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ITEC 233

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Troubleshooting

Troubleshooting in general is the process of trying to find and fixing problems in computer systems. This usually involves following a step by step preparation on how to fix and find the problem. This ensures that the person trouble shooting is not missing anything during the tests.

Troubleshooting Methodologies and the OSI Reference Model

In troubleshooting, there are many different methodologies that can be applied. Such as the CompTIA A+ 6 step plan and then the more simple Microsoft 3 step trouble shooting plan. There is also the OSI modle that I think goes way more into depth to try and understand and solve the problem.

CompTIA A+

Step 1 Identify the problem . Often the easiest within this you have to get information from the computer / user.

Step 2 Establish a theory of probable cause. This part do more research about what the problem is and how to fix it.

Step 3 Test the theory to determine the cause. This is also another way to get more information on the problem by testing the cpu and ram ECT

Step 4 Establish a plan of action and implement the solution. After finding out wha the root is you can now think of how to fix the problem! Think of the time it will take and maybe ask or talk to co workers

Step 5 Verify full system functionality . Make sure what once not working now works! Even the simple things

Step 6 Document findings and be detailed on what you did and found and what you did to fix the problems.

Microsoft Troubleshooting Model

Step 1 Open settings and go to trouble shooter

Step 2 find the type of problem you are having trouble shooter and run it

Step 3Let it run and awser the on screen question.

Honestly this is a really funny 3 step guide

7 Layer OSI Reference Model

7. Application Layer
6. Presentation Layer
5. Session Layer
4. Transport Layer
3. Network Layer
2. Data link Layer
1. physical Layer

How each layer interacts with the computer: Are you trying to kill me

The Phy layer interacts With the electronic and components of the computer, problems like with wired eleecticiry mechanics

The Data link layer interacts is what connects the computer to other things it is what moves data to and from other things. Without a physical link.

The network layer interacts with everything within the system so computers can talk to other wthings and IP with routing info btwn networks.

The transport layer interacts and manages the seding and receiving data within the computer.

The session layer interacts is what monitors the conntion and talk between computers. Such as authentication and reconnections.

The presnattion layer interacts this is the formatting of the computer and showing of the computer data. Also known as the syntax layer.

The application layer interacts this is the layer that runs the software applications. Such as google chrome and office 365.

Troubleshooting Methodologies

- The top-down approach
- The bottom up approach
- The divide and conquer approach
- The follow the path approach
- The spot the diffrence approach
- The move the problem approach

Description of each troubleshooting methodology approach: nuh uh

The top down approach is where you start at a certain layer and if that's working then all layers below it are working

The bottom up approach is where you start at phyciall and go up the layers (used when the problem is prob. Physical)

The devive and con. Approach is you see what data you have and you break the problem up into sub problems and work on them sepertly until the end adding them together

The follow the path is where you follow the errors in the computer until you get to the main root of the problem and fix it there

The spot the difference approach is where you focus on the difference of configs of before the problem occurred and then after.

The move the problem approach is when you just simple move the components to another system and see if its still showing errors

My Methodology Choice

I am going to choose the follow the path.

Generic Questions to Start With

Add a comment on why you are asking the question

- Will the computer turn on?
- What changed? (What did you do recently?)
- Can you undo what you recently changed?
- Is/Was there an error message?
- Is the power light on?
- What are you seeing on the screen?
- Is there any noise?
- Is the problem consistent?
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Trouble Shooting Guide- Motherboard

Potential Problems	Type of Problem	Cause of The Problem	Symptoms of the Problem	Questions to Point you to the	Potential Solutions to the Problem

				Problem	
					.

Troubleshooting Guide Hard drives

Potential Problems	Type of Problem	Cause of The Problem	Symptoms of the Problem	Questions to Point you to the Problem	Potential Solutions to the Problem
Hard Drive Not Working	Mechanical Failure	Wear and Tear Hard Drive Failure	Strange noises are heard such as grinding or clicking	Are clicking and grinding noises from the computer being heard?	The hard drive must be removed from the computer and the information should be attempted to be transferred elsewhere as the hard drive's lifecycle is done.
			Computer crashes, frequent freezing, and blue screens	XX	XX
		Hard Drive Disconnected	XX	What happens when you attempt to access a file?	XX
			Not Hearing HD	XX	XX
	Firmware Corruption/	XX	XX	XX	XX.

	Damage				
	Physical Damage	Electrical Failure	XX	XX	XX
		Water Damage	XX	XX	XX
		Heat Damage	XX	XX	XX.
	Logical/User Error	XX	XX	XX	XX
			Microsoft not Opening (or other operating systems)	Is Microsoft Opening for you? Have you attempted to reboot? Have you made any changes to your system recently?	XX
			Cryptic error messages that could regard the hard drive or inability to access files	Have you seen the error messages? When did you see them and what do they say?	Backup data and then perform a hard drive diagnostic test.
		Bad Sectors	XX	XX	XX

Troubleshooting Guide Memory

Potential Problems	Type of Problem	Cause of The Problem	Symptoms of the Problem	Questions to Point you to the Problem	Potential Solutions to the Problem
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Troubleshooting Guide – Power

Potential Problems	Type of Problem	Cause of The Problem	Symptoms of the Problem	Questions to Point you to the Problem	Potential Solutions to the Problem
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Troubleshooting Guide – Graphics

Potential Problems	Type of Problem	Cause of The Problem	Symptoms of the Problem	Questions to Point you to the Problem	Potential Solutions to the Problem
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Troubleshooting Guide Windows Operating System

Potential Problems	Type of Problem	Cause of The Problem	Symptoms of the Problem	Questions to Point you to the Problem	Potential Solutions to the Problem
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Works Cited

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