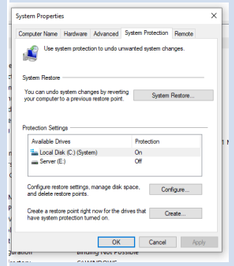
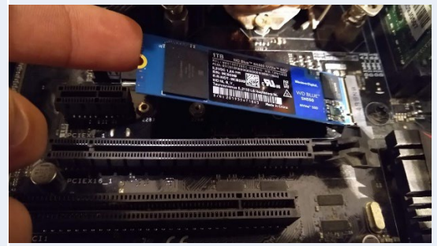
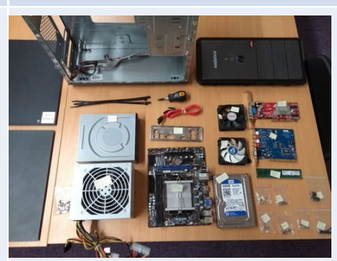
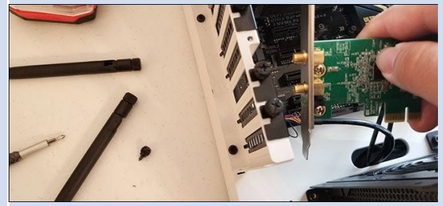
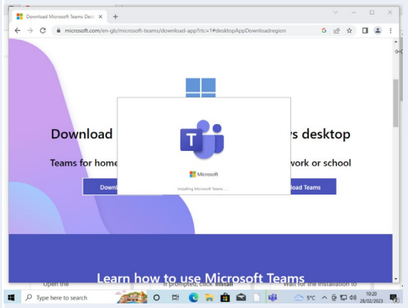
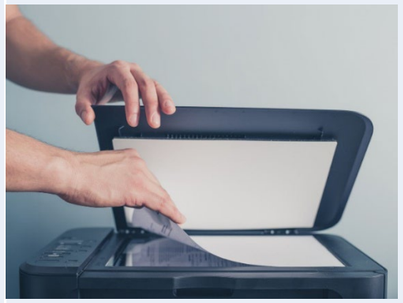
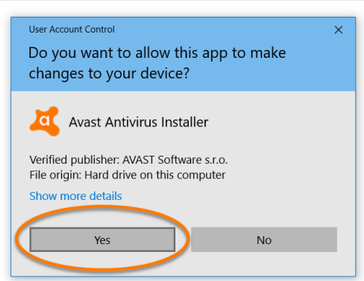
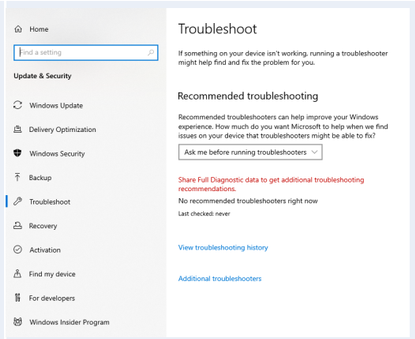
Action Plan

Action	Techniques	Expected Outcome	Constraints	Additional measures	Time require (days/hours)	Actual Process	Actual Outcome
Backing up the data on the computers	Following manufacturer guidelines, Communication	Prevented loss of data	Financial impact – Storage space – Down time	If data is lost the company could lose business. Need to make sure there is enough storage space of all the data. The company can't work while data is being backed up.	5 Hours		The backup was completed successfully
Removing the SSD from the old computer to the new ones	Following manufacturer guidelines, Communication	Safely removed SSD	Potential damage	When the SSD is being removed it could be damaged and have to be replaced.	1 Hour		The SSD was safely removed from the old computers and installed into the new one
Installing in the HDD to the new computers	Following manufacturer guidelines, Communication	Safely installed HDD	Potential damage	When the HDD is being installed it could be damaged.	1 Hour		The HDD was safely installed into the new computers
Removing old computers and installing new ones	Following manufacturer guidelines, Communication	Increased performance	More training – More to decommission	The staff will need training on operating the new systems. The old computers will have to be decommissioned.	5 Hours		The new computers have better specifications and perform better

Installing NIC card into the new computers	**Following manufacturer guidelines, Communication**	**This should connect the new computers to the new network**	**Security**	**Once the computers are connected they will be at risk of cyber-attacks.**	**1 Hour**		**The new computers successfully connected to the network**
Installing software	**Communication**	**Increased productivity**	**Licences**	**They will need to think about which licences for the software they need. Office 365**	**3 Hours**		**The new software allowed employees to contact each other and their clients over the internet saving travel time and costs which increased productivity**
Installing printer	**Following manufacturer guidelines**	**The printer should be able to scan documents and print them**	**More training**	**The staff will need to be trained to operate the new printer**	**2 Hours**		**The printer was installed successfully and connected to the new computers**
Fixing the optical drive	**Following manufacturer guidelines, Observation, Fault logging**	**Working optical drive**	**Optical drive state**	**The optical drive may only need to be cleaned to fix it but if it has a broken piece, it may be easier to replace it.**	**1 Hour**		**The optical drive was fixed**

Installing anti-virus	**Communication**	**Increased protection**	**Licenses**	**They will need to think about which anti-virus they want and which licence.**	**2 Hours**		**The new anti-virus software was installed successfully which increased the protection of the new computers**
Insert a disc with data on it and copy it to a folder, then burn the data onto a blank disc	**Communication**	**Data should be copied from the disc to the folder and burned onto a blank disc**	**Tools**	**They will need a blank disc to transfer the data onto.**	**1 Hour**		**The data was successfully copied onto the blank disc**
Using diagnostic tools to find the fault	**Observation, Fault logging**	**Hardware fault found and fixed**	**More time – 3 hours maximum then recommend replacing**	**It could take time to find the fault instead of just replacing it.**	**2 Hours**		**The hardware fault was found using Troubleshoot and fixed**
Training staff on the new systems so they know how to operate them	**Communication**	**Staff can operate new system**	**Down time**	**They will be unable to work while they are learning to use the new system.**	**2 Days**		**The training was completed and the staff can operate the new system**

Notes: Constraints – impact – old hardware: why you are not using them

Health and safety issues, and training of technical staff

When replacing computer systems, several health and safety issues need to be considered, such as physical handling of heavy equipment, potential electric shock or injury from exposed wires, and damaged equipment. To address these issues, it is important to ensure that equipment is properly maintained, powered off, and disconnected from any power source before handling or replacing any components. Additionally, staff should receive regular training on how to handle and move equipment safely, identify potential hazards, and use any necessary safety equipment such as gloves, safety glasses, or anti-static wristbands.

Similarly, when technical work involves handling heavy equipment or hazardous materials, there is a risk of physical injury or exposure to toxic substances. In such cases, it is important to provide proper training to staff on how to operate the machinery safely, use personal protective equipment, and handle materials safely. Regular training should also be provided to ensure staff are up-to-date with the latest industry standards and best practices.

Overall, health and safety issues and training are important considerations for any organization that employs technical staff. By taking appropriate measures to address these issues, organizations can help to ensure that their staff are able to work safely and effectively, and that the risk of injury or harm is minimized.

Using the appropriate tools and techniques

When replacing computer systems, it is important to use appropriate tools and techniques to ensure that the process is completed safely and effectively. Using the wrong tools or techniques can lead to damage to the system, injury to staff, or other safety hazards.

One important consideration is the use of anti-static equipment, such as anti-static wristbands or mats, to prevent damage to sensitive electronic components. Using appropriate tools, such as screwdrivers and pliers, is also crucial to prevent damage to computer components.

In addition, following appropriate procedures, such as shutting down the system properly and disconnecting all power sources before beginning work, is important to prevent electrical shock or damage to equipment. Proper handling and transport techniques can also help prevent physical injury to staff and damage to the computer system.

Overall, using appropriate tools and techniques is essential to ensure that the replacement process is completed safely and effectively, minimizing the risk of injury or damage to equipment.

Backups

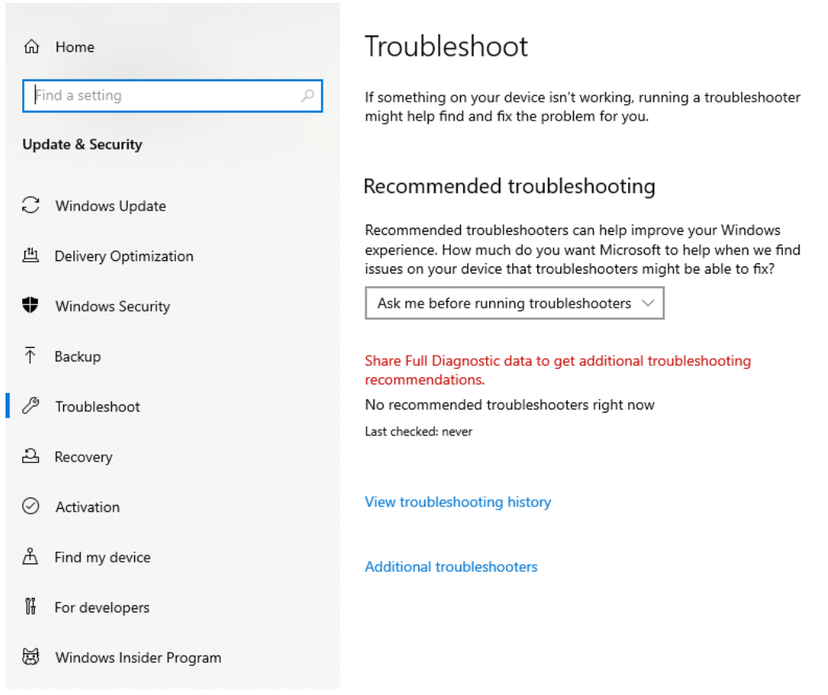
I plan to back up important data and system settings to two different locations to protect against data loss in case of hardware failure, theft, or other unforeseen circumstances.

To keep data safe and in compliance with the Data Protection Act, I will use encryption and other security measures to protect sensitive data from unauthorized access or theft. This will involve using strong passwords and encryption algorithms to secure the data and prevent unauthorized access.

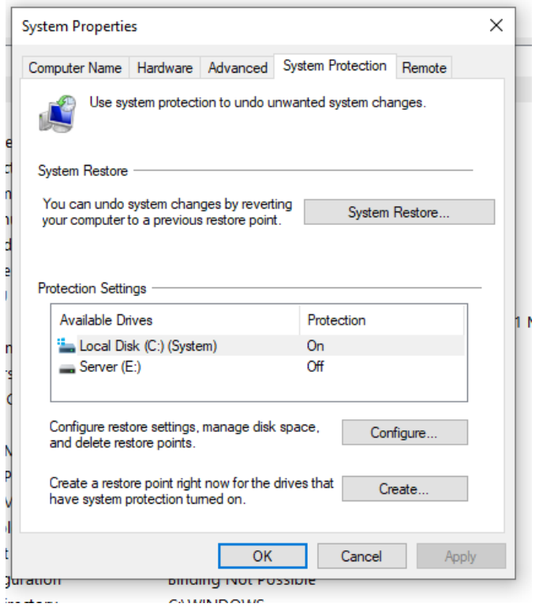
In addition to regular backups, I will also set up system restore points to enable the quick and easy recovery of the system in the event of a failure or other issue. This will involve creating regular restore points and ensuring that the system is configured to automatically create restore points on a regular basis.

Overall, by implementing my backup plan, using encryption and other security measures to protect sensitive data, and setting up system restore points, I will be able to keep the technology system and its data safe and secure, while ensuring that system settings are preserved in the event of any issues or failures.

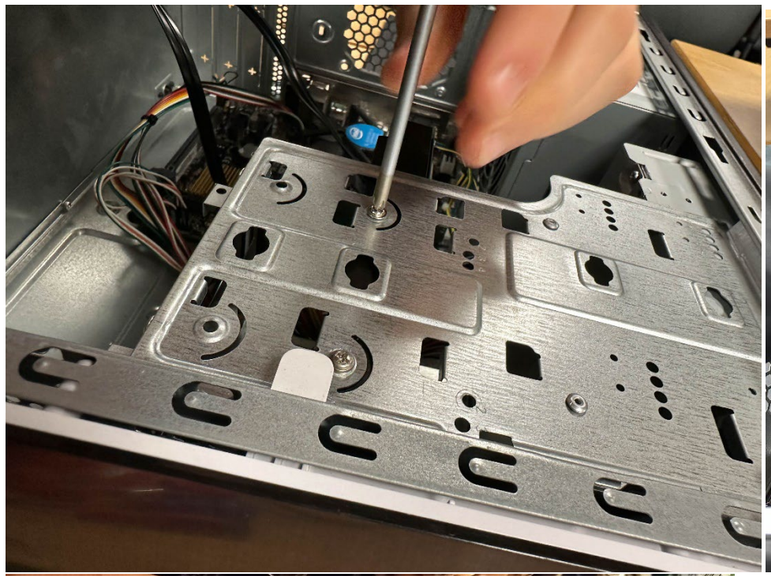
Installation and upgrade

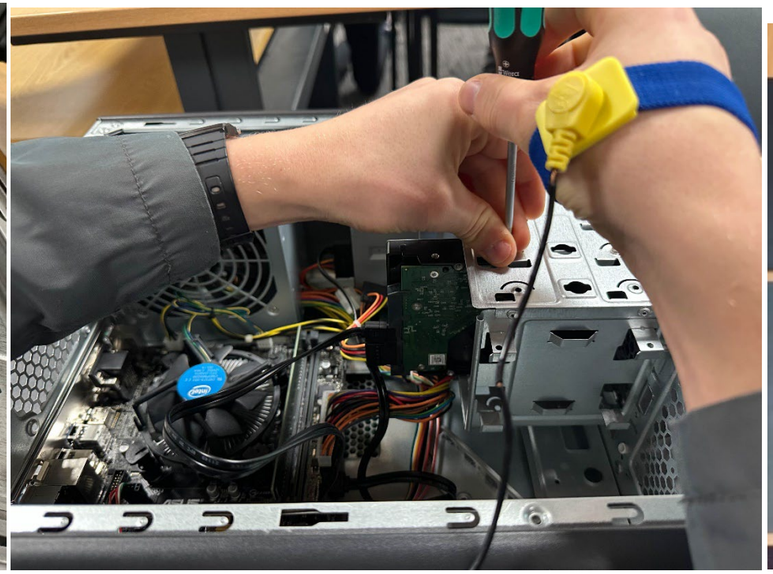


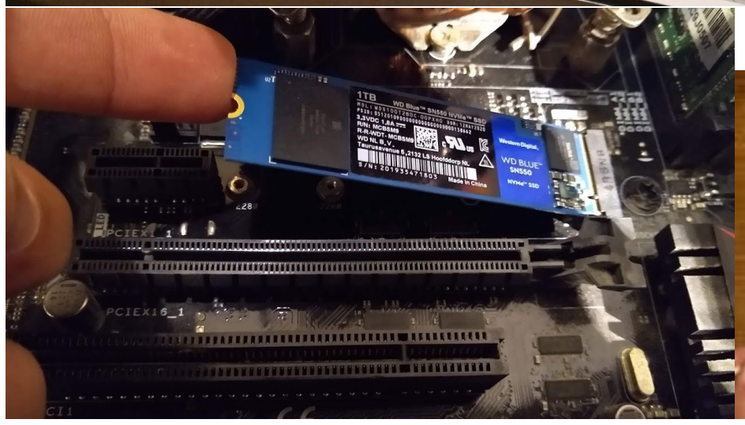
Using troubleshoot and other tools to locate the unknown hardware fault. I went through each of the troubleshooters to locate where the problem is so I know where to look.



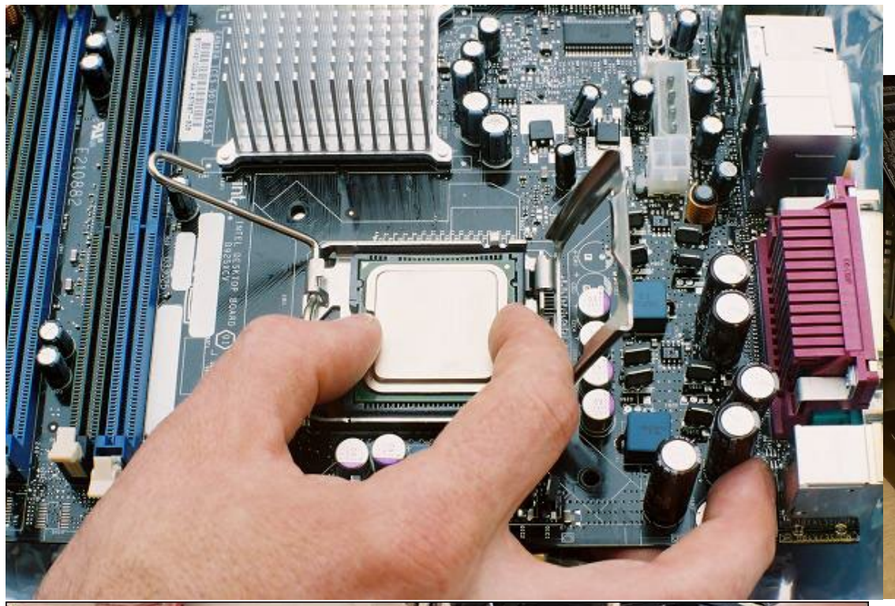
Creating a system restore point before taking apart the computer to protect user and system data. After setting up the new system if any data was damaged, system restoring would safely recover the data.

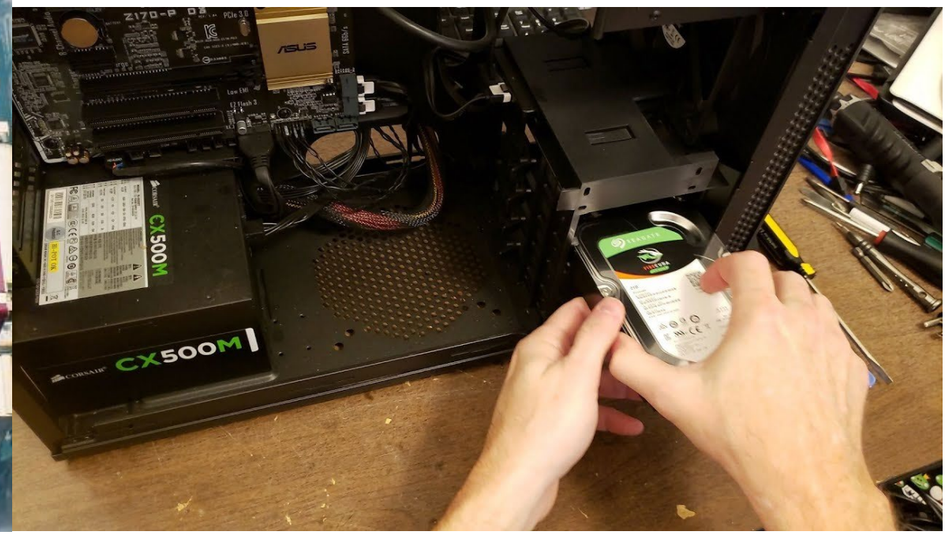






Following appropriate safety precautions such as putting on an electrostatic discharge (ESD) wristband, making sure to be properly grounded and ensuring the system is powered off before taking apart the computer with a screwdriver for the usable parts like the SSD and so the old parts can be disposed of while following manufacturer guidelines. Checking the unknown hardware fault for its condition and if it can be fixed. Taking apart the optical drive, cleaning it, checking it for damage and if it can be fixed or if it needs replacing. Getting the old parts ready to be disposed properly by following WEEE - Waste Electrical and Electronic Equipment - The WEEE Regulations that ensure electrical and electronic equipment (EEE) is recycled in a sustainable way when it reaches end of life. The tools I used were Screwdrivers, Pliers, Electrostatic discharge (ESD) wristband, Screw Tray, Wire strippers, Wire cutters, Cleaning products and Compressed air.





Putting the computer back together with the new components. Adding new thermal paste to the CPU. Installing a HDD alongside the old SSD for more storage space to hold client data. Installing a network interface card so the computers can connect to the network and to each other. Performing a PAT test to ensure it is safe to use. Setting up the computer for safe use by following DSE - Display Screen Equipment - To protect workers from the health risks of working with display screen equipment (DSE), such as PCs, laptops, tablets and smartphones. The Health and Safety (Display Screen Equipment) Regulations apply to workers who use DSE daily, for an hour or more at a time. Also by following HSE - Health and Safety Executive - By making a 'suitable and sufficient assessment' of risks to employees' health and safety, and risks to others because of the work.

Installing a headset to allow employees to talk with clients over the internet making communication faster with little delay which means clients don’t need to travel.

These tools can be used to help test and set up the new computer as well as finding problems and faults.

Task Manager - is a task manager, system monitor, and startup manager included with Microsoft Windows systems.

Allows administrators to terminate applications and processes, adjust processing priorities and set processor affinity as needed for best performance.

Task Scheduler – Create and manage common tasks that your computer will carry out automatically at the times you specify.

Event Viewer – To view events that have occurred on your computer.

Performance – View performance data either in real time or from a log file.

Resource Monitor - Displays information about the use of hardware and software resources in real time.

Device Manager - View and control the hardware attached to the computer.

Disk Cleanup - A computer maintenance utility included in Microsoft Windows designed to free up disk space on a computer's hard drive.

Disk Management - Enables you to perform advanced storage tasks.

Disk Defragmenter (defrag) – Rewrites the order of the files and puts them back together to make the hard disk drive run faster.

System File Checker - Allows users to scan for and restore corrupted Windows system files.

Microsoft Windows Malicious Software Removal Tool – This tool scans for and automatically removes prevalent malicious software.

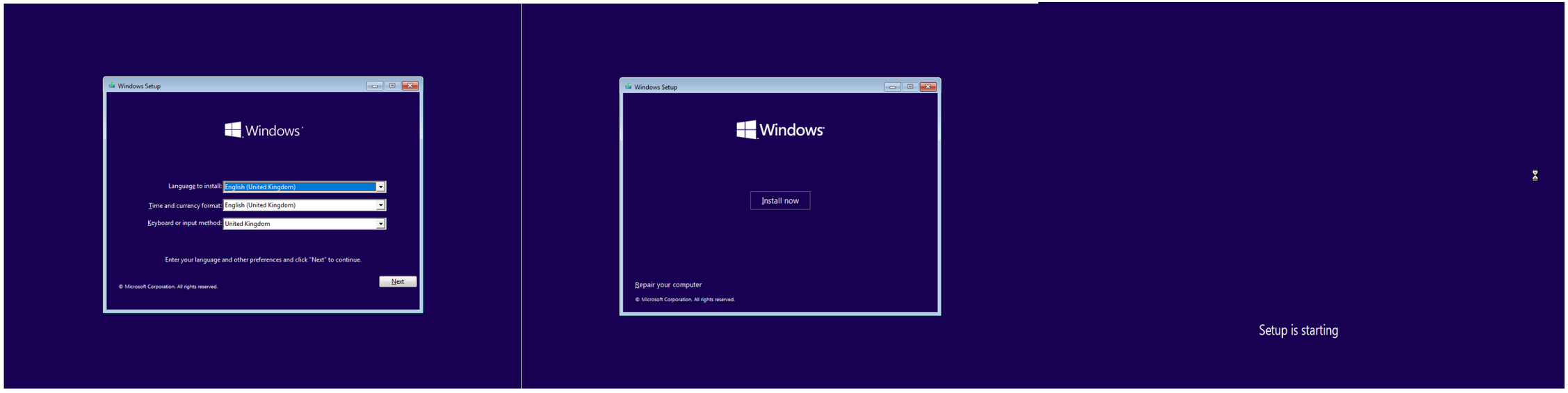
Multimeter - To test and measure electrical currents, voltage, and resistance.

Cable tester - To identify faulty cables and connections.

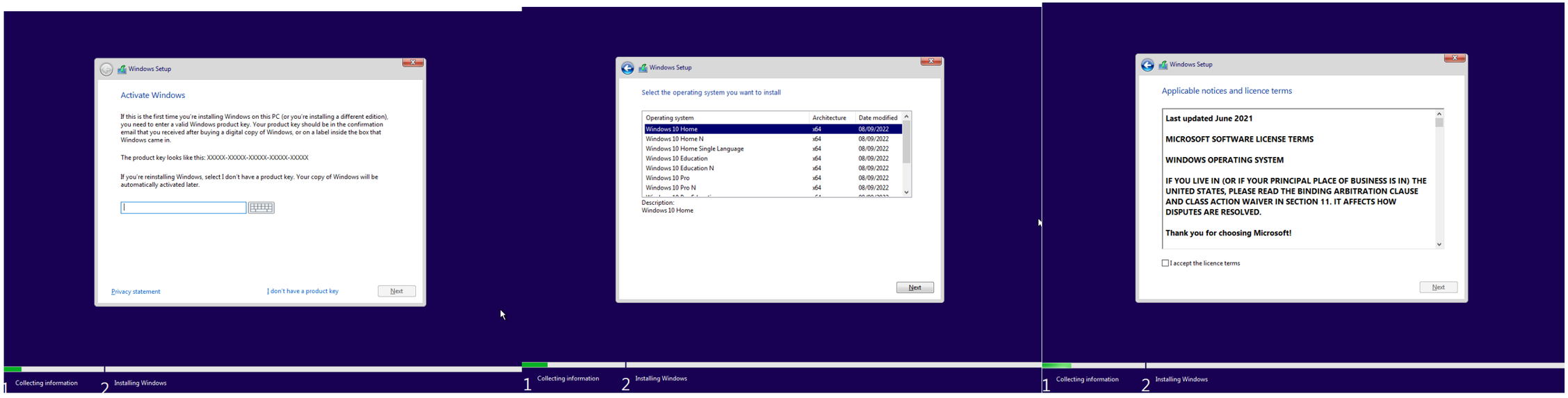
Diagnostic software - To diagnose and troubleshoot software-related issues.

Visual inspection - To check for physical damages, loose connections, and other visible signs of wear and tear.

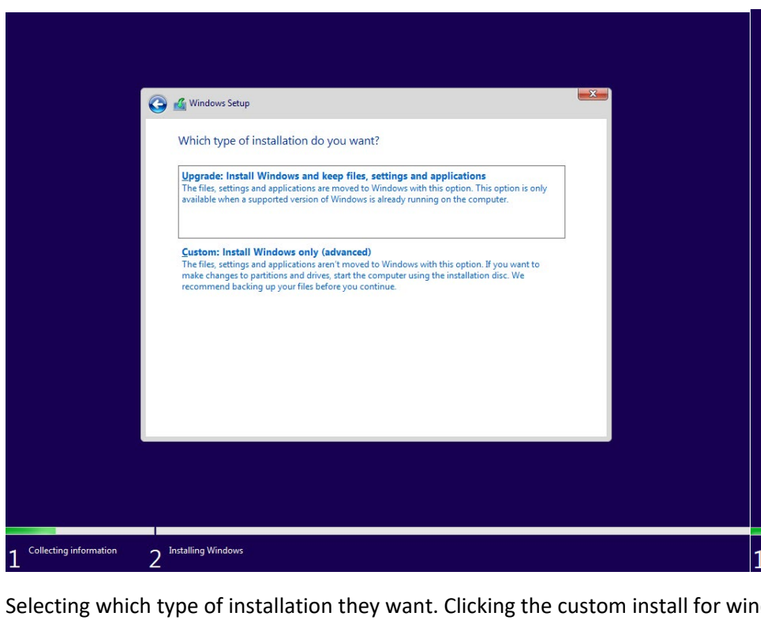
Installing Windows 10

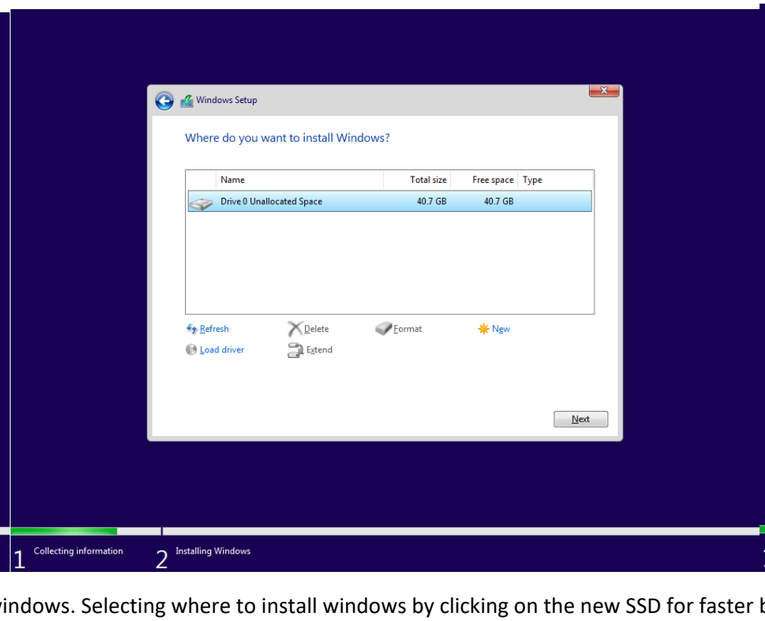


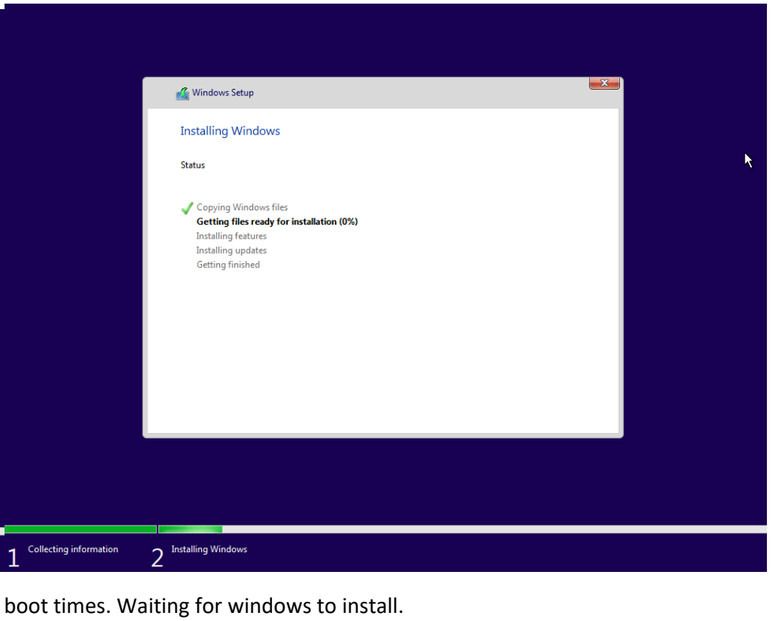
Making sure the language for the new computers is English. Starting the installation of windows 10 by clicking the install now button.



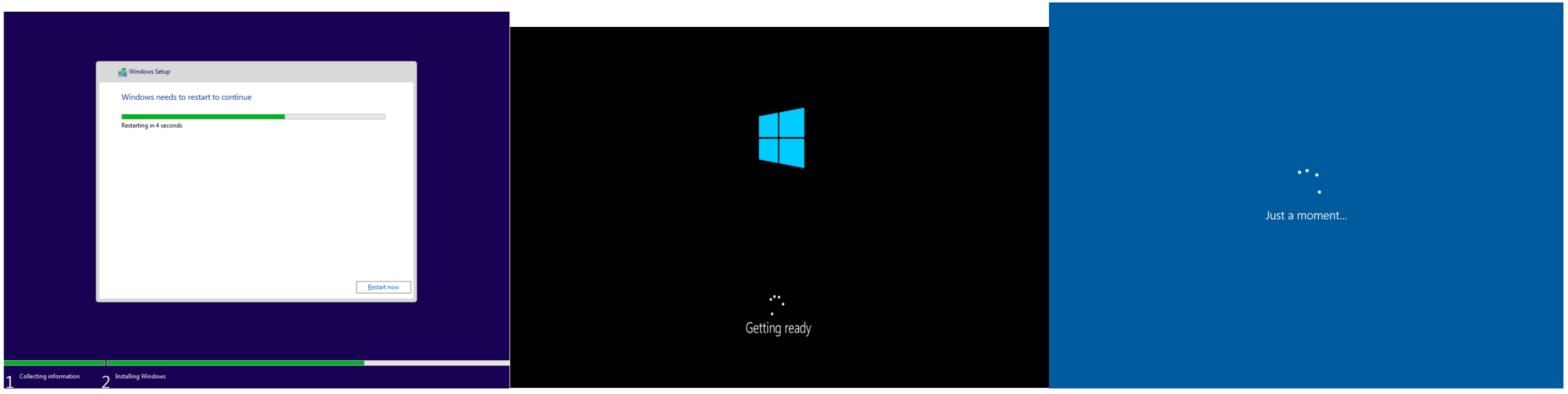
Typing the product key for the copy of windows. Selecting the version of windows, they want to install. Accepting the licence terms by checking the box before clicking next.



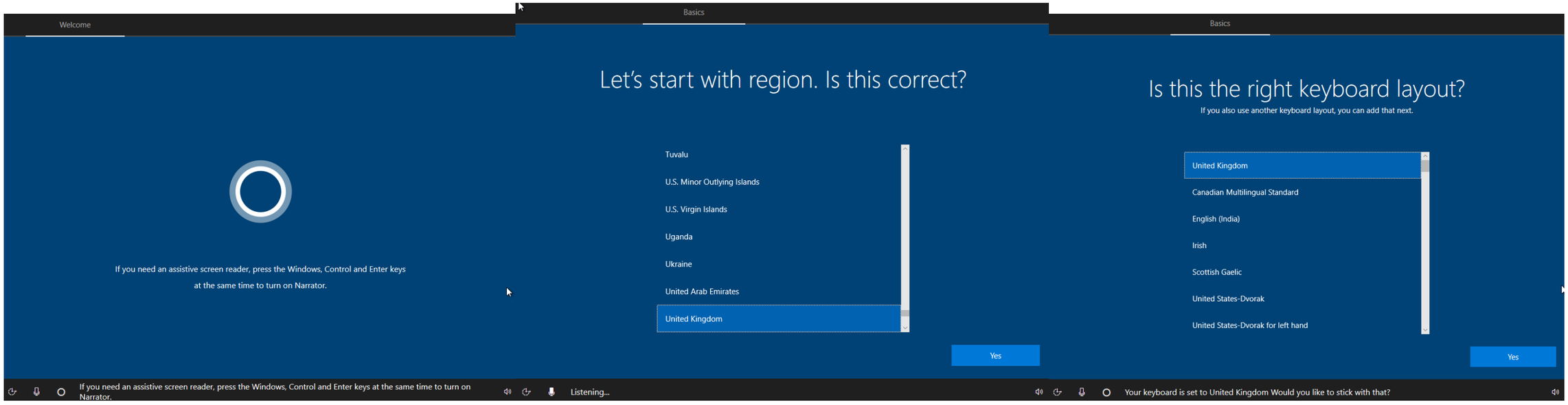




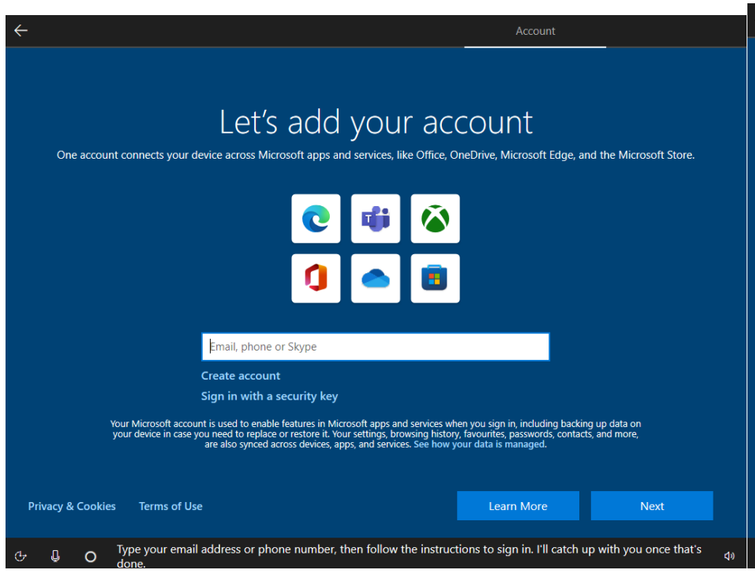
Selecting which type of installation they want. Clicking the custom install for windows. Selecting where to install windows by clicking on the new SSD for faster boot times. Waiting for windows to install.

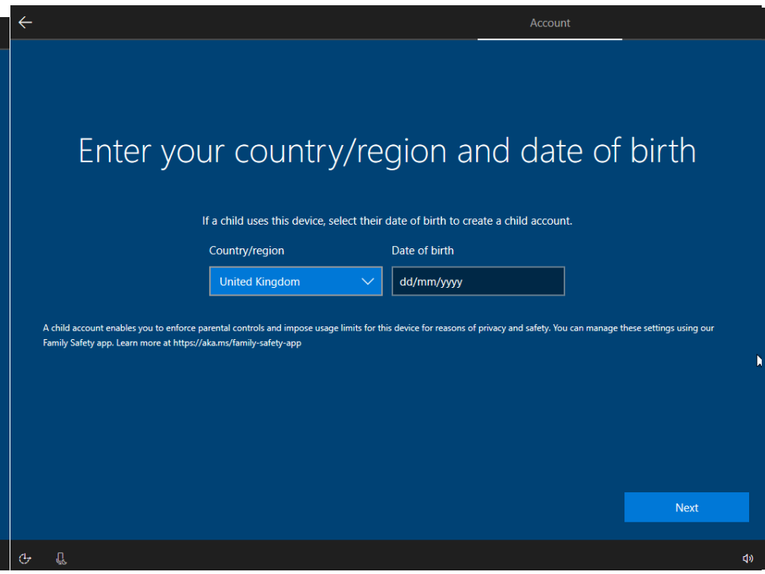


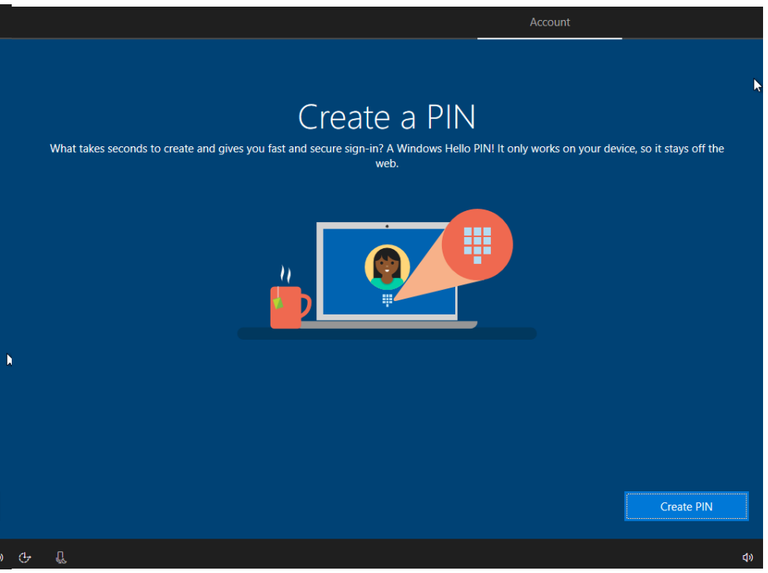
Restarting the computer when it asks you too by clicking on the restart now button. Waiting for windows to restart.



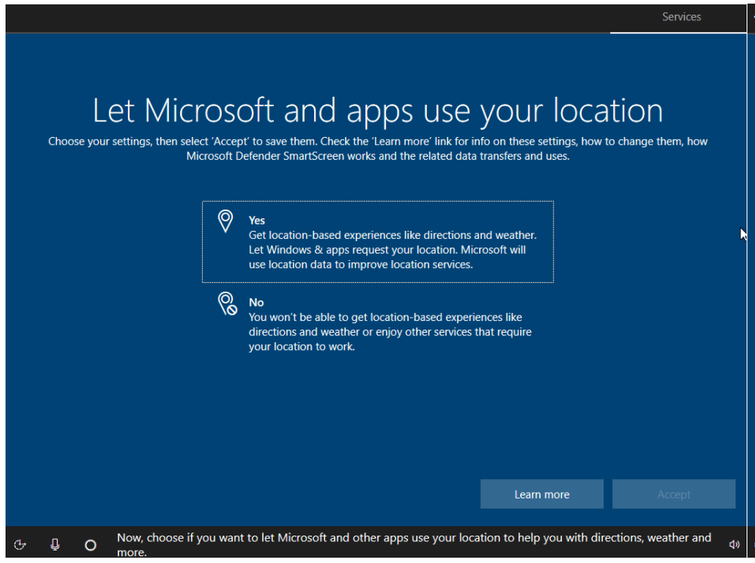
Waiting for the next prompt. Selecting the correct region and the keyboard layout and clicking on the yes button.

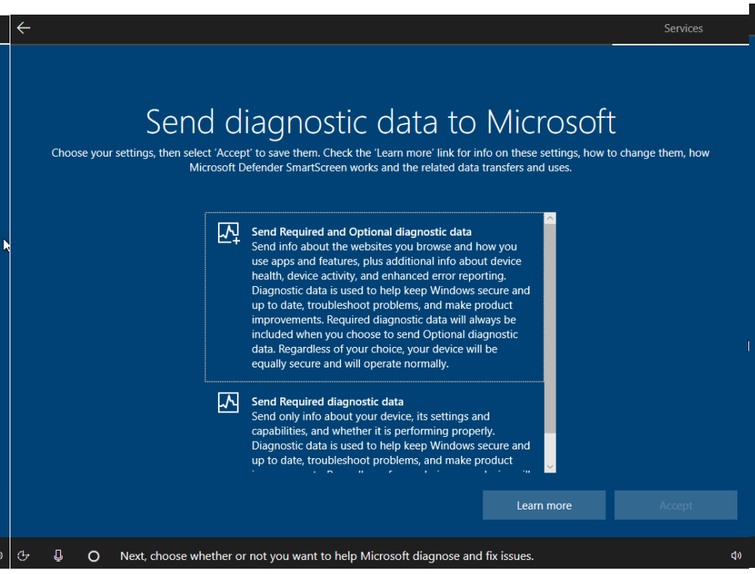


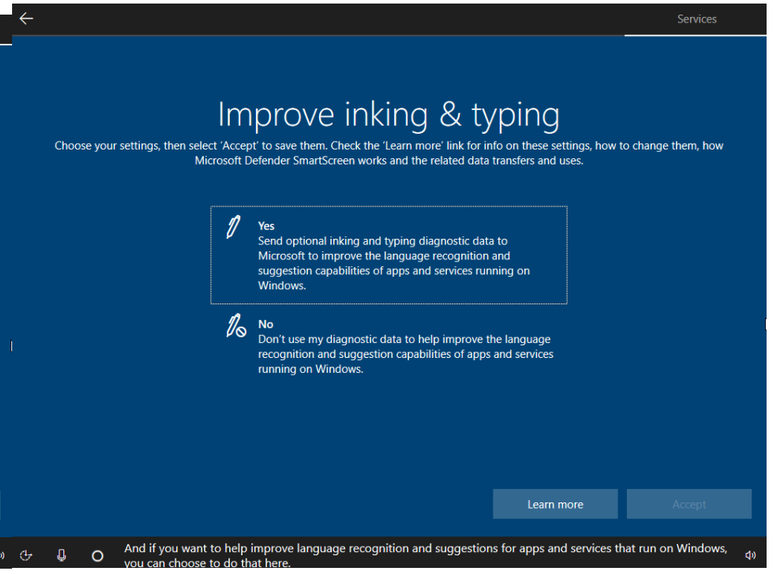




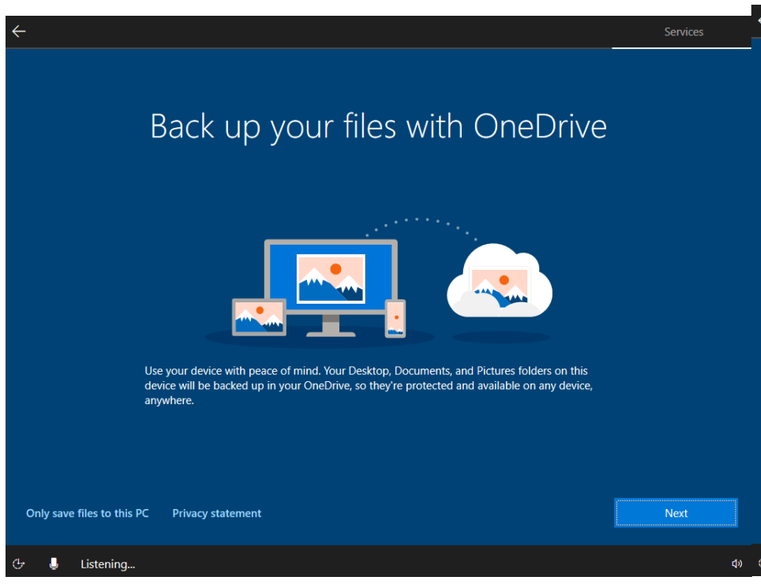
Adding the employees Microsoft account. Entering the country/region and date of birth. Creating a PIN for the computer.

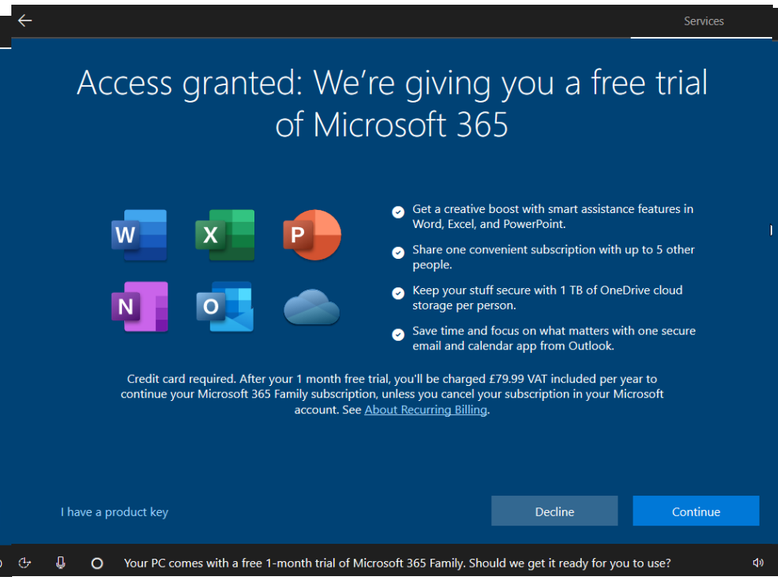




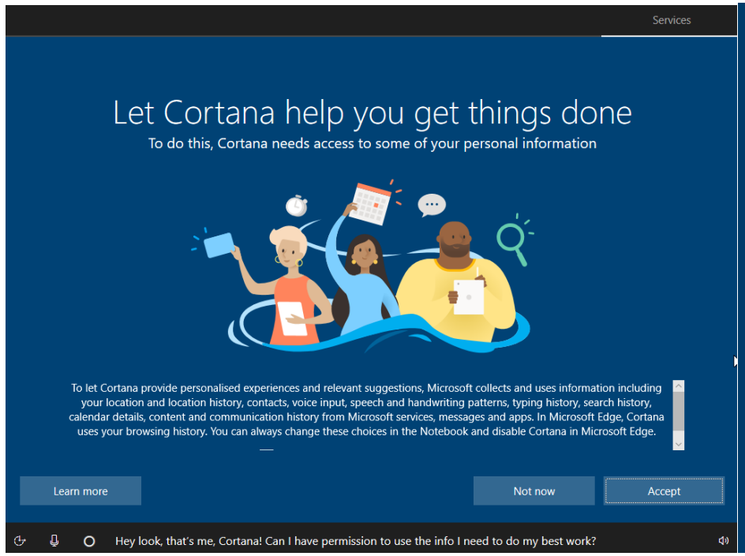


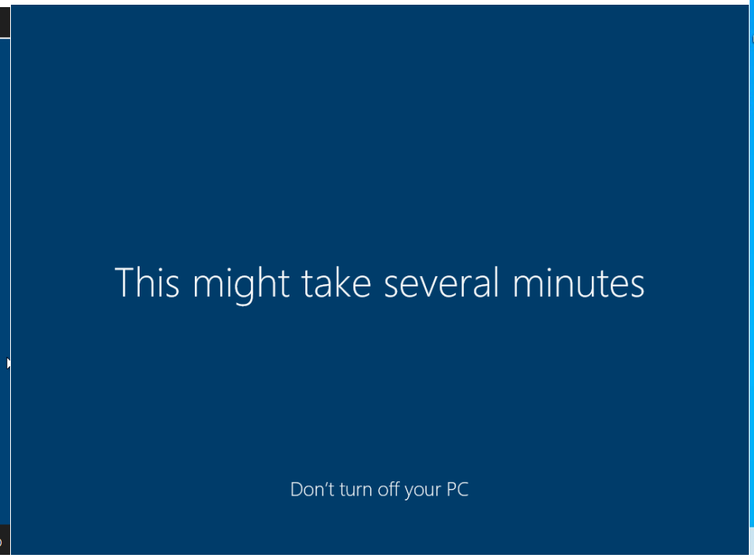
Personalising windows by choosing to let Microsoft and apps use your location, sending required diagnostic data and sending inking and typing diagnostic data.

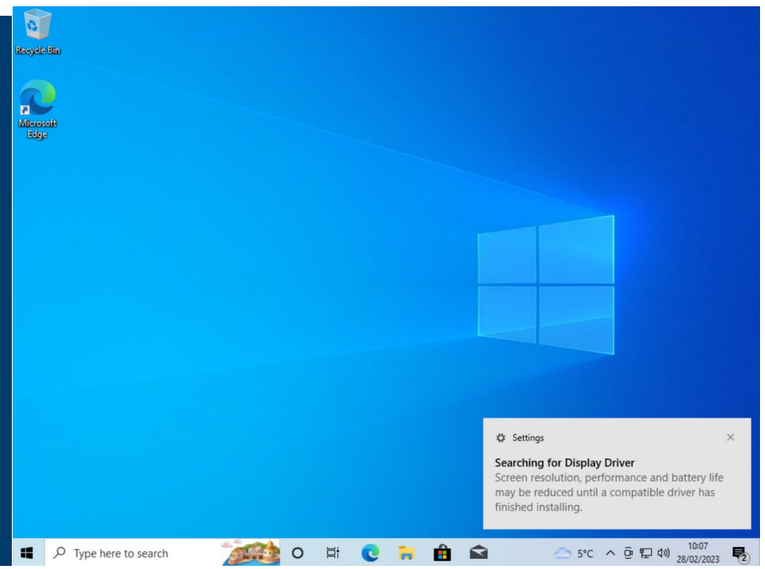




Setting up OneDrive for the computer. Typing in the product key for Microsoft 365. Adding more cloud storage.

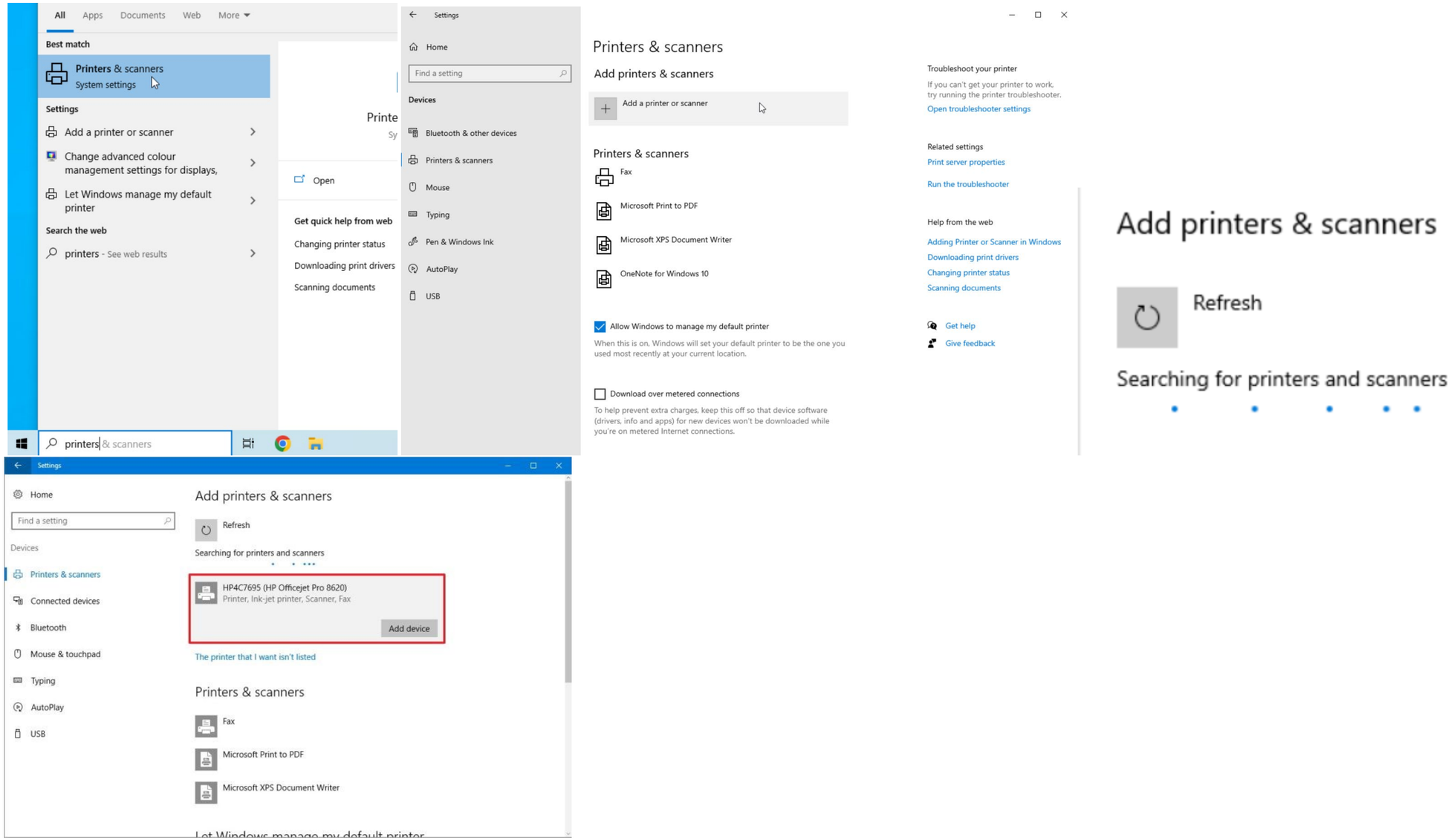






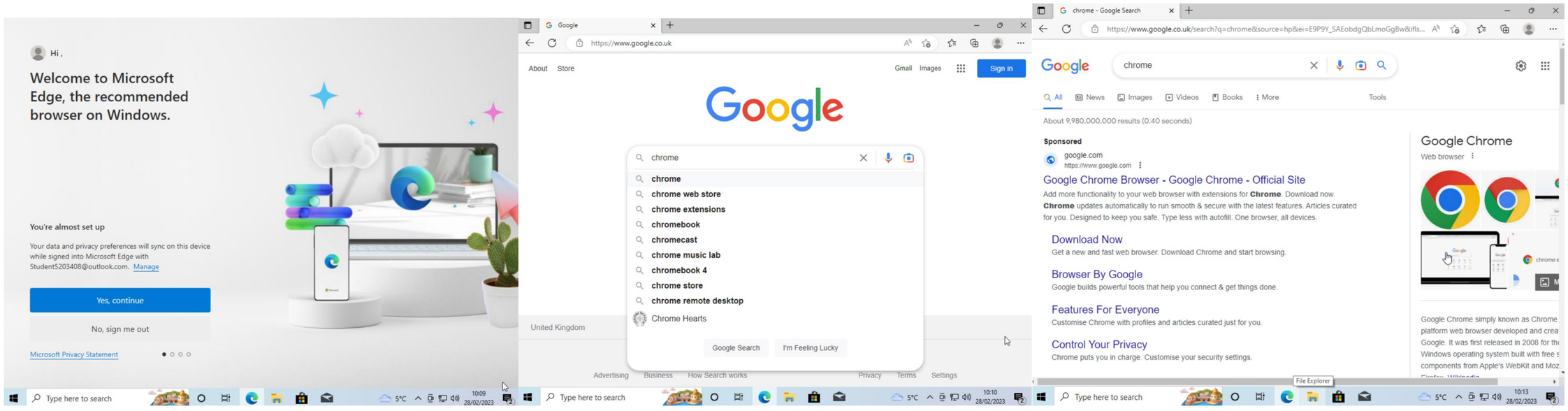
Declining Cortana and waiting for the computer to load. Windows 10 loads up to the desktop.

Installing Printer

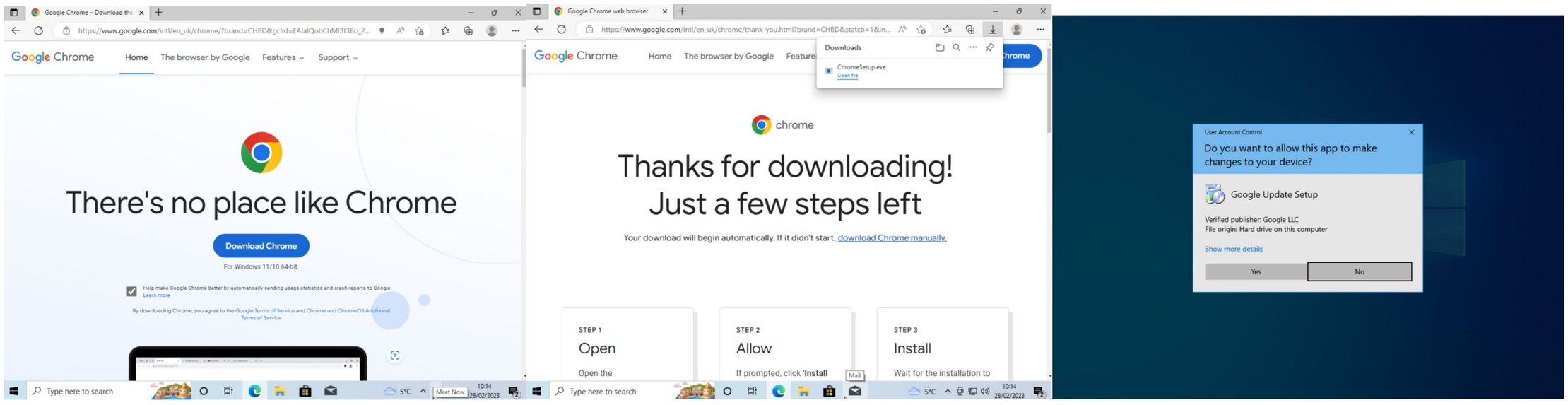


On the taskbar, select the Search icon, type Printers in the search bar, and then select Printers & scanners from the search results to open the Printers & scanners system setting. Open Printers & scanners settings. Next to Add a printer or scanner, select Add device. Wait for it to find nearby printers, then choose the one you want to use, and select Add device. If you want to remove the printer later, select it, and then select Remove. If your printer isn't in the list, next to The printer that I want isn't listed, select Add manually, and then follow the instructions to add it manually using one of the options. If you're not able to connect the printer manually, try to fix the problem by using the steps in Fix printer connection and printing problems in Windows.

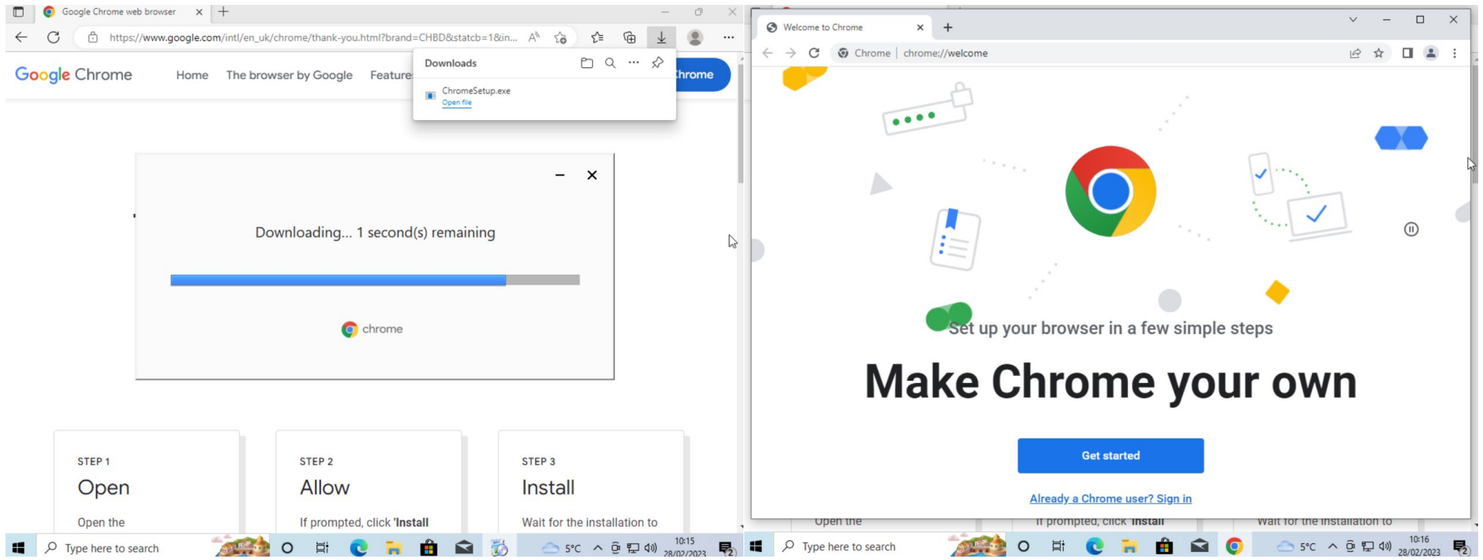
Installing Google Chrome



Opening Microsoft Edge and typing google chrome into the google search box and pressing the enter button. Clicking on the download now link.

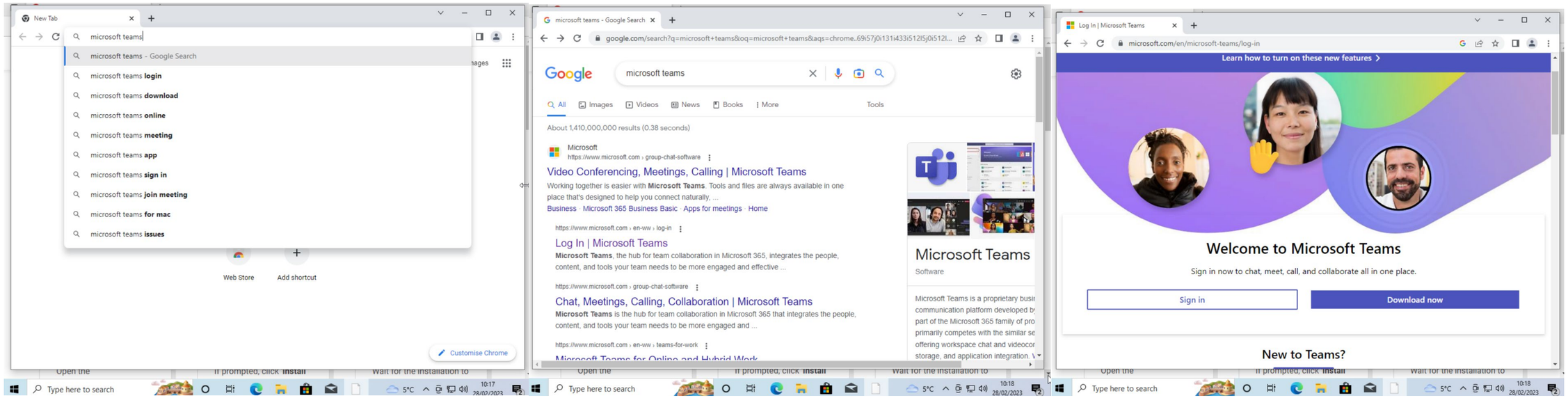


Clicking on the download chrome button and waiting for it to download. Clicking on the finished download and waiting for the prompt then clicking yes to allow the app to make changes to the device.

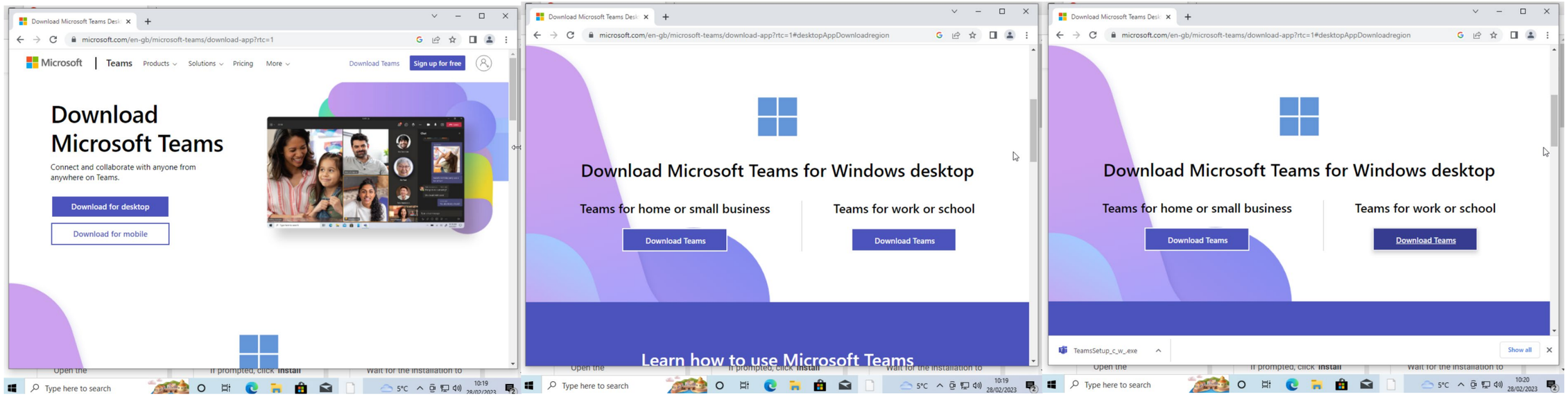


Waiting for google chrome to finish installing. Google chrome finishes installing.

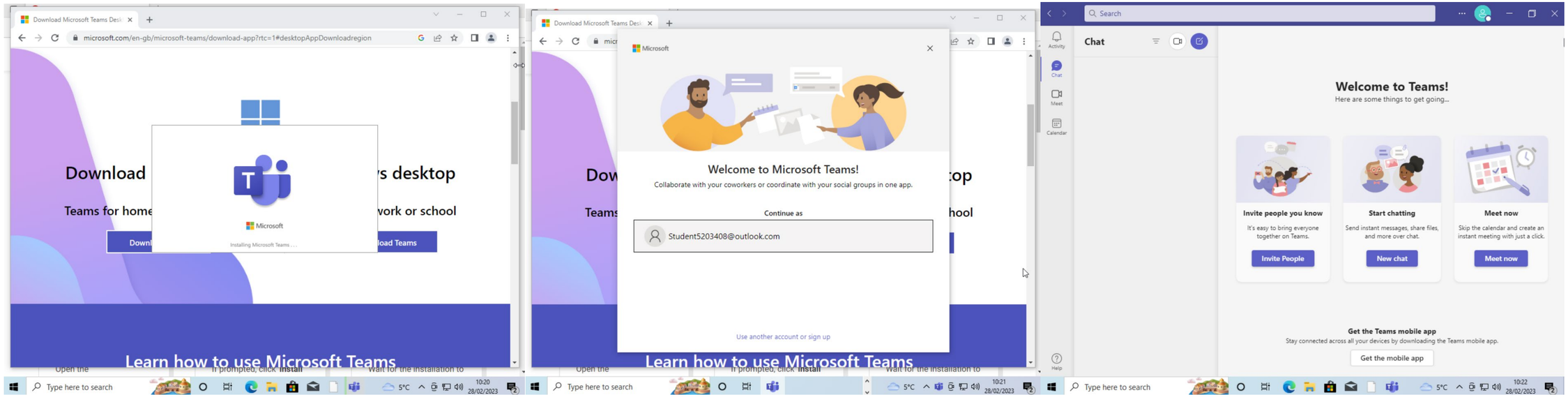
Installing Microsoft Teams



Typing Microsoft teams into the search box and pressing the enter button. Clicking on the Microsoft teams link. Clicking on the download now button to go to the download page on the website.

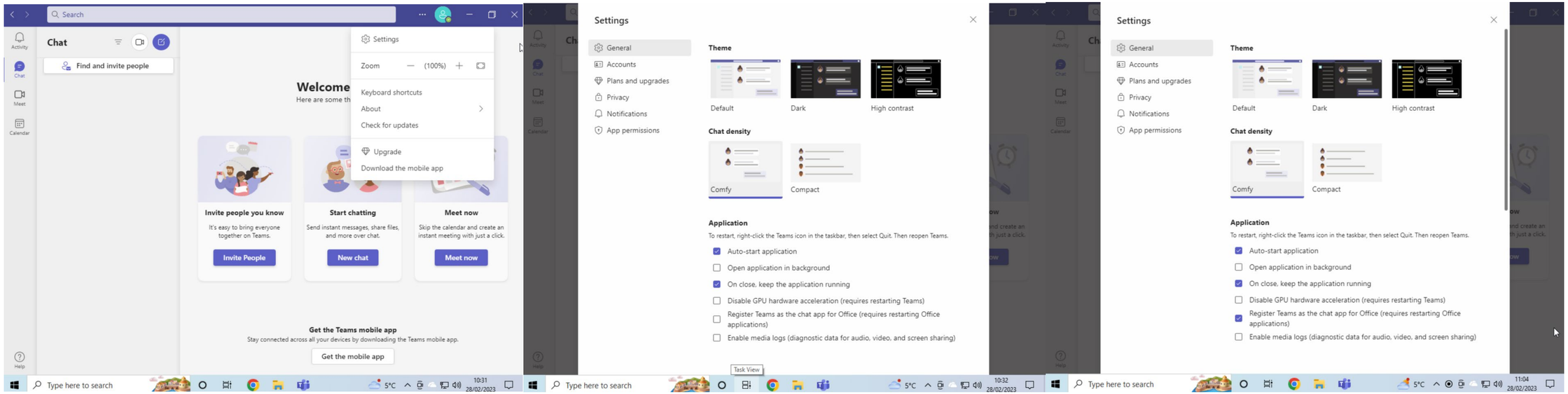


Selecting the download for desktop button. Clicking on the download teams button to download a copy of Microsoft teams. Clicking on the finished download to start the installation.



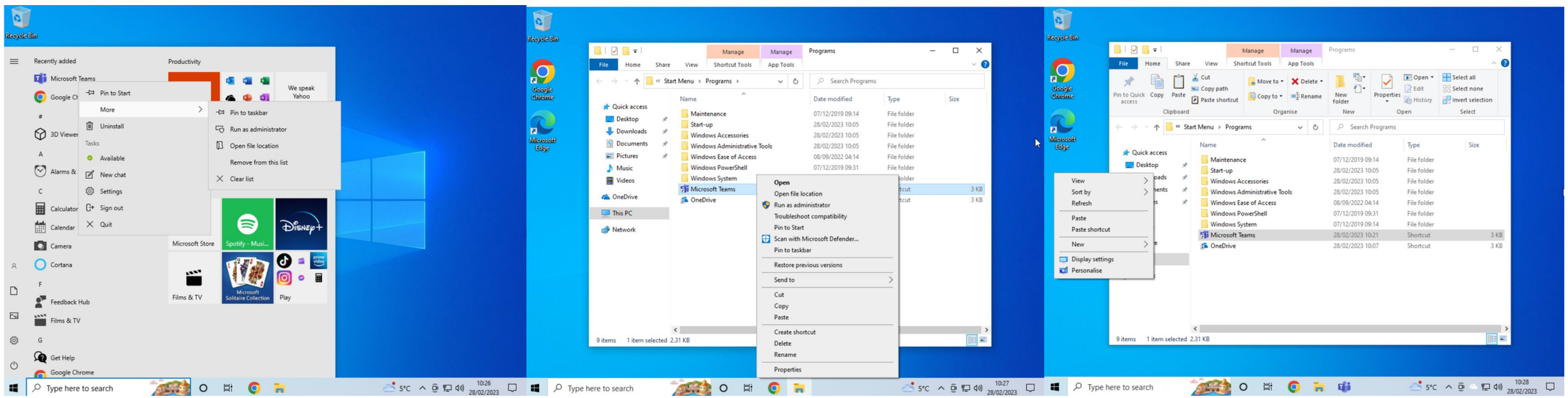
Waiting for Microsoft teams to install. Signing in with the employees Microsoft account. Microsoft teams loads up.

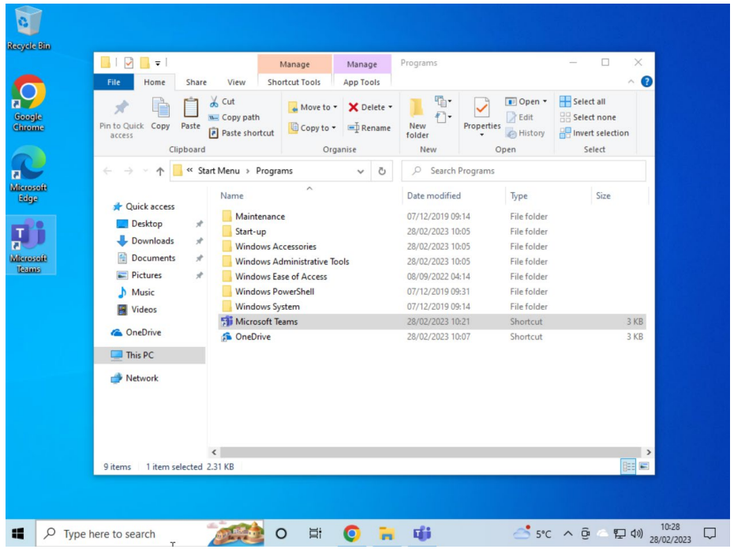
Customizing Microsoft Teams



Clicking on the three dots button then clicking on the settings button. In the general menu I ticked the box to register Teams as the chat app for Office.

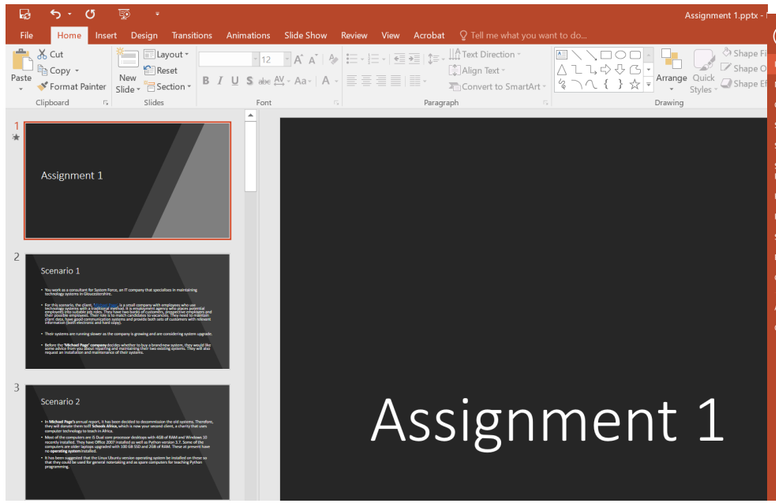
Customising Microsoft Teams

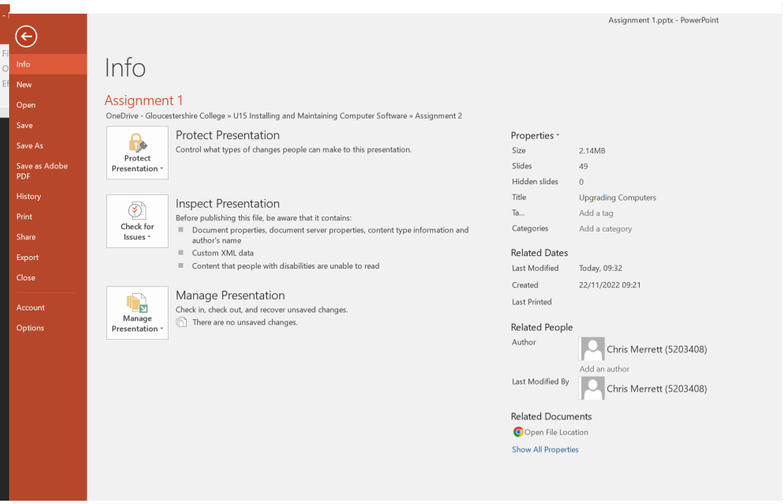


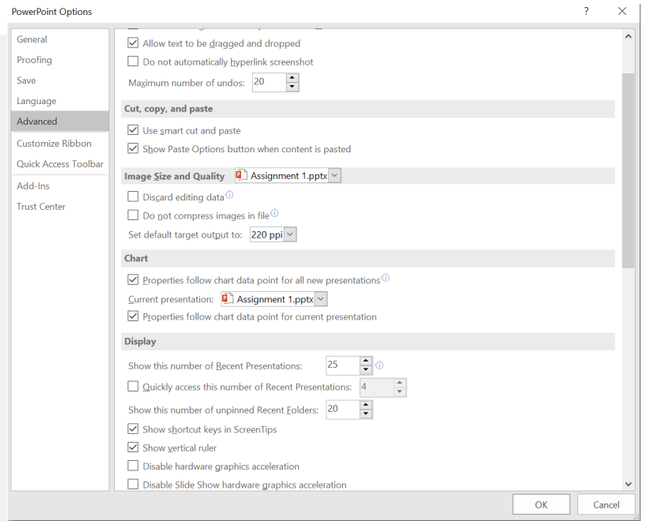


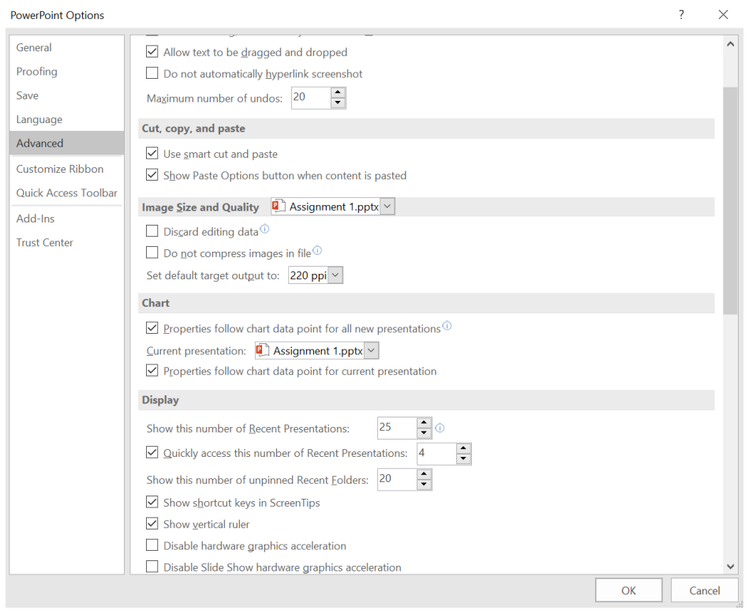
Creating a shortcut of Microsoft Teams on the desktop by clicking the start button and right clicking on the Microsoft Teams app and hovering over the more option and clicking on open file location. Then by right clicking on the Microsoft Teams shortcut and clicking on the copy option and pasting it on the desktop.

Customizing Microsoft PowerPoint



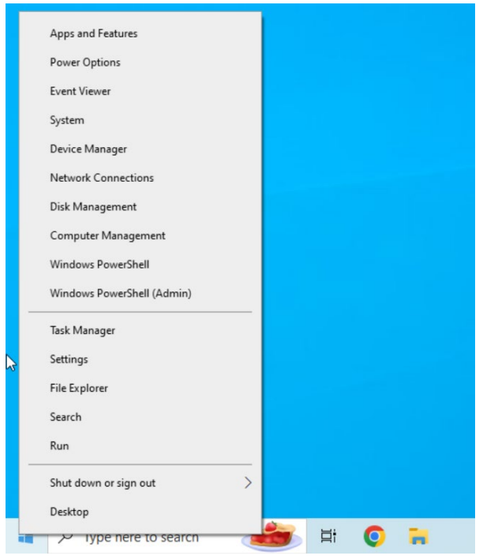


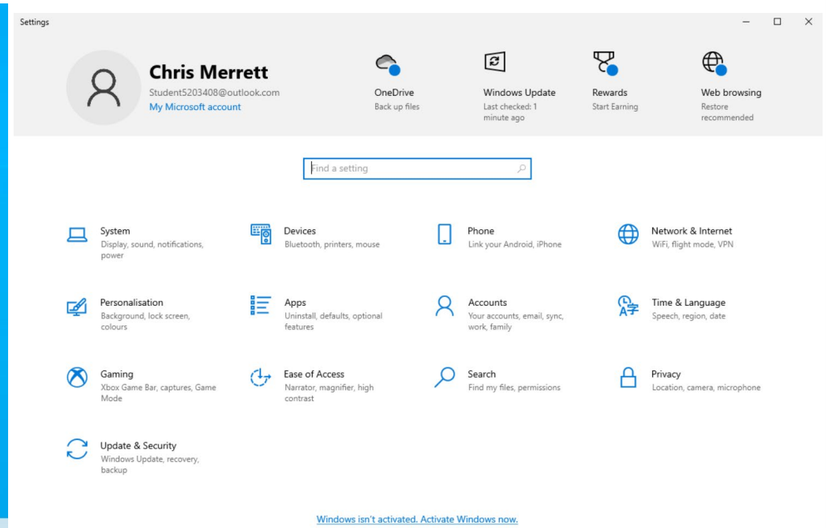


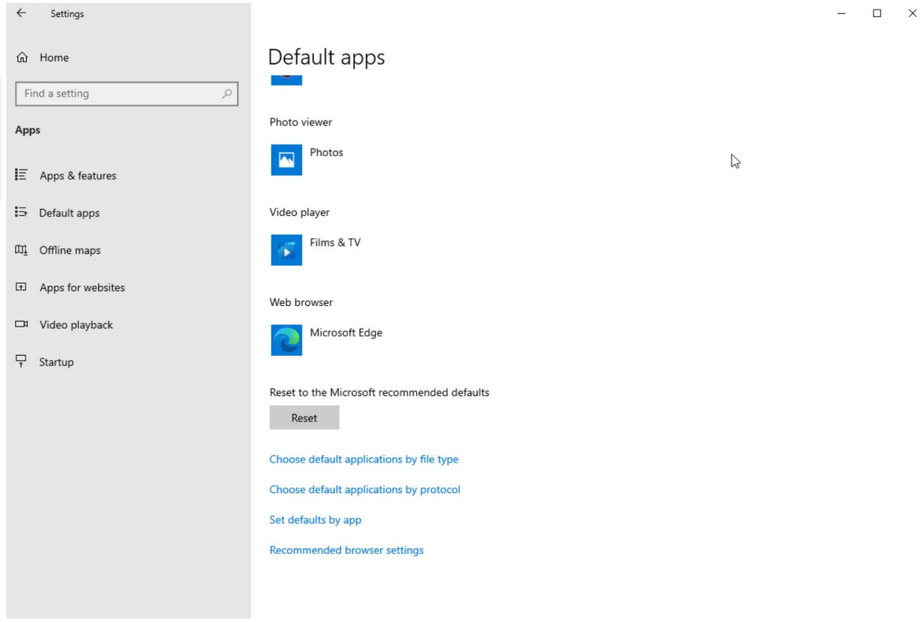


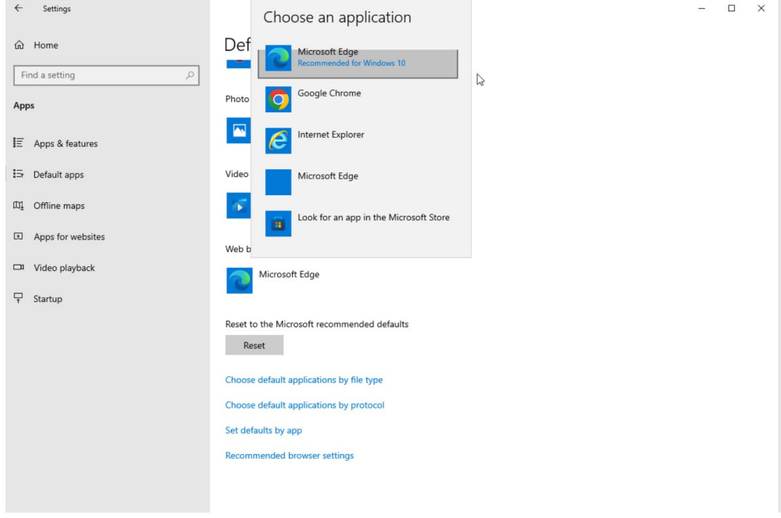
Clicking on the file button at the top left to bring up the options, then clicking on the options button. In the advanced menu I checked the box to quickly access a number of recent presentations.

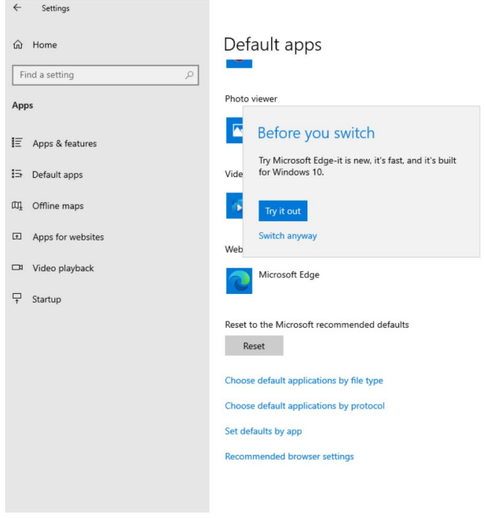
Customizing Google Chrome

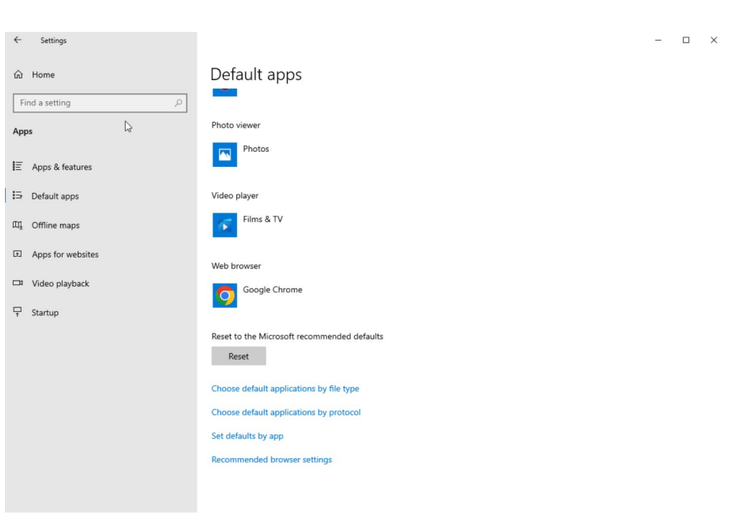












Making Google Chrome the default browser by right clicking on the windows button and clicking the settings option. When the settings open, click on the apps option and then the default apps option. Click on the app for the default browser and it will give a list of options. Click on Google Chrome and then switch anyway to make it the default browser.

How the modified system meets clients' requirements and improves usability of the systems

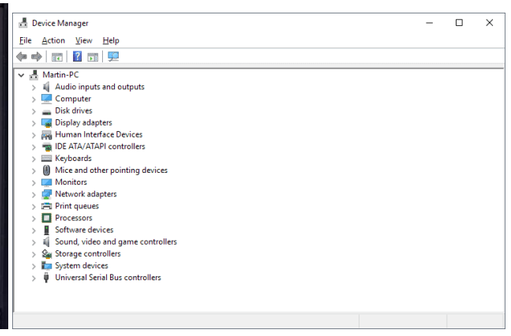
The modified technology system is suitable for the intended purpose and client's requirements as it meets the desired specifications and performance standards that were outlined. The modifications made to the technology system were designed to improve its capabilities and enhance its functionality while maintaining compatibility with the various components.

The installation of an upgraded operating system like Windows 10, additional software applications like Office365 and Microsoft Teams and upgraded hardware components have increased the system's processing speed, improved its functionality, and provided additional features that were not available with the previous configuration. The proposed system will include the installation of anti-virus software to ensure the safety of the company's systems and client data. Additionally, the installation of a network interface card, Hard Disk Drive, an all-in-one printer for scanning and printing documents, and built-in disc burning features for copying data from one disc to another has expanded the system's capabilities and provided greater flexibility for users. The fresh installation will also remove bloat software.

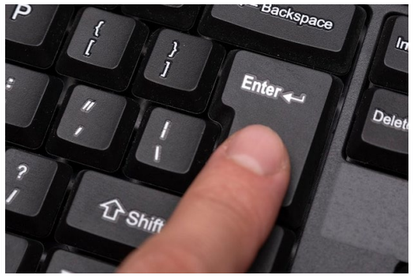
The customization of various components in the software applications like allowing quick access to a number of recent documents and adding shortcuts for the installed software for ease of access, has ensured that the system meets the specific needs of the users and the intended purpose of the technology system. The customization has also increased the efficiency of the system and improved the overall user experience.

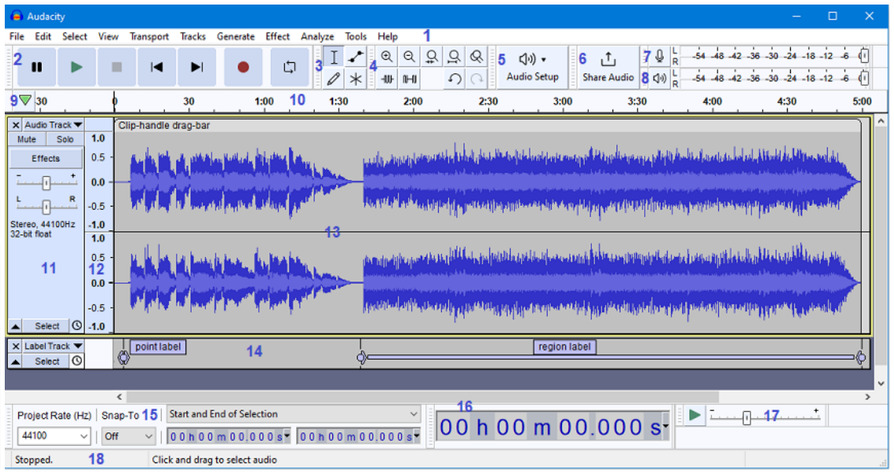
Overall, the modifications made to the technology system have enhanced its capabilities, improved its performance, and ensured that it meets the original requirements and intended purpose. The modified technology system is now better equipped to meet the needs of its users and support their work activities, ensuring a higher level of productivity and efficiency.

Testing



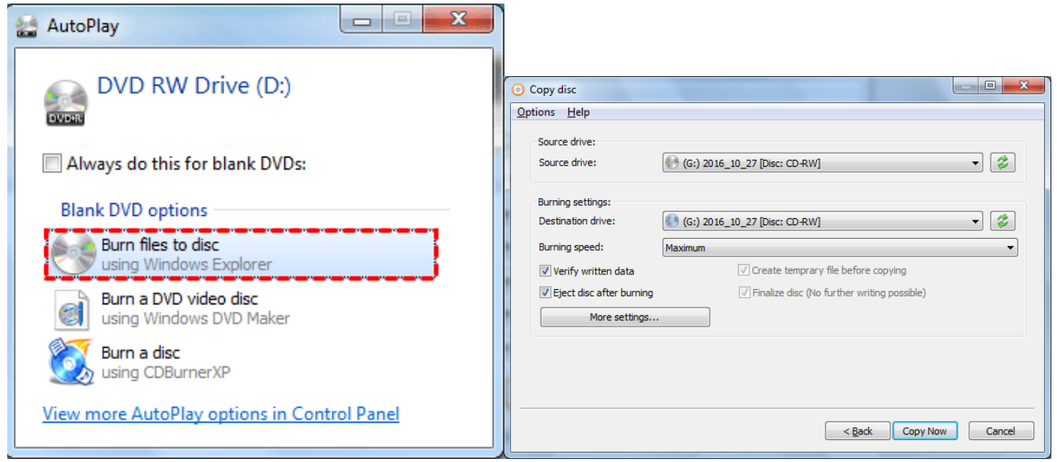
Checking if the computer boots up by pressing the power button and checking device manager if all the components are registering or if there are any issues.



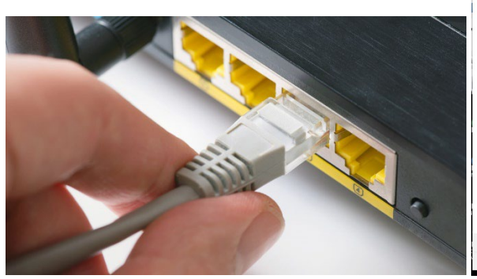


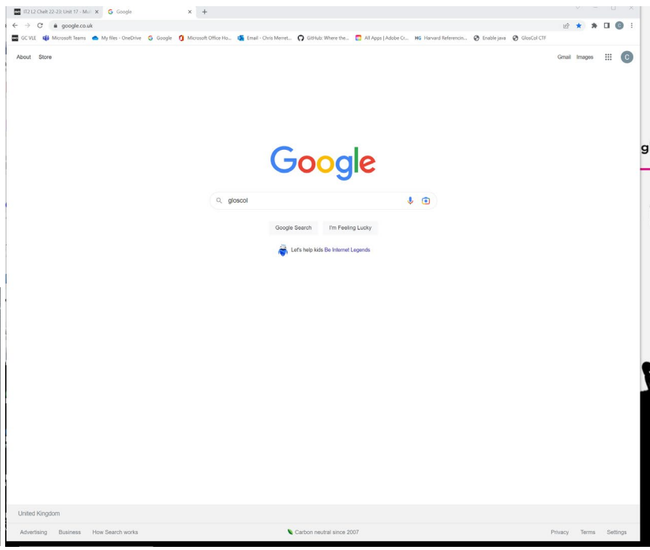
Checking to see if there are any issues with the peripherals by checking if all the keys of the keyboard are working, checking the mouse by moving it and clicking and checking the headset for audio input and output.

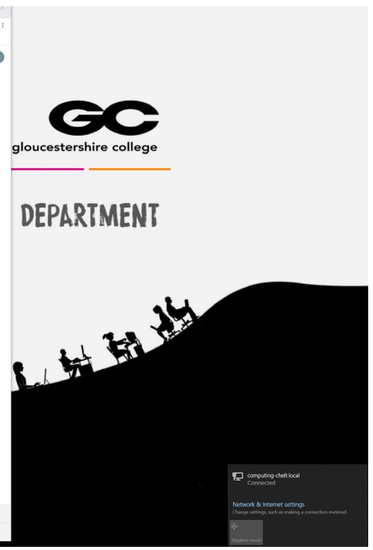
Checking If the optical drive is working properly by inserting a disc into the optical drive and playing it.



Checking If the computer can copy and transfer data using discs by inserting a disc with data on it and copying it to a folder, then burning the data onto a blank disc.

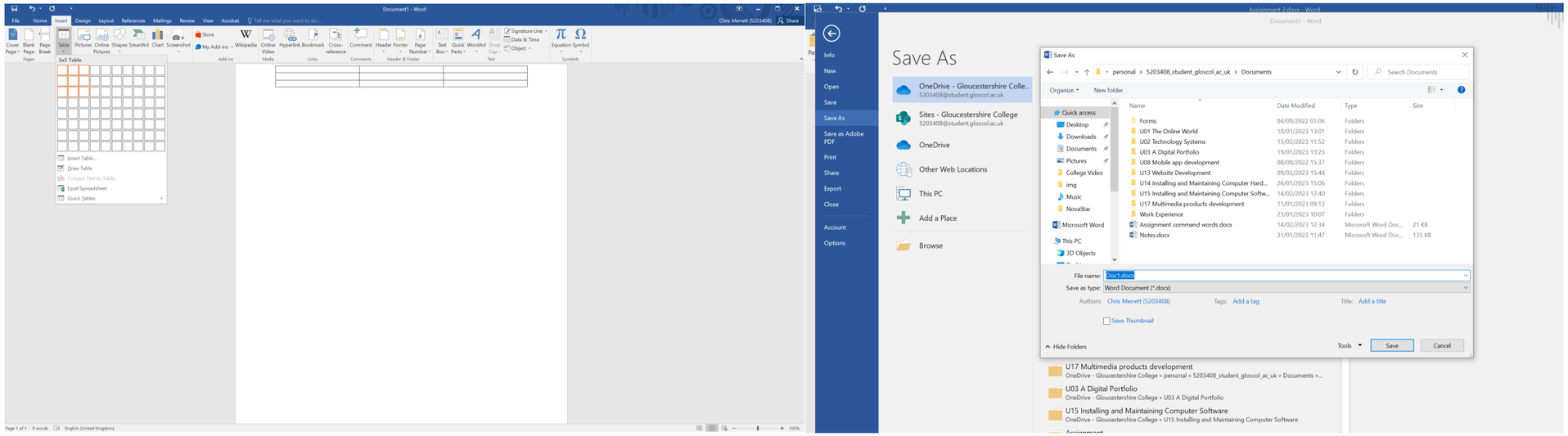




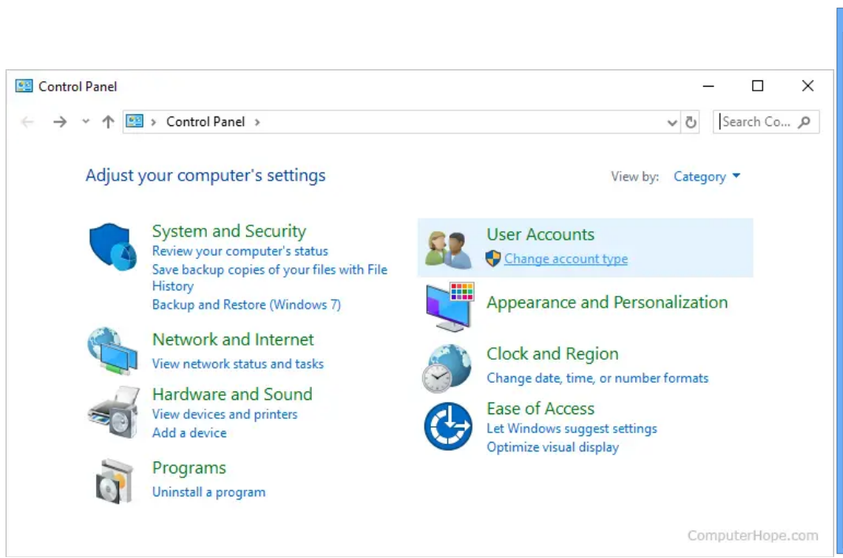


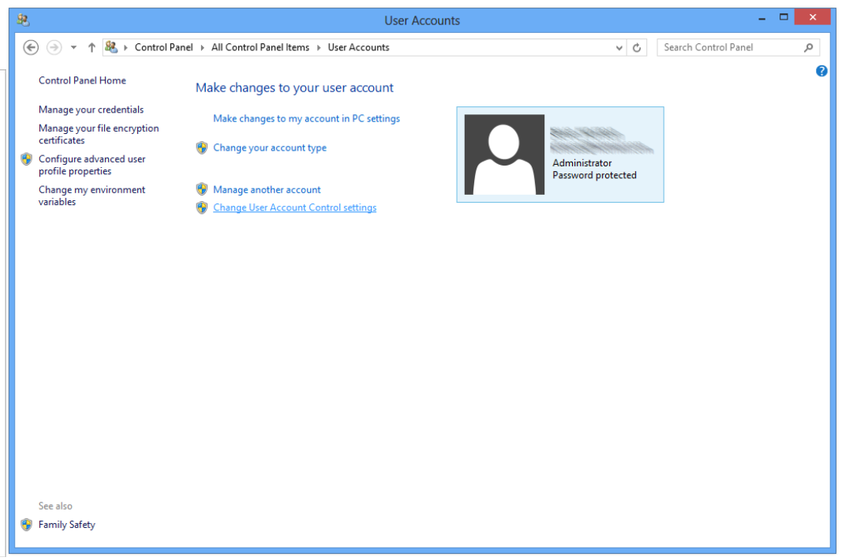
Checking If the new computers can connect to the network by inserting an Ethernet cable into the computer, connecting it to the network and opening a web browser to search something.

Checking if the printer can scan and print a document by starting the printer and scanning a document and printing it.

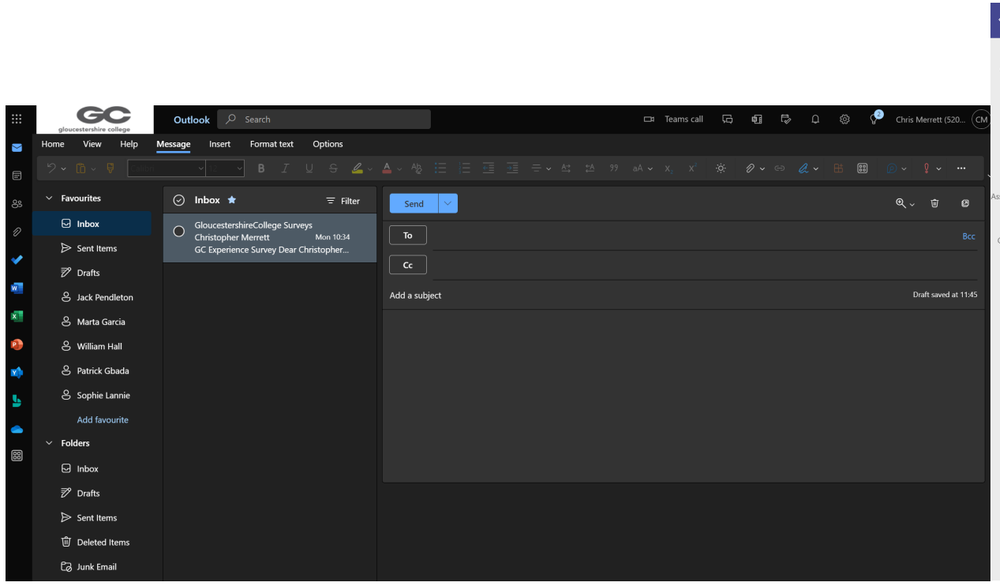


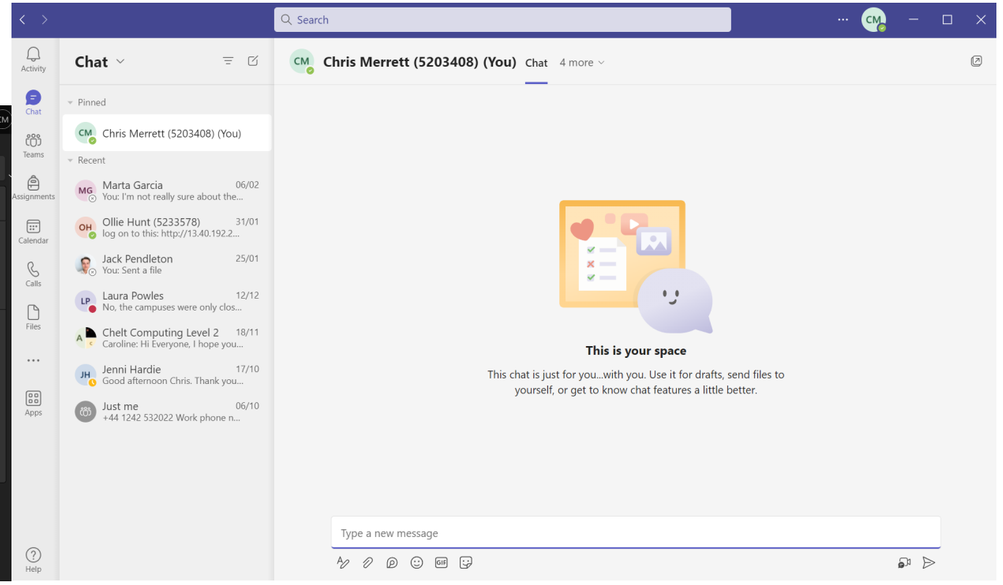
Checking if software applications open and function correctly by opening an application and testing out some of the features and saving the document.



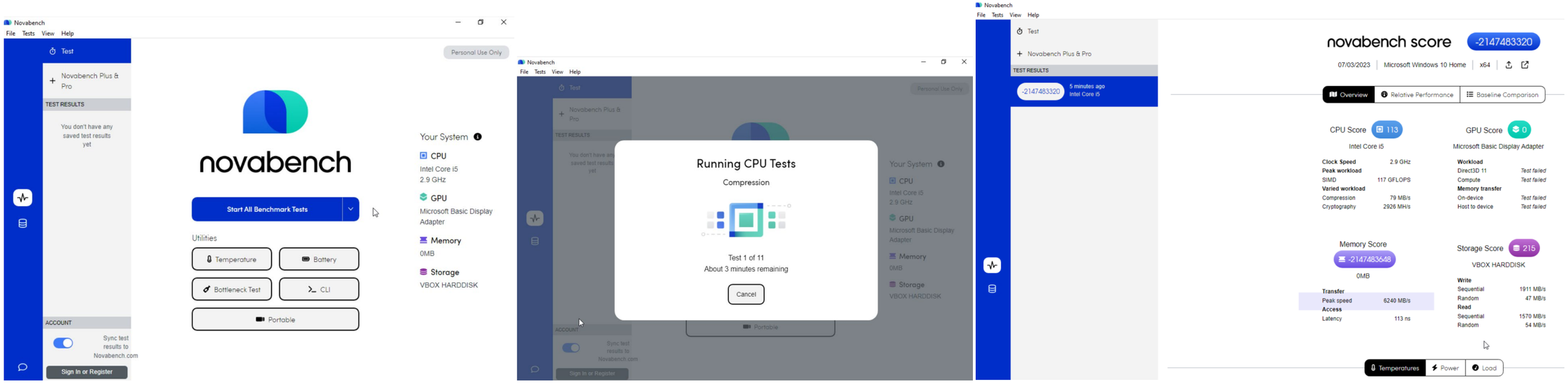


Checking if user account settings have remained unchanged by opening the User Accounts in the settings and checking if all the information is correct.





Checking if email and instant messaging software is working by sending and receiving an email and message through the software applications.



Benchmarking the new computer to check its performance by downloading and installing benchmark software, testing the new computers and seeing the results

Test Plan

Test Method	Expected Result	Actual Result	Further Action Required	Remedial Action	Time Taken
Checking if the computer boots up by pressing the power button	Computer boots up	Computer does not boot up	Opening the computer to check parts are connected properly	Power supply was not plugged in properly	10 minutes
Checking to see if the mouse is working	Mouse works	Mouse works	No further action required		2 minutes
Checking to see if the keyboard is working	Keyboard works	Keyboard works	No further action required		2 minutes
Checking the drivers	Device drivers up-to-date	Device drivers not up-to-date	Device drivers required updating	Updating device drivers	30 minutes
Checking the system restore point	System restore point is intact	System restore point is intact	No further action required		5 minutes
Checking the headset for audio input and output	Headset works	Headset works	No further action required		5 minutes
Checking If the optical drive is working properly by inserting a disc into the optical drive and playing it.	Optical drive is working	Optical drive is working	No further action required		10 minutes
Checking If the computer can copy and transfer data using discs	The computer can copy and transfer data using discs	The computer transferred data using discs	No further action required		10 minutes
Checking If the new computers can connect to the network	The computers connect to the network	The computers cannot connect to the network	Troubleshooting and opening the computer to check for the issue	Network card had to be replaced	30 minutes
Checking if the printer is working	Printer is working correctly	The printer is working	No further action required		10 minutes
Checking if software applications open and function correctly	Software applications work properly	The software applications work	No further action required		10 minutes
Checking if user account settings have remained unchanged	User account settings are unchanged	User account settings were unchanged	No further action required		5 minutes
Checking if email and instant messaging software is working	Email and instant messaging software is working	Email and instant messaging software is working	No further action required		10 minutes
Benchmarking the new computer to check its performance	Performance is increased	Performance is increased	No further action required		10 minutes

Fault Log

No.	Issue Title	Type	Priority	Receipt Date	Originator's Name	Assigned To	Response Date	Status	Resolution	Close Date
1	Computer not booting up	Hardware fault	High	21/03/2023	Chris	Chris	21/03/2023	Fixed	Computer boots up	21/03/2023
2	Device drivers not up-to-date	Software	High	21/03/2023	Chris	Chris	21/03/2023	Fixed	Device drivers up-to-date	21/03/2023
3	The computers cannot connect to the network	Hardware	High	21/03/2023	Chris	Chris	21/03/2023	Fixed	Network card replaced	21/03/2023

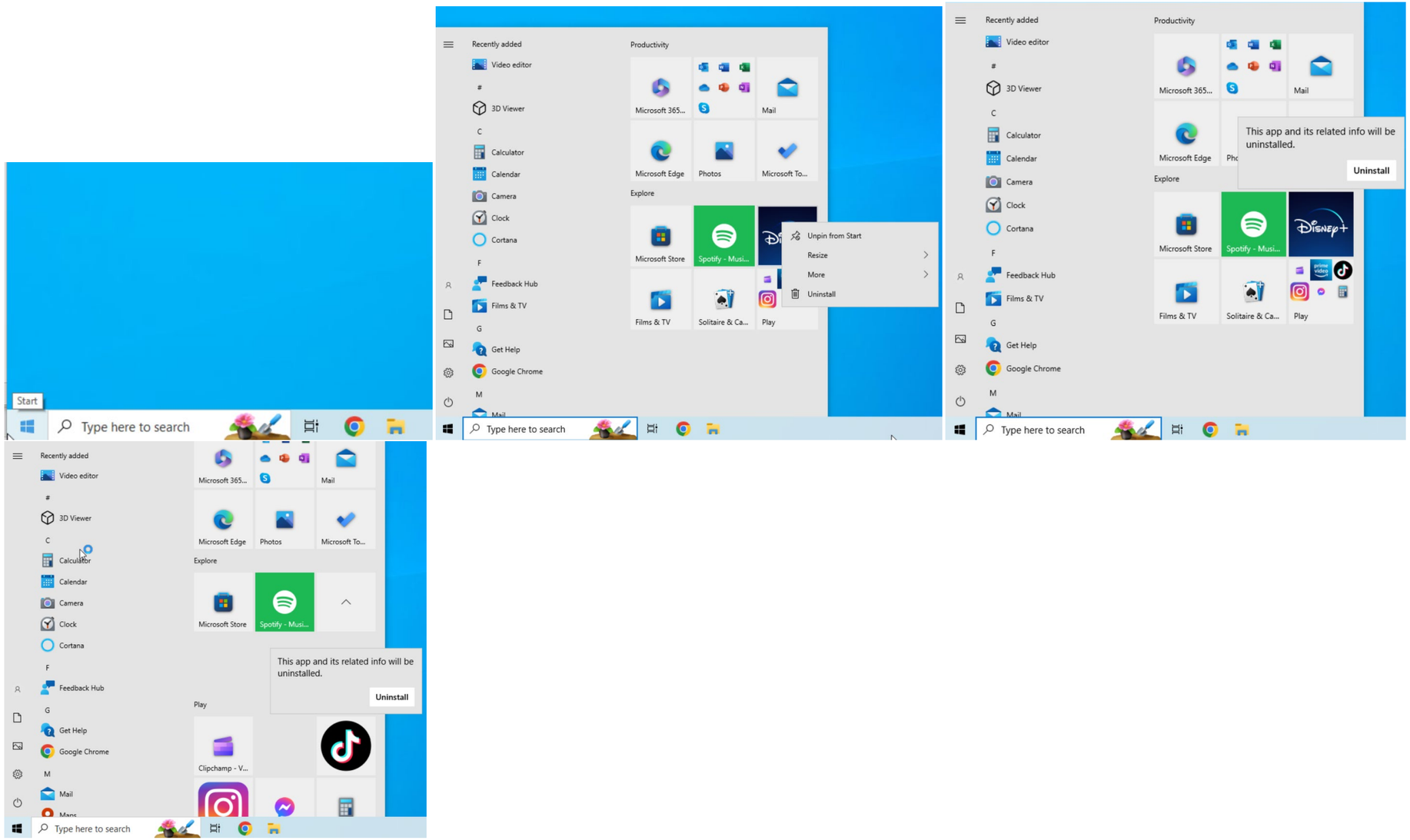
Questionnaire

Question	Answer
Does the system work?	Yes, it works
Is the system slow?	No, the new computer is performing well
Is it easy to use?	Yes, the new software and customization makes it easier to use
How does it feel using the system?	The performance, software and customization make using the system easy, fast and smooth
Does the installed software meet the required purpose?	Yes, Office 365 and Microsoft Teams are very useful in handling documents and commutating with other employees but there could be more. There is some unnecessary apps that don't need to be there
Are you able to have multiple documents open without the system slowing down?	Yes, the computer was able to open multiple documents without slowing down and maintained a smooth experience
What improvements could be made?	Adding shortcuts to installed software would make the system easier to use. Installing more useful software. Remove unnecessary apps

Question	Answer
Does the system work?	Yes, it boots up and functions properly
Is the system slow?	The new computer is performing well but has trouble with too many tabs open
Is it easy to use?	Yes, the new software makes it easier to use but not too many customizations
How does it feel using the system?	The performance, software and customization make using the system easy, fast and smooth
Does the installed software meet the required purpose?	Yes, Office 365 and Microsoft Teams are very useful in handling documents and commutating with other employees
Are you able to have multiple documents open without the system slowing down?	Yes, the computer was able to open multiple documents but had some trouble
What improvements could be made?	Adding shortcuts to installed software and more customizations would make the system easier to use.

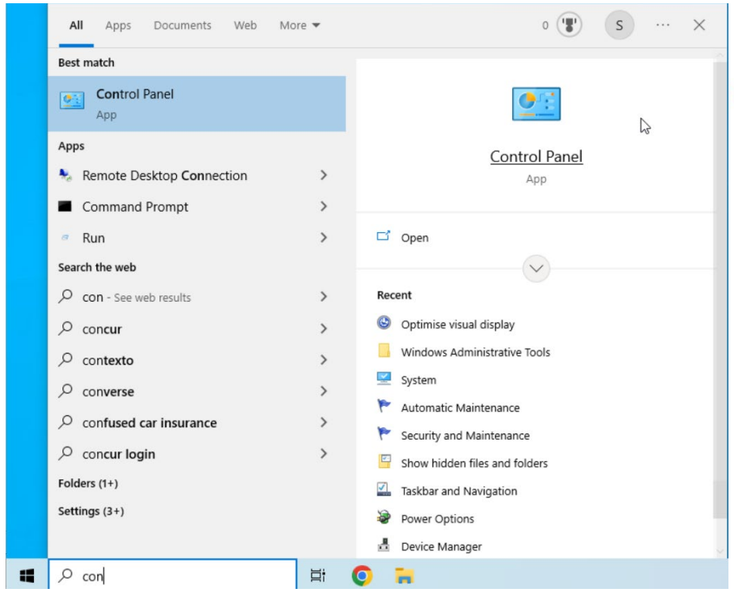
Modifying the System

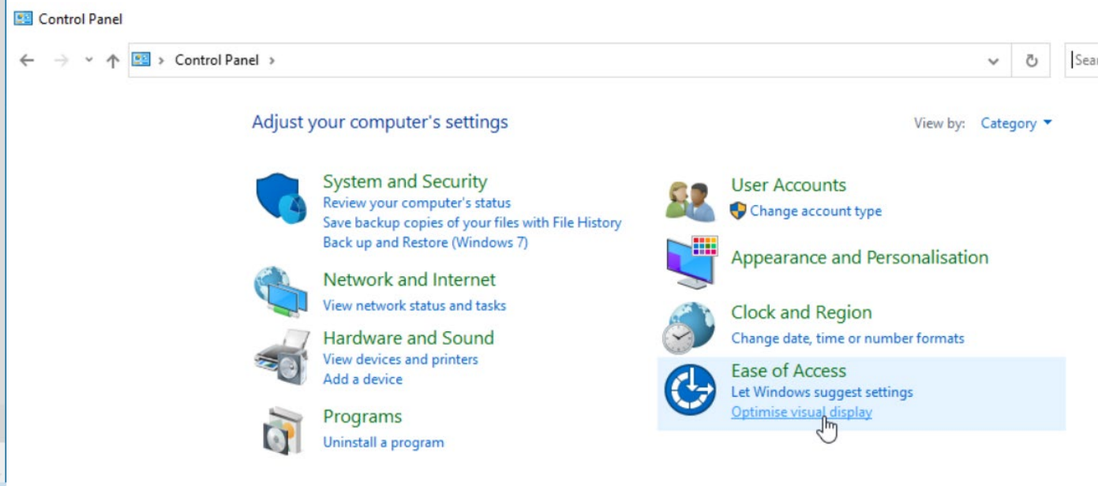
Uninstalling unwanted applications

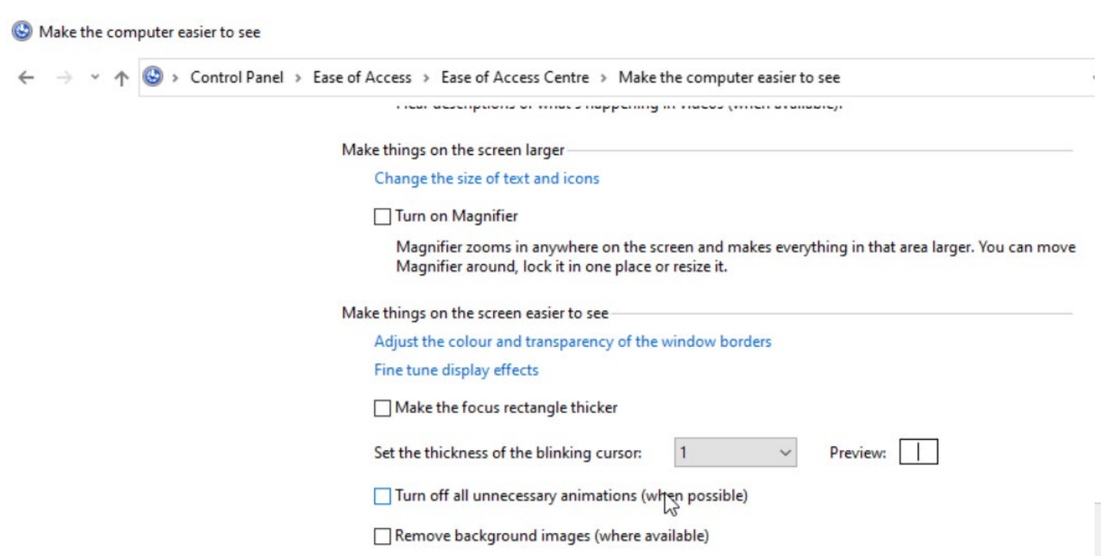


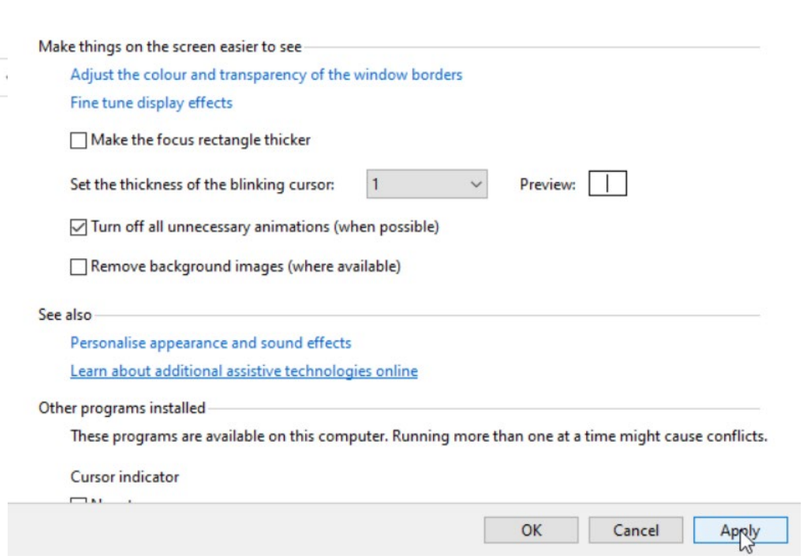
Uninstalling unwanted applications by clicking the start button and right clicking over the apps to bring up the menu then clicking the uninstall button and waiting for it to uninstall. Uninstalling unwanted applications will save storage space and improve performance.

Turning off all unnecessary animations









Turning off all unnecessary animations by typing ‘control panel’ into the search box and clicking ‘optimise visual display’ under ‘ease of access’. Then by scrolling down to the option to turn off unnecessary animations and ticking it by clicking, then clicking the apply button to save changes. Turning off all unnecessary animations will improve performance.

Modified Test Plan

Test Method	Expected Result	Actual Result	Further Action Required	Remedial Action	Time Taken
Testing performance of the system after modifications by using benchmark software	Improved performance	Improved performance	No further action required		10 minutes

Review the extent to which the modified technology system meets the original requirements

The modified technology system is suitable for the intended purpose and original requirements as it meets the desired specifications and performance standards that were outlined. The modifications made to the technology system were designed to improve its capabilities and performance while maintaining compatibility with the various components.

Uninstalling unwanted applications from a computer can improve performance by freeing up storage space, reducing background processes, decreasing startup time, and eliminating potential conflicts with other programs. This included apps like the Xbox app and other game apps that were unnecessary.

Turning off all unnecessary animations on a computer can improve performance by reducing the amount of processing power and system resources needed to display these animations. This will give a faster and smoother performance, especially on older or less powerful computers. Additionally, turning off animations can also help to conserve battery life on laptops and other portable devices. This included animations like the opening and closing of windows and dragging tabs.

Creating shortcuts to useful software can improve the system by increasing its ease of access to software and so employees do not have any trouble finding the software they need. This included shortcuts to software like Microsoft teams and office 365.

Overall, the modifications made to the technology system have enhanced its capabilities, improved its performance, and ensured that it meets the original requirements and intended purpose. The modified technology system is now better equipped to meet the needs of its users and support their work activities, ensuring a higher level of productivity and efficiency.

Report to manager

Dear Manager,

I am writing to provide you with an update on the technology system that I have been working on. The modified technology system has been evaluated against the initial plan, and I can confirm that it meets the required specifications and performance standards that were outlined in the initial plan. The modifications made to the technology system were designed to improve its capabilities and performance while maintaining compatibility with the various components.

To improve the performance of the system, I uninstalled unwanted applications from the computer, which helped to free up storage space, reduce background processes, decrease startup time, and eliminate potential conflicts with other programs. I also turned off all unnecessary animations on the computer to reduce the amount of processing power and system resources needed to display these animations, which helped to give a faster and smoother performance, especially on older or less powerful computers. Additionally, turning off animations also helped to conserve battery life on laptops and other portable devices.

The modifications made to the technology system have enhanced its capabilities, improved its performance, and ensured that it meets the original requirements and intended purpose. The modified technology system is now better equipped to meet the needs of its users and support their work activities, ensuring a higher level of productivity and efficiency.

While making these modifications, I faced some constraints that impacted what I was able to achieve. For instance, some applications were required by the users, and removing them would have impacted their work activities. Some hardware components could not be modified due to compatibility issues with other components. However, despite these constraints, the modifications made have significantly improved the performance and functionality of the system, which has positively impacted the users' work activities.

In my opinion, adding more RAM to the system would further improve its performance and functionality, especially for running multiple applications simultaneously. Additionally, upgrading the hard disk to a solid-state drive (SSD) would provide faster data access speeds and shorten the system's boot time.

In conclusion, I am confident that the modifications made to the technology system have significantly improved its capabilities and performance while meeting the client's requirements. The system is now better equipped to meet the users' needs and support their work activities, ensuring a higher level of productivity and efficiency. Please let me know if you have any further questions or concerns.

Sincerely,

Chris Merrett