SECP1513 - TECHNOLOGY AND INFORMATION SYSTEM

INDUSTRIAL VISIT TO CICT UTM

SECTION 02

NAME	MATRIC NO
Chua Chen Wei	A19EC0038
Muhammad Anas Alif Shah Bin Azeli Shah	A19EC0193
Nor Hafiyzha Bt. Md Husni	A19EC0124

LECTURER:

DR. ARYATI BINTI BAKRI

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INTRODUCTION

Figure 1.0 – Sultanah Zanaruah Library (PSZ)

On 21st October 2019, all the undergraduates from the school of computing went to the Gallerium of Sultanah Zanariah Library (PSZ) for a visit at 2 p.m. We were guided by our Technology and Information Science lecturer, Dr.Aryati Binti Mohamed.

The purpose of this visit is to improve our knowledge about the equipment that has been used by UTM workers all this while. The visit was conducted by one of the librarian, Khalid Bin Haji Jaafar. He showed all the component in the gallerium which include media, networking and database. There are several components that not in use since most of them are from old generation where it has been improved for a better performance. And not to forget Mr Muhd Zahari Bin Zainal Abidin, Assistant of Information Technology Officer who joined us and gave some information about the components that relates to computer.

DETAILS OF VISIT

Time	Venue	Description
1.45 p.m	Foyer of Sultanah Zanariah Library	All the undergraduates from school of computing started to gather around and met up with their lecturers.
2.00 p.m – 3.30 p.m	Gallerium of Sultanah Zanariah Library	The visit was conducted by Mr Khalil bin Haji Jaafar which is one of the librarian who incharge for gallerium visit. He started with introducing the components and tell us the details each of them such as history and its function.
3.30 p.m – 4.30 p.m	Gallerium of Sultanah Zanariah Library	Next, Mr. Muhd Zahari Bin Zainal Abidin explained more about mainframe, hard disk, processor, capacitor and core X cable. He also explained about UTM Data Centre which is CICT.

DETAILED DESCRIPTION

As we enter the the Gallerium of Sultanah Zanariah Library , one of the Information System Co-Officer which called Mr. Muhammad Zahari bin Zainal Abidin introduced himselves and showed us the tools or computer that UTM used before the latest product . He also explained about several important components to computer such as mainframe, hard disk, processor, capacitor, and etc. by telling us the developments of the components from the older generation to the latest generation.

Figure 2.0 : Components in the Gallerium

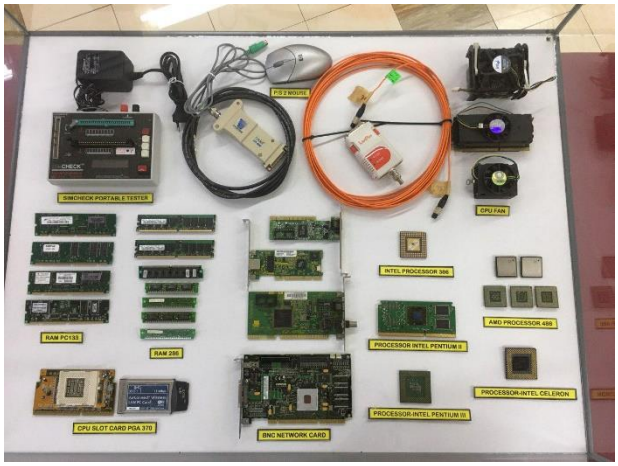

Figure 3.0 : Components in the Gallerium

Mainframe

First and foremost, mainframe is one of the component who has the longest history in computing technology that is still used until now. In fact, UTM also has been used Mainframe System since 1970s at Computer Centre, UTM Campus, Kuala Lumpur. It's used as a data control of students and staff information. This is the one of the mainframe data storage that has been used for almost 20 years in UTM and functions for processing, storing, securing, and also printing the university's information data. UTM staff used to process all the backup data on the midnight due to the connection speed.

Figure 4.0 – Mainframe data storage, Model : IBM(9345B22)

Hard Disk Drive (HDD) & SSD

Moving on to the next component which is hard disk drive (HDD). It was invented and commercially used in 1957 with the IBM 305 RAMAC system which included IBM Model 350 disk storage. Earlier than, the size of hard disk drive is about 5 inch which is quite big and the storage provided is 4.3 GB only. The function of HDD is to store and recover the digital information for a long-term period which also called as secondary storage device. As the next generation, we can see now the size of HDD getting small day by day however the storage provided is bigger than before.

Figure 5.0 – Hard Disk Drive for CPU tower

Furthermore, HDD also has been replaced by solid-state drive (SSD) which has a better performance in storing data, lighter, more durable and use less energy than HDD. That's the reasons why industries nowadays usually using SSD. However, HDD has more storage space than SSD. SunDisk was shipped the first flash-based SSD in 1991 and it was a 20 MB SSD. SSD is also have the same function as RAM and he said that back then, computing students will brazing the RAM by themselves.

Figure 6.0 – Solid-state Drive that usually used in laptop

Processor

During the visits in the Gallerium , Sir Mohd Zahari bin Zainal Abidin also showed us few processors that was used during the old times which were Intel processor 386 , Processor Intel Pentium II , Intel Processor Pentium III , AMD 486 and Processor Intel Celeron.

A Central Processing Unit (CPU) or more commonly known as processor is used in computer to do the computation in the computer , which consists of managing of computer's memory , handling input and output of the computer and etc .Without a processor , the computer is unable to run any software or perform any operations.

Intel processor 386 , Processor Intel Pentium II,Processor Intel Pentium III,Processor Intel Celeron were all produced by the same company , Intel Corporation .Intel processor 386 is a 32-bit microprocessor that was introduced in 1985 where it was used in many high-end personal computer at that time because It had 275,000 transistors in it . Intel introduced Processor Intel Pentium II in 1997 which was Intel's sixth-generation microarchitecture , this processor have 7.5 million transistor and only 1 while Pentium III was introduced in 1999 as a successor and as a replacement for Pentium II which have nearly identical function as Pentium III but only added the new SSE instruction set . While AMD 486 was produced by AMD in the 1990s , AMD 486 's performance was superior than many of the Pentium chip and cheaper as well at that time .

According to Sir Mohd Zahari , the number of transistors in the processor increases over time and the size of the processor is getting smaller and smaller .From Intel 4004 which only consist of 2300 transistors to 19 billion processors that exists in AMD's Epyc processor . The performance also increased from using it to low-end computer to high performance computer and now even smartphones are using processors to increase their performances .

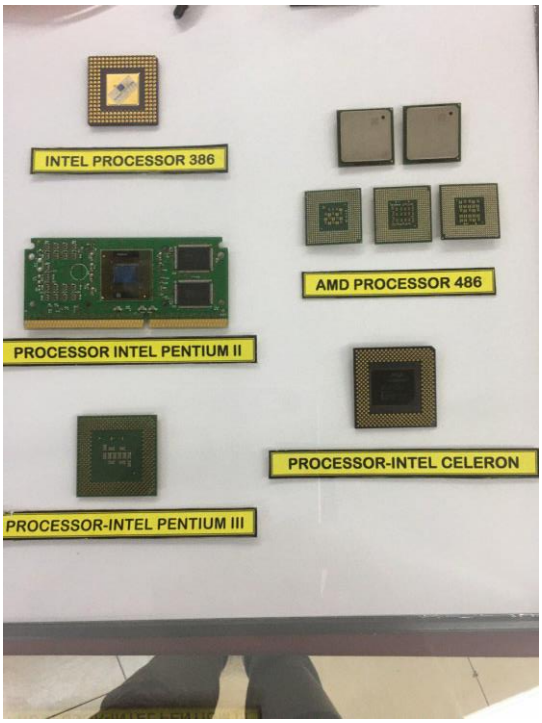

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Figure 7.0 – Processors that are introduced by Sir Mohd Zahari

Floppy Disk & CD-ROM

The next component is floppy disk . Floppy disk is a thin and flexible magnetic storage medium encased in a plastic carrier (to cover the disk from dust as dust is a serious problem for the floppy disk during the early period) . Its function is to store data and it can be read or written by using a floppy disk drive (FDD) .Floppy disks also act as a file transfer system . Floppy Disk was first introduced as an 8 – inch format in 1972 , then , 5 ½ - inch (1976) and 3 ½ - inch (1982) format were introduced later on .Also , the storage capaciry increased from 8-inch to 3 ½ inch floppy disk , a 8 –inch floppy disk had only a storage capacity of 80 kilobytes but a 3 ½ inch floppy disk have about 1.44 megabytes of storage capacity . Sir Mohd Zahari told us that , in 1997 , UTM was using 3 ½ - inch format floppy

disk but due to the mainframe's requirement , the mainframe uses an 8 –inch floppy disk . He also told us that the capacity of the floppy disk is relatively small where three 3 ½ inch of floppy disks are required to store only 1 song which its size was only 3 megabytes .This components was a very popular data storage medium until the early 2000's where rewritable CD and flash drive were introduced into the mainstream .

Figure 8.0 – 3'' Floppy drive,3'' floppy disk and 8'' floppy drive

CD-ROM was also showed to us by Sir Mohd Zahari , the introduction of CD-ROM diminished floppy disk . CD-ROM (Compact Disk Read Only Memory) is a disk made up of polycarbonate plastic and had similar function as floppy disk but the data in CD-ROM had far larger storage capacity (about 700 mb) compared to floppy disk and the data is rewritable .CD – ROM was developed in 1982 and was popularly used to distribute software and data and computer games consoles in the market . Similar to floppy disk , CD-ROM can be read by using the CD-ROM drive . the CD-ROM drive is then connected to the computer to transfer data from or to the CD-ROM disk .

Figure 9.0 – External CD-ROM

Random Access Memory (RAM)

Lastly, Sir Mohd Zahari showed us the RAM . Random Access Memory (RAM) is a very fast component of a computer that stores information that our PC needs at the exact moment and the upcoming time beings. RAM is generally located on the motherboard in the certain device.Sir Mohd Zahari told us that without RAM, using our own PC will be much slower and frustrating. RAM memory is volatile which means without power supply, data will be lost and not recovered. RAM is found in PC, tablets, smartphones, laptops and many other digital devices. The use of RAM in UTM technologies growth have been witnessed ever since the storage of RAM was very small and limited. We also got to see the that the increase of storage of RAM in a limited space of a component had helped us in saving space and improve a device's performance.

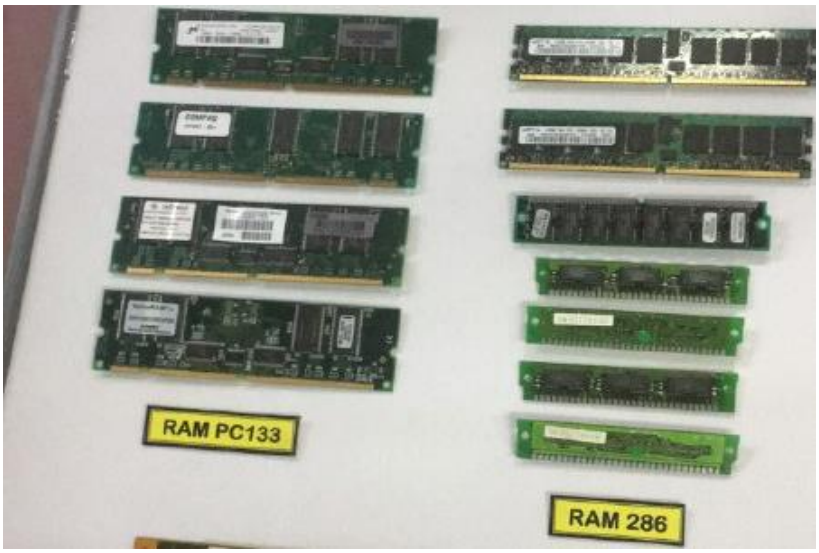

Figure 10.0 – Random Access Memory (RAM)

REFLECTIONS

Nor Hafiyzha bt. Md Husni

Throughout the visit to Center for Information and Communication Technology (CICT) UTM, it somehow shows that the development of technology enhanced day by day from back then. As we can see from the size of the components, which are getting smaller but the function of each components are much better than the old one who has a bigger size.

Other than that, we could see how humans keep on improving the technology at a rapid rate. It somehow triggers my inner self to improves my critical thinking skills so that I could achieve my dream which is to be one of the talk of the town students. This visit also gave a big impact on my dream by inflates my spirit to keep up with the developments and industries need so that I can somehow improves my potential in the industry.

Muhammad Anas Alif Shah Bin Azeli Shah

From what I have experienced, I could say that the world is evolving rapidly around us without our concern. Technologies are creating more and more devices that perform vast functionality. This has helped many people to perform their task on daily basis using computer. Furthermore, people are using their intelligence to the fullest and use simple but complex technologies to our advantage. This visit had boosted my enthusiasm towards developing new ideas into the world of industry. I can also relate the knowledge that I received during the visit with my current course which mainly focus on technology. I hope the growth of technology don't stop until today but it will continuously succeed to make society and future inventions a balance.

Chua Chen Wei

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My dream is to become a successful person in the IT career that I will be pursuing in the future and I hope that I earn get a high income and enjoy my life in the future as well .During the visit , I was exposed to the history of the components of the computer itselves , from the older generation to the latest generation , I noticed that the functions of the components improved significantly and it totally amazed me and I was surprised that we, the human being actually have such ability to improve the IT sectors in such short period . We actually have so much potential and creativity to create such amazing and complex creation . This, to me is such a miracle and it is very motivating to me,I started to see my potential and believing that nothing is impossible , the only thing we will have to do is work hard and be brave , just like the slogan of NIKE “Just do it “ .We will not be afraid in doing or create something just because we are different from others .Therefor , in order to achieve my dream, I think I can start off by learning multiple programming languages such as C++ , Phython , C where this will increase my potential even higher in the IT society .This is only achievable if an only if I believe in myself and go for what I wanted to achieve for so long time and this trip had truly been a very motivating trip for me.

TASKS FOR EACH MEMBERS

Nor Hafiyzha bt. Md Husni	• Take hand-written notes during the visit • Report writing
Muhammad Anas Alif Shah Bin Azeli Shah	• Take picture of the components during the visit • Report writing
Chua Chen Wei	• Voice record & Video recording of the visit • Report writing

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