

Computer Architecture Assignment (Curtis Rees 2003711) *by* Curtis James Rees

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LEVEL 4 ASSESSMENT SPECIFICATION

Student name:	Curtis Rees	Student ID number:	2003711
Programme:	All Yr1 SOAC streams		
Module:	Computer Architecture and Operating systems		
Module code:	ACCA4022	Contribution to Overall Module Assessment (%):	50
Lecturer:	Gareth Jones	Internal Verifier:	Kapilan R.
Assignment Title:	Computer systems and components specification	Word count (or equivalent):	Typically around 2500-3000
Submission deadline:	TBA	Return date of provisional marks & written feedback:	
Submission method:	All written assessments, where practical and possible, must be submitted via Turnitin unless otherwise instructed by the Lecturer. (Please DO NOT put this assessment specification into Turnitin or it will match many similarities with other students' submissions.) Alternative submission method (if applicable): NA Late submission of the assessment will result in a late penalty mark. Penalties for late submission: Up to one week late, maximum mark of 40%. Over one week late, 0%. Only the Extenuating Circumstances Panel may approve a change to submission dates.		
Academic honesty / referencing:	Academic honesty is required. In the main body of your submission you must give credit to authors on whose research and ideas your work is based. Append to your submission a reference list that indicates the books, articles, etc. that you have used, cited or quoted in order to complete this assessment.		

Module Learning Outcomes (from module syllabus)

Upon the successful completion of this module, the student should be able to:

1. Demonstrate a sound understanding of the essential characteristics and concepts of computer systems and components, number systems, data capacities and transfer speeds in the context of typical PC environments

Contents

Introduction 3

Scenario 1:..... 3

Scenario 2..... 7

..... 11

Additional storage for Scenario2: 12

Conclusion..... 14

Introduction

In this report I am going to be writing about and showing my understanding of the essential characteristics and concepts of computer systems and components. When building a PC there are so many different parts and components that you could use, each with their own advantages and disadvantages and offering different levels of performance. So when building a PC its important that you know what it will be intended for and the main tasks it will carry out. Another important point is the budget, making sure you build the best PC possible within that budget. For example a elderly women just wanting to surf the net and check emails would not need the same specifications as a games developer and video editor. In this report I am going to build two different PC's for different people each meeting their specifications.

Scenario 1:

An elderly relative wants a low cost desktop PC with a fairly small form factor but a full size keyboard and a fairly large monitor to help with their failing eyesight.

They will not be playing any games. They only need to run simple software to perform word-processing functions, check email, surf the net etc, however they do want to be able to watch on line youtube content as well as perform simple skype type video calls with family abroad.

In this report I am now going to build a desktop PC, meeting all the specification while being as price efficient as possible for the elderly relative in scenario 1. As you can see above, I have highlighted all the important information from the scenario that will affect the parts and components that I choose. Below if the PC I have built: [1]

https://uk.pcpicker.com/list/wRPyg									
Compatibility: No issues or incompatibilities found									
Estimated Wattage: 112W									
Component	Selection	Base	Phone	Shipping	Tax	Price	Where		
CPU	 AMD Athlon 3000G 3.5 GHz Dual-Core Processor	£89.99	—		—	£89.99			
Motherboard	 ASRock B450M-HDV R4.0 Micro ATX AM4 Motherboard	£53.11	—	FREE	—	£53.11			
Memory	 Corsair Vengeance LPX 8 GB (2 x 4 GB) DDR4-3000 CL16 Memory	£43.98	—		—	£43.98			
Storage	 Kingston A400 240 GB 2.5" Solid State Drive	£27.98	—		—	£27.98			
Case	 Thermaltake S100 Snow Edition MicroATX Mini Tower Case	£42.00	—	FREE	—	£42.00			
Power Supply	 Aerocool Integrator 500 W 80+ Bronze Certified ATX Power Supply	£33.02	—		—	£33.02			
Monitor	 AOC E2470SWH 23.6" 1920x1080 60 Hz Monitor	£93.98	—		—	£93.98			
Keyboard	 Logitech K120 Wired Standard Keyboard	£9.75	—	£3.49	—	£13.24			
Mouse	 Logitech B100 Wired Optical Mouse	£8.67	—	FREE	—	£8.67			
Webcam	 Logitech C270 Webcam	£34.40	—	FREE	—	£34.40			
						Base Total:	£436.88		
						Shipping:	£3.49		
						Total:	£440.37		

First part I choose for the build was the AMD Athlon 3000G 3.5 GHz Dual-Core Processor. This is a low budget CPU but will be suitable for the specification. When picking a CPU I made sure that it has a cooler built in to avoid having to buy a cooling unit which would be less cost effective. Additionally this CPU has 'simultaneous multithreading' which is the process of splitting each of its physical cores into virtual cores therefore, increasing performance and allowing each core to run two instruction streams at once. [1]



I then needed to choose a suitable motherboard that would meet the specification. I went with the ASRock B450M-HDV R4.0 Micro ATX AM4 Motherboard. This is a low cost budget motherboard that meets the specification. I was looking to get a mini motherboard because it was stated a 'small form factor' however once looking at the prices I decided it would be much more cost effective to get a micro motherboard because the minis were much more expensive.

Moving on, I now needed to decide on suitable memory that would meet the specification. Initially I was going to pick 1x8GB however after researching I found that it would be far more effective to get 2x4GB. This is because dual-channel RAM is one version of multi-channel memory. Multi-channel RAM increases data transfer speed by adding more channels of communication between the memory controller and the memory. [2]



For this PC I decided the best storage option was to go for an SSD (solid state drive). With a 240GB SSD being one of the fastest forms of storage available, this would be more than suitable for the elderly relative. SSD's require less power to operate which means longer battery life, this being a result of having no moving parts. [3]

Next it was time to choose a suitable case to meet the specification. The specification did not specify any particular colour so the only important factor was the size. I choose the Thermaltake S100 Snow Edition MicroATX Mini Tower Case. It said a 'small form factor' so it was important to get a 'mini' tower case and also a microATX similarly to the micro motherboard.



⚡ Wattage Breakdown	
Note: Wattages are estimates only. Actual power draw may differ from listed values.	
Component	Estimated Wattage
AMD Athlon 3000G 3.5 GHz Dual-Core Processor	4W - 35W
ASRock B450M-HDV R4.0 Micro ATX AM4 Motherboard	15W - 60W
Corsair Vengeance LPX 8 GB (2 x 4 GB) DDR4-3000 CL16 Memory	7W
Kingston A400 240 GB 2.5" Solid State Drive	2W - 10W
Total:	112W

This is the power supply I choose, it's an Aerocool Integrator 500 W 80+ Bronze Certified ATX Power Supply. The site I used in order to build this PC (pc part picker) was very useful as it gave a wattage breakdown so I knew what size power supply to get. Reason I went for a 500W one was because it gave a big safety net.

Next to choose was the monitor, I decided to go with the AOC E2470SWH 23.6" 1920x1080 60 Hz Monitor. In the scenario it stated that she wanted a fairly large size monitor to help with their failing eyesight. 23.6" is a good size monitor and as well as being fairly big I thought it was important to have good screen resolution to help the elderly relative see the screen. Also it's a wide screen monitor so again helping them see the screen.



I did not need to add a video card to this specific build because the CPU I specifically picked at the start has integrated graphics so there would be no need for this scenario.



The keyboard I went with was the Logitech K120 Wired Standard Keyboard. To meet the specification for the keyboard I just needed to ensure it was a full-size standard keyboard which it is.

For the mouse I just made sure it was a simple two button mouse without the various buttons on the side like some of the more gaming orientated mice so it wouldn't be confusing for the elderly relative at all.





Finally to meet the specification for this build I needed the PC to perform simple skype type video calls with family abroad. So I also needed this Logitech C270 Webcam. Wanted a fairly low cost webcam as its just for family, however the reason I choose this one was because unlike most the others this one is HD 720p.

That was my fully built desktop PC that I built for the elderly relative in scenario 1. The main aim was to meet the specifications listed in the scenario and this build does so. However, it was important to make it cost effective and not buy high performance parts that would be unnecessary for this build. Total price, including shipping came to £440.37 which I believe is a good price for the PC that I've built which will allow her to do everything they asked for.

Base Total:	£436.88
Shipping:	£3.49
Total:	£440.37

Scenario 2

A recent graduate wants to become self employed and start up their own company involving producing and editing 4K video content using software that utilises not only the main CPU, but can also take advantage of GPU acceleration.

As speed and productivity is important, fast rendering is required for this build and a budget of approximately £2500 (inc vat) has been allocated for the system unit and monitor, so produce as powerful/fast/appropriate a specification as you can, given this approximate budget (don't stress about getting super accurate with the price. Within say £150 either way is fine for the purpose of this assignment, the £2500 is a rough guide).

You don't have to specify any camera equipment to acquire the 4K footage. Assume the data is going to be presented on various types of fast memory cards.

Also assume speakers, headphones and a surround sound monitoring system with SPDIF input are already available, however your computer will need to have the appropriate ports to output this audio.

While software costs are not to be included in the £2500 budget, you should make reference to what video editing software might be utilised in this scenario, and how that choice influences the final hardware specification.

Similarly to scenario 1, I am going to build a desktop computer meeting the specification for this recent graduate. As you can see above I have decided to highlight all the important points within the scenario which will be important to consider when selecting different parts. Below is the full list of the all the parts and components within this build: [5]

https://uk.pcpartpicker.com/list/Ry6hwz							
Compatibility Warning! These parts have potential issues or incompatibilities. See details below.							
Estimated Wattage: 564W							
Component	Selection	Base	Brand	Shipping	Tax	Price	Where
CPU	 AMD Ryzen 7 5800X 3.8 GHz 8-Core Processor	£393.59	AMD	FREE	---	£393.59	 Buy
CPU Cooler	 Cooler Master Hyper 212 EVO 82.9 CFM Sleeve Bearing CPU Cooler	£25.99	Cooler Master	---	---	£25.99	 Buy
Motherboard	 Asus TUF GAMING X570 PLUS (Wi-Fi) ATX AM4 Motherboard	£195.15	Asus	---	---	£195.15	 Buy
Memory	 Corsair Vengeance LPX 32 GB (2 x 16 GB) DDR4-3600 CL18 Memory	£176.59	Corsair	£19.90	---	£196.49	 Buy
Storage	 Seagate BarraCuda Pro 10 TB 3.5" 7200RPM Internal Hard Drive	£250.00	Seagate	FREE	---	£250.00	 Buy
Storage	 Samsung 970 Evo 1 TB M.2-2280 NVME Solid State Drive	£129.10	Samsung	£9.98	---	£139.08	 Buy
Video Card	 NVIDIA GeForce RTX 3080 10 GB Founders Edition Video Card	---	NVIDIA	---	---	£649.00	 Buy
Case	 Corsair 750D ATX Full Tower Case	£121.02	Corsair	FREE	---	£121.02	 Buy
Power Supply	 Corsair RM (2019) 850 W 80+ Gold Certified Fully Modular ATX Power Supply	£107.99	Corsair	---	---	£107.99	 Buy
Monitor	 LG 27UL500-W 27.0" 3840x2160 60 Hz Monitor	£228.99	LG	---	---	£228.99	 Buy
Keyboard	 Redragon K552 Wired Gaming Keyboard	£42.99	Redragon	---	---	£42.99	 Buy
Mouse	 Logitech G502 HERO Wired Optical Mouse	£31.95	Logitech	£2.74	---	£34.69	 Buy
						Base Total:	£2378.06
						Shipping:	£23.62
						Total:	£2401.68



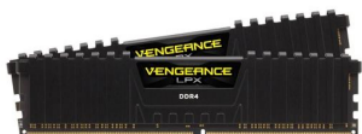
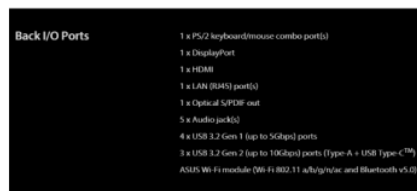
First component to be added to this build was the AMD Ryzen 7 5800X 3.8 GHz 8-Core Processor. This is a very fast and efficient CPU that can delivery very high performance which is needed. 3.8GHz shared across 8 cores and a boosted clock speed of 4.7GHz. Higher clock speed means it can process a higher number of pulses per second and therefore resulting in information being processed quicker which is important for this particular build.

The next part I choose was Cooler Master Hyper 212 EVO 82.9 CFM Sleeve Bearing CPU Cooler. This is suitable for keeping the CPU cool and was good value for money. Noise rating was 9-36dB which is fairly quiet which is important as the graduate will be doing video editing so its important that its quiet.



Next part to select was the motherboard. Function of the motherboard is to hold and allow communications between the different components within the PC. A good motherboard (like the one I've chosen) will ensure all the components will reach their full potential.

Additionally when selecting a motherboard I needed to make sure it had a SPDIF port in order to output the audio as it specified in the scenario. As the screenshot on the left shows, this particular motherboard does have that port and is why I choose it.



For memory I decided to go with Corsair Vengeance LPX 32 GB (2 x 16 GB) DDR4-3600 CL18 Memory. Like I mentioned before Multi-channel RAM increases data transfer speed by adding more channels of communication between the memory controller and the memory. [2]

With the graduate doing lots of video editing its important that he has lots of storage for these videos etc. 4K videos will take up a lot of storage and that's why I got a Seagate BarraCuda Pro 10 TB 3.5" 7200RPM Internal Hard Drive. Read and write speeds are important for this graduate with the large 4k video files he will be working with so this 7200RPM hard drive should deliver a good speed of 120MB/s.





I also needed some additional storage so I included this Samsung 970 Evo 1 TB M.2-2280 NVME Solid State Drive. Like I've previously mentioned SSD's require less power to operate which means longer battery life, this being a result of having no moving parts. [3]. Some advantages of using SSD over HDD is saving space, reduces weight and thickness and finally start up time.

Featured



NVIDIA GEFORCE RTX 3080

- > Cooling System: Fan
- > Boost Clock Speed: 1.71 GHz
- > GPU Memory Size: 10 GB

£649.⁰⁰

OUT OF STOCK

[+ Compare](#)

Next was the video card, also known as graphics card. Graphics card is an expansion card, allowing the computer to send graphical information to a display device such as a monitor. It was tough finding video cards because I couldn't find the price on most of them because they are in such high demand at the moment and are sold out in most places. First of all I was hoping to get the new Nvidia Geforce RTX 3090 which has really good specs and would be perfect for the graduates videoing editing in 4K. However it was far too expensive with the budget being set at £2500. Despite that I found the Nvidia GeForce RTX 3090 10GB which is within the budget and still be more than capable of meeting the specification.



NVIDIA GEFORCE RTX 3090

£1,399.⁰⁰

OUT OF STOCK



NVIDIA GEFORCE RTX 3080

£649.⁰⁰

OUT OF STOCK

Specs		
Cooling System	Fan	Fan
GPU Clock Speed	1.40 GHz	1.44 GHz
Boost Clock Speed	1.70 GHz	1.71 GHz
GPU Memory Size	24 GB	10 GB



When selecting a case for this build my main aim was to ensure a large form factor in order to be compatible for all the parts. Case I went for was Corsair 750D ATX Full Tower. Main importance being that it's a full tower therefore being able to fit all the components I have selected.

PC part picker is a very useful site and makes building PC's much easier as it not only makes sure all parts are compatible with eachother but also makes choosing a power supply very simple as it gives you a wattage breakdown. I decided to go with the Corsair RM (2019) 850 W 80+ Gold Certified Fully Modular ATX Power Supply. Despite it giving me a total wattage of 564W I thought I would go for a 850W to be safe and also allowing any additionally hardware to be added etc in the future.

⚡ Wattage Breakdown	
Note: Wattages are estimates only. Actual power draw may differ from listed values.	
Component	Estimated Wattage
AMD Ryzen 7 5800X 3.8 GHz 8-Core Processor	13W - 105W
Cooler Master Hyper 212 EVO 82.9 CFM Sleeve Bearing CPU Cooler	5W - 10W
Asus TUF GAMING X570-PLUS (Wi-Fi) ATX AM4 Motherboard	17W - 70W
Corsair Vengeance LPX 32 GB (2 x 16 GB) DDR4-3600 CL18 Memory	29W
Seagate BarraCuda Pro 10 TB 3.5" 7200RPM Internal Hard Drive	4W - 20W
Samsung 970 Evo 1 TB M.2-2280 NVME Solid State Drive	2W - 10W
NVIDIA GeForce RTX 3080 10 GB Founders Edition Video Card	80W - 320W
Total:	564W

When selecting a monitor there are many key factors to be considered such as size, resolution, features, video inputs and finally budget. In this scenario, person being a video editor editing 4K videos it was important that the monitors resolution was 3840x2160 and with a good refresh rate of at least 60Hz. Additionally it was very important that this monitor had in-plane switching. IPS monitors achieve good colour accuracy and consistency and are really good at super-wise viewing angles. [6]



The keyboard I went for in this build is the Redragon K552 Wired Gaming Keyboard. Videoing editing can be very time consuming so having a good reliable keyboard is important. Few factors I considered when selecting this keyboard, one being that it is mechanical. Mechanical keyboards have a better life span, easy to replace

individual keys as each button has their own independent switch. Also by having their own independent switch it makes them far more precise. Finally research suggests it reduces repetitive strain injury (RSI). [7]

Finally, the last part to choose to complete this build was the mouse. I decided the best mouse to go with was the Logitech G502 HERO Wired Optical Mouse. With the person being a video editor I thought the numerous extra buttons the side would become useful for different shortcuts etc. Does not specify in the scenario if the graduate is right or left handed so I assumed they are right handed.



Potential Issues / Incompatibilities

✗ **Warning!** Some AMD X570 chipset motherboards may need a BIOS update prior to using Vermeer CPUs. Upgrading the BIOS may require a different CPU that is supported by older BIOS revisions.

📌 **Note:** The Cooler Master Hyper 212 EVO 82.9 CFM Sleeve Bearing CPU Cooler may require a separately available mounting adapter to fit the Asus TUF GAMING X570-PLUS (Wi-Fi) ATX AM4 Motherboard.

📌 **Note:** Some physical dimension restrictions cannot (yet) be automatically checked, such as cpu cooler / RAM clearance with modules using tall heat spreaders.

(Flag issues/incompatibilities as incorrect)

When building this PC, PC part picker did notify me of these notes and warnings above. However after some research I think there wouldn't be any problems solving these issues.

Base Total:	£2378.06
Shipping:	£23.62
Total:	£2401.68

Personally I believe the best video editing software for the graduate to use would be Sony Vegas. Sony Vegas offers relatively fast video editing software with endless special effects, creative and advanced image compositing. Additionally it's easy to use for both everyday enthusiasts and busy professionals and that is why I believe it would be a good choice in this scenario. You can render it to a GPU and it should achieve fast speeds.



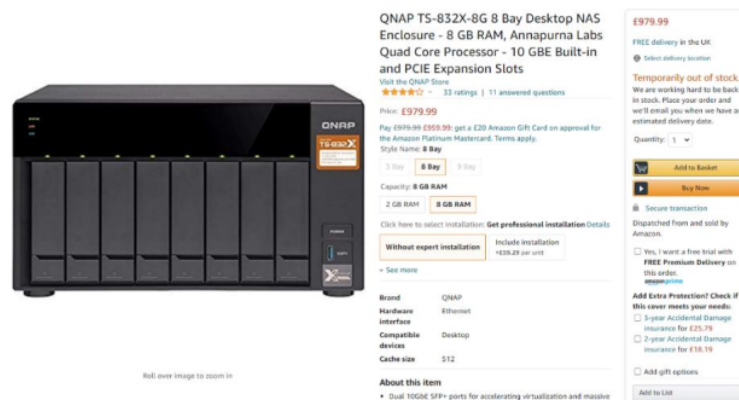
Additional storage for Scenario2:

As there will be large quantities of data being dealt with, as well as sufficient fast internal storage for working drives, there is a need to purchase an external storage device in the form of a **NAS unit**. This should have **16TB of available storage space to start with**, but needs to be **expandable up to to 56TB** by simply adding **additional 8TB drives in the future**. This storage also needs to have cost effective redundancy, so specify the **most efficient RAID** mechanism to use and give your reasoning why you chose this method over others.

Describe how the PC will access the data on the NAS drive, and what data transfer speeds are likely to be achieved – ensure you explain how you come to these conclusions.

Budget is not specified for the NAS (and does NOT come out of the £2500 budgeted for the PC build), but find a cost effective option as you can to satisfy the proposed storage requirements, justify your decisions and quote typical costings for the NAS unit + drives.

The graduate who wants to start his own company video editing in 4K will also be needing additional storage along with the storage in the PC I already built. As the scenario suggests I will be adding this additional storage via a NAS unit. A NAS device is a storage device connected to a network that allows storage and retrieval of data. The data can then be stored and retrieved by authorised network users and varied clients. This would be very beneficial if the graduate was to expend his company and for customers to interact. Theoretically, a NAS is like a private cloud, meaning data can be accessed anywhere at anytime via a network connection.



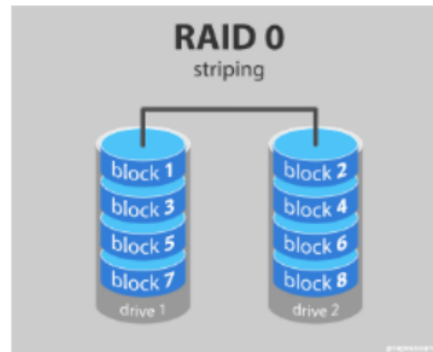
This is the 8 bay Desktop NAS enclosure that I decided would be best for the graduate. I had to go for an 8 bay enclosure because it states in the scenario '*needs to be expandable up to 56TB by simply adding additional 8TB drives in the future*'. Therefore I need 7 x 8TB drives in order to achieve 56TB of storage. So this 8 bay NAS enclosure off amazon was perfect and even allowed for an extra 8TB drive to be added in the future. This NAS unit is a Dual 10GbE SFP+ making it very quick for a network connected device.



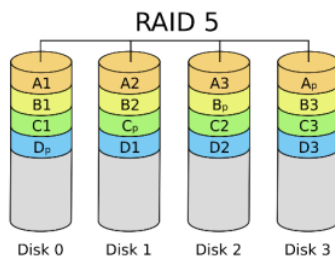
Once I selected a NAS enclosure I then needed the different hard drives. As specified in the scenario I would need 8TB hard drives. I would need to buy 7 of these to be able to have 56TB of storage. Also I needed to make sure the hard drive was for RAID network attached storage (NAS) .

Moving on to the best RAID mechanisms for the different sizes of storage. Graduate wants 16TB of storage space to start off with, so he will be needing two hard drives installed into the 8 bay enclosure. Two 8TB hard drives will achieve the 16TB of storage he needs. While there only being two installed I believe the best raid mechanism to use would be raid 0.

On the right is a picture of the raid 0 mechanism. In a Raid 0 the data is split up into blocks that get written across all the drives in the array. When using at least two drives, which in our case we will for the 16TB storage, then this offers superior I/O performance. Reason I did not go for the Raid 1 is because that the effective storage capacity is only half of the total drive capacity because all data get written twice. Therefore I would need 4 drives in order for 16TB of storage.



However in the scenario it states that 'needs to be expandable up to 56TB by simply adding additional 8TB drives in the future'. So now like I've discussed before, I can now achieve this by adding seven of those 8TB hard drives into the 8 bay enclosure therefore achieving 56TB of storage from the NAS. However now that you have added those extra drives I believe they should use Raid 5 instead of Raid 0.



This is a Raid 5 mechanism. Raid 5 is very advantageous because if one of the drive fails you still have access to all the data. You can replace the broken drive and the storage controller rebuilds the data on the new drive you've installed. Therefore not losing any work and for this graduate starting a video editing business I believe that would be very beneficial to him.

This is another image showing how the Raid 5 mechanism works. Data is shared out between the drives and with there being a parity in each of the drives it means the 'XOR' (exclusive or) can work out the missing data. If the parity was to break then it wouldn't matter because it doesn't hold any data.



Conclusion

As we can see from the two different desktop PC's that I've built, knowing what the PC will be intended for and what its capabilities need to be are very important. For example scenario 1 needed very low requirements, however finding the best parts is still important. I could have built a two thousand pound PC that would have met the specification but that would be a waste of money. So overall my intentions were to make it cost effective by getting parts that would do the job would not be too costly. On the other hand scenario 2 was the complete opposite. The graduate needed a very powerful PC to enable him to carry out his 4k video editing. This build was more tricky as I needed to ensure each part would allow him to do so while also staying within the budget. Overall I believe both PC is a good build and will be suitable for their intended uses.

Bibliography

- [--, "pcpartpicker," --, -- -- --. [Online]. Available: <https://uk.pcpartpicker.com/list/wRPpYg>.
1 [Accessed 10 04 2021].
]
- [S. Harding, "tomshardware," 23 8 2018. [Online]. Available:
2 <https://www.tomshardware.com/reviews/simultaneous-multithreading-definition,5762.html>.
] [Accessed 12 4 2021].
- [M. Technology, "crucial," Micron Technology , -- -- 2018. [Online]. Available:
3 <https://www.crucial.com/articles/about-memory/what-is-dual-channel-memory>. [Accessed 12 4
] 2021].
- [2. M. Technology, "crucial," Micron Technology, -- -- 2018. [Online]. Available:
4 [https://www.crucial.com/articles/about-ssd/the-benefits-of-an-
\] ssd#:~:text=The%20Benefits%20of%20Solid%20State%20Drives%201%20More,More%20efficient
. %20...%205%20Easy%20to%20install.%20](https://www.crucial.com/articles/about-ssd/the-benefits-of-an-ssd#:~:text=The%20Benefits%20of%20Solid%20State%20Drives%201%20More,More%20efficient%20...%205%20Easy%20to%20install.%20) [Accessed 12 04 2021].
- ["pcpartpicker," -- -- --. [Online]. Available: <https://uk.pcpartpicker.com/list/Ry6hwz>. [Accessed
5 2021 4 12].
]
- ["viewsonic," 2 1 2021. [Online]. Available:
6 [https://www.viewsonic.com/library/photography/what-is-an-ips-monitor-
\] panel/#:~:text=IPS%20monitors%20continue%20to%20be%20the%20display%20technology,out
tanding%20color%20when%20being%20viewed%20from%20different%20angles..](https://www.viewsonic.com/library/photography/what-is-an-ips-monitor-panel/#:~:text=IPS%20monitors%20continue%20to%20be%20the%20display%20technology,outstanding%20color%20when%20being%20viewed%20from%20different%20angles..) [Accessed 12 4
2021].
- [Admin, "techmobis," 22 6 2020. [Online]. Available: [https://www.techmobis.com/benefits-
7 mechanical-
\] keyboards/#:~:text=Here%20are%20the%20top%205%20benefits%20to,and%20Accuracy
. %20...%205%20Reduces%20RSI%20Dramatically.%20](https://www.techmobis.com/benefits-mechanical-keyboards/#:~:text=Here%20are%20the%20top%205%20benefits%20to,and%20Accuracy%20...%205%20Reduces%20RSI%20Dramatically.%20) [Accessed 12 4 2021].

Computer Architecture Assignment (Curtis Rees 2003711)

GRADEMARK REPORT

FINAL GRADE

GENERAL COMMENTS

Instructor

50/100

PAGE 1

PAGE 2

PAGE 3

PAGE 4

PAGE 5

PAGE 6

PAGE 7

PAGE 8

PAGE 9

PAGE 10

PAGE 11

PAGE 12

PAGE 13

PAGE 14

PAGE 15

PAGE 16

GRADING FORM: GJ_2019

ENGAGEMENT WITH LITERATURE



Fairly limited range of research sources cited. Needs to be FAR more extensive and cover ALL areas discussed! This is very limited as its just stating what components have been chosen and not demonstrating the understanding behind the choices. While the information within the assignment is reasonable, 'engagement with literature' means you have to show you've read up on the various sections, and can back up your assertions/choices with evidence. Not just quoting sales/product websites

30

KNOWLEDGE AND UNDERSTANDING



While the information within the assignment is reasonable, 'engagement with literature' means you have to show you've read up on the various sections, and can back up your assertions/choices with evidence. Not just quoting sales/product websites Just as some examples, there are numerous sources out there who test and recommend hardware configurations for video editing. Software manufacturers give system specification requirements. There are also web sites that allow you to calculate system wattages for PSU specs. Etc etc. These could have been read

52

and cited. (not sure why good battery life is mentioned for scenario1's SSD!)

COGNITIVE AND INTELLECTUAL

	Despite the outcomes being sensible, Could have done more in looking at the alternative solutions, and providing solid justification as to why your chosen components are the most suitable compared to others. Citing more researched material would have helped here.	50
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PRACTICAL APPLICATION

	Fairly appropriate systems specified with no glaring omissions or obvious errors. The NAS section could have been explained a little better.	60
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TRANSFERABLE SKILLS

	Would have benefited from a more formalised layout, such as breaking down the assignment into more detailed numbered sections that follow the 1. 1.1 1.2 2. Style Try not to use the "I" first person style. Read the brief and don't put the front page of the assignment in! have a cover sheet.	58
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