

ASPIRE Undergraduate Engineering Design Challenge 2022

Online Student Workshop Completion Report

Report Date 2022/07/22

Your Name	DO TIEN DUNG		
Affiliation at Tokyo Tech	School of <u>Environment and Society</u> Dept. of <u>Transdisciplinary of Science and Engineering</u>		
Student ID#	20B60064	Current academic program year	B3
Program theme	Design a product, system and service purchased only by Japanese people		
Program period	2022/06/27 to 2022/07/01		
Posting to the web	This report may be posted on Tokyo Tech website. Would you prefer to have your name included or excluded from the report if it is uploaded? (Include, Yes) / Exclude		

Report contents

① The reason you joined the program

I once took a course called "System Design". During that course, I had the opportunity to come up with ideas to solve the problems that have arisen during the Covid 19 pandemic. I was very excited about the method the course led me to find effective solution to the problem. Therefore, I did not hesitate to decide to try my hand once more to review the knowledge I have learned and challenge my ability to find solutions to new problems. In addition, working in groups with foreign students will be a great opportunity for me to exchange and learn.

② Pre-program preparations

- Collect information

Before taking the course, I closely followed the instructions that the instructors gave me through email and Slack such as Course Schedule, and Guideline. There are many courses at Tokyo Tech that also take place at the same time, I had to rearrange my schedule to have a maximum amount of time participating in ASPIRE UEDC.

- Contact and request from program organizer

There are some application document that I have to fill and register as well as getting the permission from my Department Chair for ASPIRE UEDC participation.

③ Program contents, activities

- Platform (Zoom, Miro, Slack)

The course is conducted online and students can communicate mainly on three platforms Zoom,

Slack, and Miro. I've used Zoom and Slack quite a bit so it shouldn't be difficult for me to continue using these two platforms of course. In contrast, Miro had only been used by me a few times before. So, I'm not too familiar with how to use it, especially creating slides and drawing on Miro.

- Schedule

The schedule of the course lasts from 10:45 to 17:55 for 5 days from June 27th to July 1st. I found the time for the course to be quite intense.

- Activities (Ice breaker, lecture, workshop, presentation)

Before each lecture day, there is an ice breaker activity. Two of the activities that I remember the most are "Introduction to Specialty Food" and "Truth or Lie". It helps me integrate more with the atmosphere of the class and understand more about the country of the class members.

In the lectures, we get a better understanding of the people-centered design approach. Then we choose the holiday theme for the group and go through the steps in this method. The special thing that I see is that we get to spend a large amount of time working as a team and coming up with our own ideas. Edit those ideas over and over until you get the best results.

In our design lessons, we also have a class on "Noh" a traditional Japanese art.

- Networking with other participants

My team has three members from three different universities (Tokyo Tech, Tsinghua, HKUST). We also received great help from TA and the lecturers. After the course we exchanged contact through Instagram. I hope that in the future, I can meet my friends again somewhere.

- Certificate of program completion, any awards

At the end of the course, I received a beautiful certificate along with two very meaningful gifts from Tokyo Tech.



Figure 1: ASPIRE UEDC Certification



Figure 2: Micro glass cleaner



Figure 3: Tokyo Tech notebook

④ Program participants

There are 15 participants (5 from HongKong, 4 from Japan, 5 from China and 1 from Korea)

⑤ Any difficulties you faced during the online program

There are two difficulties that I encountered. As mentioned above, I have a schedule conflict. Therefore, the arrangement of time between ASPIRE UEDC and other subjects requires me to spend a lot of time thinking. The second difficulty is in teamwork. We haven't had much time to work together. So sometimes it is quite difficult to understand each other's ideas.

⑥ Outcomes of your participation in the program

After completing the course, we had a separate topic for the whole group. The first thing I feel was a sense of accomplishment. I overcame the challenge that I set, which was to participate and try as hard as I could. I have also studied and gained more experience in designing as I would like. Finally, I got to experience teamwork with friends from other universities.

⑦ Any advice for students who wish to participate in a similar type of online program

focusing on the user's feelings when designing your product

ASPIRE Undergraduate Engineering Design Challenge 2022

Online Student Workshop Completion Report

Report Date 2022/07/11

Your Name	PATTAYAWIJ NATPRAWEE		
Affiliation at Tokyo Tech	School of <u>Environment and Society</u> Dept. of <u>Transdisciplinary of Science and Engineering</u>		
Student ID#	20B60124	Current academic program year	B3
Presentation theme	Education Group Work Kit for Tanabata		
Program period	2022/06/27 to 2022/07/01		
Posting to the web	This report may be posted on Tokyo Tech website. Would you prefer to have your name included or excluded from the report if it is uploaded? (Include, Yes) / Exclude		

Report contents

① The reason you joined the program

I would like to explore more to get design experience because I'm interested in engineering design field since I learned system design project from my department.

② Pre-program preparations

I just imagined about what kind of products that can be used by Japanese people. Moreover, I got to know more about ASPIRE league as well.

③ Program contents, activities

I have learned the overall process of design thinking including empathize, define, ideate, prototype and test. As a group work, we got a challenge to design a product that only Japanese people would buy. We have experienced in interviewing Japanese people about festivals and learn about Noh culture that can make us understand how the values that Japanese people give to. We drew user journey map on a Tanabata event including what, how, why and some ideas that we may make a product for. I got to know more about POV as the most important part of the product because it defines how the product will be and asked some HMWQ (How might we questions) to ideate some possible products.

Then, we designed our product by sketching and drawing Yonkoma Manga so that our product can be showed in order to test. I have learned the step to test by interviewing people. Feedbacks from users and mentors are very important, and I think they are so beneficial to make our product perfect.

Iterating all the process is also the way to improving product, as we could rethinking about POV and our product image.

③ Program participants

The number of program participants is too low. I thought the participants would be more. However, overall experience is ok. I could get to know more to people in the group.

④ Any difficulties you faced during the online program

One of my teammates did not speak and contribute to the group work at all. He kept silent during discussing and interview. He just found the crest at the final presentation. It is more like a group of three while there were four people in group, and I had no idea how to cope with that uncomfortable moment at that time.

⑤ Outcomes of your participation in the program

I had an idea what is the design process and how to design with proper steps. I also got a tangible project that can be one of my design experiences to explore more in the role of design engineer.

⑥ Any comments regarding “Noh Lecture”

It was relaxing, and I think that introducing some Japanese culture is good for us to understand Japanese value. Professor Mariko Anno was so kind, and she gave us a lot of knowledge.

⑦ Any advice for students who wish to participate in a similar type of online program

Online program can be good especially if it is the topic that you are interested in. This kind of 5-day workshop will have you focused on the project; therefore, the project will turn out very good, and you will be very proud of it

ASPIRE Undergraduate Engineering Design Challenge 2022

Online Student Workshop Completion Report

Report Date 2022/07/22

Your Name	TRAN HUU NHAT HUY		
Affiliation at Tokyo Tech	School of <u>Environment and Society</u> Dept. of <u>Transdisciplinary Science and Engineering</u>		
Student ID#	20B60130	Current academic program year	B3
Program theme	Undergraduate Engineering Design Challenge 2022		
Program period	2022/06/27 to 2022/07/01		
Posting to the web	This report may be posted on Tokyo Tech website. Would you prefer to have your name included or excluded from the report if it is uploaded? Include / Exclude		

Report contents

⑧ The reason you joined the program

For a long, long time, I have been pursuing the way of developing projects, based on my knowledge about technology. Thus, when I heard about ASPIRE League Undergraduate Engineering Design Challenge, I immediately jumped into the application. I firmly believe this workshop is a perfect opportunity for me to meet and get in touch with other people who share the same passion of solving global issues by further integrating technology into our life. Besides, I really want to work with students coming from other prestigious universities, such as KAIST, Tsinghua University, and so on, to exchange our visions, paths and ambitions towards science. All of these experiences will be truly invaluable for me to consolidate my goal of being a scientist who tackles global issues through scientific and engineering approaches.

⑨ Pre-program preparations

After I heard about this program, I started searching for more information about previous years, what kind of activities participant did. This heightened my interest in the program, and so I decided to ask my academic supervisor for his agreement for me to join.

After that, I started reviewing all of the project-management-related knowledge and experience I had gained during past courses, so I could present my best at the ASPIRE with other students coming from other universities.

⑩ Program contents, activities

- Platform: Zoom (for online meeting), Slack (for online chatting), Miro (for online groupwork).
- Schedule:

Beijing HongKong	Daejeon Tokyo	June 27 (Mon)	June28 (Tue)	June29 (Wed)	June30 (Thur)	July 1 (Fri)
09:45~10:35	10:45~11:35	Ice break & Orientation	Instruction	Instruction	Instruction	Group Work
10:35~11:25	11:35~12:25		Group Work	Group Work	Group Work	
13:20~14:10	14:20~15:10	Instruction	Lecture on Japanese Culture "Noh"	Instruction	Instruction	Group Work
14:10~15:00	15:10~16:00	Group Work		Group Work	Group Work	
15:15~16:05	16:15~17:05		Instruction			Presentation
16:05~16:55	17:05~17:55	Feedback Meeting	Group Work	Feedback Meeting	Feedback Meeting	

- Activities:

- + Lectures about project design.
 - + Lectures about Japanese culture, including Japanese "Noh".
 - + Daily groupworks and reports.
 - + Final presentation, where we introduced our design products.
- Networking with other participants
- Certificate of program completion, any awards

⑪ **Program participants**

There were 16 student participants:

- 10 from China (5 from HKUST, 5 from Tsinghua).
- 4 from Japan (all from Tokyo Tech).
- 1 from South Korea (from KAIST).

⑫ **Any difficulties you faced during the online program**

- Time management: this program occurred right in the middle of Tokyo Tech's 2nd academic quarter, and as this is an intensive course which spans only in 5 days, I had to do a lot of tasks, which was quite truly intensive. I had a hard time trying to balance between my academic performance at university and my performance in this program.
- Collaboration: this year's program was conducted online through Zoom, which was impossible to work together for making physical prototypes, and there were limitations in communication with other peers online.

⑬ **Outcomes of your participation in the program**

In our final presentation, we proposed a prototype of mini-raft for enjoying Japanese's summer firework show more efficiently. Inspired from Japanese Yakata-bune (屋形船), this platform can host a family of around 4 people, transport them to the middle of the river, and provide them a comfy, solitary space for spending their time together during the firework night.

Also, thanks to this program, I learned a lot about engineering design, which is completely different from project design or artistic design. All of these knowledge and experiences will be extremely important for me in the future, as a scientist who leads innovation with his engineering approach. In the future, I will pay more attention into analyzing the problems rather than simply focusing on the solutions only. This course is truly an invaluable change for me, and an inspiring experience to hone and sharpen my leadership skill to prepare for my future.

⑭ **Any advice for students who wish to participate in a similar type of online program**

Please enjoy the program! Remember that, ASPIRE is not just a course. For me, this is the very first time I have ever truly understood the principles of engineering design in a professional way, instead of just randomly thinking a cool project and starting building it similar to other Hackathons I have attended. I believe that, if you decide to enroll in this course, you must be an enthusiastic

designer who wants to make changes, just like me, and so I hope you will find something new, something mind-blowing, in this program, just like I did. Last but not least, I do not think there are many opportunities to collaborate with top-tier research-oriented universities across East Asia like this program, so try your best to make friends, and have fun!