



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

SCSP1513

SECTION-06

**TECHNOLOGY AND INFORMATION SYSTEM
INDUSTRIAL VISIT 2- ISKANDAR PUTRI**

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Introduction:

Industrial visit is considered as a part of the Education, during that visit students visit companies or any other organizations to get the insights of on the internal working environment of the company. The industrial visit also provides an insight into how companies work and also give beneficial information which helps the students to get a clear idea. By industry visit, we can learn practically which is not possible in class. To get a successful career in one's particular field of study has become a great challenge for today's students. A few decades ago theoretical studies were good enough to get place in industries and gain experience in the industry. Today things are changed. Learning from textbooks and lectures are not sufficient. Practical learning is essential for better understanding and to get a clear idea of how things work. By reading the book we may get the idea of that matter but if we don't know how to implement your knowledge in real life then it valueless. Our honorable lecturer **Dr. Nor Bahiah Binti Hazi Ahmad** provided us that opportunity to interact with that company.

OneMaker Group Pte Ltd (OMG) is a leading Maker-centric service provider in this region. They have been advocating and supporting the nascent Maker movement in Singapore since their establishment in 2014. Their core business revolves around Maker education, digital prototyping services and corporate professional development. OneMaker Group experience in building, supporting and operating makerspaces for both educational and corporate institutions that allows them to better understand their clients' needs and to serve the clients well accordingly.

Detail Visit:

On Saturday, 24th November 2018 all students gathered at N24 waiting for the bus to go to the Industrial Visit and doing registration with particular lecturer. At 9 am, all students left from UTM to Forest City, the trip took 30 minutes to reach Forest City which means we arrived at 9.30 am. When we arrived, all of us were allowed to explore the Forest City and even take pictures. There were these miniatures of Forest City's plan for the future, such as buildings, hotel and so many amazing infrastructures. We spent about 30 minutes there, then we continued our trip to Medini Mall which was not really far from our first place. At Medini Mall, our purpose was not for shopping, watching movie or other entertainment purpose but we were there for visiting a company which has a few incredible technologies.

As soon as we got there, we all were divided by 2 groups. The first group went to OneMaker Group Office and the second group attended a seminar about The Introduction to VR and also being challenged to decorate a QuirkyBot. Our group got a chance to visit the OneMaker Group Office first.

When we arrived to the office, we were introduced about various technology that were created by OneMaker Group. It was a voice assistant like Siri, Google Assistant, etc. It was built by code which was Python, besides it is easy to use, it is also understandable for the computer. All you need to do is just speak to the microphone given in the robot, then it will recognize your voice and do your command.

The second robot was more interesting which require colors to work. If we put it on the paper full of color, it walks on the top of it. In addition, there was a color combination which can make it its walk faster, slower, and even turn right or left. It means that colors control the robot to do something. The next thing we learned

was drone that was controlled by computer. All we need to do was putting the command in computer, then the drone is ready to fly.

The next thing was pretty funny and interesting, because we were challenged to design words and logo in 3D using SketchUp application. It was quite interesting since we can do whatever we want, we can design everything that pops up in our head.

Then, last but not least was 3D Printing Machine. It was made in Malaysia and the price was not really very expensive for such modern printer, it was about RM 4000. Three of the students were given a chance to print out their name in 3D, and it was not taken really a long time to print. Moreover, we were also allowed to see a bunch of products that printed by that 3D Printing Machine.

After spending about 3 hours and more, we finally had lunch and pray Dhuhr. At 2 PM, we continued our activity by attending a seminar about Introduction to VR. It happened for about 30 minutes, then we were commanded to decorate a QuirkyBot and compete each robot. It was really a funny moment where all students even the commander were shouting against those little robots.

At 4 PM, all of students were having a break to pray Asr, then continue to another event & Making activity. It took a really long time, because we were not only listening to the seminar, but also making a design of a place that we want it happens in the future. Moreover, the activity became more fun when all the students were burnt in spirit on explaining what their design was. It was an iconic moment overall.

Finally, at 7.30 pm all students were having a break and pray Maghrib, then went home at 8.00 PM.

Detailed descriptions include organization structure, services, achievements of OneMaker :

There is a team for OneMaker group. William Hooi plays a role as the MicChief Maker while Bob Ng is the quartermaster. Besides, Lydia in charge of finance, Jan in charge of operation of OneMaker group and Tee takes responsibility in engineering. Mark and Sheila are the builder of OneMaker group while Hasan and Sathi are the maker coach. The designer of the OneMaker is Oh Robin.

OneMaker group provides service such as Makerspace Development (Makerspace Specialist). They offer consultation and building services to customize the makerspace that customers wish to set up. They also supply tools, materials, machines and equipment. Furthermore, they also provide Prototyping and Consulting Services. For 3D Printing, they offer 3D printing consultancy, printing services or rental of 3D FDM and SLA printer for customers' design and model. For Laser Cutting, they offer digital fabrication using laser machine for customers' design, model and engraving is possible. For Computer Numerical Control (CNC) Routing, they offer digital fabrication using CNC routing machine and engraving is possible. Besides, they provide Makerspace Pass service such as Flexi Access Pass. They offer a flexible access pass to the space where a wide range of tools and equipment are available. They also offer induction courses for new users before they start working in their space.



Fig- 1



Fig- 2



Fig- 3



Fig- 4



Fig- 5

The achievement of OneMaker group is successfully organized Jump Make-Vember Camp from 19 until 23 November 2018. Activities such as chain reaction, stickman battle, straw botics, plastic tech, paper mech and circuit games were carried out. They also organized Designathon We Remember 2018 (Aug-Oct 2018). This event brought together students, designers, developers, entrepreneurs, healthcare workers, caregivers and social service providers to collaborate and find design solutions for persons with dementia and their caregivers. Besides, they carried out Level Up! event on 22 July at Bedok Town Square and conducted series of hands-on workshops to encourage creativity and skills mastery, as well as nurturing a Maker Mindset. Workshops covered different materials and skills that enable participants to study new and emerging technology. They also successfully carried out events such as Makervilla 2.0: Creative Learning Retreat for Maker Educators, Illuminight Workshops, Sky Camp and so on.



At 10.30 a.m, we went to listen about Disruption of Technologies Learning Journey by Tee Wee In. We were introduced to AI Head, which we could talk to it and it played for us. We also learnt about Colour Codes. We drew some lines by using different colour of marker pens. A tiny programmable robot called Ozobot that could detect coding through drawing. Next, we went to see Drone Flying. OneMaker staff taught us how to make a drone flew by using DroneBlocks application. By using this application, we required to do some commands before the drone flew. The drone must have a wifi connection so that it could fly well. Then, we moved to 3D Printing. We had a chance to watch how an object had been printed out in 3D form. First workshop ended at 1.00 p.m.

We listened to Virtual Reality Talk and QuirkyBot Making at 2 o'clock in the evening. Virtual reality is a computer-generated simulation of a three-dimensional environment which can be explored and interacted with by a person. Actually, there were many types of virtual reality that had been used by people in our technology life. Virtual reality had been evolved from time to time so that it would be suitable for human to play with. After that, we were given a task by a speaker to build a robotic car. The workshop ended at 4 o'clock in the evening.

Furthermore, we went to the last workshop, which was Design Thinking and Making that started at 5.00 p.m. in the evening. The speaker was giving a talk about Design Making. He asked us to design and build a part of school such as a library and combined our design with other groups to make a big and complete school. Finally, the session ended at 7.00 pm.



Reflections:

SEOUL HOSSAIN:

This industrial visit was an incredible visit for me that I have ever imagined. On that day I have realized, it is really a very significant day in my life. At that day I participated a few segments of workshops and speech those were really very motivational and realistic. First speech gave us a tremendous concept about robotics and artificial intelligence which is one of the most demanded subjects all over the world that inspired me to do work on it. The second speech was basically on technology related Entrepreneurship and creative thinking that gave us knowledge about business and start up. As a Software Engineering student, I had a plan to do software-based business and that session greatly impressed me to focus on that in future. These were really very inspiring and interesting. Finally, these segments of that day built my confidence level higher and which will be memorable in my whole life.

RAYHAN SHARIF APON:

Industry visit in Forest City and One Maker is just a wonderful experience of my life. I feel I learned a lot of new things from that visit which I never aware before. During that visit, I learned about Artificial Intelligence, 3D printing, Drone programming, 3D design, Color Line Following Robot. All this segments were based on programming and as a student of Software Engineer programming is my main job to focus on. Among all of this Artificial Intelligence amazed me very much that how wonderful would be our future with AI technology. Almost everything will be possible to do by AI Robot and that things will inspire me to create the future. We were also introduced about Block Chain. As my dream is to build a software company of my own this technology will help me very much.

TIARA AFDELY PUTRI:

I was so grateful to be part of this trip. Besides it reduced our stressful feeling, it also gave us a bunch of knowledge about the technology, so we know how to deal with it in the future. It gave us an idea that technology can be such a huge aspect of our lives in the future. Therefore, we can create so many innovations that can make this world better.

NUR QAMARINA BINTI TUAH:

I would like to start this reflective report by saying that I am grateful for being given the opportunity to join the industrial visit at Medini Mall as it provided a new, exciting and approach to learning. From this industrial visit, I have gained some information and new skills to develop a lot of programmable things that can be used in the future such as AI robot. During QuirkyBot Making and Design Making and Thinking, I have learned that we need to be creative and innovative so that we can create something which are sophisticated.

PUA LEE LING: From this industrial visit, I gained a lot of knowledge about Artificial Intelligence (AI). We were introduced to the AI head, 3D printing, Drone Programming, Computer-Aided Design, Color/Line Following Robot Demo and so on. It provided me some computer science knowledge which is related to the course I study in – Software Engineering and it made me had a dream to create a program that can control the AI robot.

After took part in design thinking section during the visit, I should think creatively and not just limit myself in a situation. I should also do more programming practice to improve my programming knowledge and technique to improve my potential in the industry.

Reference:

Services & Event (n.d). Retrieved from <https://www.onemakergroup.com/>