

Hello, this is the submission about my exploration into an old PC in my house, but allow me to introduce myself first, my name is Minh, my full name is Nguyen Quang Minh. I am now studying in the grade 8 of the middle school named Trung Nhi secondary school. Some of my interests are working with the computer, learning new thing about electronic devices, especially laptop, desktop computers and phones.

So that is my introduce of myself, now let's get on to the whole main report. First, I think I'll share to you a little bit about the situation in which I got the idea and started doing research and discovery about my old home computer as a project to submit to this contest. It just started in a hilarious way when my mother told me that there was a contest allow the candidates to break apart an electronic devices when I was going to discover the old PC in my house. That couldn't be more coincidental. And by that time, I just fell really surprise and happy, then I just take my phone and started making the project as fast as I could. And that why you see my here with this report.



Those I think talking with that is enough, now let's get started. First when I broke apart the PC, this is my whole pc when it just took out of the case (the left picture).

For overall you can see that here we have a lot electrical circuits, also we can see almost ever thing inside a PC system: RAM, fan cooler, PSU, GPU, maiboard (mother board) and we just couldn't see the CPU inside of that. In order to be easier explanation, I'll report each part of the computer in turn. First the biggest thing to control all the system – **the mainboard** also know as mother board. You can see here is the picture of the mainboard (the right picture). It can be many color but most popular is black or blue, now black is more popular and mine is a black one. Is a old motherboard, so it doesn't have much modern things like the HDMI port ot the display port to export high quality imageslike other mainboard now selling.



When I took this mainboard out of the case, I can see there is 2 RAM slot or I should say by it name it the DIMM slots, it help the RAM to run on the mainboard and connect straight to the CPU under the fan cooler. Also when I went on to discover about the mainboard, I could find out that the DIMM slots in the mainboard can also have 2 to 4 or even 8 DIMM slots in a single mainboard.

Next, I want to tell you the second thing that really near to what I have said, those are the RAM sticks. RAM stands for **Random – access Memory**. In my old PC there it 2 sticks of RAM, they both DDR3 as I have discovered. The



RAM in the PC run as a place to receive the information when we are doing things on the computer, then retransmit that to the CPU. Their work is just that, receive information, then retransmit that to the CPU, the work is so easy. But the hard thing that, because for the PC to run fast, we not only need a good CPU or GPU, but also need a good RAM. Because as I discovered the RAM, I knew that RAM stick can receive the information much more faster than all things in the PC, make the PC run smooth.



Now is the thing that RAM retransmits the information to, the CPU. The CPU stands for **Central Processing Unit**. It's the main thing in the PC, but also the smallest thing in the PC. It contains lots of high technology to control, then run the PC, without this the PC can't also run.

The CPU in my PC build is an Intel Core 2 Quad Q6600, running at 2.4GHz. This GHz (gigahertz) is the clock speed, which measures the number of cycles the CPU executes per second, that is some typical information for a chip for the user to know how strong it is. As I find in some website, the chip now popular runs at 4.0 to even 5.8GHz. The big number of GHz, the stronger the CPU can be. Mine is a low GHz one, so that couldn't be really strong. Now in the market are selling lots of strong CPUs such as an Intel Core i7 13700k.

The following thing that will be discovered is the GPU, it stands for **Graphics Processing Unit**. It can be a lot of types, brands in the world, from cheap to expensive. Mine here is one a bit strong, the AMD Radeon R7770 by MSI. It has a nice design, it can output to 2 monitors at 1 time. It is a bit old, but still a good GPU. Also I could find out more that, the GPU now has a lot of strong types and need lots of power, example as a RTX 4090 has been released this year by Nvidia, my dream is to upgrade that PC to that GPU for my PC to be stronger. The GPU is the only thing in the PC that does not need really much and the PC can run without plug this in, because in some type of CPU, it already has the GPU inside that to output to the monitor, we call that the GPU on board.



Now it is the PSU or we can call it the **Power Supply Unit**. It has a lot of types such as 400w, 500w, to even 1200w, and mine is 650w. It is a bit lot for my PC to run, but it doesn't cause bad things to the PC.

It will take over the job of reshaping the power supply and then passing it through to power all the components in the PC. It just does that easy work, but holds the important role in the PC, because without electric, the PC cannot run as normal.





Finally the last thing, the most interested thing, that is the drive, or in my PC, I use the SSD drive, it stands for **Solid State Drive**. it is the fastest hard drive in the world right now according to my research, the fastest one right now is Nvme, also known as M2, and mine is the Sata 3 drive. And I just only have 1 so that is the main drive and also contains the windows driver in that to run the PC.

Above is all my report and research about my PC build. I have learn lots of thing when I broke this PC apart, and then reassemble, that was the most interested activity I have done. Working with the system like this help me got more knowledge and experience too. I learnt how the system works, how many things that are important/needed and doesn't important/needed in a PC, learnt how to break that apart and then reassemble them, more about how to use equipment safely and correctly. Last word I just want to say thank you for the contest for helping me to have this experience and I wish for my report would be a good report though maybe there are still some small mistakes or lack of knowledge.

Thank you for reading my whole report!