**Assignment 1**

Q: Baneed works in the Media Department. His work involves in producing videos and images e.g. posters, web graphics and animations film making company. He wants you to produce a system design specification for his new multimedia computer system which he will use to run Macromedia Suite, Adobe Photoshop and Microsoft Office. He would like high‐tech graphics and sound. The computer system must also be able to store large amounts of images and run quickly as he requires more than one program at a time and often needs to switch between them. In a report explain the choice of components briefly relating them back to the user requirements. It is important that final specification includes all the necessary hardware and software components for the system to work.

Consider:

* Internal system unit components: Processors, Fan and heat sink, Motherboard, Hard drive, Power supply unit (PSU)
* Internal memory: RAM
* Specialized cards: Graphic cards, Sound Card, Network Card
* Peripherals: Output devices, Monitor, Printer
* Input devices: Mouse, Keyboard, Digital Camera, Scanner
* Backing storage: optical media, portable drives
* Software Components
* Network Components: Ethernet Connectivity, Wireless Connectivity, Network Storage, Network Security, Backup Solution
* Baneed's multimedia computer system is designed to meet the demanding requirements of his work in the Media Department, focusing on producing videos and images, including posters, web graphics, animations, and film making tasks. The system is expected to efficiently run Macromedia Suite, Adobe Photoshop, and Microsoft Office simultaneously, providing high-tech graphics and sound capabilities while also accommodating large storage needs.

**System specification:**

Hardware Specification:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| S.N | Product | Company | Size | Type | Cost(Rs) |
| 1. | Processor | AMD | -- | AMD Ryzen 9 5900X | 50,000 |
| 2. | Motherboard | MSI | -- | MPG B550 Gaming | 28,800 |
| 3. | Hard Drive | Samsung | 1 TB | Samsung 970 EVO Plus | 34,800 |
| 4. | Power Supply  Unit | Seasonic | -- | Focus GX-850W | 39,500 |
| 5. | RAM | Corsair | 16GB | Vengeance LPX DDR4-3200 | 17,500 |
| 6. | Graphics Card | NVIDIA | 8GB | NVIDIA GeForce RTX 3070 | 80,000 |
| 7. | Sound Card | ASUS | -- | ASUS Xonar SE 5.1 | 7,200 |
| 8. | Network Card | Intel | -- | Intel Gigabit CT PCI-E Adaptor | 10,500 |
| 9. | Heat Sink And  Fan | Noctua | -- | Noctua NH-D15 | 18,800 |
| 10. | Monitor | Dell | 27 inch | UltraSharp U2719D LED | 79,900 |
| 11. | Printer | Canon PIXMA | -- | Wireless | 28,500 |
| 12. | Mouse | Logitech MX Master 3 | -- | Optical | 2,000 |
| 13. | Keyboard | Logitech | -- | -- | 1,590 |
| 14. | Digital Camera | Nikon | -- | Nikon D5600 DSLR | 49,990 |
| 15. | Scanner | Epson | -- | -- | 25,200 |
| 16. | Optical Media | Verbatim | 25GB | -- | 11,370 |
| 17. | Portable Drives | Western Digital | 2TB | -- | 12,400 |

**Hardware Justfication:**

Processor: AMD Ryzen 9 5900X

Baneed's work in the Media Department demands a powerhouse of a processor, and the AMD Ryzen 9 5900X fits the bill perfectly. With its 12 cores and 24 threads, this processor provides the raw processing power needed for seamless video production and graphic design tasks. Its high clock speeds and efficient architecture ensure that Baneed can handle demanding multimedia applications with ease.