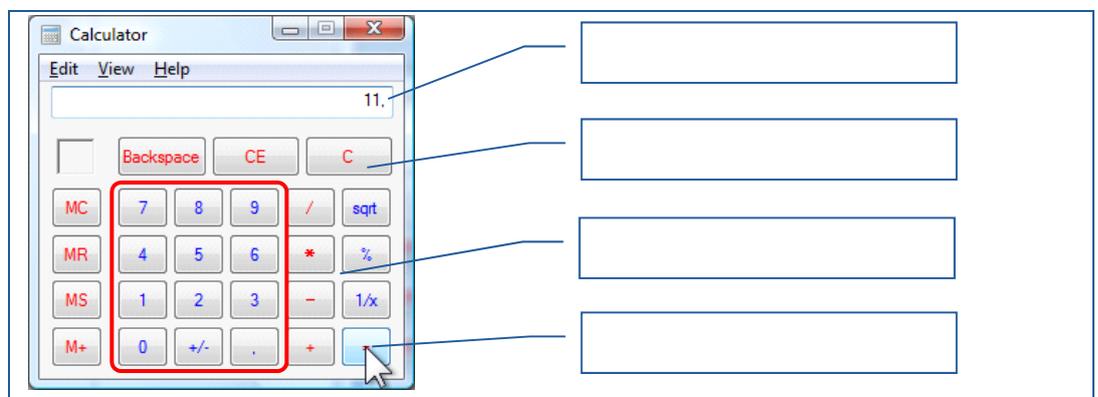
Figure 16   With the Calculator you can do basic arithmetical operations. Click the number, click the operand, click the number and finally click **Enter**.

Notepad

The **Notepad** is a basic text editor which you can use for writing text. You can't format the text; bold, italicize or change the character size. The text file saved with the Notepad will get the extension **.TXT**. This kind of a file contains so called ASCII-text.
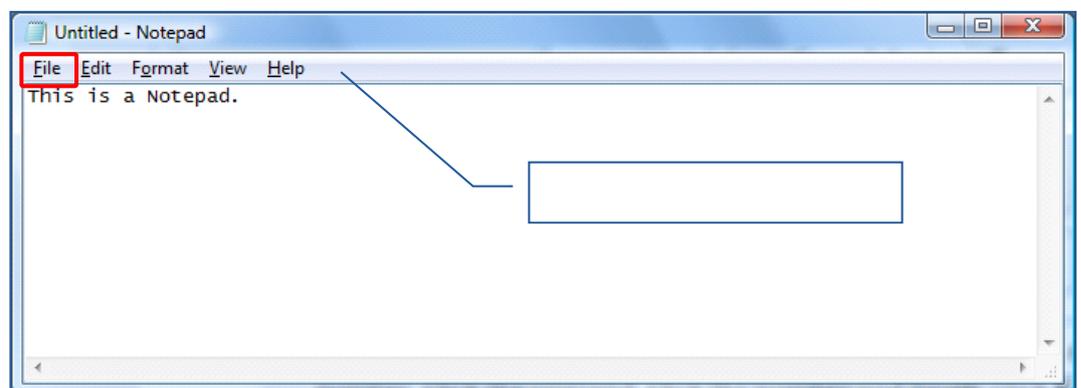
Figure 17   You can use the **Notepad** to make notes and save the file with the Save command on the File menu.

Character Map

You find the special characters in the **Character Map** program of the Windows operating system. You can add special characters to files created with any program by copy-pasting. You can find the Character Map program in the System Tools sub group of Accessories.

Snipping tool

With the help of the **Snipping tool** you can capture pictures from windows and parts of windows in Microsoft Windows. You can paste pictures into most programs with the Paste command or Ctrl + v.

You can capture the whole screen in the traditional way, in other words by pressing **Print Screen**. You can capture the active window by pressing Alt + Print Screen. The picture can also be pasted into several programs.

Paint drawing program

You'll get the **Paint** drawing program Along with Vista. By using **Paint** you can paint bitmap pictures. When you save files with Paint, the extension of the files is .JPEG.
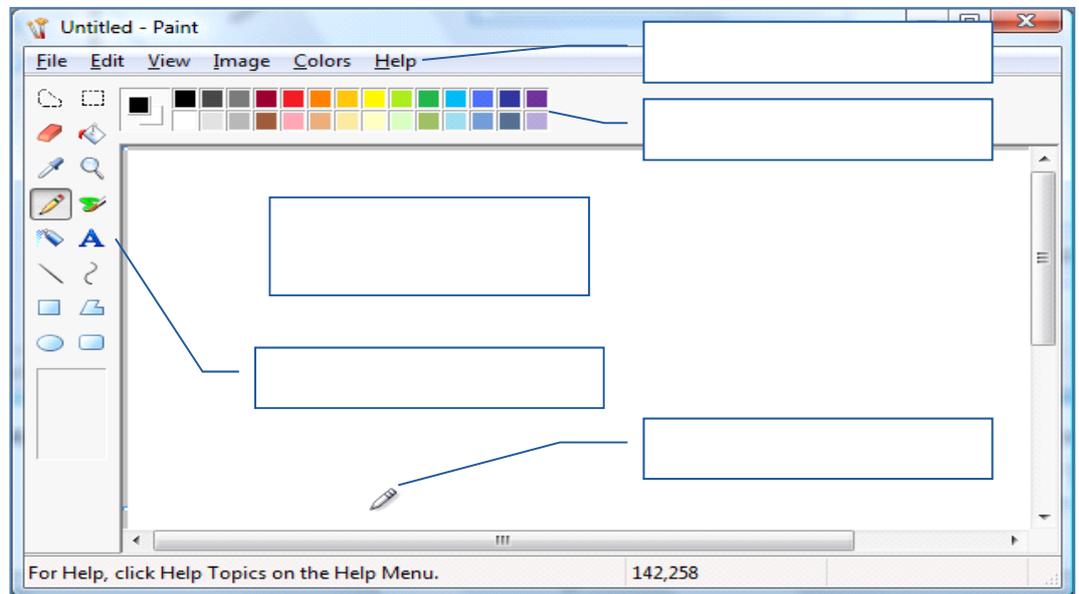

Figure 18   You find the drawing tools on the left side of the window. The color settings are done under the menu bar and the drawing area is the place where you actually do the drawing. In the menus you can find more commands, which you can use to edit the picture and the window.

Creating drawings

Use the **Paint** program to create a self-portrait. Remember that your opinion is as good as mine when it comes to art. All artists, like for example Salvador Dali, are always right in their own opinion.

Saving drawings

You should save the good drawings by clicking the **Save** command on the **File** menu. The first time you save a file a dialog box will appear, where you can give the file location, name, saving form and file type. Then click the **Browse Folders** button.

You can modify the drawing by opening it and making the changes you want. First open the **Paint** program and click the **Open** command on the **File** menu. Choose for example **D:** disk and open the Pictures folder. Choose the **Xxxx's self-portrait** file and click **Open.** Make the changes.

Renaming drawings

The successful changes should always be saved. You can save the file by clicking the **Save** command on the File menu. Then the file will be saved with the earlier name in the same folder where you opened it; it will replace the file with the same name.

At the second saving time you can rename the file, save it to a new location or save it as another file type. To do so, click the **Save As** command on the File menu. A dialog box will appear. Make the necessary selections in the dialog box and finally, click Save.

Printing drawings

A good drawing should always be printed out. Before printing you should preview how the drawing will appear on paper. Click the Print Preview command on the File menu. You can print the drawing by clicking Print.

Program's version number

Open the **Paint** program. You can normally find the version information on the program's **Help** menu by clicking the last command **About Paint**.
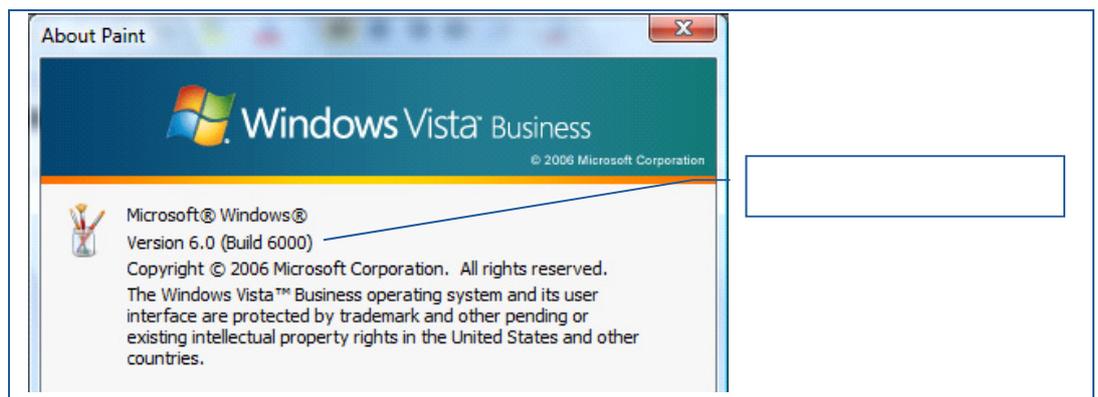
Figure 19   The **About Paint dialog box gives you program version information.**

Control Panel

You can use the **Control Panel** tools to change the settings of the computer, desktop and the programs. You can change desktop settings, like colors and background using the accessories of the Control Panel. You can install programs or define network connections and other settings. You can open the Control Panel by clicking the **Control Panel** command on the **Start** menu.
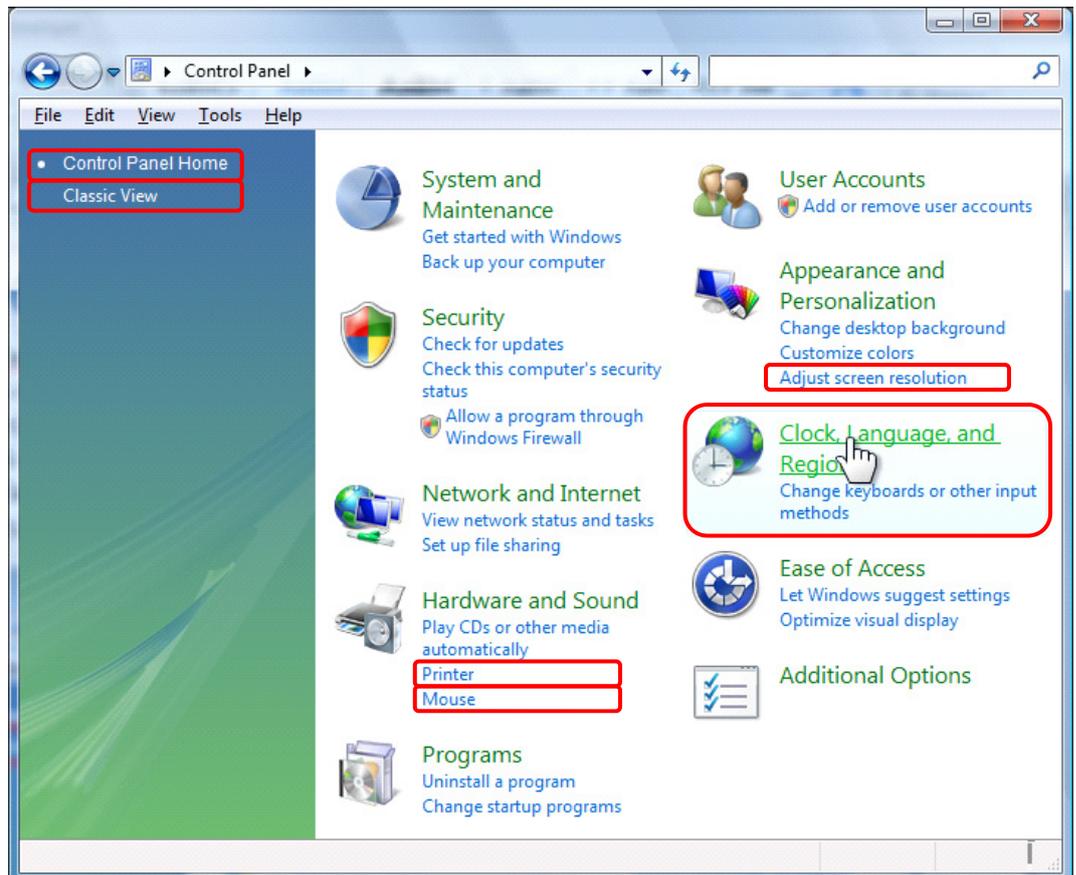

Figure 20   In the picture you can see the **Control Panel program**. The tools of the Control Panel are divided into ten groups. Choose the accessory, with which you want to change the settings of the operating system. By clicking the group name you can open the accessory window of the program in question. In that window click the program line to open the accessory. The most important accessories have been highlighted with red and they are introduced on the next pages.

You can also look at the Control Panel in **Classic View**, just click it. The advantage of the classic view is that you can see all the accessories in alphabetical order. This is of good use to you, especially if you are familiar with the **Control Panel** of the earlier Window versions.

Display

Using the **Adjust screen resolution** function you can bring into use two monitors. You can change the number of the colors and the refresh rate. Increase the display refresh rate to at least 72 MHz, in order to avoid flickering of the display.
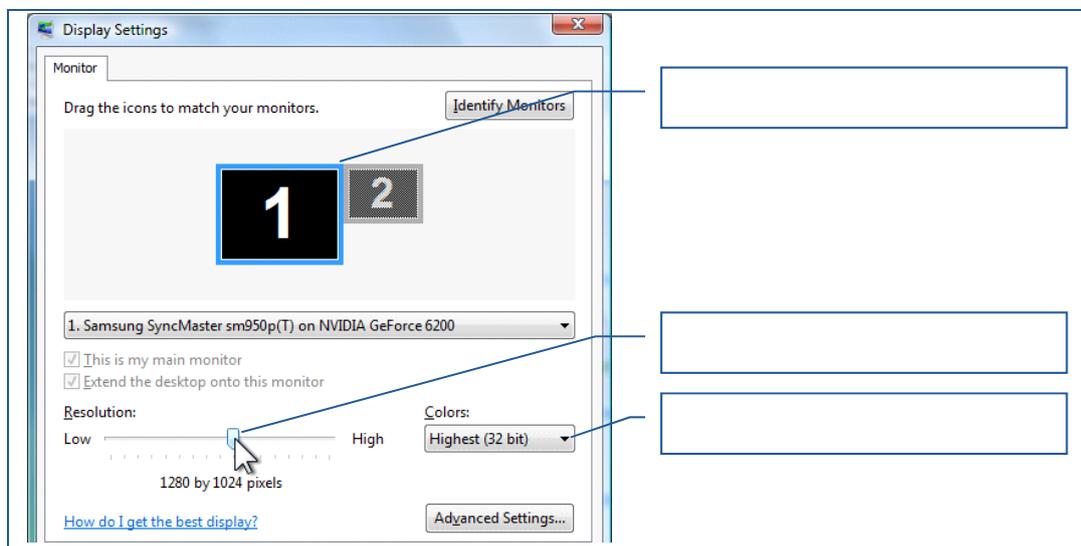

Figure 21   The Display Settings **dialog box**, where you can adjust the screen resolution and the colors of your monitor.

Screen Saver

When you are using the computer, you often have to interrupt your work. To save the monitor, you can keep the screen saver on. The accessory in question will fill the screen with animated images.

Keyboard

The **Regional and Language Options** dialog box will appear by clicking the Change keyboards button.

Mouse

In the **Hardware and Sound** section of the **Control Panel** there is a control program (driver) for the mouse. In the **Mouse Properties** accessory you can among other things define what happens, when you click the mouse buttons.

Calendar and Clock

An internal battery-driven clock keeps time on your computer. This will make it easier for you to find files when looking for them using the modifying dates.
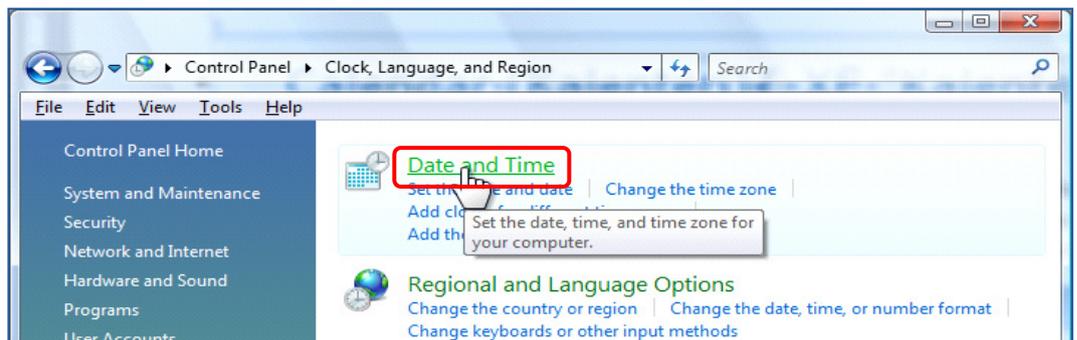
Figure 22   You can set the time with the Control Panel's Clock, Language and Region command in Date and Time accessory. However, it is easiest to do by following the instructions given below.

Sound

Modern computers often have speakers or a microphone. They enable you to listen to music, record speech, look at movies and even edit music files with your computer.

You can change sound settings in the **Control Panel**'s Sound accessory.
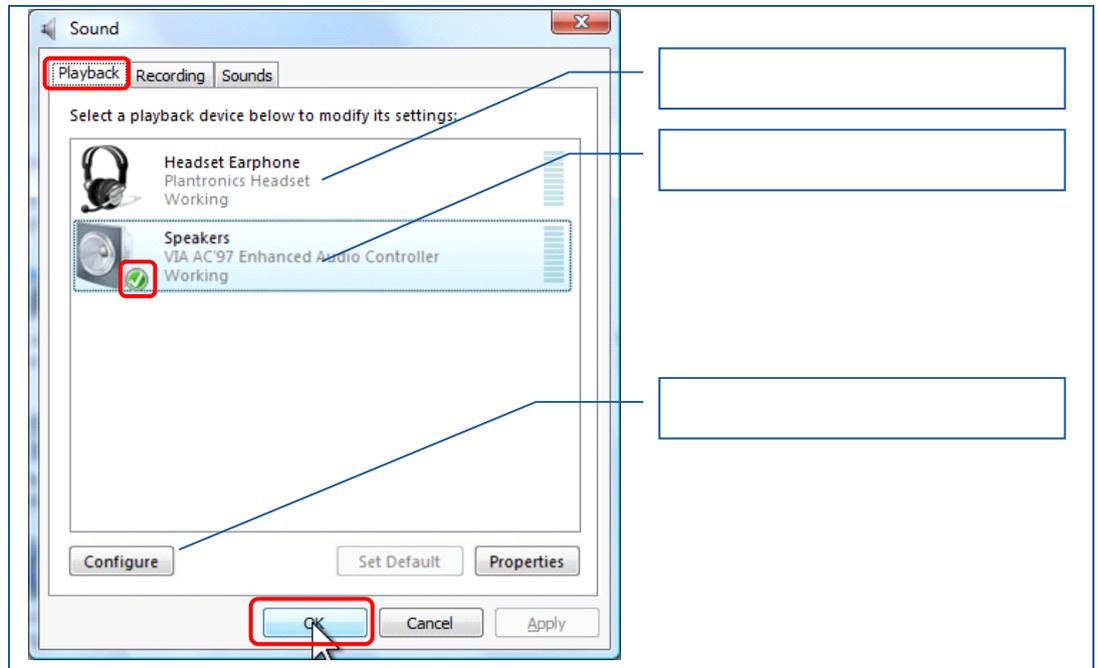
Figure 23   When you open the Sound accessory you see in the Playback section all the sound devices installed in your computer. The green mark on the lower corner of the icon means that it has been set as the default device. You can change the default device by clicking the Set as Default Device command on the context menu of the device. You can change the setting of the device by selecting the device and clicking Configure.

Printers

By clicking the Control panel's **Printer** button you can change the settings of your printer. In the window that will appear, you can see all the printers connected to your computer. The **Default printer** you are using is marked with a green circle with a white mark. The default printer is the printer that prints when you click **Quick Print** in any program**.**
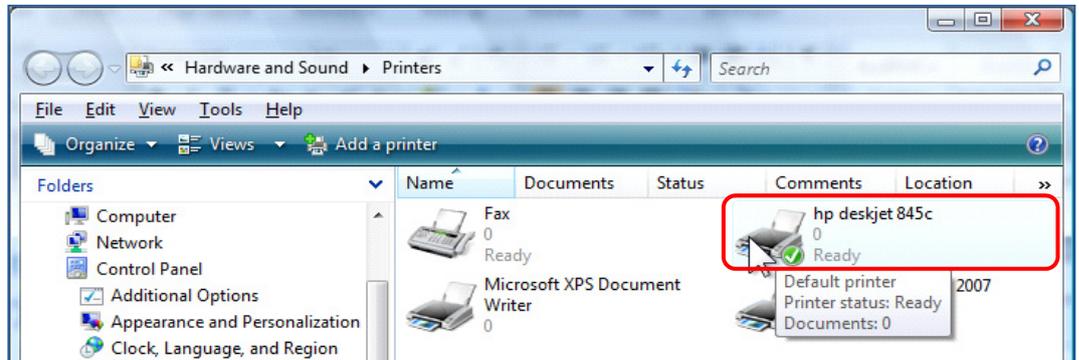

Figure 24   In the **Printers window you can see all the printers connected. In the picture the default printer is hp deskjet 845C** printer. You can change any printer connected to your computer to be the default printer by clicking the Set as Default Printer command **on the context menu of the printer**.

Adding printers

You can install a new printer in your computer in many ways. Some general printers for personal use are automatically installed to Windows Vista, when you connect the USB cable to the USB port of the computer. With some printers you get an installation disk, from which you install the printer's control program. Network printers can be installed in the **Control Panel** program's Printers window by clicking Add printer.

Next, let's install a local, personal printer:
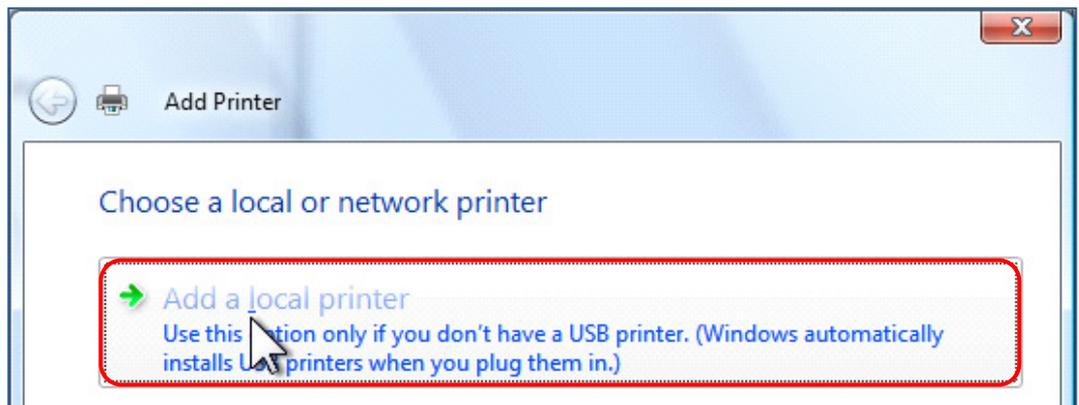
Figure 25   Open the Control Panel and the Printers accessory. Select the Add printer command. Click Add a local printer in the appearing dialog box.

Managing Printing

After clicking **Print** in any program, the file to be printed will move to the printing queue. If you realize that printing is not necessary, you can stop printing in the printing queue of the printer.

✓ Printing can also be paused because of a mistake. Then your computer's printing queue will stop. In this situation, don't reprint, but remove the documents from the queue before you continue printing. It is also recommendable to restart the printer before continuing printing.

On both of these situations, open the printing queue by double-clicking the button in the taskbar.
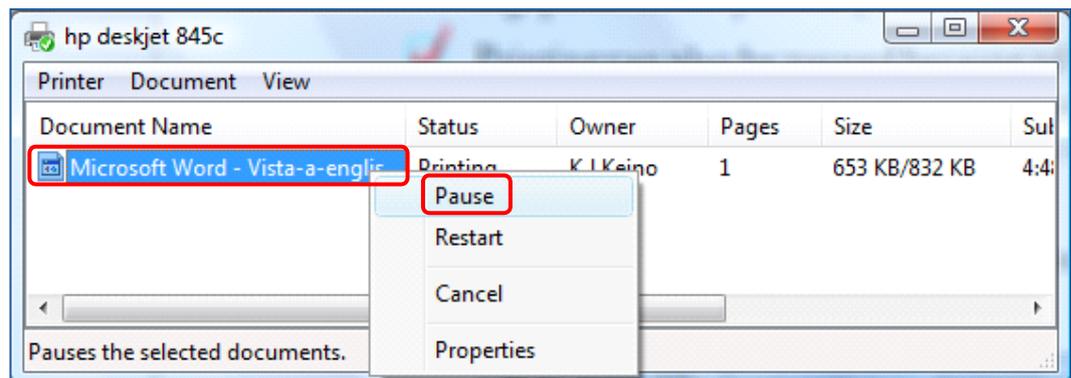
Figure 26   In the dialog box that will appear, you can select the file you don't want to print anymore. Stop printing with the context menu's Pause command. You can continue printing by using the context menu's Resume command. To print the file all over again use the Restart command. You can cancel printing with the Cancel command.

All printing functions of the printer can be paused by clicking **Pause Printing** on the Printer menu. All printing jobs can be cancelled from the queue with the Cancel All Documents command.

Problem solving

Task Manager

Unfortunately Windows Vista and its programs are not perfect, and they crash every now and then. This means, that the program no longer functions and the program crashes at some point for a long time. Sometimes you can see this when **Not Responding** message appears. Sometimes you can see the Busy cursor on the screen, when the program is not working any more.

When this happens you can try to solve the problem with a "three finger touch". Hold down the **Ctrl + Shift** keys and press the **Esc** key. This way you can make the **Windows Task Manager** to appear.

If this doesn't solve the problem, you should restart the computer. Always use the **Reset** button if you have one in your computer. If you cannot find it, turn the computer off by pushing the power button. In some computers you must hold the power button down for **5 - 8** seconds before the computer shuts down. You seldom have to turn off the power by using the main power switch (you can often find it in the back panel of the computer) or plugging off the computer.

System information

You often need information about your computer. You might find it interesting, what is the size of your hard disk and main memory and which Windows version you have.

The size of the hard disk or folder is easy to find out by using the **Properties** command in the appearing dialog box (additional information Figure 10 and Figure 14).

To see the memory size press the **Ctrl + Shift** + Esc combination. You can see the size of the memory in the appearing dialog box in **Performance** section.

or and the size of the main memory.

System Tools

The **System tools** are often professional accessories for fixing and/or making the system more effective. You can find the system tools on the **Start** menu's **Accessories** submenu in the **System Tools** group.

You should have **Administrator** rights to be able to use the system tools of Windows Vista, such as defragmenting and organizing.

Disk Defragmentation

You can see the state of a disk by using the **Properties** command on the context menu of the disk. In the **Tools** section of the dialog menu there is the **Defragment now** button to enable the defragmentation. This should be done by using the default scheduling. By doing this you can speed up the use of the disk.

Defragmenting large disks can take a long time, so have a cup of coffee while the defragmentation is going on.

Disk Cleanup

You can clean up the disk by clicking **Properties** on the context menu of the chosen disk. In the appearing dialog box, click Disk Cleanup button on the General tab. Clean up of the disk will give you more space, especially when you allow unnecessary temporary files to be deleted. To decide which files are unnecessary is another thing, be very careful when deleting the files.

Data security

All definitions of data security[1] approach the subject with the same principle: organization's information is its most important and valuable asset. This information must be secured, it must stay reliable, in the correct format and available only to the designated people.

According to Hakala, Vainio and Vuorinen, the most common definition of advanced data security consists of five factors:

- confidentiality
- availability
- integrity
- indisputability and
- access control.

Confidentiality is retained by securing the hardware and database by using user names and passwords. To retain availability, the efficiency and the condition of the device must be taken care of (e.g. page 42). Integrity is managed by "controlling" the input data in the programs. Input data must always be correct and it must not be deliberately or unintentionally changed. Indisputability means that the information system is able to identify and save information about the persons using the system. Access control means the methods to restrict the use of the information system.

Maintaining data security is a more demanding challenge than what anyone could imagine. It also contains physical risk management: avoiding water and sewer system damages, ventilation maintenance and pest control. Hardware security management is e.g. securing continuous power supply and over voltage protection. Software security is taken care of by using only proper and up-to-date programs.

Securing power supply

The computer must be shut down carefully, and that is why it is important to use the shut down command. During the shutdown, the changes in the operating system settings will be saved on the hard disk. Due to the controlled shut down, the computer will next time start up correctly.

Even though thunderstorms and crashing of the power supply don't happen very often in many countries, it is still good to take precautions against them. Thunder will cause power failures and power surges. Problems in the distribution of electricity will shut the computer down without control, and this should not happen. Specific UPS devices have been developed to prevent these problems. There are batteries, which help the computers to gain reserve power. This device will take care of continuous power supply and over voltage protection as long as the computer can be shut down safely before the power supply finally ends.

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[1] Tietoturvallisuuden käsikirja, Hakala Mika, Vainio Mika and Vuorinen Olli, Docendo Finland Oy, 2006

User identification

In many organization, users of the computers log in with a user name and a password. The control system will check the rights of the user. There are many levels of rights; the position of the user and the fact how demanding his or her tasks is define the rights. The management of the organization decides the level of the user rights and the rights are defined by the system administrator.

The most comprehensive user rights of the system belong to the system administrator, who can do almost anything in the system. The system administrator controls the network, grants others rights and makes sure that the network functions properly. The end user of the system has the rights to use the basic programs, use the network services and Internet pages.

The portable disks and computers often identify the user with a smart card or finger prints. This is a good way to protect the portable device, since they are easily lost or stolen and valuable information may fall into the wrong hands.

Network safety

Most violations against data security are done in the internal network. Employees of the organizations commit these violations intentionally or unintentionally – by just being careless. You should remember not to be negligent; it can cost you your job. Don't copy unnecessary programs from the Internet and don't use Internet pages that are questionable or not permitted.

Always log out of the system when you leave your job at the end of the day. Logging out can be done by selecting the **Log Off** command from the **Shut Down** submenu on the **Start** menu. You can also log out by pressing the **Ctrl + Alt + Del** combination and clicking the **Log Off** button in the appearing window. After this, the workstation can only be used by a person entitled to do so, by using his or her own identifiers, for example you, when you return to the workstation.

Access control is every employee's right and obligation. I doubt you would leave a hundred dollar bill on your desk and the door unlocked when you leave your office. Why should you then leave much more valuable and confidential papers lying around the office? Always **lock** the door both at work and at home when you leave the building.

Firewall

The Firewall is taking care of the external network safety. The Firewall is a device or a program, which prevents unauthorized external use of the workstation. Vista has a light Firewall program, which is sufficient for domestic use. For example the **F-Secure** antivirus program has a Firewalls program. See that both firewalls are not running at the same time. Firewalls used in organizations can be heavy devices strictly controlling data communication.

Other Security Settings

In the **Windows Security Center** you can also find information about Internet-security settings and user account control.

Figure 27   In the Windows Security Center window you can see that in my computer the recommended Internet security settings are in use and that User Account Control is turned on.

Malware Protection

Malware programs always cause problems and extra costs. These programs and the problems they cause should be taken seriously. All actions concerning malware programs should be taken with extreme care.

How do malware programs affect my computer?

A malware program is a sick program programmed by a sick person. Malware is very infectious and spreads easily. Malware's intention is to damage the computer that is infected by it. The Windows instructions define malware as a harmful program, which copies itself and spreads from one computer to another. Malware can harm the system, programs and files.

In addition to malware, also spy programs spread on the Internet. A spy program can take your usernames and passwords and send them to criminal hands.

✔ Most of the malware nowadays spread via the Internet. Downloading programs and files from the Internet is always dangerous and when doing so, you take a risk on harming your computer.

✔ Malware very often spreads via e-mail attachments, so don't open attachments you receive from strange sources.

How to protect your computer from malware?

Malware Protection is switched on in the **Windows Security Center**. This means that the **Windows Defender** program, which comes with Vista, is protecting my system from malware.

Virus Protection is enabled (On). It tells me that there is an antivirus program installed into my computer and it is up-to-date. You can buy antivirus programs in the stores selling computers and programs. There are good free programs available on the Internet for domestic use.

Program installation

Remember that **you are not allowed** (and normally even able) to install any programs at work. Your organization's system support takes care of program installations. At home you can install programs, but be very careful while doing it. In the following example the avast! virus program is installed, but you can install nearly all other programs in the same way.

If you don't have a good antivirus program, download **avast!** from the website mentioned on the previous page. Follow the instructions when downloading the program. Also do the required registration, without the registration the program functions only for a limited time. When you have downloaded the program into your hard disk in a suitable folder, you can install it.

Installation

Move to the folder where you downloaded the installation file. Double-click the **setupeng.exe** program icon. When Windows tells you that "program needs an approval to continue…" answer by clicking Continue. Read the message that will appear and continue by clicking Next. Also read the following message and click Next again.
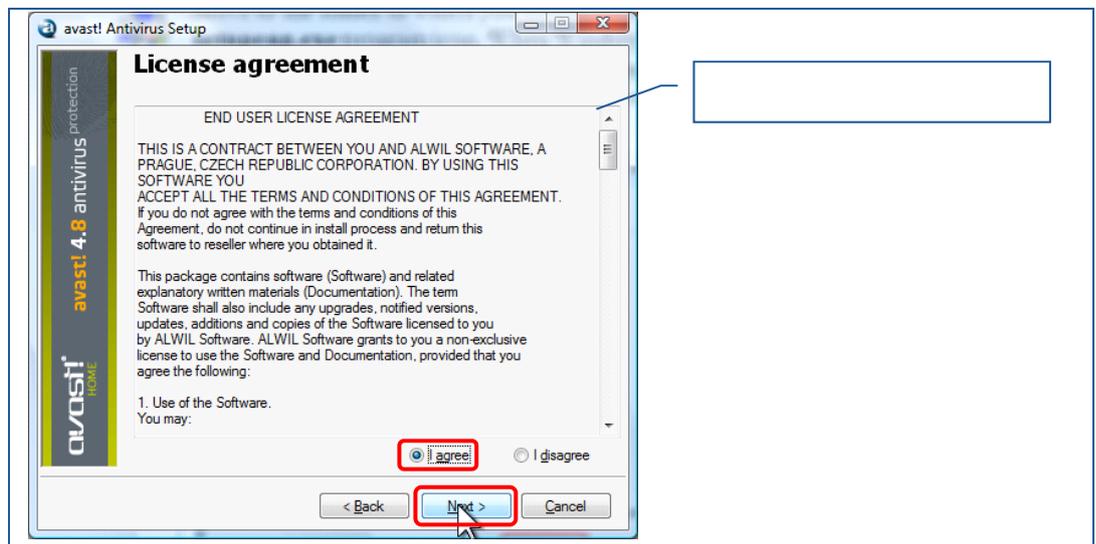
Figure 28   Click I agree in the License agreement window and click Next. Accept the installation path in the next window by clicking Next. Then approve also the next window by clicking Next. Furthermore, still accept the Installation Information window in the same way.

Back up

Backing up is an effective way to secure information systems. Backing up means regular copying of information to another storage medium. By backing up you can restore information to the system in case the original information is damaged, lost or stolen.

In your organization, back up files will be done by the IT departments every day, normally at night time. The system and the servers are not backed up so often. Backing up is done automatically and scheduled in tape drives. Backing up is done to different tapes. Tapes are changed every day, and for example all day tapes are separately saved for one week. One day tape will be kept as a week tape for a month and one week tape will be kept as monthly tape for a year. These tapes will be stored in a different location than the original information, and the storage must be fireproof.

Back up

It is important that you back up your files regularly. Back up your important and valuable information at home every day, and less important information once a week. Store the backups somewhere else, like at work.

Normal copying from one storage medium to another is enough. In the **Control Panel** there is **Backup and Restore Center** accessory, which you can use to back up information and restore files to your computer.

At home you can save your back up files to CD or DVD disks. All storage media will at some stage be damaged, some quicker than others. You can also save your back up files to an external hard disk or another internal hard disk. Saving the files to a shared hard disk is not recommended. When the hard disk is damaged, all parts of it are useless.

Restore

You should learn how to restore files before any problems arise. It is important to know how to restore information, if the original data is lost or damaged. It is too late to learn to restore, when the information is already lost. However, on the Microsoft website you can find instructions on restoring information if the backup file is saved. At the moment at least the Windows XP restore instructions could be found.

Restore the data by using the **Control panel**'s **Backup and Restore Center** utility (page 48).

Using Help

Even an IT expert needs sometimes assistance in data processing. **Windows Vista** has a good online help and support. By reading this section you get additional information about different functions.

You can get additional information by clicking **Windows Help and Support** on the **Start** menu or pressing the **F1** function key. **Help** topics have been divided into six parts below.

Reading Help

You can open **Help** by clicking the icon. Then select the topic, when you see the contents of it in the window.
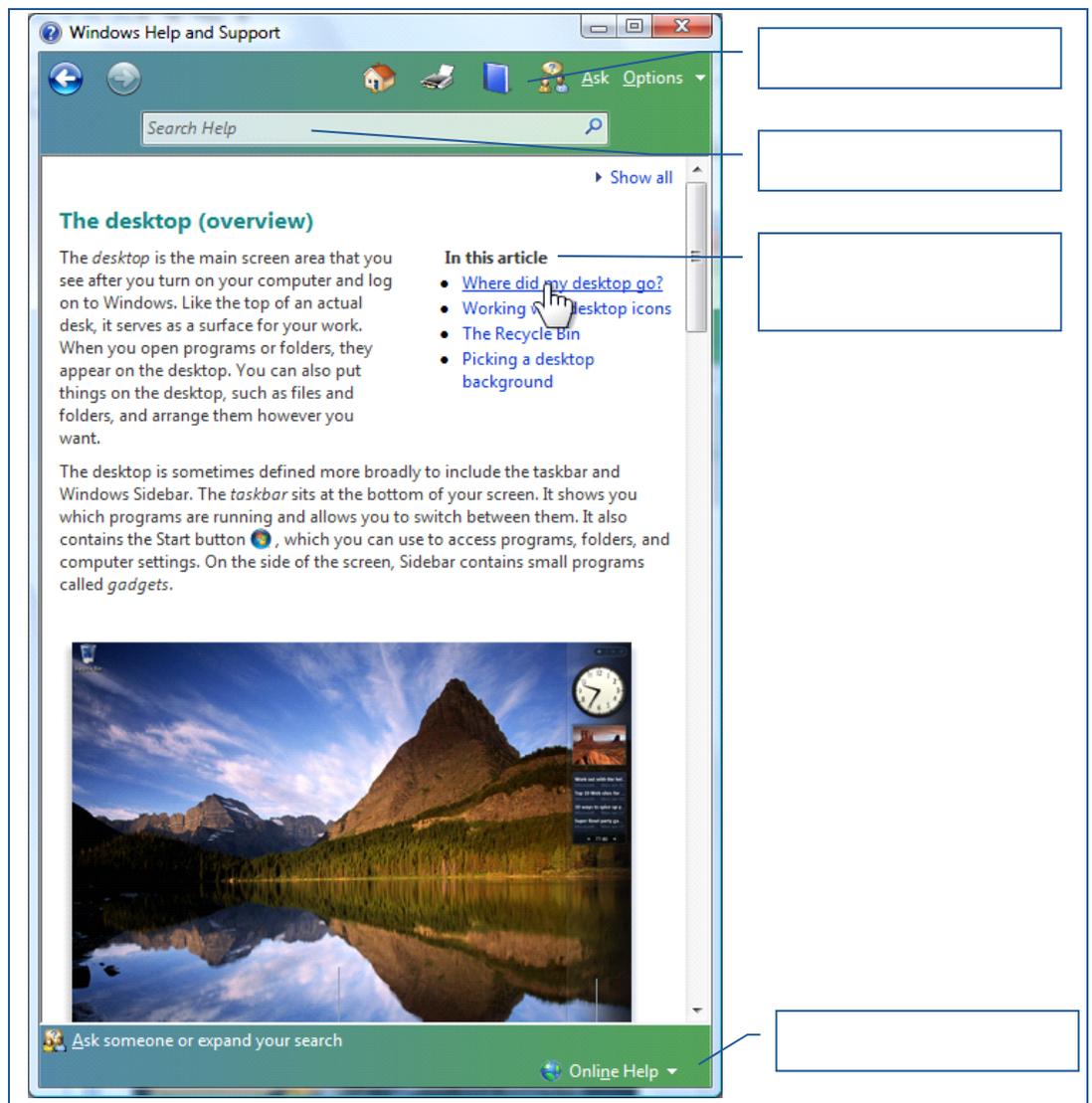
Figure 29   The Windows Help and Support window and The desktop (overview). Familiarize yourself with the topic; you'll see that it offers a rather exhaustive presentation of the desktop.

Clicking **F1** opens The **Help** window in all programs.

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IT-Ratki & Riemu