

System Specification Log for Cambria Creatives

Device looked at

(System 1) Desktop

Technician Name:

Jake Kenyon

Part	Details	Date checked
System	OptiPlex 360	06/03/2025
Network status	Computer's in the main office connected to one monochrome laser printer	06/03/2025
Processor Type	Pentium Intel Dual core E5300	06/03/2025
Processor speed	2.6GHz	06/03/2025
RAM Type	DDR2	06/03/2025
RAM Size	2GB	06/03/2025
Video card/connections	Intel G33/G31 Express Chipset	06/03/2025
Connectivity (Ethernet, wi-fi, etc.)	Ethernet Port/ WiFi	06/03/2025
Monitor	Dell E173FP	06/03/2025
Storage Capacity	74.4GB	06/03/2025
Storage Type	Local Disk	06/03/2025
Optical Drive	Has an Optical Drive	06/03/2025
USB Ports	8 Usb ports	06/03/2025
Operating System	Windows 7 Enterprise 64 bit	06/03/2025
Other Peripherals	Keyboard, Monitor, and Mouse	06/03/2025
Applications	Microsoft Office 2016	06/03/2025
Other Considerations	It's an out-of-date computer but it's in good condition with all the components needed (keyboard, mouse, monitor)	06/03/2025

System Specification Log for Cambria Creatives

Device looked at

(System 2) Laptop

Technician Name:

Jake Kenyon

Part	Details	Date checked
System	Ergo Vista 621 Notebook 7251	06/03/2025
Network status	A stand alone laptop computer in the main office connected to one monochrome laser printer	06/03/2025
Processor Type	Intel core duo T7250	06/03/2025
Processor speed	2GHz	06/03/2025
RAM Type	DDR2	06/03/2025
RAM Size	1GB	06/03/2025
Video card/connections	Mobile Intel 765 chipset	06/03/2025
Connectivity (Ethernet, wi-fi, etc.)	Ethernet Port/Wi Fi	06/03/2025
Monitor	Integrated	06/03/2025
Storage Capacity	40GB	06/03/2025
Storage Type	Local Disk	06/03/2025
Optical Drive	Has an optical drive	06/03/2025
USB Ports	2 USB ports	06/03/2025
Operating System	Windows 7 Enterprise	06/03/2025
Other Peripherals	Keyboard, Trackpad and integrated monitor	06/03/2025
Applications	Internet explorer, file manager and microsoft office	06/03/2025

Other Considerations	Its an out of date laptop in good condition with all components working	06/03/2025
----------------------	---	------------

Introduction

In this report, I will explain the benefits of installing and maintaining the hardware in two different technology systems used by Cambria Creatives, a company specialising in weighing and measuring cheese before shipping it to customers. The two systems I will analyse are a desktop computer and a laptop. Both systems are essential for data entry and keeping customer records, and I will discuss how proper maintenance can enhance their performance and reliability.

General benefits of installing and maintaining hardware

The benefits of installing and maintaining hardware are significant for Cambria Creatives. Regular maintenance helps reduce costs by preventing unexpected failures that can lead to expensive repairs or replacements. Upgrading hardware components such as the CPU, RAM, or storage drives can lead to improved performance, which is crucial for our operations that require fast and accurate data processing. For example, a faster processor can help our staff quickly enter customer orders, while additional RAM can support running multiple applications simultaneously without slowdowns.

Moreover, maintaining hardware ensures that all components function correctly, which increases reliability. For instance, regularly cleaning the internal parts of the computers can prevent overheating, which may lead to system failures. Additionally, keeping the software updated can enhance security, protecting sensitive customer information from potential breaches. Overall, maintaining and upgrading hardware allows Cambria Creatives to customize its systems to better meet the specific needs of the business.

Benefits of installing and maintaining hardware in (System 1) Desktop

Desktop computers at Cambria Creatives typically offer better performance than laptops, especially for tasks that require significant processing power, like data analysis and customer record management. The ability to install high-end components allows for efficient handling of demanding tasks. Additionally, desktops are generally more cost-effective to upgrade than laptops, as parts are more accessible and easier to replace.

Moreover, desktops are easier to repair, which is beneficial for our IT staff who can quickly troubleshoot issues without needing specialized tools. Customizing desktops to meet the specific needs of Cambria Creatives allows for a tailored user experience, enhancing productivity.

Benefits of installing and maintaining hardware in (System 2) Laptop

Upgrading hardware components in laptops can lead to significant performance improvements. For instance, adding more RAM can enhance the laptop's ability to handle multiple tasks, which is essential for the general manager at Cambria Creatives who needs to manage customer records and oversee operations simultaneously. Additionally, upgrading to a larger SSD can improve system responsiveness and reduce boot times, allowing for quicker access to essential applications.

Maintaining the laptop's hardware is also crucial for extending its lifespan. Regular checks and updates can keep the system running smoothly, ensuring that it remains capable of supporting the necessary applications for the business.

Message from Cambria Creatives

Thank you for the detailed investigation into our hardware. Now that we have read your findings, we would like you to upgrade and maintain the hardware in one of our technology systems (the desktop). We need you to plan the installation and maintenance of hardware to fulfil our requirements.

A new trainee has recently started work at Cambria Creatives and has been supplied with one of the desktop systems in the office, but there are a few problems with this system:

- After recently moving the system to another part of the office it had stopped booting up, prior to this it was working fine apart from being a bit slow when several programs were open at the same time.
- The trainee had also noticed that the system clock was not keeping the correct time when it had been unplugged and was finding this very inconvenient, this fault needs to be rectified after the boot-up problem has been solved.
- When the system is working properly we want a cost-effective way of speeding up the system so it can handle multi-tasking a lot better than it currently does.
- The trainee has also been provided with a new 1 TB high-speed USB 3.0 external hard drive on which to store designs. Some of these high-definition designs will be several hundred MBs in size and other colleagues are finding that the transfer of data is very slow.
- We want you to upgrade this system so that the external hard drive works faster and more efficiently. If the recommended upgrade works on this system we may ask you to upgrade all the other systems as well.
- There has been an agreement to invest in a graphics tablet for the trainee and we want you to supply and install this.
- The budget for the additional components/devices is £250 and it must be completed within 1 week of the final decision being made to do the work.
- The trainee has some important work saved on the local drive in a folder called 'New Designs' and would like this folder backed up, if possible before any upgrades are started.

We need all new hardware and upgrades to be purchased from our approved suppliers, a list of which will be supplied.

Approved Suppliers	
eBuyer	https://www.ebuyer.com/
Currys	https://www.currys.co.uk/
Overclockers	https://www.overclockers.co.uk/
CCL Online	https://www.cclonline.com/
CPC Computer PC Components	https://cpc.farnell.com/computer-pc-components/

Description of the client's issues, goals, and constraints

Provide a clear, straightforward description of the purpose of installing and maintaining hardware in Cambria Creative's desktop system and how you think this can help with their problems.

The goal of installing and maintaining hardware in Cambria Creative's desktop is to ensure smooth operation and prevent issues. Adding new hardware can enhance the computer's speed and make task management easier. Routine maintenance, including cleaning and troubleshooting, will keep the system dependable and extend its lifespan. This ensures that Cambria Creative can keep using the computer for work without disruptions and can promptly address any problems when they arise.

List each of the specific issues with the system that have been identified and describe their impact on Cambria Creatives

Issue with system	Description of the impact of this issue
The Computer has stopped booting up	The computer not starting up stops the trainee from using the system, causing delays and making it hard to get work done.

System Clock on the Computer isn't working	The broken system clock makes it hard to track time, which can mess up scheduling and make it difficult to manage tasks that depend on time.
The Computer is running slowly	A slow computer makes it harder to get work done, especially when using multiple programs. The trainee will experience delays and frustration, lowering productivity.
A New Graphics Tablet needs to be installed	Without the graphics tablet, the trainee can't do hand-drawing tasks properly, which affects the quality and speed of their design work.

List each of the goals for the system that Cambria Creatives have identified and describe their benefits to the company	
Goals of the company	Description of the benefits when goals are met
Fix the boot-up issue	Fixing the boot-up issue makes sure the computer starts properly and is ready to use. This reduces waiting time and helps the trainee begin work right away, which means less disruption and more time spent being using the computer for work.
Fix the system clock to keep accurate time	A working system clock ensures that tasks are done on time and helps with scheduling. This makes it easier for the trainee to manage deadlines and stay organised, leading to fewer mistakes and better time management.
Speed up the computer for better multitasking	Speeding up the computer helps the trainee work faster, especially when using several programs at once. This reduces delays and helps them finish tasks more quickly, improving efficiency and allowing the company to do more work in less time.
Improve external hard drive performance	Improving the external hard drive's speed makes transferring large files quicker. This saves time for the trainee and other workers, especially when handling big design files, this means that work should be finished and transferred in less time.

List any constraints that Cambria Creatives have identified affecting the proposed upgrade and describe how they might affect your work in making the changes	
Constraint	Description of the possible effect of the upgrade


Budget of £250 for the upgrade	The limited budget means I have to choose lower-cost components, which might not be as powerful or advanced as I would prefer. This could limit the performance improvements and require careful planning to find the best options that stay within budget while still fixing the system's issues.
Work must be completed within 1 week of the final decision	The tight one-week timeline means I have to plan and carry out the upgrade quickly. If there are any delays in getting parts or setting things up, the work might take longer than expected. I will need to work efficiently and avoid any setbacks to make sure everything is finished on time.
All hardware must be purchased from approved suppliers	Only using certain suppliers could limit the number of products available or result in higher prices. I might need to spend extra time checking stock and prices with the approved suppliers. This could also mean I have fewer options for upgrading hardware.
Backup of "New Designs" folder before starting upgrades	The company has said that I need to make sure that the "New Designs" folder is backed up before performing any upgrades, which adds an extra step in the process and could slightly increase the time needed for preparation.

Plan for installing and maintaining hardware in a technology system

Component and Installation and Maintenance Activities List the activities you intend to take to improve the system and the steps you will take to install and maintain the hardware.	
1	<p>Install USB 3.0 PCI Express Card</p> <p>Purpose: The purpose of this component upgrade is to allow for faster data transfer rates, specifically to improve the performance of the external hard drive, which is currently transferring data slowly.</p> <p>Steps:</p> <ul style="list-style-type: none"> • I will power off the system and unplug it from the power source. • I will open the system case and locate an available PCIe slot on the motherboard. • I will carefully insert the USB 3.0 PCI Express card into the PCIe slot and secure it. • I will close the case, plug the system back in, and power it on. • I will install the necessary drivers for the USB 3.0 card to ensure it is properly recognized by the system.


	<ul style="list-style-type: none"> I will test the new USB ports by transferring a large file to check if the data transfer speed has improved.
2	<p>Install RAM Stick</p> <p>Purpose: The purpose of adding more RAM is to help the system run multiple programs at once without slowing down.</p> <p>Steps:</p> <ul style="list-style-type: none"> I will power off and unplug the system from the power source. I will open the system case and locate the RAM slots on the motherboard. I will remove the old RAM stick (if necessary) and insert the new RAM stick, ensuring it is seated properly. I will securely close the case and plug the system back in. I will power on the system and enter the BIOS to verify that the new RAM is detected and recognised. I will run a test to make sure the RAM is functioning correctly and improving multitasking performance.
3	<p>Replace CMOS Battery</p> <p>Purpose: The purpose of replacing the CMOS battery is to resolve the issue of the system clock not keeping accurate time, especially when the computer is unplugged.</p> <p>Steps:</p> <ul style="list-style-type: none"> I will power down the system and open the case to access the motherboard. I will locate the CMOS battery (a small, round CR2025 coin cell) and remove it carefully. I will replace the old battery with a new one of the same type and size. After the new battery is installed, I will power on the system and enter the BIOS to set the correct date and time. I will reboot the system to confirm that the time is now being kept accurately, even after the system is powered off
4	<p>Install Graphics Tablet</p> <p>Purpose: The purpose of installing the graphics tablet is to help the trainee draw directly on the computer, which is important for their design work.</p> <p>Steps:</p> <ul style="list-style-type: none"> I will unbox the graphics tablet and connect it to the system via an available USB port.

- I will install any necessary drivers or software for the tablet, either from the provided CD or the manufacturer's website.
- I will follow the on-screen instructions to calibrate the tablet for optimal accuracy and responsiveness.
- I will test the tablet by using it with compatible software to make sure it is functioning properly.

Component and Installation and Maintenance Activity 1					
Component & Purpose	Specification	Image	Source	Price	Software needed?
Install USB 3.0 PCI Express Card Purpose: The purpose of this component upgrade is to allow for faster data transfer rate	Ports: 2 x USB 3.0 ports Transfer Speed: 5 Gbps (USB 3.0 transfer rate) Interface: PCI Express (PCIe) Compatibility: Compatible with systems that have a free PCIe slot and support for USB 3.0.		https://business.currys.co.uk/catalogue/computing/components-upgrades/network-cards/sartech-com-2-port-pci-express-pcie-super-speed-usb-3-0-card-a-dapter-with-uasp-sata-power-dual-port-usb-3-pcie-controller-pexus-b3s24-usb-adapter-pcie-usb-3-0-x-2/P191072P?cidp=Froogle&gQT=1	£22.99	Comes with the drivers on a CD but otherwise so specialised software needed.
Alternative Solution: Discuss Alternative ideas for meeting the user requirements with reasons why they have been discarded					

Testing Plan for Component and Maintenance Activity 1			
What is being tested	How it is being tested	Fault-Finding Tools/Skills Used	Expected Result
Test that the newly installed USB 3.0 PCI Express Card is working correctly.	<p>1. Once the card is installed and the drivers are set up, I will check the Device Manager to ensure the card and its USB 3.0 ports are correctly recognised by the system.</p> <p>2. I will test the connected devices for functionality such as file transfers, reading/writing from an external USB drive, and checking for any disconnections or errors.</p>	<p>Electrostatic Discharge (ESD):</p> <p>Before working with the internal components of a computer, I will discharge any static electricity by grounding myself, either through an anti-static wrist strap or by touching a metal surface, to prevent potential damage to sensitive components.</p> <p>Device Manager:</p> <p>I will use Device Manager to check if the USB 3.0 card and its ports are correctly installed and visible under "Universal Serial Bus controllers".</p> <p>File Explorer:</p> <p>I will track file transfer speeds by observing the transfer progress in File Explorer and</p>	<p>Port Recognition: The system should correctly recognise the USB 3.0 PCI Express card and show it as an active device in Device Manager under "Universal Serial Bus controllers".</p> <p>USB Functionality: The connected devices should be fully functional, with no disconnections or errors during file transfers. The file transfer should complete without interruptions.</p>

		noting the time it takes to transfer a large file.	
What is next step if expected result isn't met?			
<p>If the port is not recognised in Device Manager:</p> <ul style="list-style-type: none"> • I will check the PCIe card's physical connection to ensure it's seated properly in the PCIe slot. • I will verify that the card is compatible with the motherboard and that no drivers are missing. • If issues persist, I will try reinstalling the drivers or trying the card in another PCIe slot to see if that improves things.. <p>If devices are not functioning properly:</p> <ul style="list-style-type: none"> • I will check for power issues or faulty cables. • I will test other USB 3.0 devices to ensure that the issue is not with the specific device being used. • If the problem persists, I may need to replace the card or test the card in a different system to confirm if it's faulty. 			

Component and Installation and Maintenance Activity 2					
Component & Purpose	Specification	Image	Source	Price	Software needed?
Install RAM Stick Purpose: The purpose of installing additional RAM is to improve the system's ability to handle multitasking.	Type: DDR2 SDRAM Memory: 32GB (2X16GB) Speed: 3200 MHz frequency Voltage: 1.35 V667 MHz Form Factor: DIMM (240-pin)		https://www.ebuyer.com/1138630-corsair-vengeance-lpx-32gb-ddr4-3200mhz-ram-desktop-memory-for-gaming-cmk32gx4m2e3200c16	£49.98	No specific software is needed for the installation of RAM. The system BIOS should automatically detect the newly installed RAM upon boot-up. However, after installation, I will need to check the BIOS to ensure that the new RAM is properly recognised. The operating system will also manage the RAM automatically once detected.
Alternative Solution: Discuss Alternative ideas for meeting the user requirements with reasons why they have been discarded					


Testing Plan for Component and Maintenance Activity 2			
What is being tested	How it is being tested	Fault-Finding Tools/Skills Used	Expected Result
I'm testing the newly installed RAM stick and its impact on system performance, specifically its ability to improve multitasking and ensure the system recognises and uses the additional memory correctly.	<p>1. After installing the RAM, I will boot up the system and check the BIOS to ensure that the new RAM is detected and recognised by the system.</p> <p>2. Multitasking Test:</p> <p>I will open multiple programs (such as a web browser, word processor, and any additional applications) simultaneously to check how well the system performs under multitasking conditions. I will monitor system performance and responsiveness to ensure there is a noticeable improvement in speed and smoothness when switching between programs.</p>	<p>Electrostatic Discharge (ESD) :</p> <p>Before working with the internal components of a computer, I will discharge any static electricity by grounding myself, either through an anti-static wrist strap or by touching a metal surface, to prevent potential damage to sensitive components.</p> <p>BIOS:</p> <p>I will use the BIOS to check that the RAM is correctly recognised by the system on startup. This is the first place the system checks hardware components during startup.</p> <p>Task Manager:</p> <p>I will use Task Manager to monitor system performance and memory usage while multitasking to</p>	<p>RAM Recognition: The system should recognise the new RAM stick in BIOS, and the total available RAM should increase as expected.</p> <p>System Performance: The system should perform better during multitasking, with less delay and fewer slowdowns when switching between applications. The system should be able to handle multiple applications open at once without a noticeable performance slowdown.</p>

		ensure the new RAM is improving performance.	
--	--	--	--

What is next step if expected result isn't met?


If the RAM is not recognised in BIOS:

- I will first ensure the RAM is properly seated in the slot. If it is correctly installed, I will try reseating it in a different slot on the motherboard. If it still isn't recognised, I will test the RAM in another system to check if the stick is faulty.
- If the motherboard does not support the additional RAM, I may need to review the specifications and upgrade the system's motherboard to support higher RAM capacities

Component and Installation and Maintenance Activity 3					
Component & Purpose	Specification	Image	Source	Price	Software needed?
Replace CMOS Battery Purpose: The purpose of replacing the CMOS battery is to resolve the issue of the system clock not keeping accurate time	Battery Voltage: 3V Battery Size Code: 2032 Battery Technology: Lithium Manganese Dioxide Battery Capacity: 240mAh External Diameter: 20mm Battery Terminals: Pressure Contact External Height: 3.2mm		https://www.currys.co.uk/products/duracell-dl2032cr2032ecr2032-batteries-pack-of-4-10161524.html	£8.00	No software is needed for the installation of the CMOS battery. The system will automatically recognize the battery once installed, and BIOS will be able to maintain time settings without needing additional configuration or software.
Alternative Solution: Discuss Alternative ideas for meeting the user requirements with reasons why they have been discarded					

Testing Plan for Component and Maintenance Activity 3			
What is being tested	How it is being tested	Fault-Finding Tools/Skills Used	Expected Result
Test the newly installed CMOS battery, specifically ensuring that the system clock retains the correct time even when the computer is powered off or unplugged.	<p>Time Retention Test:</p> <p>After installing the new CMOS battery, I will power off the system and unplug it. I will leave the system off for a while to ensure the time is reset without a working battery.</p> <p>Upon powering the system back on, I will check the system time in the BIOS and the operating system to see if it keeps the correct time.</p>	<p>Electrostatic Discharge (ESD) :</p> <p>Before working with the internal components of a computer, I will discharge any static electricity by grounding myself, either through an anti-static wrist strap or by touching a metal surface, to prevent potential damage to sensitive components.</p> <p>BIOS:</p> <p>I will use BIOS to check the system time after powering on the computer. If the CMOS battery is functioning correctly, the system should retain the correct date and time.</p> <p>Operating System Clock:</p> <p>I will also check the system clock in the operating system (Windows) to ensure</p>	Time Retention: After shutting down and unplugging the system, the system should retain the correct time and date in the BIOS and the operating system.

		<p>that the time remains accurate. If the CMOS battery is working, the operating system should show the correct time on startup.</p> <p>Multimeter (optional):</p> <p>If the issue persists and the time is not retained, I will use a multimeter to test the voltage of the new CMOS battery to ensure it is providing the expected 3V.</p>	
What is next step if expected result isn't met?			

Component and Installation and Maintenance Activity 4					
Component & Purpose	Specification	Image	Source	Price	Software needed?
<p>Install Graphics Tablet</p> <p>Purpose:</p> <p>The purpose of installing the graphics tablet is to enable the trainee to hand-draw directly on the computer,</p>	<p>Pressure levels</p> <p>2048</p> <p>Active area</p> <p>21.6 x 13.5 cm</p> <p>Type</p> <p>Graphics tablet</p> <p>Power supply</p>		<p>https://www.cclonline.com/ctl-672-n-wacom-one-by-wacom-medium-creative-pen-display-410307/</p>	<p>£57.99</p>	<p>The WACOM One CTL-672-N tablet should be plug-and-play with most systems, but the trainee will need design software installed on the computer to use it such as:</p> <ul style="list-style-type: none"> • Adobe Photoshop • Paint • Paint3D

	<ul style="list-style-type: none"> - DC 5V from USB Port with 500 mA capacity - Self-powered USB hub or PC USB port 				The tablet itself does not require additional software, as it will work natively with supported applications due to it being plug-and-play.
Alternative Solution: Discuss Alternative ideas for meeting the user requirements with reasons why they have been discarded					

Testing Plan for Component and Maintenance Activity 4			
What is being tested	How it is being tested	Fault-Finding Tools/Skills Used	Expected Result
I'm testing the functionality of the WACOM One CTL-472-N graphics tablet, including drawing capabilities and overall integration with the computer system.	<p>1. Connectivity Test:</p> <p>I will connect the graphics tablet to the computer via USB and ensure that it is properly recognized by the operating system. I will then verify that the appropriate drivers are installed (either automatically or from the supplied CD/website).</p> <p>2. Drawing Test:</p> <p>Using software such as Paint, I</p>	<p>Device Manager (Windows):</p> <p>To ensure the tablet is properly detected and the drivers are installed without issues.</p> <p>Graphics Software (e.g., Paint):</p> <p>To test the tablet's pressure sensitivity, precision, and functionality when drawing on the screen.</p>	<p>The WACOM One CTL-472-N tablet should be properly recognised by the operating system and function seamlessly with the drawing software.</p> <p>Pressure sensitivity and stylus responsiveness should be smooth and precise when drawing.</p> <p>The tablet should not experience any lag or failure to register strokes within the software.</p>

	will use the stylus to draw on the tablet and check the tablet's response. I will test for responsiveness and accuracy in the drawing software to make sure that it functions as expected.		
What is next step if expected result isn't met?			
<p>If the tablet is not detected:</p> <ul style="list-style-type: none"> • Make sure the USB connection is secure and try different ports. • Reinstall the drivers either from the disk provided or download the latest drivers from the Wacom website. • Test the tablet on another system to rule out computer-specific issues. <p>If the tablet is detected but does not respond in software:</p> <ul style="list-style-type: none"> • Verify that the correct input device (tablet) is selected in the software settings. • Check if the stylus settings need adjustments, such as pressure sensitivity or stylus calibration in the tablet configuration utility. 			

Cambria Creatives

Job Sheet and Test Plan

Cambria Creatives - Job booking sheet				Job Number		1234	
Company Name		Cambria Creatives					
Contact		J Kenyon					
Job Description		Intalling more USB ports, new RAM stick, a new battery aswell as a drawing tablet					
User Platform		Dell Optiplex 3090					
Additional Information		<ul style="list-style-type: none"> • PC won't boot and the system won't keep time • Needs a cost effective upgrade to speed up the system • Upgrade is needed to speed up data transfer from USB 3.0 external hard drives • Asked to install a graphics tablet 					
TO BE COMPLETED BY TECHNICIAN				Name		Jake Kenyon	
Computer Identification Number		9DY86Y7					
Faults found		The system doesnt boot and doesnt hold system time due to a dead battery and the system runs very slow due to outdated RAM.					
Fix applied		Replaced internal battery which fixed the clock not keeping time when the computer is off					
Hardware installed internally		An additional stick of RAM A PCIe USB 3.0 Card A CMOS Battery					
Hardware installed externally		A Graphics tablet					
System Tested (Please attach details of test)		See the attached test plan below					
Comments (record any observations, problems and resolution)		Some dust inside the computer.					
Date	12/05/2025	Time Started	11:10	Time Finished	11:25		
Technician Signature		JK					

Completed Test Plan (some details have been copied from the previous task)

Name of Technician:		Jake Kenyon	Computer ID	9DY86Y7	Date	12/05/25
Brief description of work to be carried out		<ul style="list-style-type: none"> • I will be installing a new USB PCIe card • I will upgrade the RAM • I need to fix the boot-up issue and the system time issue • I will be installing a graphics tablet 				
Test No.	What is being tested	How it is being tested	Expected Result	Actual Result	Comments	
1	Test that the newly installed USB 3.0 PCI Express Card is working correctly.	<p>1. Once the card is installed and the drivers are set up, I will check the Device Manager to ensure the card and its USB 3.0 ports are correctly recognised by the system.</p> <p>2. I will test the connected devices for functionality such as file transfers, reading/writing from an external USB drive, and checking for any disconnections or errors.</p>	<p>Port Recognition: The system should correctly recognise the USB 3.0 PCI Express card and show it as an active device in Device Manager under "Universal Serial Bus controllers".</p> <p>USB Functionality: The connected devices should be fully functional, with no disconnections or errors during file transfers. The file transfer should</p>	The computer recognised the new USB 3.0 Express Card automatically and everything is working as it should be.	Tested the new ports with a USB Drive and it is working correctly.	

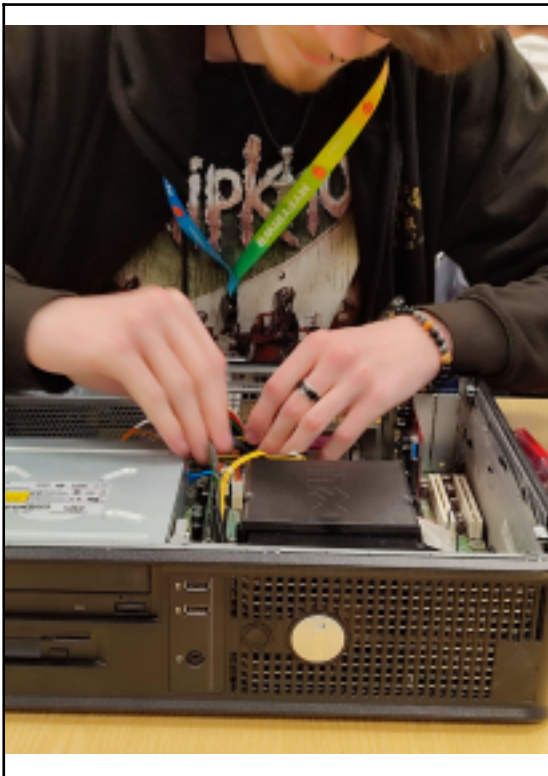
			complete without interruptions.		
2	I'm testing the newly installed RAM stick and its impact on system performance, specifically its ability to improve multitasking and ensure the system recognises and uses the additional memory correctly.	<p>1. After installing the RAM, I will boot up the system and check the BIOS to ensure that the new RAM is detected and recognised by the system.</p> <p>2. Multitasking Test: I will open multiple programs (such as a web browser, word processor, and any additional applications) simultaneously to check how well the system performs under multitasking conditions. I will monitor system performance and responsiveness to ensure there is a</p>	<p>RAM Recognition: The system should recognise the new RAM stick in BIOS, and the total available RAM should increase as expected.</p> <p>System Performance: The system should perform better during multitasking, with less delay and fewer slowdowns when switching between applications. The system should be able to handle multiple applications open at once without a noticeable performance slowdown.</p>	The system recognised the new RAM stick when I looked in the BIOS. The system is running much quicker as a result. Opening a few programs at the same time confirms this.	Adding even more RAM at a future date would make this PC run even faster.

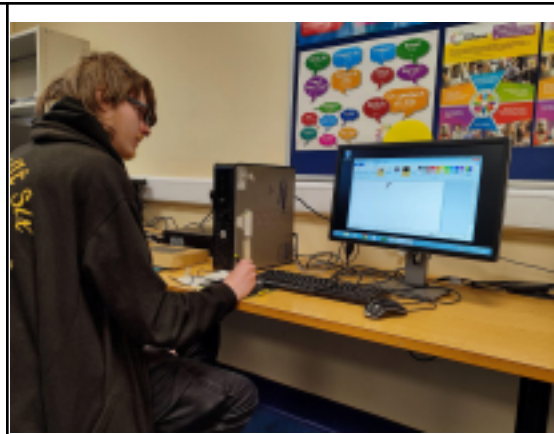
		noticeable improvement in speed and smoothness when switching between programs.			
3	Test the newly installed CMOS battery, specifically ensuring that the system clock retains the correct time even when the computer is powered off or unplugged.	<p>Time Retention Test:</p> <p>After installing the new CMOS battery, I will power off the system and unplug it. I will leave the system off for a while to ensure the time is reset without a working battery.</p> <p>Upon powering the system back on, I will check the system time in the BIOS and the operating system to see if it keeps the correct time.</p>	Time Retention: After shutting down and unplugging the system, the system should retain the correct time and date in the BIOS and the operating system.	The system keeps time now after replacing the battery and setting the correct time.	The CMOS battery was dead which caused the problem. Replacing this has fixed the problem.
4	I'm testing the functionality of the WACOM One	1. Connectivity Test:	The WACOM One CTL-472-N tablet should be properly	The PC recognised the new graphics tablet immediately. The stylus works correctly and can be	This should make using the PC for graphics-related work much easier.

	<p>CTL-472-N graphics tablet, including drawing capabilities and overall integration with the computer system.</p>	<p>I will connect the graphics tablet to the computer via USB and ensure that it is properly recognized by the operating system. I will then verify that the appropriate drivers are installed (either automatically or from the supplied CD/website).</p> <p>2. Drawing Test:</p> <p>Using software such as Paint, I will use the stylus to draw on the tablet and check the tablet's response. I will test for responsiveness and accuracy in the drawing software to make sure that it functions as expected.</p>	<p>recognised by the operating system and function seamlessly with the drawing software.</p> <p>Pressure sensitivity and stylus responsiveness should be smooth and precise when drawing.</p> <p>The tablet should not experience any lag or failure to register strokes within the software.</p>	<p>used with programs such as Paint and Photoshop.</p>	
--	--	--	---	--	--

WITNESS STATEMENT

Learner name:	Jake Kenyon
Qualification:	BTEC Level 2 First Diploma in Information and Creative Technology
Unit number & title:	U14: Installing and Maintaining Computer Hardware
Description of activities undertaken (please be as specific as possible)	
The student has performed a hardware installation on a desktop PC to repair hardware faults and has also installed a new piece of external hardware	
Supporting evidence of activity (eg. Photograph/screenshot) if applicable	






Student has shown evidence of the following:	✓ Tick if applicable
Install and maintain hardware in a technology system that includes the: <ul style="list-style-type: none"> • repair of at least two different internal hardware component faults • upgrade of at least two different internal hardware components • installation of at least one additional external hardware device (2C.P4)	✓
Test the modified technology system for functionality against the purpose and repair any faults as necessary. (2C.P5)	✓
Explain how the modified technology system is suitable for the intended purpose and original requirements (2C.P6)	✓
Other supporting evidence of activity	

Jake first removed the side panel of the desktop and fitted a USB 3.0 PCI Express card into the motherboard. He then removed the CMOS battery, checked it with a multimeter, and confirmed it was no longer functioning before fitting a new one. After identifying the installed RAM as outdated, Jake then upgraded it with a compatible DDR module. Jake then safely moved the desktop to the workstation and safely reconnected all of the necessary wires and cables. With the system powered on, Jake connected the Wacom-branded graphics tablet and demonstrated it in use within Paint. He provided a verbal evaluation of the improvements, noting how the changes meant that the PC could now use more demanding applications and also how the graphics tablet was suitable for creative work and a better option than just using the mouse.



Assessment criteria (for which the activity provides evidence)			
2C.P4 - Install and maintain hardware in a technology system that includes the: - repair of at least two different internal hardware component faults - upgrade of at least two different internal hardware components - installation of at least one additional external hardware device 2C.P5 - Test the modified technology system for functionality against the purpose and repair any faults as necessary. 2C.P6 - Explain how the modified technology system is suitable for the intended purpose and original requirements.			
Witness name:	Marc Casson	Job role:	Lecturer
Witness signature:		Date:	12/05/2025
Learner name:	Jake Kenyon		
Learner signature:	Jake Kenyon 22126576@cambria.ac.uk	Date:	12/05/2025