In this chapter you will find:

- What does the proactive function consist of in your school's technical support team?
- What are the different types of issues that you may have when using your PC?
- What kind of issues does the user have?
- Which are the potential network issues?
- How can you solve hardware issues?
- How can you solve simple issues introduced by Windows and related to PC connections or configurations?

At the end of this chapter you will be able to:

1] Recognize that you need training in order to provide technical support to your school's PCs.

2] Identify different types of unexpected issues in PCs.

3] Recognize issues related to users, networks, hardware and the operating system.

4] Find the way to solve potential issues quickly and easily.
Chapter 4: Technical Support at School

INTRODUCTION TO THE CHAPTER

Consolidating a technical support group at school is an essential step in this journey. In the previous chapter we’ve introduced all aspects regarding the new operating system, **Windows 7**. You’ve understood how the operating system works within the PC and learned how to install it, configure it and take advantage of all its features according to your needs and the school’s.

Now it’s time to be able to offer a **Proactive Technical Support** to the school, and this means: anticipate potential errors, be ready to avoid or fix any possible issue and efficiently respond to potential problems.

In this chapter we will introduce the main issues you will probably have and that you will possibly need help from school’s people, so you can start organizing with your classmates and planning preventive maintenance tasks.

Later, in the following chapters, you’ll find the subjects we are introducing here in a deeper way. For example: in chapter 6, you will be able to specifically learn how to maintain Windows 7 operating system, or in chapter 7, you will expand your knowledge about networks... As you can see, there’s a long way ahead! So get further into this chapter and start organizing your school’s Technical Support team.
CONCEPTUAL MAP OF THE CHAPTER

POTENTIAL ISSUES

User
HW
Operating System
Network

Planning preventive actions

Kinds of issues and support and what needs to be done

Technical Support at School

PREVENTIVE SUPPORT

HW support, driver updates configuration, cleaning of devices.

Network and Connection Properties.

Creation of user accounts, types of user accounts, password use.

Update antivirus, create system’s automatic restore points.
When using an operating system, some difficulties may arise and you will need to be ready to solve them as a member of the technical support team. However, in many occasions you will be able to avoid those issues to happen by simply performing the correct configuration.

Did you know…?

...that more than 80% of PC issues are due to the lack of PC maintenance?

So in order to anticipate them, we will show you the most frequent issues that you will possibly find when using the PC on a daily basis.
Kinds of issues

On the one hand, you will find User Issues. This happens when tasks are wrongly executed or a mistake is made in the selected feature. These situations may take place when the PC does not respond or you cannot find an application, a program or a file you were using, or even when an answer to a feature you’ve selected is not what you’ve expected.

On the other hand, you will find HW issues, ie, problems with cables, or damaged or wrongly-connected devices, all of which can hinder the information input and output. These failures are mostly related to the lack of driver updates but, as you will see later, these processes are easier in Windows 7.

You will also find Operating System issues, which we will discuss through a whole chapter, and they are related to:

- The protection of stored information,
- The protection of the system against any harmful software,
- And the use of the Activity Center as a means to search solutions to potential problems.

Finally, we’ll introduce the Network Issues, such as installing a printer, configuring Internet options, enabling a firewall or establishing security levels. You will be able to get deeper into these aspects in the following pages.
USER ISSUES

So let’s start with some measures related to users that can make your tasks as a technical support team member easier.

Creating user accounts

We highly recommend to create different kinds of users within one PC. We also recommend to set different accounts to differentiate a user who does not have Administrator credentials from one who has access to these options.

As an Administrator, a user has access to certain operations that could not be executed if he/she didn’t have those credentials, such as enabling or disabling the firewall, installing or uninstalling an application, or executing a console, etc.

In chapter 8 you will find more information about the behavior of User account control, but now you can read some frequently-asked questions on the Web:


Users

We usually call “user” to every person that uses a computing resource, whether a program or any hardware device. But as regards the USER accounts, we use that word to refer to an identity through which we interact with PCs. This identity has permissions, rights and abilities to enter into different places and execute certain applications according to what has been specified.

Administrator

As regards user accounts, the Administrator can make changes in a PC and these will affect other PC users.
Besides, by limiting the Administrator use you help to avoid viruses and spyware, because malicious programs can take advantage of credentials and perform harmful operations in your PC.

The control of user accounts is a new feature that protects the operating system. We recommend that the PC be always turned on. To check the status, you need to type "control of user accounts" in the Windows 7 Start menu. Once you are there, check if the function is enabled.

A shortcut!

For executing actions as administrators in Windows 7, you should right click on the shortcut of the application you want to use. A Contextual Menu will be displayed and you’ll need to select the Execute as Administrator option. You will be prompted to type the Administrator credentials to validate your ID and the application will be correctly executed, without the need to restart the session.

Thus, you will be "always ready" to help your friends quickly and easily!

26. Create attractive photo-notes
HARDWARE ISSUES

One of Windows 7 main features is the ability to solve issues easily, even when configuring devices, as opposed to previous operating systems, in which you needed to install specific drivers for any new peripheral you wished to connect.

Configuring new devices

In Windows 7, installing and configuring USB devices is much easier.

You simply need to connect the device and Windows will install it. In case the devices need additional drivers, the system will connect to the Internet and will download them quickly and easily, and it will inform us once they are installed and ready to use.

Other important subject you need to pay attention to is to keep Windows and its applications updated. Software manufacturers publish updates so that their products have new features and be prepared to face new security threats. Windows 7 has a component called Windows Update, which allows the operating system and many applications to be constantly updated.

We recommend you to set Windows Update configuration in your PC so that you can keep it updated. To do so, you need to type Windows Update in the Start menu and, once you enter the left part, you'll see the Change settings option. Once you are there, you will be able to choose different available options.

Besides, regarding the Hardware settings, you need to know that you can solve issues related to visual styles or sound settings from
any user session by typing *transparencies* or *sound issues* respectively in the Start browser.

**Remember...**

*If you choose to disable the automatic updates, you’ll need to perform the update process periodically and manually.*

---

**Do you have problems with sound? Is it choppy or distorted?**

If your PC sound is choppy or distorted, you need to check that the speakers are correctly connected to the PC. Usually these problems happen when the speakers’ cables are not plugged in the correct connector: you need to check that they are plugged in the line-out connector. If you don’t differentiate this connector from the others, try to plug them to the different sound card connectors until you can hear a good sound from your PC.
Hardware Cleaning and Protection

In many occasions we may underestimate the fact that PCs need to be cleaned and in good physical shape, but this is considered as important as any previously-mentioned step. The best cleaning method is using CFC-free spray cleaners, because they let you remove the dust in an eco-friendly way and maintain your PC free of dirt and without damaging the Ozone.

We also recommend that you should protect your PC against potential voltage changes in power supply. Many times there are unexpected power interruptions or low and high voltage kicks that may harm your PC, such as: burning of sources, damaged operating systems, etc. One way to protect them is using voltage stabilizers that will help you balance the energy levels that enter your PC, although they do not prevent power interruptions.

Finally, you should keep hardware components updated so that the operation of several PC applications and software can be optimized.

Tip!

To keep your school’s PCs clean, you can create banners with your classmates about being careful when using PCs; thus, you can prevent potential issues such as spilling soda over the keyboard, dropping cookie or candy crumbs that may damage the mouse, etc.

Find creative ways to tell your classmates that they should take care of the school’s PCs!
An excuse to review the subjects!

Put the step sequence in order to search for information about your PC properties and then check your school's PCs status as regards RAM memory and processor...Which components do you think you need to update?
OPERATING SYSTEM ISSUES

In this chapter you have surely noticed how important and effective the Windows 7 Start menu is as a tool for using and executing the operating system. But you may want to have more accurate results; thus, you will be able to perform the "Repair index" operation.

Indexing

To perform this task, you will need to type **Indexing** in the **Start menu**, click on **Advanced Options** and then **Reconstruct** within **Troubleshooting**. Take into account that this process timeout will depend on the **volume of information stored in your PC**.

You also need to know another useful tool to adjust the operating system difficulties. When the team finds an issue, Windows 7 has a recovering tool called "Restore system", which enables to go back to a previous system status where the error did not exist.
What is safe mode?

When you need to fix issues caused by any application or driver, for example, you must reboot the PC in Safe Mode. Thus, Windows 7 starts with a limited number of files and drivers, and the start programs are not executed. In the Safe Mode, you will be able to fix potential errors by removing the program responsible for those problems, or even going back to a restore point through the "Restore system" tool.

To do so, you need to start Windows in **Safe Mode** by pressing F8 several times while you are booting the PC. In the case Windows discovers an error, it will automatically start in Safe Mode.

Executing applications that are not compatible with the system

Sometimes you may find applications that are not compatible with Windows 7. However… **Windows 7 simplifies everything** in the sense that the process is almost transparent for you, ie, for the end user. After the error message that informs you about the situation, the system will ask you if you want to **Execute the application with recommended options**. If you click on Yes, Windows 7 will try to install the application in **Compatibility mode**, that is, it will search another way to install it and make it work.

If you want to enable this option manually, you need to **right click** on the application’s shortcut icon and choose the **Properties** option. Once you are in that screen, you must click on the Compatibility tab.
At that point you will be able to choose to run that application by using Compatibility mode based on the *Windows previous versions*.

If you are making these configuration changes in compatibility mode and you cannot execute the application, visit the website of the program manufacturer to check if there’s an update for that application.
Another important subject when supporting Windows 7 is the network connections.
Occasionally, you may want to connect to a network and fail to do so, or lose the connection after it has been established. At that moment **Windows 7 will help you solve it.**
You need to type “Network issue” in the **Windows 7 Start smart menu** and the option **Find and troubleshoot connection and network issues** will appear. You need to click on **Next** and Windows 7 will provide **some options for you to solve any connectivity issue.**

Learn more about this subject in the Networks chapter!
Get to know who deals with every problem in this tech support team...

The team members are:

- MARTÍN
- JESSENIA
- LEO
- ALMA

The kinds of issues fixed by each of them are:

- USER issues
- HARDWARE issues
- OPERATING SYSTEM issues
- NETWORK issues

The leads are...

1. None of the women know too much about PC’s physical components.
2. The boys, Martín and Leo, are 21 and 17 years old respectively.
3. The youngest member loves networks and he asked if he could deal with those kinds of issues within the tech support team.
4. One of the women is a 26-year-old teacher.
5. Jessenia hasn’t configured the user accounts of the computing lab’s PCs.
6. The ones that are older than 20 do not deal with network issues.
7. Alma is a school student and is 2 years younger than Leo.
8. Martín has not learned how to limit user account permissions yet.

### Table: Team Members and Their Responsibilities

<table>
<thead>
<tr>
<th></th>
<th>AGE</th>
<th>USER</th>
<th>HARDWARE</th>
<th>OPERATING SYSTEM</th>
<th>NETWORK</th>
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</thead>
<tbody>
<tr>
<td>MARTÍN</td>
<td>21</td>
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<tr>
<td>JESSENIA</td>
<td>X</td>
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<td>LEO</td>
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<td>ALMA</td>
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**Important!**

Always remember that Windows 7 Activity Center will be the place where you’ll be able to fix issues and check your “PC health status”.

You only need to write Activity Center on the Windows 7 Start menu and there you will find all the information you need.
Green Tip

One of the current strategies to mitigate the climate change effects and protect the environment is to deploy energy saving measures. Although this is a large-scale global challenge, we need to know that we can achieve this goal by changing our attitudes every day. So, if we simply turn off the PCs we are not using, we help save energy.

As a member of the school’s technical support team, you can turn into an example for students and teachers if you protect our natural environment. To achieve that, here you'll find some strategies that you can offer to the educational community, so they can join the environmental challenge.

- Encourage your classmates to turn off PCs when they finish their work or in case those PCs are not going to be used for a long period of time.
- Tell teachers to avoid turning on all PCs from the computing lab if it is not going to be full during the class.
- Encourage people to turn off the monitors if PCs are not going to be used for a long period of time.

You can create banners with these tips, together with indications about how to take care of PCs... Offer “green tips” to your classmates and surprise them!

Let's laugh at ourselves!

For mouse issues, you only needed to read the manual... You didn't need to call the pest control...
Do the following exercises and start creating your school's tech support team

A. Which tasks does the technical support deal with? Make a list of the tasks you think that are essential to encourage the good operation of your school's PCs.

____________________________________________________________________________________________________________________________________________________________
____________________________________________________________________________________________________________________________________________________________
____________________________________________________________________________________________________________________________________________________________
____________________________________________________________________________________________________________________________________________________________

B. Do a research through interviews to know which issues the users of your school's PCs usually find. When you have all the information, classify the issues according to the categories that you’ve learned in this chapter.

C. Organize a technical support team at school. Write the names of the ones that will deal with different PC issues.

<table>
<thead>
<tr>
<th>ISSUE/ERROR</th>
<th>USER ISSUES</th>
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D. Review the tech support main subjects and go back to the Index to find out which chapters deeply describe the different issues.

<table>
<thead>
<tr>
<th>USER ISSUES</th>
<th>HARDWARE ISSUES</th>
<th>OPERATING SYSTEM ISSUES</th>
<th>NETWORK ISSUES</th>
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For example:

“Network issues” in chapter 7 about “Networks”.

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Chapter 4: Technical Support at School
Self-assessment
Check what you’ve learned through the following questionnaire

1. What does proactive technical support mean?
   a. It takes action once the issues appear
   b. It takes action before the issues appear
   c. It’s performed manually

2. When we have an issue regarding the PC cables, this is...
   a. A user issue
   b. A hardware issue
   c. A software issue

3. What kind of issue is the protection of PC information?
   a. Operating system issues
   b. User issues
   c. Network issues

4. How do we call the user that has all permissions to use the PC?
   a. Unique user
   b. Administrator
   c. Support user

5. How do we call the Windows 7 component that keeps the PC updated?
   a. Windows Update
   b. Windows Installer
   c. Ongoing update

6. What element can we use to protect PCs against voltage kicks?
   a. Router
   b. Voltage Stabilizer
   c. Hub

7. When you experience errors in your Internet connection, what do you need to type in the Start menu to try to fix them?
   a. Connection issues
   b. Internet issues
   c. Network issues

8. Dust and dirt can affect the hardware components’ good performance
   a. True
   b. False
   c. Indistinct.

9. What happens if an application is not compatible with Windows 7?
   a. I cannot install it in my PC
   b. Windows 7 helps me find its Compatibility mode by executing it with recommended options
   c. None of the options are correct

10. In which mode do I have to start Windows 7 when I want to go back to a restore point due to a potential error?
    a. Safe mode
    b. Normal mode
    c. Safe boot mode