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Eiji Kamioka

Advanced Global PBL on AIoT and Filming
--- Collaborative Education Program between UTHM and SIT ---

Summary

This Advance Global PBL was held at Toyosu Campus, Shibaura Institute of Technology (SIT), from October 21 to October 29, hosted by Department of Information and Communications Engineering, College of Engineering, SIT, inviting 10 Diploma course students and one lecturer from Universiti Tun Hussein Onn Malaysia (UTHM). From SIT, 14 students, six faculty members, 11 Teaching Assistants (TAs) and three GSS (Global Students Staff) members participated in the PBL.

The program was mainly divided into three activities, which are AgPBL, Cultural exchange (Yukata workshop) and Science museum (Miraikan) visit. AgPBL stands for "Advanced" Global PBL (Problem Based Learning). PBL is a teaching method in which students create ideas to solve a given problem and evaluate the ideas in a group discussion manner. AgPBL includes two additional aspects. Firstly, problems to be solved in the activity are not provided in advance, hence, students will find the problems existing in a specific topic. Secondly, the students will actually develop a system based on their ideas to show the feasibility and to evaluate the effectiveness. Through the AgPBL activity, the students will learn how to clarify research issues and how to acquire practical skills. These abilities are indispensable in engineering research. This viewpoint focusing on research is different from a general PBL. That is why this is called "Advanced" Global PBL. In this AgPBL, two research topics, AIoT (Fusion between AI and IoT) and Filming, were provided.

The participants were divided into 5 groups and each group achieved the missions, clarifying problems in a specific topic, proposing a system, developing the proposed system, evaluating the effectiveness and making the presentation with demonstration. In this program, two types of the AgPBL promotion videos were produced. They will be uploaded to YouTube server after checking the adequacy of the content.

As a whole, this AgPBL was successfully done. Participants from SIT were the 3rd year of undergraduate students, Department of Information and Communications Engineering. Their communicative ability in English was fantastic, and thus, the faculty members and TAs did not have to help them for their conversations.

1. MoU between UTHM and SIT

Fig. 1   MoU between UTHM and SIT was made on July 20 in 2019

2. Program at a glance

The participants form UTHM arrived in Japan on Oct. 20 in 2019. The program was conducted from Oct. 21 to Oct. 29, including the opening ceremony, ice-breaking, campus tour, welcome party, AgPBL sessions, Yukata workshop, Miraikan visit, presentation session, closing ceremony, farewell party and summary & meeting. The participants from UTHM departed from Japan on Oct. 30.

Table 1   Program at a glance

Date			Morning session (10:00 - 13:00)		Afternoon session (14:00 - 17:00)	
-	Oct. 20	Sun.	Arrival at Haneda (Philippine Airlines, 13:40)			
Day 1	Oct. 21	Mon.	Opening ceremony/Ice breaking 10:00 - 12:00	Campus tour 12:00 - 12:30 Welcome party 12:30-14:00	PBL (guidance) 14:00 - 15:00	PBL (discussion) 15:00 - 17:00
Day 2	Oct. 22	Tue.	PBL (discussion) 10:00 - 13:00		PBL (discussion) 14:00 - 17:00	
Day 3	Oct. 23	Wed.	PBL (discussion) 10:00 - 13:00		PBL (discussion) 14:00 - 16:00	Yukata workshop 16:00～17:30
Day 4	Oct. 24	Thu.	Visiting Mirai Kan			
Day 5	Oct. 25	Fri.	PBL (discussion) 10:00 - 13:00		PBL (discussion) 14:00 - 17:00	
Day 6	Oct. 26	Sat.	PBL (discussion) 10:00 - 13:00		PBL (discussion and preparation for presentation) 14:00 - 17:00	
-	Oct. 27	Sun.	Day off			
Day 7	Oct. 28	Mon.	PBL (Preparation for presentation) 10:00 - 13:00		PBL (Presentation) 14:00 - 16:00	Closing ceremony 16:00 - 16:30 Farewell party 16:30 - 18:30
Day 8	Oct. 29	Tue.	Summary and meeting 10:00 - 13:00		Departure from Haneda (Philippine Airlines, Oct. 30, 01:30)	

3. Details of program

(1) Welcoming participants at Haneda

10 students and Dr. Shelena Soosay Nathan from UTHM arrived at Haneda International Airport on Oct. 20, 2019. Prof. Kamioka and a GSS (Global Student Staff) exchanged greetings with them and took them to their Airbnb at Iriya.

Fig. 2   Participants from UTHM arrived at Haneda and moved to their Airbnb at Iriya

(2) Program guidance and opening ceremony

On Oct. 21, a GSS brought 11 participants from UTHM to Toyosu campus from their Airbnb. Firstly, the program guidance was carried out by the staff of International Programs & Initiatives Section, instructing how to use Guest ID-card, campus Wi-Fi, and so forth. Subsequently, the opening ceremony started, where Prof. Eiji Kamioka gave an address of welcome, Dr. Shelena Soosay Nathan gave a speech, Dr. Mohamad Sabri bin Sinal introduced SIT and Ms. Manami Kanamaru who is a Ph.D student presented SIT students life. Finally, the introduction of Faculty members of Department of Information and

Communications Engineering was conducted.

Fig. 3   Dr. Shelena Soosay Nathan, Dr. Mohamad Sabri bin Sinal and Ms. Manami Kanamaru (Ph.D student) made presentations in the opening ceremony

Fig. 4   Participants group photo

(3) Ice-breaking

In this AgPBL, we did not have any special Ice-breaking activity since almost all the SIT students were communicative and good at speaking English. Therefore, we just gave them a time slot to introduce themselves and conduct the campus tour in each group.

Fig. 5   Ice-breaking: They just introduced themselves but it was more than enough since they were already good friends

(4) Welcome party

Welcome-party was held at 4F GLC (Global Learning Commons). HALAL foods were catered from a restaurant, "Chicken Man".

Fig. 6   Welcome party at 4F Global Learning Commons

(5) AgPBL session – Guidance, brainstorming and system designing –

At the beginning of AgPBL, Mr. Yuhi Kaihoko who is a master course student gave a lecture on this AgPBL, explaining what AIoT and Filming are and how to conduct the PBL sessions.

Fig. 7   Guidance of this AgPBL and brainstorming

(6) YUKATA workshop

YUKATA workshop was performed at 4F Global Learning Commons as a cultural exchange. Both

International and Japanese students really enjoyed wearing YUKATA and taking their photos.

Fig. 8   YUKATA workshop at 4F Global Learning Commons

(7) Miraikan visit
    Participants from UTHM visited Miraikan to obtain ICT knowledge.

Fig. 9   Visiting Miraikan at Odaiba

(8) AgPBL session – System development –
    Each group developed the system based on the proposal to show the feasibility and to evaluate the effectiveness.

Fig. 10   System development in AgPBL session

(9)   Final presentation

   Presentation session of AgPBL was conducted to evaluate their achievements. Each group made a presentation with demonstration videos.

Fig. 11   Final presentation was conducted

(10) Closing ceremony

   In the closing ceremony, all the participants got the certificate which show they completed this program. In addition, the representative student from each university gave a speech.
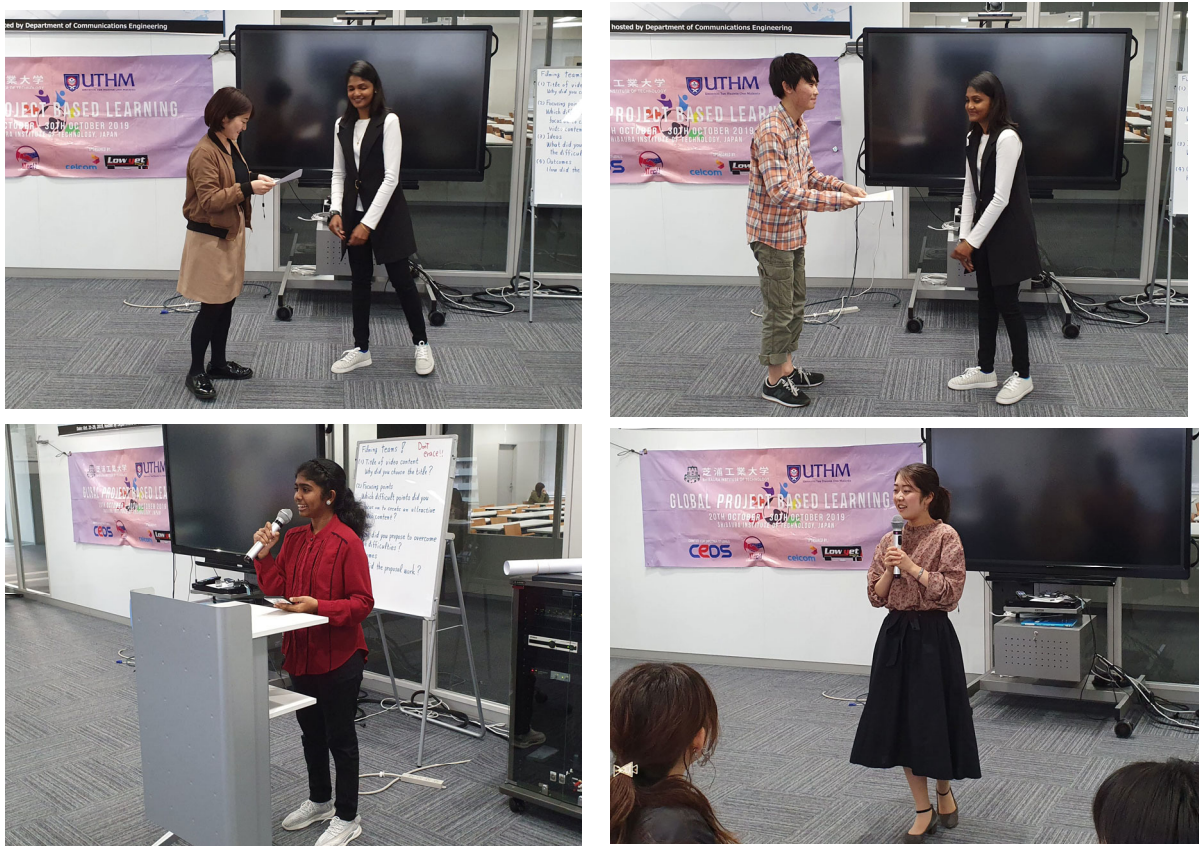
Fig. 12   Certificate of completion was given to each participant in the closing ceremony

(11) Farewell party

Farewell-party was held at 4F GLC (Global Learning Commons). Again, HALAL foods were catered from a restaurant, "Chicken Man".

Fig. 13   Farewell party at 4F Global Learning Commons

Appendix: Participants list

University	Grade	Name	Laboratory
UTHM Department of Information Technology	2nd year	AIDA NABILAH BINTI MOHD KHAIRUDIN	-
	2nd year	HAREENA HAZLINI BINTI MOHD TAHAR	
	2nd year	LIM HUI WEN	
	2nd year	LIM XIN WOEI	
	2nd year	EVANGELINE MONICA RAJEN	
	2nd year	MUHAMMAD NAJMI AFIQ BIN SAIFUL BAHRI	
	2nd year	NORHIDAYAH BINTI ABD HAMID	
	2nd year	NUR ATHIRAH BINTI SAMSARI	
	2nd year	NURIN FAQIHAH BINTI MOHAMED RAFIK	
	2nd year	SITI NURFARAHANIM BINTI MOHD ISA	
	Faculty	Dr. SHELENA SOOSAY NATHAN	-
SIT Department of Information and Communications Engineering	B3	YUNA MATSUMOTO	Kamioka Lab.
	B3	KAZUMA ITO	Kamioka Lab.
	B3	YUKA UMEZAWA	Kamioka Lab.
	B3	AI OISHI	Kamioka Lab.
	B3	TATSUYA KUROKAWA	Kamioka Lab.
	B3	TOMOHA SHIMAKAWA	Kamioka Lab.
	B3	HIKARU TAZAWA	Kamioka Lab.
	B3	ZHANG WENSHI	Kamioka Lab.
	B3	SHOTA NEMOTO	Kamioka Lab.
	B3	KEITO YOSHIZAWA	Kamioka Lab.
	B3	RYO ITAGAKI	Gyoda Lab.
	B3	KIE TAKAZAWA	Horie Lab.
	B3	SAO MIURA	Tanaka Lab.
	B3	SHUMA YAMAUCHI	Morino Lab.
	TA	MANAMI KANAMARU	Kamioka Lab.
	TA	YUHI KAIHOKO	Kamioka Lab.
	TA	SHUMA TAJIMA	Kamioka Lab.
	TA	NARUHISA AMAIKE	Kamioka Lab.
	TA	KEISUKE OKADA	Kamioka Lab.
	TA	KOHEI YOKOKAWA	Kamioka Lab.
	TA	YASUHIKO HOSAKA	Kamioka Lab.
	TA	IORI IIOKA	Kamioka Lab.
	TA	REIA TANABE	Kamioka Lab.
	TA	SHUTARO HAGIWARA	Kamioka Lab.
	TA	YUMA IDE	Kamioka Lab.
	Faculty	Prof. Dr. Eiji Kamioka	
		Assist. Prof. Dr. Phan Xuan Tan	
		Assist. Prof. Dr. Heeyoung Lee	
		Dr. Mohamad Sabri bin Sinal	
		Prof. Dr. Koichi Gyoda	
		Prof. Dr. Hiroyuki Morino	