Lab 2.1 Take a Computer Apart and Put It Back Together

Review Questions

1. When removing the cover, why should you take care to remove only the screws that hold the cover on?

Answer: The power supply retention screws are often accessible from the outside of the case; if they are removed from the power supply, they could damage other components by falling on them.

2. How should you rock a card to remove it from its slot? Why is it important to know how to rock a card correctly?

Answer: Rock the card lengthwise. If you rock the wrong way, you could damage the card or slot.

3. What should you do to help you remember which components connect to which cables?

Answer: Take notes, make a sketch, take a photo, attach labels, and so forth.

4. What marking on a ribbon cable identifies pin 1?

Answer: A colored stripe on one side of the cable identifies pin 1.

5. What component(s) defines the system's form factor?

Answer: Answers may vary and might include the power supply, the backplate, the spacing of the mounts for the motherboard, and the position of the expansion slots in relation to the CPU.

6. What form factor does your computer use?

Answer: The answer is based on the actual system being used.

7. Why would an IT technician ever have to change out a computer's motherboard?

Answer: The motherboard might need replacing if it becomes damaged, such as when a trace on the board or a chip is damaged. Also the board might need replacing when the CPU is upgraded or additional features are needed. For example, the motherboard could be upgraded to support DDR4 memory.

Lab 2.2Examine Laptop Documentation

Review Questions

1. Other than documentation, what resources are available on a manufacturer's website to help you support a laptop?

Answer: Answers may vary and might include software downloads, online chat with support personnel, or parts for sale.

2. Which manufacturer's site did you think was the most user friendly and, in general, offered the best support?

Answer: This answer is dependent on student's opinion; answers may vary.

3. Besides the questions you researched in the lab, what other type of information is available in the manuals you reviewed?

Answer: This answer is dependent on student's choice, but some possibilities include battery information, LCD screen information, and how to replace a motherboard.

4. Of the laptops you researched, which one would you purchase? Explain your answer, listing the features that you liked best.

Answer: This answer is dependent on student's opinion; answers may vary.

Lab2.3Compare Laptops and Desktops

Review Questions

1. What are the two most important criteria when deciding which computer to buy?

Answer: How the computer will be used and the price

2. Why do laptop computers cost more than desktop computers?

Answer: Laptop components must be small and weigh less, yet they must have the same power as desktop components. Laptop components must also be durable enough to withstand movement and jostling while the computer is in use.

3. List three reasons why it is easier to upgrade a desktop computer than a laptop computer.

Answer:Answers may vary and might include:

- Because the desktop has more room in the case for expansion
- Because desktop components are not proprietary as are many laptop components
- Because disassembling a laptop is more difficult than disassembling a desktop computer

4. Other than price, what factors might someone consider when deciding whether to buy a Windows laptop or a Mac OS X laptop?

Answer:Answers may vary and might include:

- Applications software availability
- User experience
- Ease of sharing data files with users of other computers

5. In this lab, was it easier comparing a desktop computer to a laptop, or comparing a Windows laptop to a Mac OS X laptop? Explain your answer.

Answer:Answers will varydepending on student experience.

Lab 2.4Use Laptop Diagnostic Software

Review Questions

1. What kinds of information can be found in a technical service manual?

Answer:Answers may vary. Generally, a service manual contains troubleshooting procedures, specifications, directions for replacing parts, and parts lists.

2. Why would you want to run diagnostic software after you have repaired a laptop and verified that the repaired component works?

Answer: Diagnostic software can also determine if hardware is being optimized.

3. Before you purchase an internal laptop part to replace a broken one, what should you verify?

Answer: Confirm that you have enough information and directions to open the laptop, access the part, and reassemble the laptop.

4. List three troubleshooting situations in which diagnostic software might be useful:

Answer: This answer is dependent on student's opinion. Some possible examples are:

- Audio does not work.
- Windows stop errors occur.
- The battery does not charge.
- The optical drive does not work.

Lab 2.5Investigate Computer Teardown Procedures

Review Questions

1. What are three notable characteristics of the system shown in the first video you selected? For example, was this an older or newer system? How can you tell? Who is the manufacturer of the system, the case, and/or the components? What drives or other optional components were included in the system?

Answer: Answers will vary, depending on student experience.

2. What tools did the technician use in each video? What additional tools would you recommend having on hand to take apart and reassemble a computer?

Answer: Answers will vary, depending on student experience. Possible tools include: screwdriver, ESD strap, tweezers, pliers, multimeter, zip ties, and flashlight.

3. Which two components of a computer should be treated as “black boxes” and not opened without specialized training?

Answer: The power supply and themonitor

4. What are two methods for keeping track of screws during disassembly so that reassembly goes more smoothly?

Answer: Answers may vary. Two possible answers include:

- Keep screwsand spacers in small cups or a tray.
- Tape screws to a piece of paper and label them on the paper.