

assignment

by Gio Aguilar

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Module: Computer Architecture and Operating systems

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Computer systems and components specification

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Scenario 1

1.1 A suitable CPU and motherboard

CPU

Intel Core i3 10100 Comet - £114.00

Intel Core i3 10100 Comet CPU is a suitable CPU for this scenario. This is because the intel core i3 CPU is made for users who do not need much power when using their PC. Intel core i3 CPU's can only handle a small amount of RAM because of its low capacity. Also, Intel core i3 CPU's have a low amount of cache and their clock speeds differs [1].

HOT SELLER

Scan code: LN107005 | Manufacturer code: BX8070110100

Intel 4 Core i3 10100 Comet Lake CPU/Processor

Intel Core i3 10100, 5 1200, Comet Lake, 4 Cores, 8 Threads, 3.6GHz, 4.3GHz Turbo, 6MB Cache, 65W, Retail [MORE INFO](#)

FREE Arctic MX-4 Enthusiast Thermal Paste worth £4.99 - LN 105362



intel

£113.99

[Order now and](#)

From **£10.24** / month (APR 1

Scan Finance spend over cost of you

Delivery Options

Services

SCANPROTECT Protect INFO

48HR REPLACEMENT if replacement will be disj arrive here at Crin. M

Motherboard

Gigabyte B460M DS3H mATX Motherboard for Intel LGA 1200 CPUs - £80.00

This motherboard is compatible with the Intel core i3 CPU because they both have the same socket number (1200). Pairing the motherboard with the correct size CPU or vice versa is crucial because not every single CPU or motherboard is compatible with each other. So, it is important to buy the correct, matching pair.



Gigabyte B460M DS3H mATX Motherboard for Intel LGA 1200 CPUs

Visit the Gigabyte Store

★★★★★ 70 ratings | 9 answered questions

RRP: £86.99
Price: **£77.95**
You Save: **£9.04 (10%)**

Pay ~~£77.95~~ **£57.95**: get a £20 Amazon Gift Card on approval for the Amazon Platinum Mastercard. Terms apply.

New & Used (7) from **£63.62** + FREE Shipping

Brand Gigabyte
CPU socket LGA 1200
RAM memory technology DDR4
Series B460M DS3H
Graphics card interface PCI-E
Memory slots 4

1.2 A sensible amount of RAM

Team Group **8GB DDR4** DIMM Desktop Memory TED48G2400C1601 - **£40**

I chose to get 8GB of RAM for this PC as 8GB of RAM is enough for someone who is planning to use their PC just for normal use (work, editing, documents, watching videos). More RAM (16GB) will be needed if the user wants to play games and work with high end software's, but this user will not be doing anything as such. I chose this model as this model is compatible with the motherboard. The motherboard supports DDR4 which this RAM has. The RAM needs to have specific specifications to much the motherboard or else they will not work together.

The screenshot shows the product page for Team Group 8GB DDR4 DIMM Desktop Memory (TED48G2400C1601). The page features a navigation bar with links like 'Next Day Delivery', '0% finance available', and 'Sell your old phone or laptop'. The product title is 'Team Group 8GB DDR4 DIMM Desktop Memory - TED48G2400C1601' with a quickfind code '1444056' and a 4.5-star rating. A green 'Add to Basket' button is prominent, with a price of £39.97. Below the button, there are delivery details: 'In stock, Order within 9 hrs, 14 mins, 21 secs for delivery tomorrow', 'Collect from Eland on 28th Apr or Collect from Derbyshire today', and 'Collect Plus available from 5,000 collection points'. A 'Why buy me' section lists 'Capacity - 8GB', 'Type - SODIMM', and 'Speed - 2400MHz'. There are also links for 'More Info', 'Tech Spec', 'Valid promotions & discounts', and a 'Live Chat - Online Now' button.

1.3 What type and size of non-volatile storage would be suitable

Dell **128GB SSD M.2 SATA 6Gbps** Hard Drive HV90C - **£35**

Solid State Drives are a form of non-volatile storage. I chose to have 128GB of SSD, as 128GB is enough for someone who is using their PC for general use and not using it for editing videos or using high end software.

The screenshot shows the product page for Dell 128GB SSD M.2 SATA 6Gbps Hard Drive HV90C. The page has a navigation bar with links like 'Servers', 'Storage', 'Networking', 'Components', 'Parts by Server', and 'Special Offers'. The product title is 'Dell 128GB SSD M.2 SATA 6Gbps Hard Drive HV90C'. A green 'Add to Basket' button is visible, with a price of £30.00 (Excl. Tax) and 'Incl. Tax £36.00'. Below the button, there are details: '1 Year ETB Warranty' and 'ETB Refurbished'. A 'For same day shipping, order within' section shows a countdown timer '00:05:38'. A 'Hover to zoom' button is also present.

1.4 The input/output features/ports needed

This PC will need:

- X2 output USB ports – this is to connect peripheral devices such as printers which can be useful as this person is using this PC for work.
- X1 headphone jack – this person may use this port when on calls.
- X1 HDMI port – this port will be used to connect to TV to stream videos online.
- Ethernet port – this will be required if the person is connecting through internet via cable.

This will all come under £30.

1.5 The features a suitable graphics card would require.

ASUS GT710-SL-2GD5 GeForce GT 710 2 GB DDR5 Graphics with Passive 0 dB Efficient Cooling - £45.00

I chose this graphics card because this type of graphics card is made for people who are not using their laptop for gaming. Also, this GPU is a fair price.



1.6 A suitable case and power supply

Case - CORSAIR Carbide Series SPEC-05 ATX Mid-Tower PC Case - £45

I chose this case because the size of the case is very convenient, and all the components can fit well into this case. The case has one fan pre-installed and can store up to 5 more making this case very efficient. The maximum size for a motherboard to fit in this case is 370mm, the motherboard I have chosen is smaller than this size. Also, this case is relatively cheap.



1.7 A suitable monitor, keyboard, mouse etc.

Monitor - Dell SE2416H 24 Inch Full HD (1920 x 1080) Monitor - £100

I chose this monitor as it is a fair sized screen to do work, check emails and go on calls. Also, this monitor is fairly cheap



Keyboard

Logitech K120 Wired Business Keyboard for Windows or Linux, USB Plug-and-Play, Full-Size, Spill Resistant, Curved Space Bar, PC/Laptop, QWERTY UK Layout – Black - £10.00

I chose this keyboard because of its cheap price and its modern look.



Mouse - Logitech M185 Wireless Mouse, 2.4GHz with USB Mini Receiver, 12-Month Battery Life, 1000 DPI Optical Tracking, Ambidextrous PC / Mac / Laptop – Grey - £7.00

I chose this mouse because it is fair price, and it is the bestselling product.



1.8 Total cost

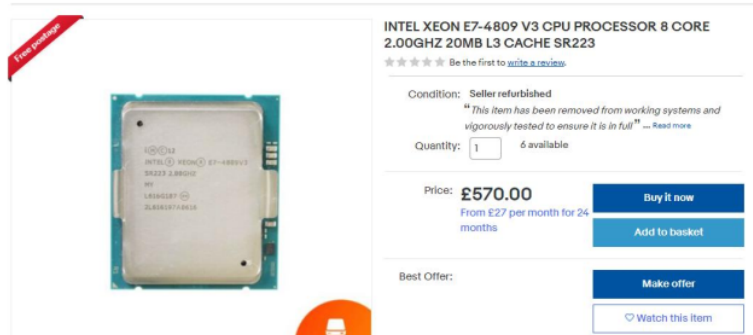
The total cost for this PC will come to **£489.00**. This is a reasonable price for a laptop with 128 GB SSD and 8GB of RAM. Most ready built computers/pc with the same specifications are priced around the same price or higher.

Scenario 2

2.1 A suitable CPU and motherboard

INTEL XEON E7-4809 V3 CPU PROCESSOR 8 CORE 2.00GHZ 20MB L3 CACHE SR223 – £570.00

I chose this CPU because of its high performance. This CPU has 8 cores meaning that the CPU is very powerful, and it has a high clock speed (2.00GHz dual). A high clock speed means that information passed on to the CPU is generally faster. This CPU is convenient for the graduate is the speed rate of the CPU is fast which is very important for a business.



2.2 A sensible amount of RAM

2.3 What type and size of non-volatile storage would be suitable

2.4 The input/output features/ports needed

2.5 The features a suitable graphics card would require.

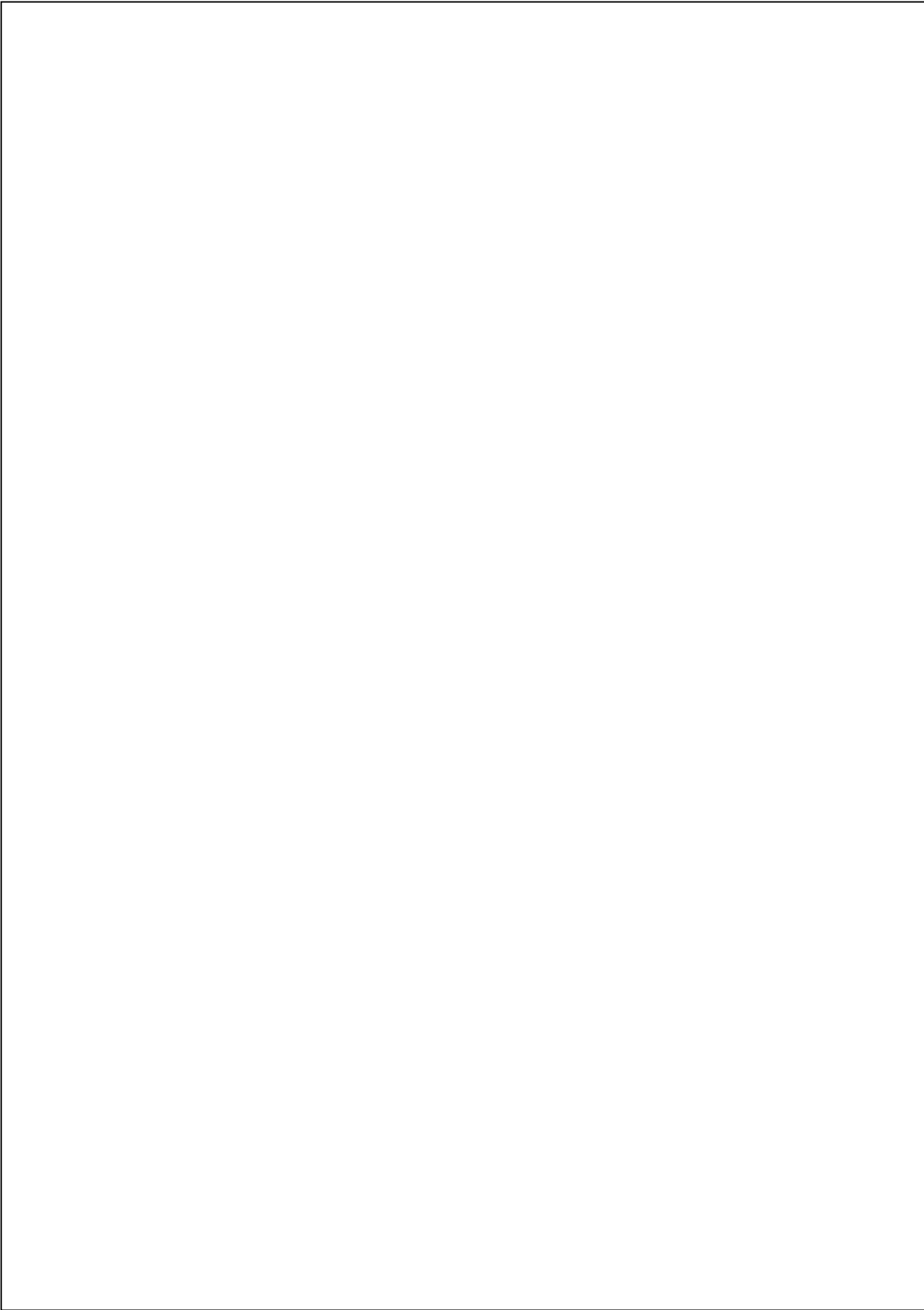
2.6 A suitable case and power supply

2.7 A suitable monitor, keyboard, mouse etc.

2.8 Total cost

References

[1] I. Paul, "What's the Difference Between Intel Core i3, i5, i7, and X CPUs?", *How-To Geek*, Oct. 24, 2019. [Online] Available: <https://www.howtogeek.com/443790/what%E2%80%99s-the-difference-between-intel-core-i3-i5-i7-and-x-cpus/> [Accessed Apr. 25, 2021]



assignment

GRADEMARK REPORT

FINAL GRADE

GENERAL COMMENTS

Instructor

30/100

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GRADING FORM: GJ_2019

GIO AGUILAR

150

ENGAGEMENT WITH LITERATURE



Your research sources are insufficient. They need to be FAR more extensive than those demonstrated. You must do more of your own independent research, but more importantly, you

5

must cite these sources in the main body of your report and show how your reading has been influenced by them or how they back up your own comments. This needs to be done for all sections of the report.

KNOWLEDGE AND UNDERSTANDING



This section is weak and isn't helped by the lack of research

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COGNITIVE AND INTELLECTUAL



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. Its mostly stating what things are, as opposed to WHY they were chosen. lots of sources exist giving advice on things like minimum and recommended specifications for specific applications like video editing- read them and cite them!

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PRACTICAL APPLICATION



I think the gigabyte b460M DS3H already has built in graphics - so why buy a separate card? 128GB SSD is probably a bit TOO small as the only drive. Scenario2 very scant on information. Needs far more detail. No details on the NAS system

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TRANSFERABLE SKILLS



Always have a separate, neat cover page. Report rather brief and could have been formatted more professionally.