ASPIRE Undergraduate Engineering Design Challenge 2024 Reports (Total 12 participants)

ASPIRE Undergraduate Engineering Design Challenge 2024

Student Workshop

Completion Report

Report Date 2024/07/01

Your Name	Mikael Wijaya		
Affiliation at Tokyo Tech	Department of Transdisciplinary Science and Engineering		
Student ID#	---	Current academic program year	Bachelor 3rd year
Presentation theme	Electronic-digital goal-setting device inspired by “Tanzaku”		
Program period	2024/06/24 to 2024/06/28		
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**		

Report contents

1 The reason you joined the program

The reason I joined the program was mainly because I was interested in having an exchange event with students from other universities. The theme of the workshop was something I was quite familiar with already, since I had a previous class for my major that had a similar topic about design thinking, which I found quite interesting. Therefore, I am curious to try the workshop also to see if we could create a different and improved result when working with students from other universities and countries, and if we approached a different problem for our design solution.

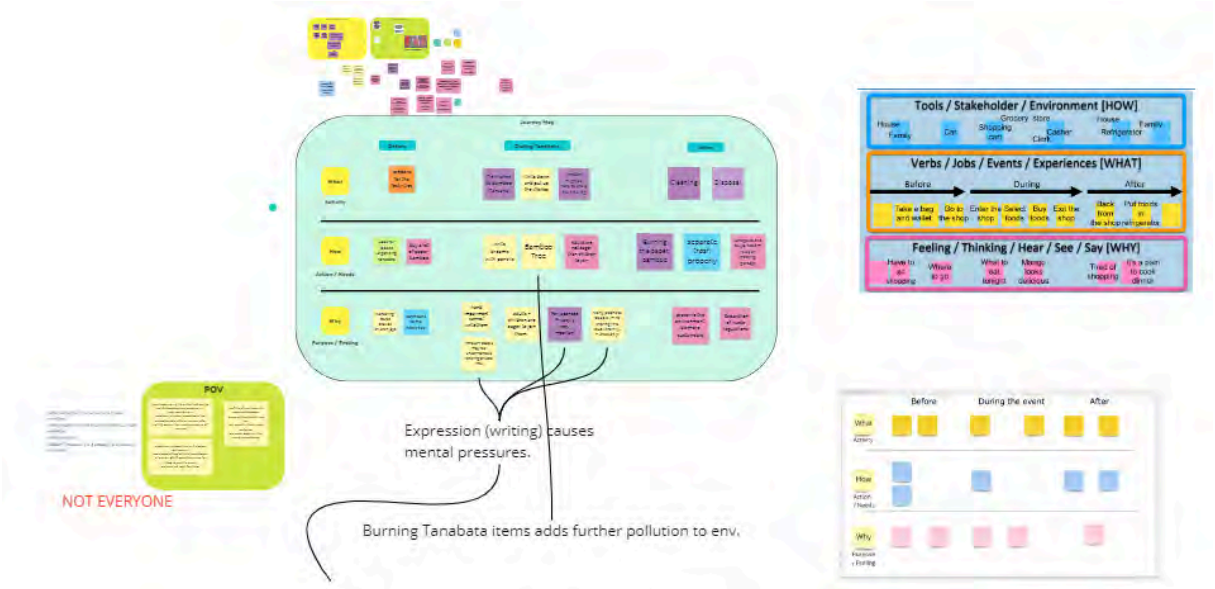
2 Pre-program preparations

Before the program, I simply paid attention to all the announcements that were sent on the Slack channel, including the documents explaining the schedule and workflow for the program.

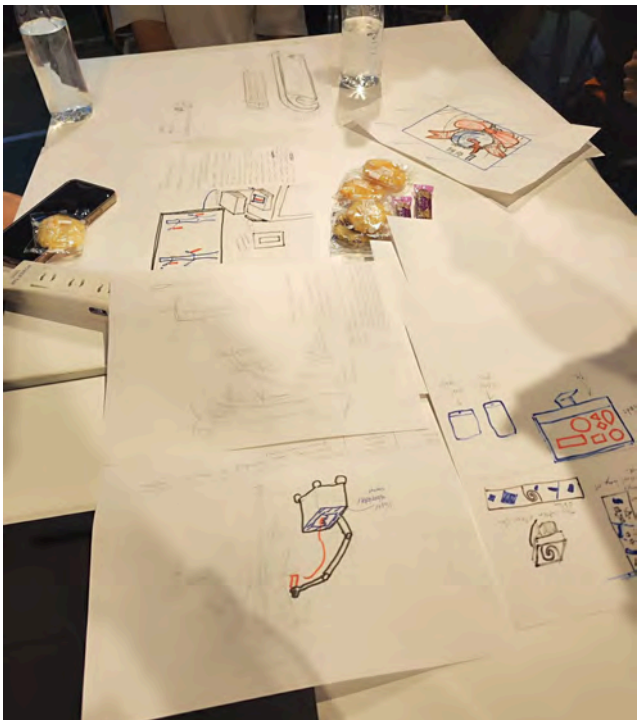
3 Program contents, activities

The program contents were mainly related to learning the design thinking process through a project where we try to solve a problem related to a seasonal event conducted in Japan. At the start there were a mix of lectures and group work, but towards the end, more emphasis was put toward our group work, to create the project on the topic we decided on at the start. First, there was an introductory lecture on the Japanese event calendar, where all participants were introduced to the commonly celebrated events in Japan. Then, in the group work, we can decide on one event we want to focus on to find a problem and create a product, system, or service based on that to solve the problem, which will be purchased only by Japanese people.

To decide on the problem, we used the concept of defining a Point of View (POV) for the user we target, did some brief research, and also conducted some user interviews to gain insights on problems and solutions that are possible. Another concept we used to refine our ideas for the solution was by establishing the user's Journey Map and "How Might We" Questions (HMWQ). In the end, we decided to create a product based on the Tanabata festival, working around the problems people feel when writing the Tanzaku to hang for the festival. The picture below shows our discussion results:

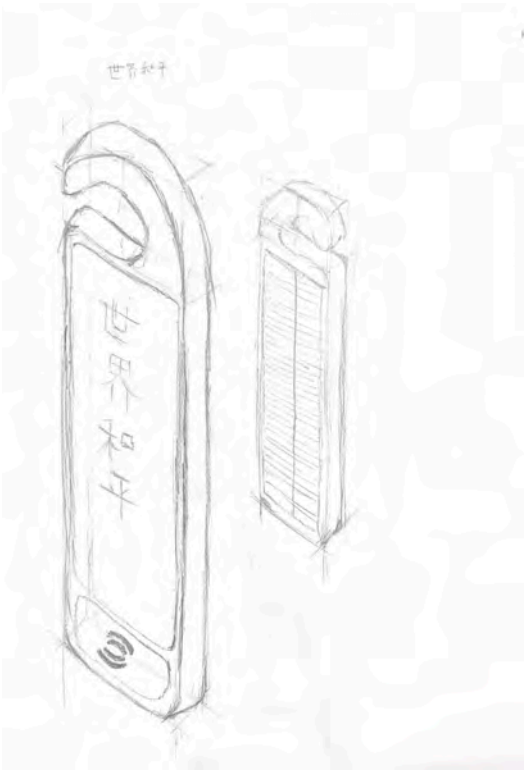


The next step was creating sketches and also 4-koma manga to better illustrate how our solutions or ideas might work to solve the problems. Some of our sketch results are shown below:



On the second day, after finishing sketches, we had a break from group work in the evening by attending the Japanese Culture Program. We had a lecture and demonstration about Noh by Associate Professor Mariko Anno from Tokyo Tech's Institute of Liberal Arts and a performance of Taiko drums by Yukigaya Taiko. We also were given the opportunity to try out playing Taiko drums and dancing the Bon odori together as well. After the activities on the second day, me and some of the students from NTU, KAIST, and HKUST also went to have a walk around the Tokyo Tower (Shibakoen) and Roppongi area to do sightseeing as well.

On the third day, After further deliberation within the group, we decided to pick one of our group member's ideas to create a digital tanzaku device, while still considering the other ideas to incorporate into the prototype. The sketch for the digital tanzaku is shown below.

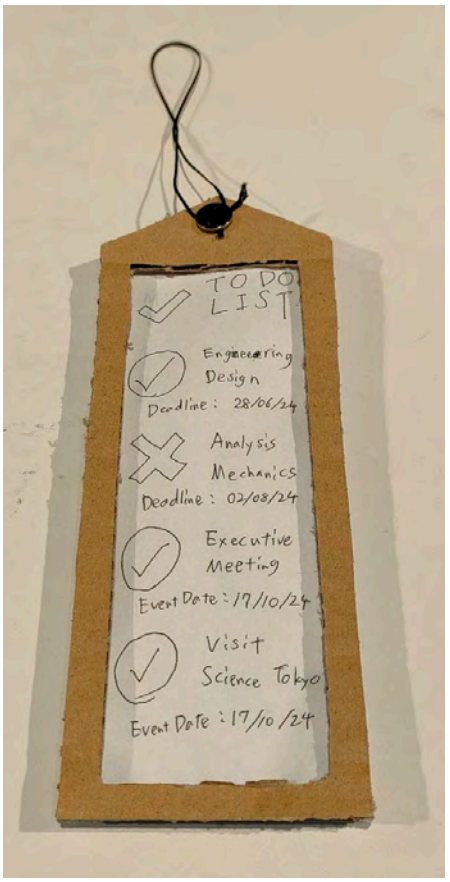


Digital Tanzaku sketch drawn by Chun Ming Wu (Jimmy) from our group

Then, we started the next step which is prototyping and user testing. We created a low-fi (rough) prototype using cardboard and some paper, before showing it to the instructor and some teaching assistants as well as other group members for testing, explanation, and feedback. The picture of our first prototype can be seen below:

After user testing, we started creating a presentation and skit, as well as some material to pitch our solution. The skit functions as a way to show the audience how the user will experience change in their life as a result of our product, while the pitch explains in detail the features and functions of our product. We created a prototype for a digital tanzaku connected to a digital light show that can display people's wishes typed or written on their phone, aimed for a target audience of shopping mall goers who However, the first prototype, skit, and pitch is far from perfect, and we received a lot of feedback to further refine our solution or rethink a different approach, especially in our target user and the problem we are trying to solve.

The fourth day for us was the toughest day as we had to work the full day to try to rethink a different solution, change our prototype, our skit, and our pitch materials to solve the shortcomings that were noticeable from our initial solution. We conducted interviews again to gain more insight into the topic, and decided to approach the problem slightly differently. Instead of the conventional function of a "Tanzaku", we got an insight about getting something that would be able to solve the problem of "unrealized dreams", and instead of solving a problem related to the festival or event, we drew inspiration from how wishes are made using the Tanzaku. Our new digital Tanzaku prototype instead will serve as a tangible but digitally-managed to-do list, pictured below:



Additionally, we also designed a digital user interface for the application idea we can use to manage the Tanzaku.

Designs by Seoyeon Bae from our group

Then, we also refined the presentation and skit, but we still received some important feedback related to the fact that our skit was not able to highlight the problem enough. We had to work on it more. At the end of the fourth day, some of us decided to unwind and have

a short karaoke session at the nearby Jiyugaoka station. Karaoke might not be the most traditional, but it is a good experience for the exchange students to do karaoke, which is a very popular way to pass time in Japan.

On the fifth and final day, before we did our final presentation, we refined the skit script and presentation, and properly practiced performing the skit to make it as clear as possible. I am very glad that we managed to refine our product to garner great feedback and interest from the audience. It feels great that we were able to achieve this result as a culmination of just 5 days of work. Pictured below are scenes from our final presentation and our group photo together as a group.

As a nice epilogue, we had a completion certificate awarding from Professor Hayashi and Takada from Tokyo Tech, as well as a casual reception with very nice bentos! Overall, this was a very nice and unforgettable experience.

4 Program participants

In general, we have students from Tokyo Institute of Technology (Tokyo Tech), Korea Advanced Institute of Science & Technology (KAIST), Nanyang Technological University (NTU), and Hong Kong University of Science and Technology (HKUST). As for the nationalities, it was quite diverse. There were Japanese, Indonesian, Thai, Korean, Indian, Singaporean, Chinese, and Kazakhstan. There were also TAs from Tokyo Tech. In the Japanese Culture Program, we had Professor Anno from Tokyo Tech Institute of Liberal Arts and also the Yukigaya Taiko team.

5 Any difficulties you faced during the program

We had a team member with communication troubles so that was a challenge for us to accommodate him while following the team's workflow as well. Another difficulty was deciding on the problem since we happened to choose a topic (tanabata festival) which does not really have much problems related to it in the first place. I was glad that we were able to overcome those difficulties and learned a lot in the process!

6 Outcomes of your participation in the program

In general, I think I gained a lot of knowledge about design thinking and deepened my understanding of it compared to the similar course I took last year. Since I also interacted with team members who go to other universities in other countries, I also learned a lot about their culture and viewpoint on design thinking and Japanese culture. I was also able to learn some technical skills. One of our team members was also very experienced in 3D modeling and prototyping and in using the web application Miro to create diagrams for design thinking projects, so I learned a lot from him. Another team member was also experienced in designing 2D application UI prototypes using the web application Figma, so I learned how to use these tools as well.

7 Any comments regarding "Japanese Culture Program

The Japanese culture programme was one of the best parts of the week! I think everyone I spoke to during the programme thought so too. I was fascinated by the explanations of Noh and now want to see a real performance, and I was also really happy to get my hands on the Taiko drums. The people at Yukigaya Taiko were also very friendly and encouraging, so we

could really learn a lot and enjoy the Taiko performance and practice. All in all it was a great experience!

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

I think being prepared to have an open, flexible and creative mindset, as well as being confident in presenting your ideas, are really good things to have when participating, so if there are students interested in participating in this programme, they should get used to interacting and communicating in English with students from different backgrounds. As an international student who leads an international student exchange-related organisation within the university called Tokyo Tech International Students' Association (TISA), I have had a lot of experience with event planning, group work, and communicating with people from different backgrounds, so I think these experiences helped a lot. My experiences in the many group work related classes I do in my course have also helped me.

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ASPIRE Undergraduate Engineering Design Challenge 2024
Student Workshop
Completion Report

Report Date 2024 06 30

Your Name	---		
Affiliation at Tokyo Tech	Mechanical Engineering		
Student ID#	---	Current academic program year	YSEP
Presentation theme	Temperature-Controlled Chocolate Melting Machine for Valentines' Day Maze-Maze Mahou		
Program period	2024/06/24 to 2024/06/28		
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

① **The reason you joined the program**

The ASPIRE league has almost the best undergraduate student and I want to explore my horizons by group working with these guys. I think it will be actually a fantastic chance for me to understand different thinking methods as well as learning new things. Making friends also plays an important part in my motivation, making friends from different countries can llet me understand more cultures.

② **Pre-program preparations**

I managed to balance the lectures and the time of work shops, since this activity is a five-days project, so actually I must balance my time. Luckily, I think I can match almost everything so it won't be such a big problem. As for communication, since it is a completely English Program, so actually high-level English is necessary, so I practiced listening and speaking and trying my best to understand what other says.

③ **Program contents, activities**

We are required to create some products which are only for Japanese, and we chose the Valentines' Day and concerns about the pressure occurred when young university women want to send hand-made chocolate to confess. We designed a new device to melt the chocolate much more easily by controlling the melting temperature. Then we are required to make a

prototype, we made a 3d printed prototype to show the structure, but didn't manage to achieve its function due to the limited time.

④ Program participants

Shek Cheuk Hei	from HKUST
---	from Tokyo Tech
---	from Tokyo Tech
Wenqu Fang	from KAIST
Rachel Devassy	from Nanyang Technological University
---	from Tokyo Tech

⑤ Any difficulties you faced during the program

It is very difficult to think about the idea based on logical, and it is always challenging to think something from point of view. Coming out of a good idea can be torturing.

⑥ Outcomes of your participation in the program

A prototype of chocolate melting pot as well as a great idea to solve this problem.

⑦ Any comments regarding "Japanese Culture Program

It was actually perfect to see the performance of ancient Japanese drama and the performance of Taiko drum. Furthermore, it is also very interesting to try the Taiko by ourselves, this activity actually motivates everyone's interest!

⑧ Any advice for students who wish to participate in a similar type of program

Supply meals?

3

ASPIRE Undergraduate Engineering Design Challenge 2024
Student Workshop
Completion Report

Report Date 2024 07 08

Your Name	WANG MINGYANG		
Affiliation at Tokyo Tech	海外交流学生 機械工学部		
Student ID#	---	Current academic program year	4
Presentation theme	Firework festival—firework of love		
Program period	2024/06/24 to 2024/06/28		
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

① **The reason you joined the program**

The workshop offered a unique blend of creativity and technical expertise, providing a platform where I could apply my theoretical understanding to real-world challenges. One of the most appealing aspects was the opportunity to work with excellent students from many kinds of universities and speaking different languages. I hope this chance can promote myself and know many new friends.

② **Pre-program preparations**

I prepared the Japanese famous spots and delicious restaurants for the teammates who come to Japan the first time. I wish we can not only do well in the program but also they can enjoy a happy time in their travel.

③ **Program contents, activities**

The program includes the introduction of professor, group talking, presentation and many interesting activities. It is my first time to acknowledge and appreciate Japanese Noh and Taiko culture which shocked me a lot. I really appreciate that university offers us such a precious opportunity to experience them closely.

④ **Program participants**

The participants are from different countries and areas such as Singapore, Koera, Hongkong, Thailand and so on. Although people are from different places, they are so active in the program and engarly to present their ideas which is a advantage worth learning.

⑤ **Any difficulties you faced during the program**

After deciding the research topic, we were hard to find a suitable solution to tackle such a tough problem. During that time, we didn't give it up but everyone in the group keep coming up with know ideas by brainstorm. Finally, we figured out a good option.

⑥ **Outcomes of your participation in the program**

In my participation, my outcomes are the improvement of communicating, thinking and designing. I learned how to work in a team and collaborate with them in the collopse of ideas. Also, the professor's lectures tought me a flow about how to design a practical tool or item for specific user.

⑦ **Any comments regarding "Japanese Culture Program**

I really enjoyed myself in the program. I really thank to the professors, the professor's students, TAs and all the staffs from Tokyo Tech. I wish this program can last long and get better in the future.

⑧ **Any advice for students who wish to participate in a similar type of program**

Be confident and bravely speak.

4

ASPIRE Undergraduate Engineering Design Challenge 2024
Student Workshop
Completion Report

Report Date 2024 07 01

Your Name	Mok Wattanasopon		
Affiliation at Tokyo Tech	School of Environment and Society, Department of Transdisciplinary Science and Engineering		
Student ID#	---	Current academic program year	B3
Presentation theme	Fireworks of Love: A Stress Relieving Toy for Japanese Firewok Festival (花火大会)		
Program period	2024/06/24 to 2024/06/28		
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

① The reason you joined the program

I believe my first motivation of joining this program in the first place is to gain more exposure on the international environment outside of Japan. Another reason is I have studied in a class with a similar structure in my department, but with Japanese students (so there was a struggle even with the simple communication due to language barrier), so I wanted to explore the design process similar to this class again but with a different context, i.e., with the perspective of international students from various other countries and universities.

For additional context, I heard about UEDC from my friends who had taken this program last year, and they seem to be enjoying it so far. That could also contribute to my decision on joining this program.

② Pre-program preparations

Since there were not many activities going on until a few days before the start of the program. I mainly only kept track of what procedures should I do before the day of the workshop such as joining slack, confirming the location and the time of the event, and informing the professor about my absent.

I also asked for some details about the program from my friends to make sure that I didn't miss any important details that I'll be facing in the program. In addition, since I have already taken a similar course as mentioned in the reason I joined this program, I also make sure to familiarize myself with the process again to adjust my expectation of the procedures in the

program.

③ Program contents, activities

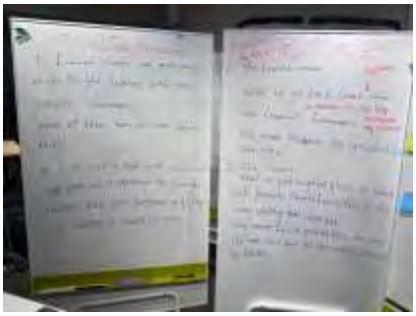
Day 1: Ice-breaking and Introduction of the Problem

The ice-breaking part of this program is rather during the period before the schedule starts than the allocated period in the schedule. I did talk to the students from other universities not only in my group and got the general idea of the people I'll be working with for the next 4 days.

As for the introduction. The lecture started with the concept of "System Design" as a preview on what we will have to do in the program, alongside the basic knowledge of various holidays and festivals in Japan. This is also the time when the topic is revealed to be a "development of a product that Japanese people will buy" based on a selected festival in Japan as well.

After the lecture, we start iterating the process by thinking of the festival that we want to work on, which is also a time when the exchange students get to learn about the details of the festival in Japan as well (Thanks to our TA for a very detailed explanation!). An interview were conducted on two Japanese students to develop a journey map (related stakeholders, actions, and feelings of the event), and select some parts to consider the insight or the potential problem from it.





Day 2: Finding Potential Solutions & Japanese Cultural Program

For the morning part of the day, we start questioning the causes of the problem from various perspectives and factors, and try to come up with possible improvements of the situation using "how might we…?" question format. After brainstorming and selecting a few questions, we think of a prototype to solve the questions we have picked. As for our group, we focused on solving the problem of waiting in line for the train using a souvenir that can relieve stress by squeezing.

In the afternoon, we have an opportunity to listen to the history and development of "Noh" performance up to the contemporary Noh, and also watch the musical performance part of Noh by Prof. Mariko Anno. Other interesting activity is the Taiko performance, where we also have an opportunity to have a hands-on experience with using Taiko drum and dance to the Bon Odori. Even as an international student in Japan, this opportunity is really hard to come by, and I was really grateful for that.



Day 3: Development of Prototype and User Feedback

Using the idea of prototype designed in the second day, we draw a possible use case in the format of 4-koma manga, then use the available materials in the design factory to make a physical prototype of it, in which we agreed on doing it as an Omamori (お守り) shape. This is also a new challenge on its own due to the limited material in the room. As the product of our group is mainly focused on the feeling of comfort from squeezing, and ended up using rubber bands as a filling for the prototype.

After the prototype design, another interview was conducted with two users to give feedback to the prototype. This allows us to think of a possible flaw that has been looked over, and how the undecided details of the product such as price and marketing strategy.

Finally, a first feedback session was held, where the presentation is in the format of skit and product pitching. The judges willl then comment on what could be improved after the presentation.


Day 4: Reiterate the Process

Using the feedback from interview and feedback session on the third day, we rework on the prototype again for more additions (or a whole redesign). As for our group, we still decided on the stress relieving souvenir, but we try to come up with addition of integrating it into a mobile app. Large amount of time on this day is mainly spent on coming up with the improvement in this part.

A second feedback session was held at the end of the day, this time the pitching and skit has to include presentation slides. Another feedback from the previous improvement was given to for the last product iteration on the final day.

Day 5: Final Presentation

Similar to the fourth day, a final iteration of the product was developed from the feedback of the second feedback session on the morning half of the day. Another challenge of this day is that we have to prepare the presentation about our design process at the same time of the product improvement. I would say that the time constraint is quite tight on the final day.

At 14.00, a final presentation of the product was held with Prof. Jun-Ichi Takada and honoured guest professor from Tokyo Tech and other universities as judges. As an audience of the presentations of the other groups, this was the time that I can see how the other group had worked with their product. The atmosphere was lighthearted and the every presentation was enjoyable.

The program ended with a short closing ceremony including a photo session, and a Japanese lunch box meal at the end.

Extra: Outside the Event

Apart from the interaction during the events, we also has an unofficial activities such as trying out good restaurants near Tokyo Tech, traveling to the popular places in Japan, and also a karaoke session within the participated students as well.

④ Program participants

There are about 30 international students from NTU, HKUST, KAIST, and Tokyo Tech, which divided into 5 groups of about 6 students (The name list is omitted in the report).

As for my group, the participants were from various nationalities: Singapore, China (Hong Kong), Kazakhstan, and Thai. Other than that, we definitely came from a different background from different universitites with different thoughts on tackling the problem during the challenge, but everyone was collaborating and contributing their effort into the group. Thank you to Izzar, Wang, David, Oscar, Kiba, and Vinnie (TA) for making our group work experience the really enjoyable throughout the event!

⑤ Any difficulties you faced during the program

Despite the program being really enjoyable considering the entirety of 5 days, it would be unrealistic to say that there was no problem at all throughtout the event. There are three main difficulties in my personal opinion here:

First, the schedule. It is expected in the first place that we couldn't develop sometihng out-of-the-world during only the period of 5 days, which I am fine with that. However, some part of the schedule such as presentation making at the later days, or the time for the students to go somewhere during the break is really tight. For people who have trouble working under pressure, this might be something you have to be careful about.

Second, the expectations of the product. Similar to the previous point, the main expectation of the product that can only be developed in 5 days is mostly fine by me, but the improvement phase of the product itself is quite a struggle as the creative solution cannot be easily come out in a short period of time. Working under a short period of time to satisfy the suggestions and improvement of the product is quite a challenge to me during the event.

Lastly, the group dynamics. As each student in the group has different background in how they work, occasional conflicts are inevitable. The difficulty from my personal perspective is how some people might not "align" with you when working togethet, and does not clearly understand the exact thought you are trying to convey. Since the people in the group are the one you will be with for the most part, whether how well I can handle this difficulty will have a great effect my program experience.

⑥ Outcomes of your participation in the program

The most concrete evidence of my participation is defintely the tangible product we made as a group, i.e. the stress-relieving toy, which serves as an idea for anyone who are interested in solving the stress problem from waiting in line for the train to come.

However, from my personal perspective, the time period of the program is definitely too short for me to completely understand the essence of "system design". Though, I did get the concept of the procedures on designing a product corresponding to user need, which is a great starting point for understanding the framework of system in the future works. Others might have different outcome from me regarding this part of the program, and I believe that it is completely subjective on how each student see this program as.

Instead, I believe that the most important thing I had learned is all the soft skills needed within each process of the system design framework. From communication skill, time management on each step, how to think of a good interview questions, topic or idea selection process, up until the strategy on presenting the skit and pitching part of the product. This is the part that can also be found and applied in the other context outside of designing the product, but the program truly offers the whole process that allows me to learn every aspect of these soft skills.

⑦ Any comments regarding "Japanese Culture Program"

I personally really enjoyed the Japanese culture program! It could possibly be the most fun part of the whole program in my opinion. I believe that the part that gained the most attention and impression from me is the demonstration and the hands-on experience part, which are the Nohkan demonstration from Prof. Anno and the whole session of Taiko activity.

I found this Japanese Culture Program, especially the Taiko part to be a really large scale preparation, and it really impressed me how much effort the organizer took to hold this event. I genuinely hope that if it is possible, the program should be held like this again. Any hands-on experience on the traditional culture of Japan is something that not many university students could experience.

Lastly, the language barrier between the exchange student and the invited Japanese Taiko group was noticeable, but so far it doesn't seem like a problem with the interaction during the event as far as I observed, in which I was really glad that it also went well for the exchange

student.

Overall, I was enjoyed by the program, and would highly suggest that the Japanese culture program should also be included in the next year's UEDC

⑧ Any advice for students who wish to participate in a similar type of program

Based on my experience, you might want to join this program If you consider yourself to be fitting for majority of these points:

- Interested in the concept and practical part of product design from start from finish.
- Interested in Japanese culture, especially the traditional aspect, and also wants to know the insights and "deeper" knowledge from the locals.
- Wants to expose yourself more to internation students from various backgrounds, and enjoy working as a group in an international environment.
- Ready to spend a lot of time fixing and retrying what you have designed.
- Ready to adapt yourself with a different work environment, especially workig with Japanese way of thinking and expectation.

These are the points that I could think of so far, but there are certainly small details that you will experience more during the work.

Nevertheless, I believe that even the thought of submitting the application form to this program alone is already enough for you to not be disappointed after you joined the program. There are some parts of the process that will be really tough and challenge your limit, but it is definitely not too difficult for you to handle it.

To all participants of UEDC 2025, good luck and have fun with the program!

5

ASPIRE Undergraduate Engineering Design Challenge 2024
Student Workshop
Completion Report

Report Date 2024 06 30

Your Name	Dang Hoang Binh		
Affiliation at Tokyo Tech	Department of Transdisciplinary Science and Engineering		
Student ID#	---	Current academic program year	Second-year undergraduate
Presentation theme	Collapsible bento box (For Hanami event)		
Program period	2024/06/24 to 2024/06/28		
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

① **The reason you joined the program**

As an international student at the Tokyo Institute of Technology in the GSEP program, committed to becoming an engineer equipped to tackle real-world problems, I acknowledged the significance of practical experience and the ability to perform teamwork in an international environment. The prospect of gaining valuable experience over five days will help me on my way to realizing insights crucial to my future endeavors. Moreover, the opportunity to work in an international environment and learn from diverse perspectives aligns perfectly with my aspirations. By participating in the program, I aim to acquire the skills and insights necessary to make meaningful contributions as an engineer.

② **Pre-program preparations**

Before joining the ASPIRE League, knowing that this would involve the concept of design thinking, I reviewed my knowledge and material from “System Design Project” which is a course I studied in 1st which is based on the design thinking process. This has proven to be very worth the time as thanks to it made me familiar with what we did in the ASPIRE League. However, the most important preparation I did was cultivating a comfortable and open mindset. Since the students participating in the program are from different countries with different backgrounds, I anticipate that there

will be very different perspectives. Thus I am fully aware of the importance of an open mindset for effective group work. I am prepared to receive new and innovative ideas from the talented individuals that I will be working with.

③ Program contents, activities

During the ASPIRE Undergraduate Engineering Design Challenge, I acquired critical knowledge and skills in the "Design Thinking" approach, which involves five key steps: Empathize, Define, Ideate, Prototype, and Test. Following a lecture from Professor Inaba, we had the immediate opportunity to collaborate in teams and apply this methodology to design a new project aimed at addressing an existing issue in traditional Japanese festivals.

We end up choosing the Hanami festival as our topic after an extensive discussion. My team members include students from HKUST, NTU, and KAIST, they are very active and enthusiastic about Japanese culture, and the symbol of Japan that many people think of is the Sakura flower. So choosing a festival that integrates this aspect is in our best interest. Through the interview, we found out the 2 most common issues Japanese people encounter when going to Hanami: Overcrowing and Trash issue. We decided to focus on the trash problem as we concluded that overcrowding can not be solved. Our first ideal was a robot that has a trash can attached to it and goes around the park cleans the area and also provides a place for people to throw their trash so they don't have to go through the painful process of bringing it home. However, we discard this idea as we can not find a balance between the functionality of the robot to its cost.

So we came up with the idea of a collapsible bento box that can be collapsed to save space. The Bento box is the most common trash in Hanami, if the bento box is not stacked properly, the volume it takes up is very significant. Most common bento boxes are not intended to be folded and the number of different types of boxes makes it hard to dispose. Then we continued to improve our product following the design thinking approach and slowly but surely our solution became better.

During the final presentation, we showcased our problem statement, outlined our design process, and presented our solution with an accompanying skit. We demonstrated the evolution of our solution based on the feedback received, highlighting the effectiveness of the "Design Thinking" approach in problem-solving.

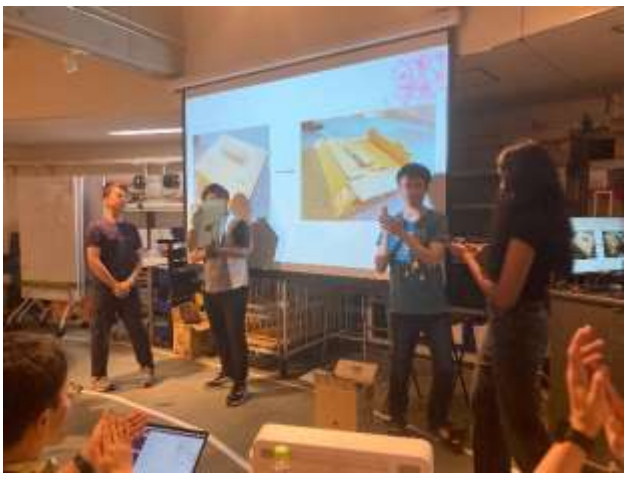
④ **Program participants**

The ASPIRE Undergraduate Engineering Design Challenge brought together undergraduate students from various universities and backgrounds, including Tokyo Tech, NTU, KAIST, and HKUST. All the participants showcased exceptional talent, offering interesting ideas and impressive skills, and demonstrated remarkable openness and friendliness throughout the program.

In my team, despite the limited time available for introductions and getting acquainted with one another, we seamlessly proceeded with our teamwork. Even when we encountered issues with our project and had to begin from scratch, we engaged in discussions and collectively worked towards finding solutions. The spirit of collaboration and support within the team was truly inspiring.

One of the highlights for me was the opportunity to make new friends with diverse backgrounds. Interacting with fellow participants who came from different universities and cultures really broadened my perspective and allowed me to appreciate the diversity. Sharing ideas, learning from one another, and forging connections with individuals who had unique experiences was an enriching aspect of the program. Also, I would like to give a huge thanks to the TAs Heejoo-san and Hinako-san for their support during the week, their suggestion offered great insight into what we were missing and thus helped us shape the final presentation.

Overall, the program participants played a significant role in making the ASPIRE Undergraduate Engineering Design Challenge a memorable and rewarding experience. Their exceptional talent, collaboration, and openness created a supportive environment that fostered personal and academic growth. I am grateful for the friendships formed and the learning opportunities shared, and I look forward to the potential collaborations and continued connections with these remarkable individuals.



⑤ **Any difficulties you faced during the program**

The first problem that we encountered was the fact that most members of the group were not familiar with Japanese culture so having to think of the problems associated with one of the events that is very unique to Japan was tough. Thus we heavily relied on the information obtained from the interview to help understand the event at hand and the problems that exist in this event. However, we had a difficult time understanding the ideas of the interviewees as our initial mindset did not align with the preferences and needs of the Japanese people. Like why is there no public trash can in public, one of the reasons we think of is for safety but it turns out that the hidden reason was the fact that the Japanese government found out that removing trash can

decrease the number of instances of littering. This idea is completely opposite of what we thought of and is the reason why we abandoned our original prototype. However, with the new information obtained and a new mindset, we were able to overcome this obstacle and complete our project.

Personally, I also face some issues managing my time, in order to participate in this program, I have to miss a whole week of classes and next week is the mid-term exam. Although all the professors were kind enough to let me attend this program, I still had to complete every assignment and submit it on time on top of the project. Balancing the demands of the program with my academic responsibilities proved to be quite hectic during this period. However, I ensured that I stayed organized and prioritized tasks to fulfill all my commitments.

⑥ Outcomes of your participation in the program

Participating in the ASPIRE Undergraduate Engineering Design Challenge has yielded many merits for me. Firstly, throughout the intensive 5-day workshop, I successfully achieved the goals I had set for myself. I gained a solid foundation of practical experience regarding the design process and how to teamwork effectively. The design thinking concept, which emphasizes problem analysis, interviews, and collaborative teamwork, will undoubtedly prove invaluable as I tackle real-world projects in the future.

Additionally, the program provided me with a deeper insight into the perspectives and ideas that resonate with Japanese culture. As an international student studying in Japan, this knowledge is crucial in fostering effective collaboration with Japanese colleagues and stakeholders. Understanding their cultural context will undoubtedly enhance my ability to work efficiently and contribute positively to future projects.

Moreover, the program facilitated the formation of meaningful connections and friendships with individuals from diverse backgrounds. Interacting with such a diverse group of participants exposed me to a range of unique viewpoints and experiences. Engaging in discussions and sharing ideas with these individuals broadened my horizons and enriched my understanding of various subjects.

Overall, my participation in the ASPIRE Undergraduate Engineering Design Challenge has been a wonderful experience. It has equipped me with valuable knowledge and skills, fostered cultural understanding, and provided me with an expanded network of like-minded individuals. Most importantly, I thoroughly enjoyed the program.

⑦ **Any comments regarding “Japanese Culture Program**

On the second day of the program, we got a chance to experience some Japanese culture in particular Noh and Taiko. Through this activity, I have gained more understanding of Japanese traditional art. The Noh is a very simple yet complex art. If we just see it as a normal audience, we would miss out on so many small details that are the soul of the Noh, how the actor moves, his/her face is pointing up or down, the music, all of these aspects combine to result in a harmony that expresses the emotion of the character without or very little dialog. Next is the Taiko or drum demonstration. The energy and sound from the drums are very good, actually, it is very hard to describe the emotion I felt from the show, I have listened to drum performances on TV and during Japanese festivals but this is the first time I have been this close to the stage. Also, we got a chance to try these drums and learn bon odori, it was a very fun experience. I am very grateful to Associate Prof. Mariko Anno and the Yukigaya Taiko team for this wonderful experience.

⑧ **Any advice for students who wish to participate in a similar type of program**

I think that this program is a great opportunity for anyone who wants to experience the process of designing a product in reality. However, the most important preparation is to have an open mindset as you will be exposed to many different perspectives some go against what you think and you need to accept it to work effectively.

6

ASPIRE Undergraduate Engineering Design Challenge 2024
Student Workshop
Completion Report

Report Date 2024 06 28

Your Name	Phraewa Saengaroon		
Affiliation at Tokyo Tech	Transdisciplinary Science and Engineering (GSEP)		
Student ID#	---	Current academic program year	3rd Year
Presentation theme	Valentine's Day (Group 3)		
Program period	2024/06/24 to 2024/06/28		
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

① **The reason you joined the program**

I joined the ASPIRE Program to broaden my perspective on collaborative ideas between teammates. I also hoped to gain an understanding of cultural exchange through my group members. Most importantly, I want to hone my skills in design challenges to understand the concept of project planning, teamwork, and pitch skills. With this, I hope to be able to apply the skills I learned to real-life situations.

When I read the contents of the program, I was intrigued by the activities and projects we could participate in. Being able to work in a group of different majoring engineers with different nationalities and universities, I think it is a remarkable collaboration to be able to grow as an individual as well as an engineer. Since entering Tokyo Tech, I specifically gravitate towards Project Based Learning courses due to having an opportunity to design, evaluate, and prototype a project. In the real world, basic knowledge of design thinking, open mindedness between cross-culture, as well as teamwork is a crucial asset to strengthen the quality of work we can contribute to society. Hence, being able to experience a simulation of what working in a time constraint would help nurture and prepare me to improve work ethics with diverse teammates.

Another reason that I want to join this program is that I want to strengthen my problem solving skills as well as teamwork. In many instances, unpredicted problems can occur which can hinder the progress of the project. However, based on the experiences of individuals, the method of finding the solution

might be different. By joining the ASPIRE League, I can learn and emulate different perspectives as there is an opportunity to showcase the skills of being a leader.

② Pre-program preparations

Before joining the ASPIRE program, we needed to hand in our application form as well as a recommendation letter which was requested by the GSEP chair, Professor Naoya Abe.

③ Program contents, activities

The ASPIRE Program was a very intensive course where it took one whole week to complete. The program contents taught and guided the groups on how to create a successful project and the components that were needed to form a tangible, attractive, and affordable product. The project prompt was very interesting as the target customers were the Japanese. This would mean that the group can study and learn about Japanese culture about celebrations while doing the project. Another activity that was presented was to make a family crest for the group.

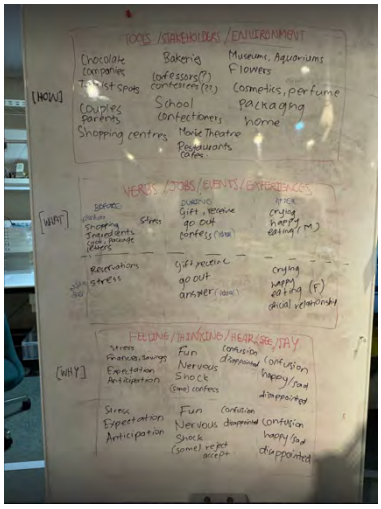
During the program activities, we studied the key practices that were crucial to making a tangible prototype. These activities include user test interviews, product sketches, as well as insights/main goal of the product. In my opinion, the most valuable part of the activities was the user test interviews. This is because we can gain extra information, define the critical problem, as well as hear the user reviews on the product idea that we had. Our group had very useful user test interviews.

For each day, the agenda of the ASPIRE course is shown in the picture below:

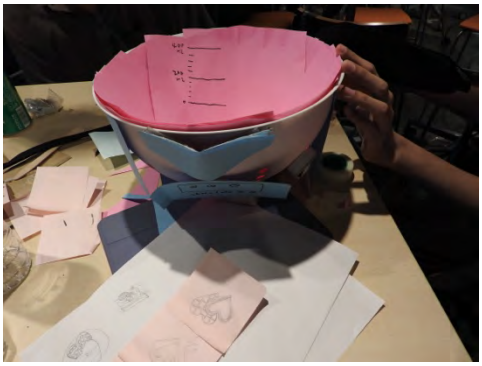
<table>
<tr><th></th><th>June 24 (Mon)</th><th>June25 (Tue)</th><th>June26 (Wed)</th><th>June27 (Thu)</th><th>June28 (Fri)</th></tr>
<tr><td>10:45-11:35</td><td rowspan="2">Ice break
&
Orientation</td><td>Instruction</td><td>Instruction</td><td>Instruction</td><td rowspan="2">Group Work</td></tr>
<tr><td>11:35~12:25</td><td>Group Work</td><td>Group Work</td><td>Group Work</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>13:30~14:20</td><td>Instruction</td><td rowspan="3">Japanese
Culture
Program</td><td>Instruction</td><td>Instruction</td><td>Group Work</td></tr>
<tr><td>14:20~15:10</td><td rowspan="2">Group Work</td><td rowspan="2">Group Work</td><td rowspan="2">Group Work</td><td rowspan="3">Final Presentation
& Reception</td></tr>
<tr><td>15:25~16:15</td></tr>
<tr><td>16:15~17:05</td><td>Feedback Meeting</td><td>Feedback Meeting</td><td>Feedback Meeting</td></tr>
</table>

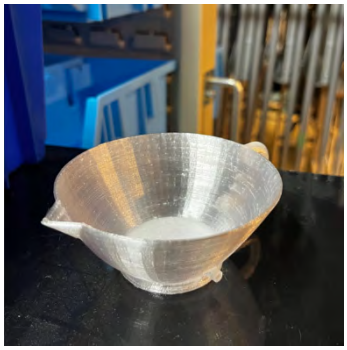
Day 1: Ice-breaking, team formation, simple collaboration, lecture on design thinking
Day 2: Introduction to Japanese society, culture, and technology, explanation of problems to tackle in this class, concept designing by team,

Day 3: Selection of a design concept, 2D prototyping, and improvement of the design concept



Day 4: 3D prototyping or preparation of demonstration





Day 5: Preparation of Final presentation, Final presentation, Casual reception

④ Program participants

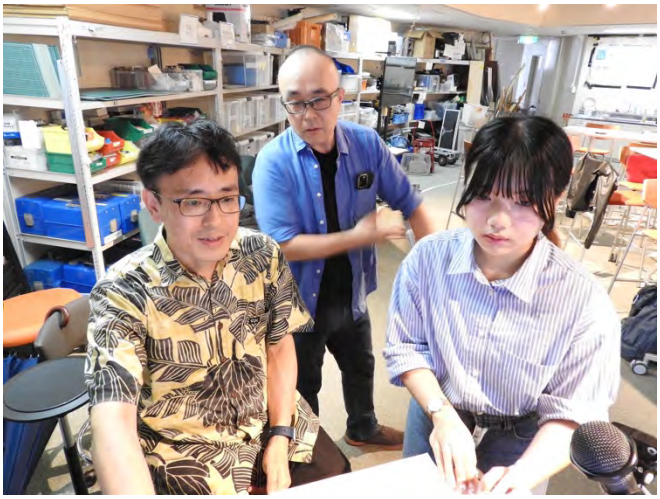
The program participants included Tokyo Tech, KAIST, HKUST, and NTU members who were mixed and allocated into five different groups. It was an honor to work with other top university students in a collaboration project. Thanks to the fact that most of the group members have different cultural backgrounds, I had a really good time learning about their culture. We even went out to Harajuku after class with one of the participants from KAIST!

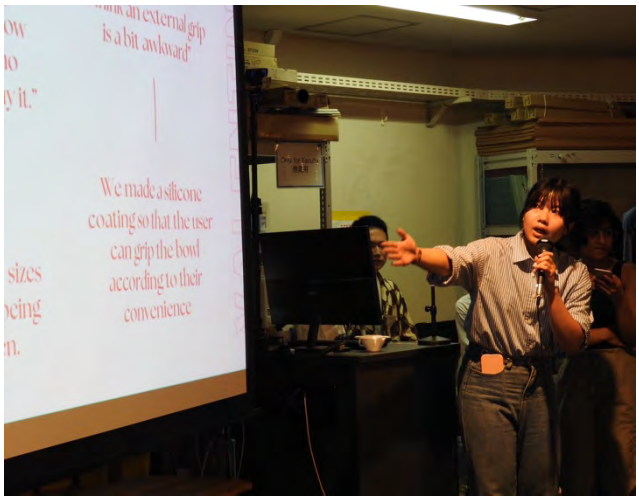
⑤ Any difficulties you faced during the program

Overall ASIPRE UEDC was a smooth process and experience. One of the difficulties I faced was handling the workload of each day and completing it on time. Even though we had 6 members per team, there was a lot of work to do. At first, our group was struggling to identify the insight of the prototype as well as the critical problem. We did not have a clear concept of what was the “problem” or “improvement” that was original. Because of this, our prototyping period god shortened because we needed to hold many discussions to refine our tangible prototype. Another difficulty that was faced is to stay focused for the whole day. The ASPIRE program is very intensive, so by the end of the day, most of the group members are exhausted. In addition, sometimes the slides were not clear enough so we were confused in some of the tasks we needed. A checklist of the day to see what components are needed for completion would be very helpful. One disadvantage that I faced, was the fact that I needed to balance my school work as well as the ASPIRE activities. Since this program lasted for a week, this indicates that I am missing one whole week of lectures.

⑥ Outcomes of your participation in the program

From the ASPIRE program, I have learned many valuable lessons. First, in product designing, it is impossible to solve all of the problems by using just one product. I have learned this through many consultations with Professor Inaba. If we have too broad of a scope, the tangible prototype will lose its meaning and integrity. Thus, focusing on one problem per product is the key to making successful projects. Furthermore, I was able to broaden my perspectives from the comments received after the practice pitch. I think classmates’ comments are very valuable as I can realize potential mistakes and improvements. In addition, I was able to form a strong bond with my group mates and wish to keep in contact even if the ASPIRE Program ends.





⑦ Any comments regarding “Japanese Culture Program

The Japanese culture program was certainly my favorite part! We were able to learn historical and cultural aspects of Japan such as Noh and the taiko. I have heard about Noh quite frequently so I had much background knowledge already. However, I had fun during the taiko course as it was a hands-on activity. I suggest that in the future, it would be better to integrate hands-on experience for the Japanese culture program part. I was exceptionally satisfied with this section of the program and the taiko crew was very sweet and welcoming.

⑧ Any advice for students who wish to participate in a similar type of program

My suggestion would be to communicate clearly as a team. Sometimes, when we make big decisions as a group, it is important to make sure that everyone is on the same page. Miscommunication can cause the project to stagnate as well as cause confusion within the group. Another suggestion is to have fun! The ASPIRE program allows you to have a teamwork with other international students which is quite rare. Sometimes, it is important to make the project enjoyable to create a healthy workspace!

7

ASPIRE Undergraduate Engineering Design Challenge 2024
Student Workshop
Completion Report

Report Date 2024 07 05

Your Name	Pavit Kaur		
Affiliation at Tokyo Tech	Student		
Student ID#	---	Current academic program year	2
Presentation theme	Setsubun – Picha Picha Mame Teppo		
Program period	2024/06/24 to 2024/06/28		
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**		

Report contents

① The reason you joined the program

I joined the workshop with the aim to gain a basic understanding of the principles and methodologies necessary for effective design processes. As someone deeply interested in engineering design, I was wanted to gain knowledge from experienced professionals and engage in hands-on activities that would sharpen my skills in this field.
Moreover, the opportunity to collaborate with students from various universities within the ASPIRE League seemed exciting.

② Pre-program preparations

Before the workshop, I went through the handouts provided and the website to understand exactly what we were going to do. This preparation helped me get a clear idea of the workshop's structure and objectives.

③ Program contents, activities

We started by choosing our team's name, which was "**Yabai-gaijin**"

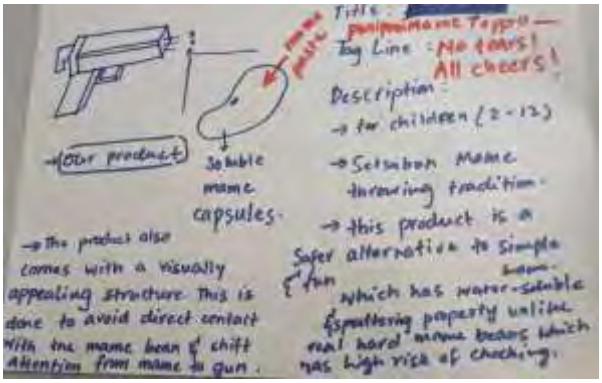
Choosing a Festival: Our team chose Setsubun, a festival where beans are thrown to drive away evil spirits.

Interviews: We interviewed Japanese people to understand the challenges they face during Setsubun and discovered that children often choke on the beans.
Problem Identification: We focused on solving the choking hazard.
Creating a Pitch and Prototype: Our solution was mame beans that splatter like water balloons so that kids cannot pick up the fallen beans, we also proposed making beans water soluble so that in case, kids tried to swallow them, the beans would dissolve immediately. Finally, we also made a mame gun to make the experience more fun for kids.

Prototypes of the mame bean and gun

Revising the Prototype: User testing revealed two main issues: the mess from the splattered beans and the risk of beans getting into children's eyes. We added a water gun feature for cleaning which also means that kids can use it not just on setsubun, but even otherwise as a water gun. For the second problem, to prevent the beans from going into children's eyes, we added goggles to the kit and an adjustable projectile switch for safety which would allow us to shoot the beans at a higher or lower angle.

(The logo we designed for our team)



Skit and Presentation: We presented our solution and performed a skit to demonstrate its use. In the skit, we started with a scenario where a kid picks up fallen mame while the parents are not looking, and ends up choking on the beans. Then we presented the second scenario wherein we implemented our prototype. This time the celebrations were safe and more fun!
Besides the group work and presentations, we had a japnese culture program on the 2nd day where we learned about Noh, and participated in Bon Odori.

We also got an opportunity to try hors d'oeuvres in the short party at the end of the workshop.

④ Program participants

There were 5 teams in total and each team consisted of 5-6 students. Each team had students from every university, Tokyo tech, NTU, HKUST, KAIST. My team had 6 members, and a TA.

4	Tokyo Institute of Technology	TA: Naoyuki SHIMAOKA	School of Engineering	TA	Japan
4	The Hong Kong University of Science and Technology	Tsz Him Christian CHOW	ELEC, School of Engineering	2	Hong Kong, China
4	Nanyang Technological University, Singapore	HILARIUS JEREMY IMMANUEL - UTAMO	School of Computer Science and Engineering	2	Indonesian
4	KAIST	Seungho Seol	Department of Mathematical Sciences	4	Republic of Korea
4	Tokyo Institute of Technology	PAVIT - KAUR	School of Environment and Society	2	United States of America
4	Tokyo Institute of Technology	Jinna - Waiwattana	School of Environment and Society	2	Thailand
4	Tokyo Institute of Technology	Ireen Tasnim - Progga Islam	School of Life Science and Technology	4	Bangladesh

⑤ Any difficulties you faced during the program

Of course, it wasn't all sunshine and sushi. We faced challenges at various steps during the workshop. When we conducted our first two interviews, we didn't get what we were looking for - problems faced on the festival. So we had to change our questions up a bit.

Another major challenge was the language barrier during our interviews and user tests with Japanese studnets. Though we did interview some international students, it was more essential to gain feedback from Japanese students in order to improvise the prototype. Luckily our TA helped us out by conducting interviews in Japanese, translating and making notes during the interview.

Additionally, it was tough to keep up with our regular assignments and catch up on the lectures we missed during the week. Some professors did not allow us to take leave and deducted points for attendance too.

⑥ Outcomes of your participation in the program

The workshop was a fantastic learning experience. It improved my engineering design skills and taught me the importance of user feedback. I also gained a deeper appreciation for Japanese culture. Our final prototype was well-received, and I felt a great sense of accomplishment in overcoming the challenges we faced.

⑦ Any comments regarding “Japanese Culture Program

The cultural program was a highlight. We learned about Noh and participated in Bon Odori. Associate Prof. Marko Anno introduced to us Noh and the presentation was very inspiring, it left a lasting impression on me. The Bon Odori members were incredibly enthusiastic and kind, making the experience of playing the taiko drums and performing the Bon dance particularly fun and memorable. These activities provided a rich cultural context.

⑧ Any advice for students who wish to participate in a similar type of program

If you're thinking about joining a program like this, do it! Embrace the challenge, be open to new ideas. Integrate user feedback early and consistently to improve your design, and be ready to adapt your design and strategies as new challenges arise.

Participating in this workshop was an incredibly memorable, and knowledgable experience that blended engineering challenges with culture.

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ASPIRE Undergraduate Engineering Design Challenge 2024
Student Workshop
Completion Report

Report Date 2024 07 05

Your Name	Sangcheol Han		
Affiliation at Tokyo Tech	Earth and Planetary Sciences, School of Science		
Student ID#	---	Current academic program year	B2
Presentation theme			
Program period	2024/06/24 to 2024/06/28		
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		

Report contents

① The reason you joined the program

Tokyo Tech's international workshops enable students to experience special features which daily ordinary lectures don't have.

Students can communicate with international students and discuss on a particular topic.

Engineering design interests me as well as my major. The process of engr. design is crucial to produce an artificial device, and researchers must consider numerous factors; if it suits to human use, how it effects on the economy, or even environments.

These processes are important because they are applied to practices.

Knowledges in non-major course can help understandings of the major research or even be inspirations for my entire life.

Secondly, I require skills of groupworks.

When I work on research, I cannot achieve goal alone.

Thus, I must discuss with fellows to get inspirations and reflect individual opinions on the project.

This also can be applied to other general projects such as technology improvements or marketing activities.

I have a chance to study abroad and discuss with students in a laboratory.

The course would help me communicate with these students.

Therefore, I applied for the UEDC.

② Pre-program preparations

I filled the entry essay for this program. When I finished my essay, I asked my teaching assistant to advise me for my essay. I refreshed the expression in my essay according to the teaching assistant.

I received information of UEDC at slack and confirmed the schedule.

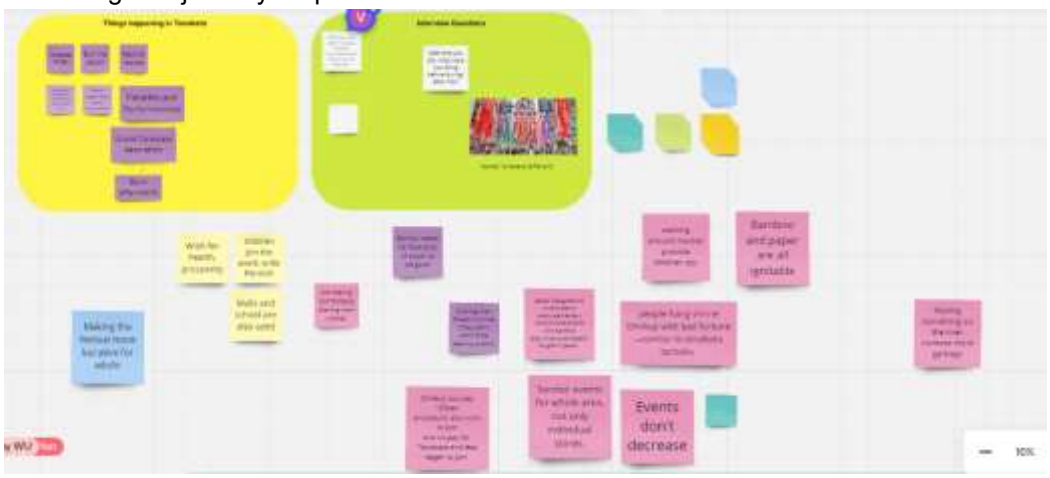
③ Program contents, activities

06/24:

Our team “PRIME” chose Tanabata as the topic for this program. Tanabata is a Japanese traditional event on the 7th day in the 7th month (either lunisolar or Gregorian calendar). In Tanabata, people fill tanzaku to express their wishes.

First, we had an interview with some teaching assistants in UEDC program. We found children engage in Tanabata mostly.

According to a journey map for it.



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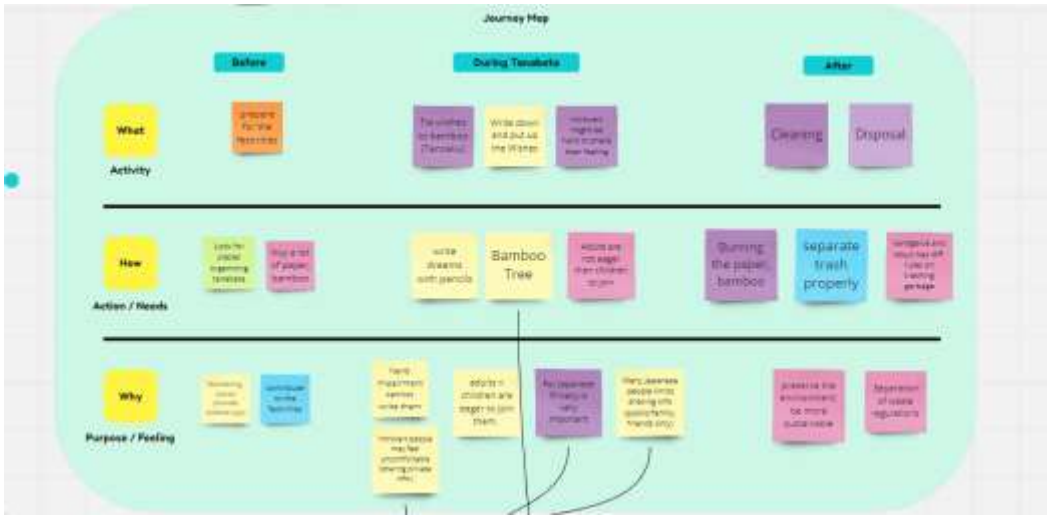
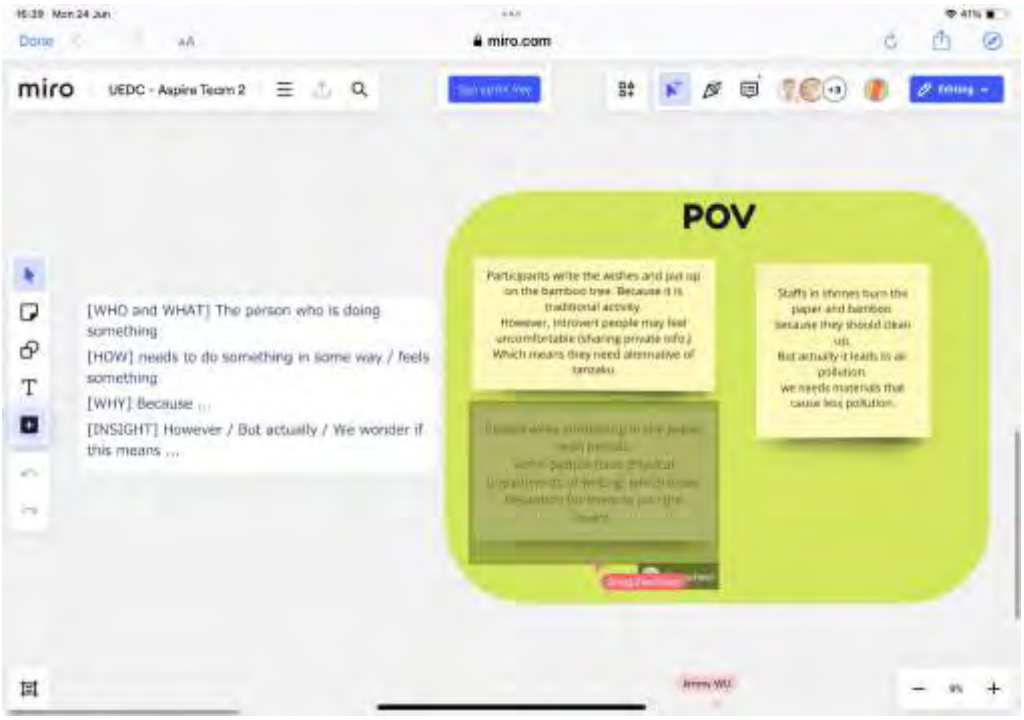
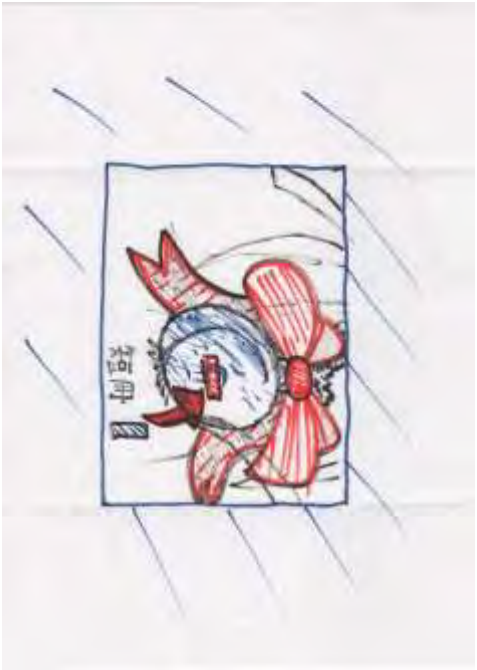


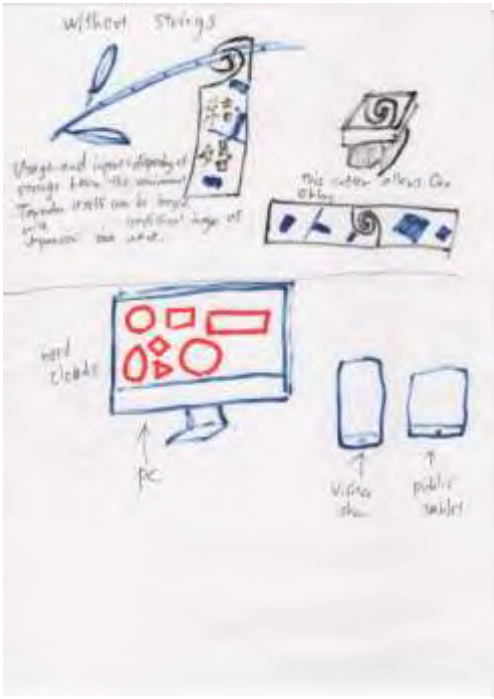
06/25: PRIME constructed the “Point of View”, according to our insights and interview.

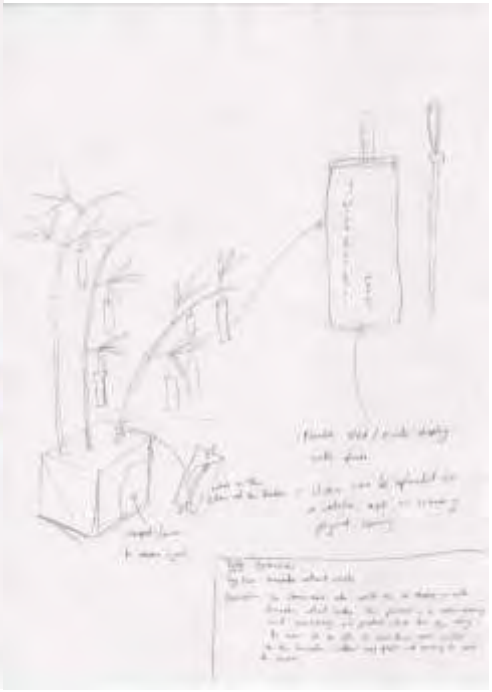


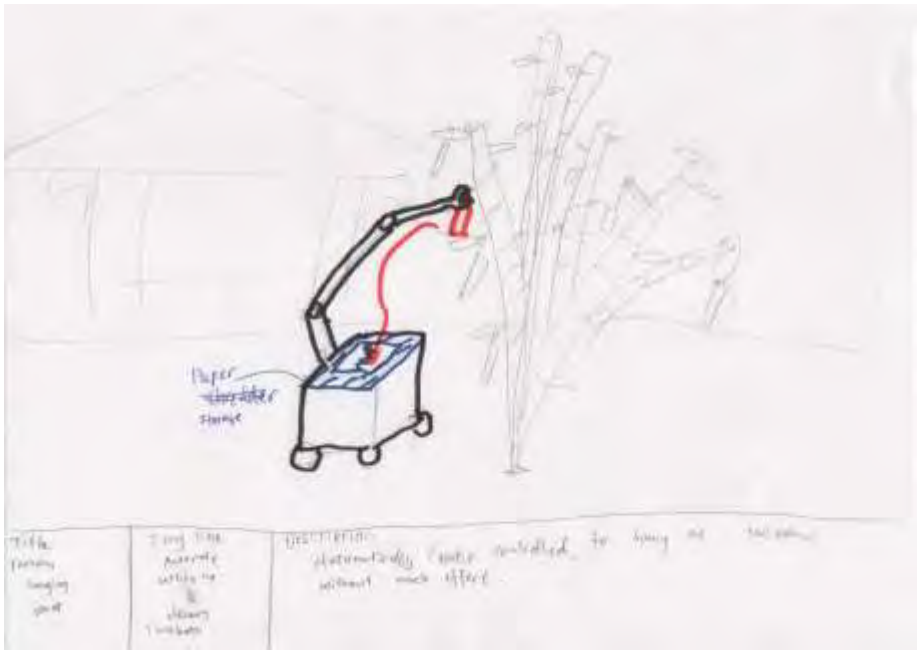
(Point of View)

Also, we made our sketches to compose prototypes on 06/26.




Without Strings
hard disks
PC
public toilet

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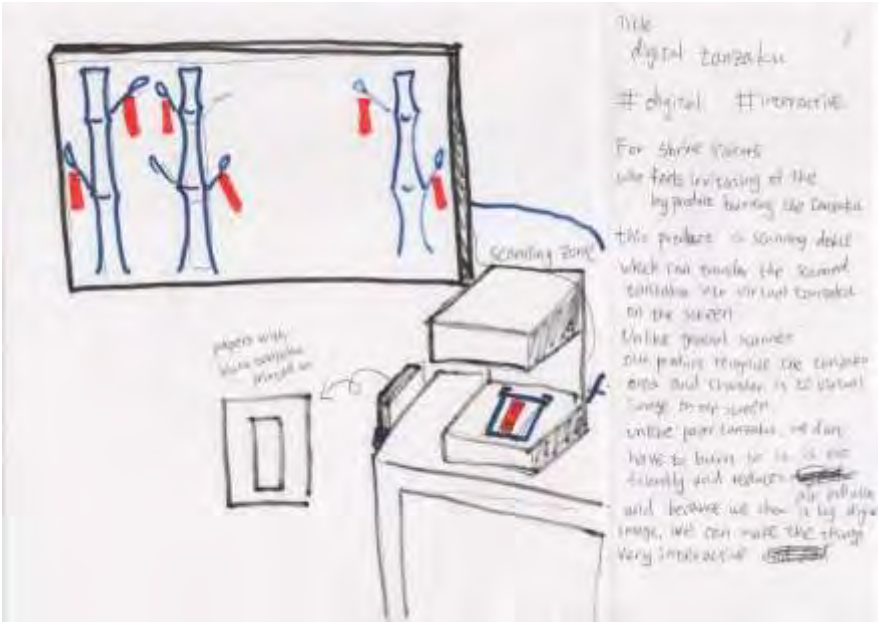


After lunch, we had the Japanese culture program, with some engagements available. In the first section, one instructor held a Noh lecture. She first explained Noh in traditional aspects, then played the Noh flute, and recent people's modern & contemporary engagements towards Noh. Even people from oversea play role in Noh, which viewers can notice visual difference in actors' heights. The second section was Taiko and Bon dance. Everyone had fun in engagements, but some people find anxious since they thought materials fragile.

(The Noh mask)

(The Taiko)

06:26: PRIME made a prototype for Tanabata tanzaku on the screen to reduce emission of CO2. We adopted the virtual screen.

(Virtual Banboo prototype)

After that, we had feedback from other teaching assistants. They told us that the experience of traditional Tanabata is important for children, so changing shape of tanzaku is not important. PRIME presented our product after the feedback One instructor told us to clarify our targets. If the emission of CO2 is issue, we should not target children but shrine or department store staffs. One of the comments in SLACK said the electronic tanzaku does not always contribute to CO2 reduction.

06/27: We decided to change topic since we found no problems in Tanabata event; in other words, not Tanabata itself but adopt it as out inspirations.

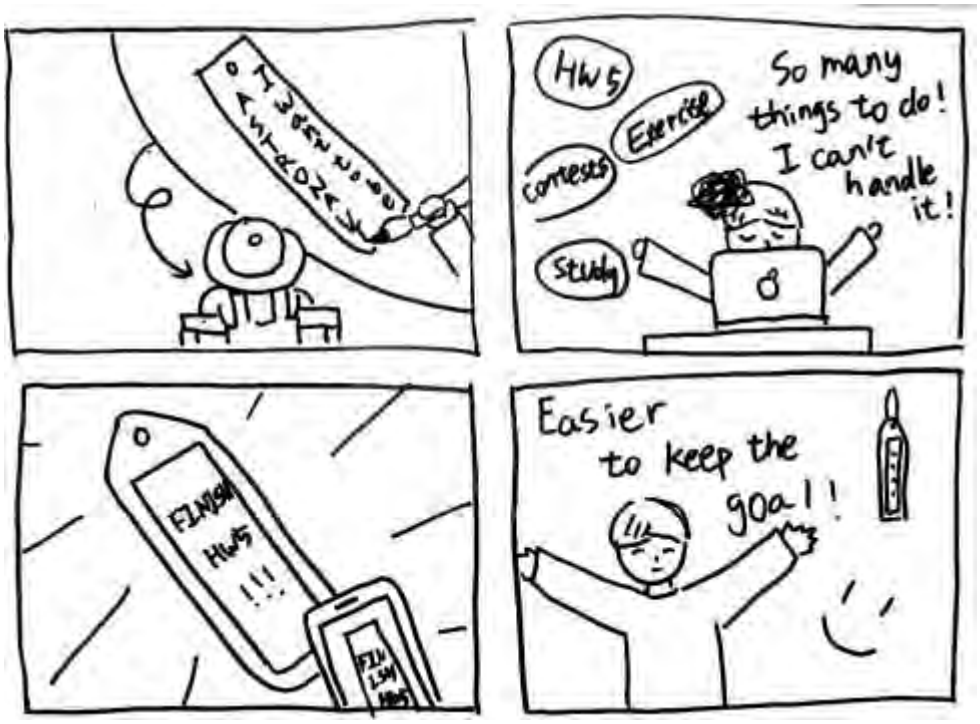
Since PRIME failed to attract audience in the 06/26 presentation due to missing solid targets and problems, we wanted to conduct further interviews with international students in W1 building, only to find requirements of reservations and failed. We went back to the design laboratory and had an interview with one teaching assistant.

The assistant told us people (children) use tanzaku to express their wishes and goals, but we cannot track them since they were trashed.

We adopted this as inspiration and started to target college students. College students should be mission driven, but they have enormous amounts of events and tasks in college life.

06/28:

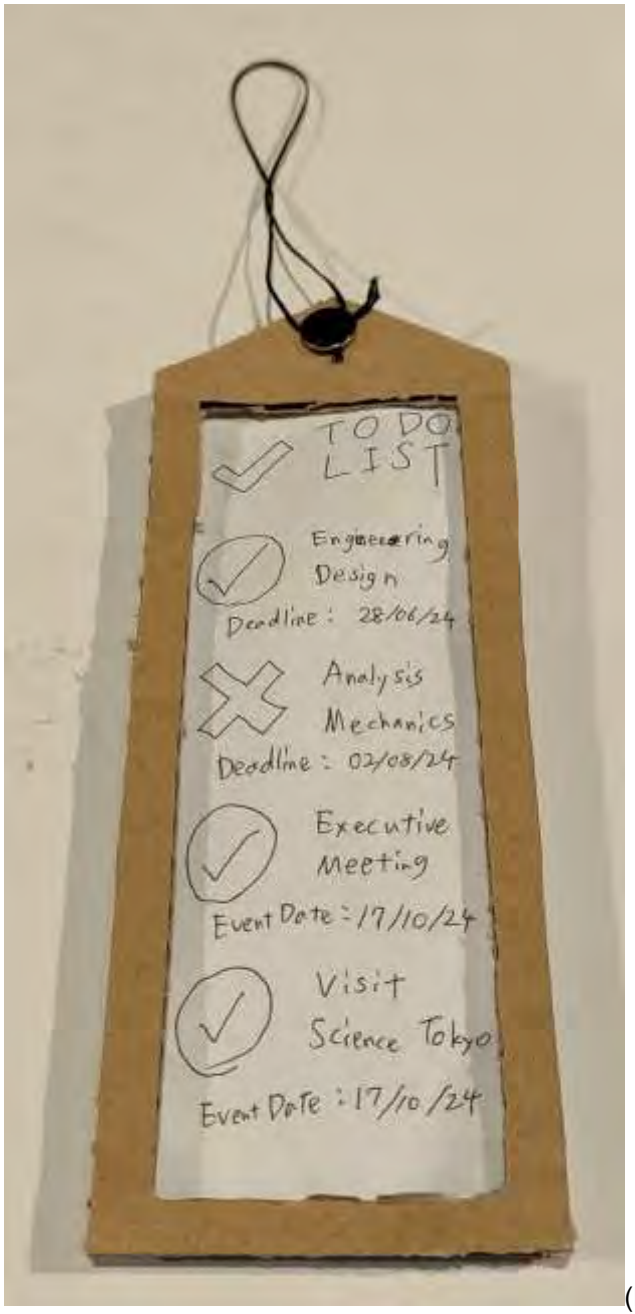
We proposed critical “How Might We” questions for the new product. How might we make people remember their dreams? How might we store and display goals better? How might we create tangible and attractive goal setting? We made sketches again according to these questions.



(newer sketches for E-Tanzaku)

Our Ideations came from traditional tanzaku and task managers in smartphones.

We composed E-TANZAKU prototypes in both physical and digital formats.



(Physical, To Do List form)

(Digital prototype, displaying scanned traditional tanzaku)

We also introduced a phone app to share their goals via social media. We also composed prototype for them.

(Digital Prototypes of the app: upper left=a form for writing messages, upper right= transferring data with E-TANZAKU via phones' NFC function, lower left= shared wishes, lower right=deletion)

After that, we revised or presentation, according to one professor. We practiced skits, added demonstrations of the product in our skit, added critical problems in slides, and adopted more images in slides instead of letters. We also clarified students' pain points in both skit and slides.

④ Program participants

Chun Ming WU, CHARLES TZW HOE POON, Seoyeon Bae, MIKAEL – WUJAYA, Sangcheol Han, SHAMBHAVA – SOOD

TEAM 2 = PRIME (PRIME always refers to the TEAM 2 for following sections)

⑤ Any difficulties you faced during the program

I have ear impairment and problems in my nasal structure. Thus, I could not speak or listen to well than other participants; nevertheless, all the members of PRIME assisted me a lot: saying again and with visual texts.

PRIME could not identify the users' needs as for 06/26. Tanabata itself seemed to be a too good event, which made us difficult for finding issues. As the interviews on 06/24, I felt like we have not so many needs or disadvantages of current situation at that time. Neither the target users nor their needs were not clear. This could have made our process of further than and including "DEFINE".

On 06/27, we conducted a further interview in lunch time. Then, we found a clear potential user as well as solid insights.
I analyzed the failure was caused by clarifying problems in Tanabata via interviews, which was in stuck. We solved the problem by not focusing on Tanabata itself but use Tanabata as inspirations.

⑥ Outcomes of your participation in the program

I learned one of the processes of "design" thinking.
Design thinking is a human-centered approach to satisfy the needs of users, and it is

researchers' necessary tasks for business success. Therefore, researchers must conduct five processes.

First, "EMPATHIZE" process first, which we target users and find 5W1H of users. In many cases, we find them through interviews. In the interview, they need an interviewee, an interviewer, and a recorder to secure what the interviewee provided the researcher.

Secondly, researchers conduct "DEFINE" process, which we define user needs and investigators' insights. Insights comes from surprises, contradictions, tensions, and reflects the users' true needs, which is not openly indicated.

Thirdly, researchers create "How might we…" question to ideate the product, although they have other ways of ideations.

The fourth process is prototype creations. The easiest way is using paper, but digital or more solid material is also welcome.

The final process is the user test. They must receive adequate advice from users with low cost. Hence, testing just 5 users is enough.
Researchers may iterate these steps to improve their products.

Our team followed the "Design Thinking" and obtained the result.
In this section, only the results are indicated, whereas detail process is on the 3rd section.
We propose STARPATH (E-TANZAKU + a phone app). This product targets college students. College students have enormous tasks to do, and they usually record them or their goals on the sticky notes. However, as sticky notes increase, students' desk become messy.

E-TANZAKU enables students to consolidate their goals and task records in the tanzaku. The product also provides progress tracking features. Students can classify their events by colors and set milestones to receive rewards to keep their motivations. Students can also share their contents on social media. Although the product aim for students, usages as new year's greeting cards, affirmations mnemonics and other purposes.

⑦ Any comments regarding "Japanese Culture Program

I joined the Japanese Culture Program as a local Japanese student. However, the programs of Noh and Bon Dance provided new knowledges for me.
For instance, one kind of Noh Flute can be separated into two pieces, which is unique to Noh Flute. Noh Flute also adopts metal in it, which assist playing Noh Flute in honed sounds.
On the other hand, the rhythm in Taiko in Bon dance was 4 beats per period, while the dance itself was sometimes 13 beats per period, which interested me.
I would like to express gratitude to those who engage in inheriting Japanese traditional cultures.

⑧ Any advice for students who wish to participate in a similar type of program

Please feel free to join this program since this program provides experiences of talking, conducting missions with international & exchange students. Sometimes you can be in the difficult situations during this program. Fortunately, all of team members help each other, and eventually you drive certain outcomes. Experiences of success in this program encourage participants' further projects, of course. However, failures as well as success provides significant information. They unleash perspectives one requires to improve.

Design thinking is a solid process. If you find difficulty, one of the steps may including ills, which also make further steps unjustified. If you identify malfunctions and fix it, then latter steps will be improved in turn.

9

ASPIRE Undergraduate Engineering Design Challenge 2024
Student Workshop
Completion Report

Report Date 2024 07 05

Your Name	Jinna Waiwattana		
Affiliation at Tokyo Tech	Department of Transdisciplinary Science and Engineering School of Environment and Society		
Student ID#	---	Current academic program year	B2
Presentation theme	Picha Picha Mame Teppo		
Program period	2024/06/24 to 2024/06/28		
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

① **The reason you joined the program**

I have been fascinated about design thinking since high school when I participated in a lecture by CEO of LUKKID Co., Ltd, a company that help organizations innovate through design thinking methodology. At that time, I was introduced to concept of design thinking in building career referencing to the book “Designing your life” written by lecturers at Harvard business school. When I heard about UEDC, I am really excited to apply because I want to do design thinking workshop emphasizing on engineering field with enthusiastic students from math and science fields.

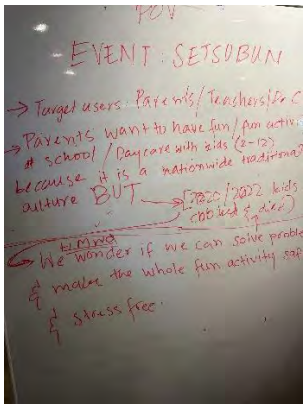
② **Pre-program preparations**

In 2nd year, TSE major provides a hand-on course called “System Design Project”. In this course, I and my groupmate learned to use design thinking steps to design innovative solution to improve campus experience in Tokyo Tech. Example of important takeaways I got are emphasizing users via interview, process of redesign prototype from user feedbacks and telling a story using skit.

③ Program contents, activities

Day1 The activities started with short ice-breaking session where everyone in the team introduced themselves with 3 words. After that professor talked about our main theme, Japanese festival calendar. We went through the first 2 steps of design thinking namely emphasize and define. We ended the day by presenting about the festival we chose, stakeholder map, journey map and POV.

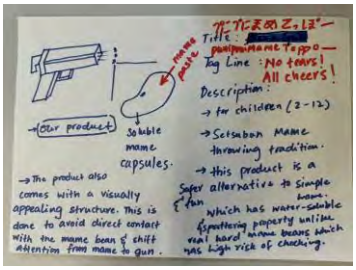
Day2 We revisited POVs from the day before and revised based on mentor's comments. After that we continued with the third step which is ideate in which we created How Might We Questions. We illustrated HMWQs by drawing sketches one people each. In the afternoon we left design factory and headed to west building 9 to participate in Noh and Taiko drum sessions.



Day3 It is prototyping day. Each team can use materials and tools such as paper, cardboard, printer, laser cutter, 3D printer etc. in the design factory to make prototype. We also wrote a skit script and created presentation slide.

Day4 We conducted user test on our prototype with Japanese people and international students in Taki plaza. We came back to improve prototype based on concerns from users. We added more functions to our prototype.





Day5 We mainly edited presentation slide to match the design thinking template in the morning. In afternoon we had final skit and pitch.

④ Program participants

My group consists of student from diverse expertise such as mathematical sciences, computer science, life science, transdisciplinary engineering. The members are Christian, Jeremy, Seungho, Pavit, Ireen and me. All of them are very active to propose their idea and thoughts. I was surprised by their creativity and imagination. It was very fun to collaborate with amazing STEM enthusiasts like them.

⑤ Any difficulties you faced during the program

It is challenge to participate in UEDC while keeping up with classes projects and assignments. For some class, absent due to UEDC deducts attendance score by significant amount which students cannot do anything to compensate for it.

As for the workshop, we have difficulties due to lack of deep understanding in Japanese festivals. Since we are not familiar with them, we may misunderstand the culture and reasons/meaning behind them. For the lecture about design thinking methodology, we were

confused sometime what we have to do because we were working one step behind so we didn't pay full attention to current step explanation.

⑥ Outcomes of your participation in the program

I have much clearer picture of what design thinking is. I have better understanding of importance of each step. The first step is empathize with the users to really understand their experience and need. In the beginning we couldn't know what tangible problem we should tackle and we shouldn't think ahead of solution in this first step instead we should focus on fact from user interview. The second step is define the pain point analyzed from empathize step. In this step we create POV including user needs and our insight (zawa zawa feeling). The third step is ideate the possible solution through asking how might we questions. There are many ways to ask HMWQ such as amp up the good, remove the bad and explore the opposite. The forth step is prototype the product in order to show how it looks like to users. It is important to note that prototype is built to just roughly show the appearance and function with cheap materials. Simple prototypes made by available materials is more preferable than those made from expensive materials. The final step is test where we present our prototype and storyboard to our target users and collect their feedbacks to iterate the process.

⑦ Any comments regarding "Japanese Culture Program

Japanese culture program was organized in a very engaging way through hand-on Noh's singing and Taiko drum session. I believe this would be the first time of many of us to learn about traditional Japanese performance. I really like how we have real drum Noh's mask and musical instruments as a demonstration.

⑧ Any advice for students who wish to participate in a similar type of program

If you are a kind of person who enjoy solving problem and learning Japanese culture, this program is perfect for you. This program is a very special opportunity to have fun creating innovative solution with new friends from different countries so don't forget to enjoy the moment and grab important takeaways during 1 week of the program. In addition, trying to be open-minded to new knowledge and different opinions.

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ASPIRE Undergraduate Engineering Design Challenge 2024

Student Workshop

Completion Report

Report Date 2024 07 05

Your Name	Shambhava Sood		
Affiliation at Tokyo Tech	2nd year Bachelor's (B2) Department of Transdisciplinary Science and Engineering School of Environment and Society		
Student ID#	---	Current academic program year	2024-25
Presentation theme	Japanese Star Festival (Tanabata) inspired E-ink Display // Task Manager		
Program period	2024/06/24 to 2024/06/28		
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

① The reason you joined the program

When I first heard about ASPIRE, I could deeply resonate with the ethos of the program. It aligned perfectly with my interests in combining system design with key engineering principles. The program's collaborative nature particularly appealed to me, as it offered a chance to learn the intricacies of engineering design while working with students from diverse backgrounds. The opportunity to engage with peers from around the world, exchange cultural insights, and learn from their varied experiences was immensely appealing.

When I looked into the progam further, I was ecstatic about the 'Japanese Cultural Program' on Day 2, which seemed like a great way to connect with international exchange students through a shared appreciation of Japan's rich cultural heritage and traditions. Viewing things through a scientifically curious lens, we could all learn and grow together during this unique 5-day odyssey. From the initial ice-breaking activities that would encourage us to step out of our comfort zones, to the extensive group-work sessions on fascinating projects, I was captivated by the program's potential.

② Pre-program preparations

At first, I surfed through the web to attain as much information as possible. The Tokyo Tech website provided most of what I needed regarding the itinerary and application process. I subsequently approached some of my seniors who had participated in the programme a year prior. In a way, their positive feedback bolstered my resolve, and I set out to speak to my Academic Advisor and Department Chair. After receiving a letter of recommendation from Prof. Abe, the GSEP[1] chair, I was ready to send in my application.

③ Program contents, activities

Schedule

	June 24 (Mon)	June 25 (Tue)	June 26 (Wed)	June 27 (Thu)	June 28 (Fri)
10:45~11:35	Ice Break & Orientation	Instruction	Instruction	Instruction	Group Work
11:35~12:25		Group Work	Group Work	Group Work	
13:30~14:20	Instruction	Japanese Culture Program	Instruction	Instruction	Group Work
14:20~15:10	Group Work		Group Work	Group Work	
15:25~16:15					
16:15~17:05	Feedback Meeting	Feedback Meeting	Feedback Meeting	Feedback Meeting	Final Presentation & Reception

Day 1: June 24

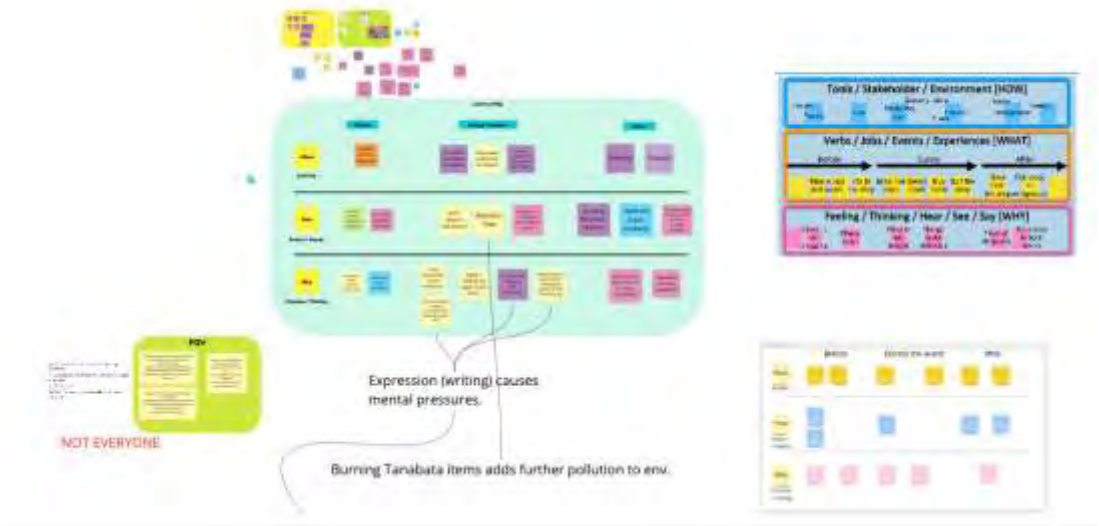
Schedule: 10:45-12:25, 13:30-17:05

- **Activities:** Ice-breaking, team formation, simple collaboration, lecture on design thinking
- **Reflection:** Meeting my group members for the first time was a memorable experience. Everyone seemed highly team-spirited, genuinely curious, and excited about the program. As Tokyo Tech students, we did our best to introduce the exchange students in our group to Japanese language and culture, answered their questions, and recommended places for them to visit. We also took them on a mini campus tour, and it was clear that we all matched each other's vibes well.

[1] GSEP: Global Scientists and Engineers Program—an interdisciplinary Engineering program offered by the School of Environment and Society—taught completely in English

Our Group (Team 2: PRIME)

After a quick lunch at the cafeteria, we began brainstorming the problem we wanted to tackle. We decided to focus on 七夕 (the Japanese Star Festival) because wish-making resonated with all of us from our childhoods. We then created a journey map to guide our project.



Rough Journey Map that we had created using Miro

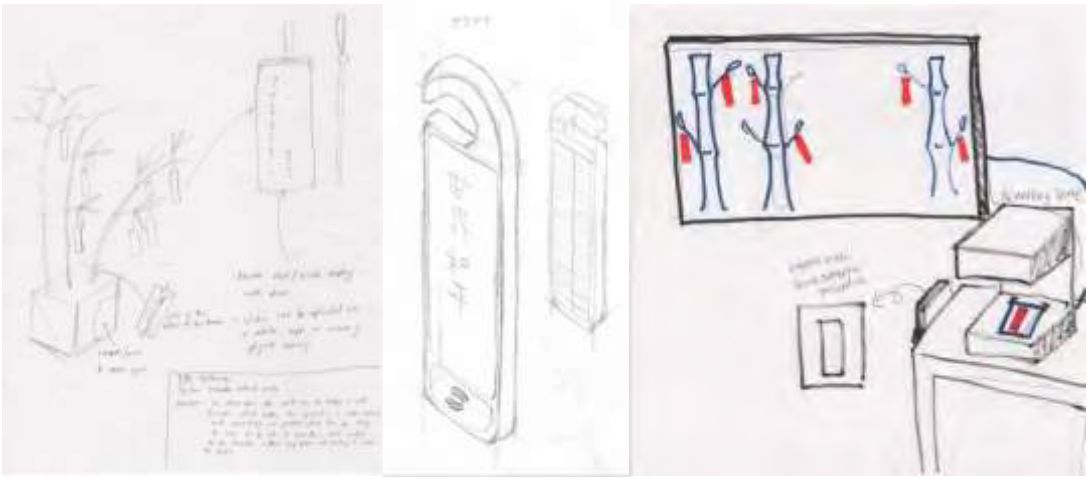
プライム

Team 2 (PRIME) Emblem—Composed of 7 pieces of‘Tanzaku’ in Symmetric Arrangements

Day 2: June 25

Schedule: 10:45-12:25, PM: Japanese Culture Program at Tokyo Tech

- **Activities:** Introduction to Japanese society, culture, and technology; explanation of problems to tackle; concept designing by team
- **Reflection:** We quickly sketched problems associated with 七夕 (Tanabata) and proposed solutions. This was followed by an incredible Japanese cultural exchange program, which I elaborate on in section 7 of this report.



Some of our Early Sketches from Day 2

A Glimpse from the Japanese Cultural Exchange Program

Day 3: June 26

Schedule: 10:45-12:25, 13:30-17:05

- **Activities:** Selection of a design concept, 2D prototyping, improvement of the design concept
- **Reflection:** We began developing our first prototype: a digital display that could be hung on a bamboo tree, accompanied by a smartphone application to write and display wishes digitally on the e-tanzaku. We were excited about our progress but received valuable feedback during user tests. Concerns were raised about the complexity and cost of using bamboo and expensive displays. A mock presentation helped us realize the need to simplify our concept and define our target audience more clearly.

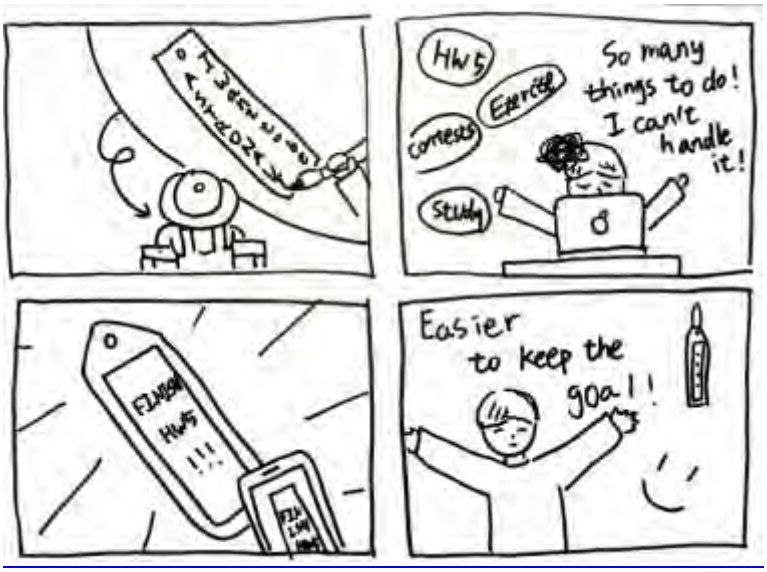
Early Prototype—Hangable E-Tanzaku along with a Large Screen Displaying Unique Animations that can be enjoyed by Kids and Adults alike

Mock Presentation & Skit

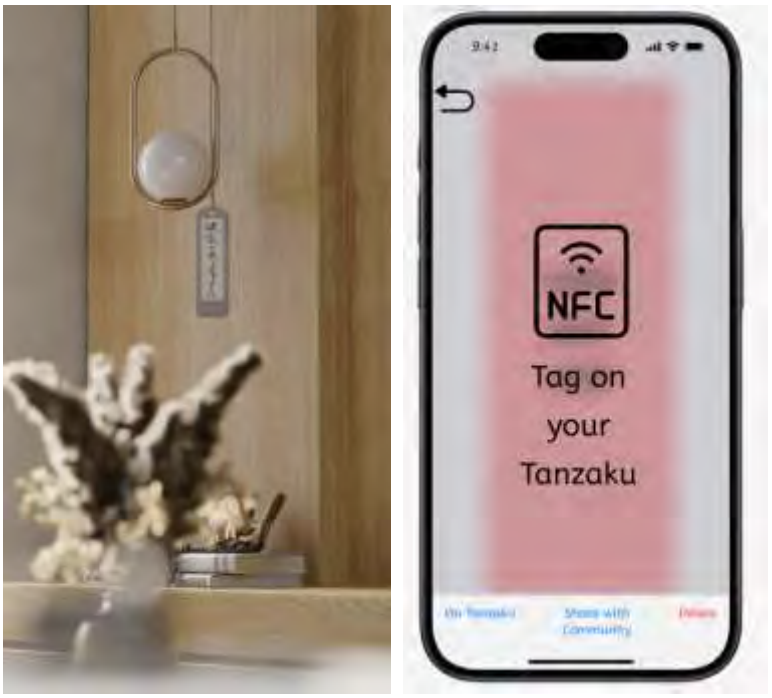
Day 4: June 27

Schedule: 10:45-12:25, 13:30-17:05

- **Activities:** Preparation for final presentation, 3D prototyping, demonstration preparation
- **Reflection:** We decided to drop the bamboo and focus on an e-display for task management. We developed a mock app and modeled an e-tanzaku that could be hung in a room using a string or magnets. A short manga panel helped visualize our concept effectively.



Manga Panel for Easy Visualization



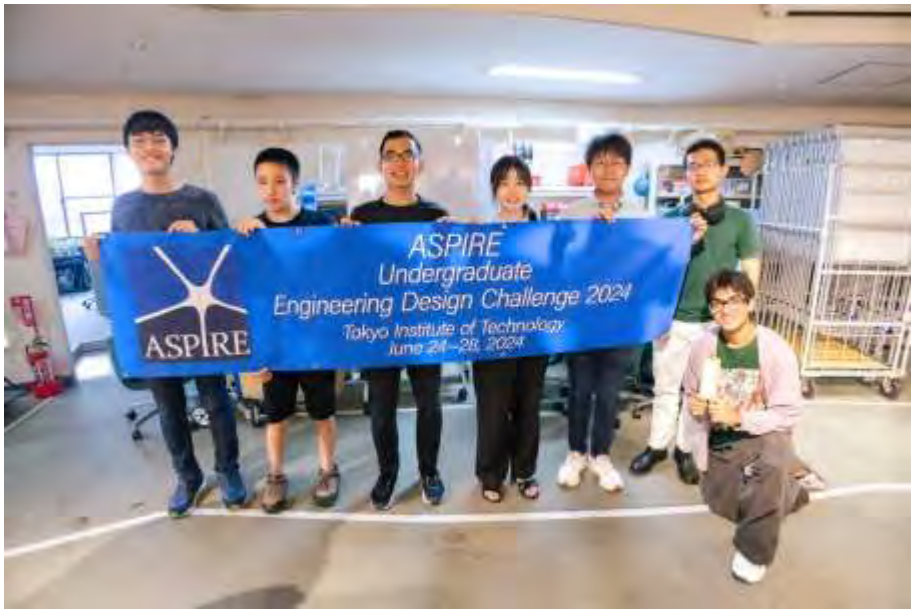
3D Modelling & Working Prototype of the Smartphone Application

Bonus: At the end of Day 4, once everyone was done with the activities, we had an informal karaoke session with some of the exchange students. Everyone involved had an magnificent time. It was truly one of the highlights from my time here at ASPIRE.

Day 5: June 28

Schedule: 10:45-12:25, 13:30-17:05

- **Activities:** Preparation of final presentation, final presentation, casual reception with hors d'oeuvre box
- **Reflection:** We finalized our prototype and practiced our skits and pitch. Our presentation received positive feedback, and we enjoyed seeing the creativity of other teams. The program concluded with a casual reception, where we shared a delicious hors d'oeuvre box. Saying goodbye to the exchange students was bittersweet, but the memories we made will be cherished forever.



The Final Picture we took Together as Team 2

Delicious Japanese-style Hors D'oeuvre Box from the Final Day

Final Moments

④ Program participants

Team 2: PRIME

- Shambhava Sood
- Chun Ming Wu
- Charles Tzw Hoe Poon
- Seoyeon Bae
- Mikael Wijaya
- Sangcheol Han

⑤ Any difficulties you faced during the program

Facing adversities is at the very core of the design process. From planning to execution, identifying and addressing problems, conducting user tests, and iterating are all essential steps until you reach a satisfactory outcome, or as I call it, the point of saturation.

Particularly, once our team decided on 七夕 (Tanabata: Japanese Star Festival) as our focus, we began identifying concerns to address. After multiple cycles of user interviews, we realized that 七夕 is but an allegory of optimism and hope. While this aspect is wonderful, it made pinpointing a specific issue with the festival challenging.

We had to shift our approach, using the festival as a tool to instill in our users a sense of positivity and the motivation to pursue their dreams.

⑥ Outcomes of your participation in the program

This program provided exactly what I was looking for. I met a group of extraordinary, determined, and talented young people who inspired me to work harder and smarter. I forged new friendships and acquired memories that I'll cherish for a lifetime. The atmosphere was invigorating, and everyone involved displayed genuine passion and care for each project.

In terms of content, Inaba-sensei's lectures thoroughly covered the necessary aspects of system design, providing ample knowledge and technical know-how to systematically tackle the problems at hand. I appreciated his succinct explanations and willingness to support us throughout our journey. I deeply admired his resolve as he led the event with such zeal and fervor.

Overall, the five-day program was highly fruitful and included some extremely fun moments with my team and many of the other exchange students. The cultural exchange was my favorite aspect of the program.

⑦ Any comments regarding "Japanese Culture Program

It was a phenomenal experience, to say the least.

In the first half, I was completely immersed in Anno-san's lecture on Noh performances. It provided a glimpse into Japanese theater, and the props she brought along helped visualize the marvel firsthand. She also performed music from the 'Lion Dance' in the play 'Shakkyo' using the nohkan (Japanese flute) and allowed us to use the otsuzumi (hip drum) and kotsuzumi (shoulder drum) that she brought with her. I thoroughly enjoyed her segment.

The latter half featured a taiko (large Japanese drum) performance by guest performers from Yukigaya Taiko. It was an electrifying experience, further enhanced by the performers' zestful and high-spirited nature.

It was Quite Fun getting to Play the Traditional Taiko Drums after witnessing such an Incredible Performance from the Professionals

⑧ Any advice for students who wish to participate in a similar type of program

I would highly recommend this program to anyone who is looking for a more hands on approach to learning. It's an indispensable opportunity to interact and work with a diverse set of individuals. If you approach ASPIRE with an open mind, you will discover the uniqueness of everyone's perspectives and how their ideas can come together to create something truly special.

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ASPIRE Undergraduate Engineering Design Challenge 2024
Student Workshop
Completion Report

Report Date 2024 06 05

Your Name	---		
Affiliation at Tokyo Tech	GSEP Studet		
Student ID#	---	Current academic program year	3
Presentation theme	Chocolate tempering bowl for Valentine's Day		
Program period	2024/06/24 to 2024/06/28		
Posting to the web	This report may be posted on the Tokyo Tech website. Would you prefer to have your name included or excluded from the report if it is uploaded? Include / Exclude		

Report contents

① **The reason you joined the program**

In my opinion, the program was a way to simulate product development at an undergraduate level. I joined the program primarily to interact with fellow students from other esteemed universities and to build a project with them to understand the youth culture in these other countries. Secondarily I wanted more hands-on experience when it comes to the process of "user interviews" and "prototype sketching". I have previously taken a similar class at Tokyo Tech and wanted to do it once again.

② **Pre-program preparations**

The pre-program preparations were minimal. I had to prepare my IELTS score and attain a recommendation to apply for the program. Once my application was accepted, I cross-checked the program schedule as it overlapped with all of my classes from 2024/06/24 to 2024/06/28 and notified the respective professors about my participation in this program as the reason for my absence.

③ **Program contents, activities**

	June 24 (Mon)	June25 (Tue)	June26 (Wed)	June27 (Thu)	June28 (Fri)
10:45-11:35	Ice break & Orientation	Instruction	Instruction	Instruction	Group Work
11:35-12:25		Group Work	Group Work	Group Work	
13:30-14:20	Instruction	Japanese Culture Program	Instruction	Instruction	Group Work
14:20-15:10	Group Work		Group Work	Group Work	Final Presentation & Discussion
15:25-16:15					
16:15-17:05	Feedback Meeting		Feedback Meeting	Feedback Meeting	

Day1:

The ice-breaking session began 10:45 am onward. The main prompt was

“Describe yourself in three words”. After discussing in accordance to the main prompt, we could chat with our team-mates and branch out to other topics as well in order to create a relaxed work environment. Next was the orientation. Here, we were explained the goal of the workshop and were also given the design prompt. We had to design a product, system or service that would be purchased only by Japanese people. We had to design a team crest, select a Japanese event and design a product pertaining to our selected event. Our team settled on Valentine’s Day. Next, we interviewed the potential stakeholders (people who celebrate valentine’s day) and came up with potential problems that could occur on Valentine’s Day based on the interviews.

Day2:

The second day was another user interview and making very rough prototypes. The second half of the day (after lunch) was spend enjoying the Japanese culture program.

Day3:

The third day involved the selection of a design concept, 2D prototyping it and improving on the design concept. We had made multiple concepts so far including a chocolate pen, a customizable chocolate making kit and a chocolate mold. However, so far, none of our ideas has had the best of reception. After a more rigorous discussion we came up with the idea of a temperature control chocolate mixing bowl for chocolate melting and tempering

Day4:.

On the fourth day, we created a 3D prototype and dealt with finessing the aspects of our product that could cause a few problems. We set the target demographic, added features like a rechargeable battery, silicone coating and made it to be available in three sizes.

Our project:

Day5:
On the final day, we made our team crest and conducted the final presentations

④ Program participants

Korean Advanced Institute of Technology
The Hong Kong University of Science
Technology Nanyang Technological University
Tokyo Institute of Technology (host university)

⑤ Any difficulties you faced during the program

The crux of the difficulty we faced during the course of the program was to getting to the root of the problem. Our problem was the chocolate making prices during Valentine's Day, however it took us a considerable amount of time to answer questions like "why chocolate?", "why do women want to make chocolate?" And "why would they worry about making chocolate?".
Another challenge was to not stick to one idea in the initial stages of the prototyping process. We fell in the trap of thinking about the solution before thinking about the problem in the initial stage of the program. Professor Inaba and the TAs eventually directed our attention back to thinking about the problem.

⑥ Outcomes of your participation in the program

The best outcome was that it instilled a newfound sense of confidence in me regarding working in groups. Previously I mostly played my role in the group silently. However, the workshop environment was very encouraging and friendly and helped me open up to my group members a lot regarding pitching ideas, making suggestions and even making changes to the design and prototype.

⑦ Any comments regarding “Japanese Culture Program

The Japanese Culture Program was conducted on the second day of the workshop and was thoroughly enjoyable! The first act was about the art of Noh. We learned about the purpose of the iconic Noh masks and even had the opportunity to try and play some of the instruments used to create the background music for a typical Noh play.

The second act was Bon Odori. We were taught how to beat the drums and eventually were even able to dance the Bon Odori to the beat of the drums. The performers were lively and really good teachers

⑧ Any advice for students who wish to participate in a similar type of program

Keep a very open mind and trust the process. Encourage democratic decision making in the team despite the fact that your idea may not always get picked. You can always add a little personalized twist by openly making suggestions when it’s time to make a decision again but also make sure that the other group members do not feel left out. And make sure to talk to people outside your group and make a lot of friends as well!

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ASPIRE Undergraduate Engineering Design Challenge 2024

Student Workshop

Completion Report

Report Date 2024 06 XX

Your Name	Ireen Tasnim progga Islam			
Affiliation at Tokyo Tech	Student			
Student ID#	---	Current academic program year	4th	
Presentation theme	Picha Picha Mame Teppo - A fun device to make Setsubun safer			
Program period	2024/06/24 to 2024/06/28			
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			

Report contents

1 The reason you joined the program

My primary motivation for joining the ASPIRE League challenge was to delve deeper into the principles of design thinking and to engage in collaborative activities with peers from different universities. I sought to expand my knowledge and skills in engineering design while experiencing the unique perspectives that students from diverse academic backgrounds bring to the table.

2 Pre-program preparations

While I did not engage in extensive pre-program preparations, I made sure to familiarize myself with the program dynamics by exploring the official website. This helped me gain a basic understanding of what to expect and how to prepare mentally for the collaborative and intensive nature of the challenge.

3 Program contents, activities

Day 1: Ice-Breaking and Initial Collaboration

The first day was all about getting to know each other and setting the stage for effective teamwork. We started with ice-breaking activities, which helped to create a comfortable and friendly environment. Following this, teams were formed, and we participated in simple collaborative exercises. A lecture on design thinking provided a solid foundation for our subsequent tasks. We planned and conducted interviews, created journey maps, walked

through Points of View (POV), and received feedback, which set the tone for the rest of the challenge.

Day 2: Cultural Immersion and Problem Explanation

On the second day, we were introduced to various aspects of Japanese culture and art forms, which was crucial for understanding the context of the problems we were set to tackle. Each team began concept designing, revisited their Points of View (POVs), and formulated How Might We Questions (HMWQs). We also sketched initial ideas for our projects.

In the latter half of the day, we had the privilege of experiencing a beautiful demonstration of Noh music by Anno Mariko Sensei, followed by a grand performance of Japanese drums by Yukigaya Daiko.

After the cultural session we took this fun photo

Day 3: Prototyping and Concept Refinement

The third day was dedicated to 3D prototyping and refining our design concepts. We focused on improving our prototypes based on feedback and iterative testing. In addition to the hands-on prototyping, we prepared a skit to demonstrate our prototype and pitch our ideas effectively.

Day 4: Final Prototyping and Demonstration Preparation

Continuing the momentum, day four was spent on further 3D prototyping and preparing for the final demonstration. Each team worked diligently to ensure their prototypes were functional and visually appealing. We also rehearsed our presentations to ensure a smooth and compelling delivery.

Day 5: Final Interviews and Presentations

A small glimpse From our Final Presentation

The final day was both exciting and nerve-wracking. We conducted further interviews using our final prototypes to gather last-minute feedback and make any necessary adjustments. The remainder of the day was spent on final preparations for our presentations. The grand finale involved presenting our projects to our Senseis and peers, showcasing our hard work and creativity. The day concluded with a celebratory dinner with very delicious food with our teammates, reflecting on the journey we had undertaken together.

4 Program participants

The ASPIRE Undergraduate Engineering Design Challenge united undergraduate students from diverse disciplines from Tokyo Tech, NTU, KAIST, HKUST, and Tsinghua.

5 Any difficulties you faced during the program

It was quite a complex task to find a crucial issue within the japanese events Initially, we attempted to identify the problems that may be problematic during such monumental events as Christmas and New Year's. However, after multiple interviews and much research, it dawned on us that a bigger problem during the events was the feeling of loneliness, an issue too complex to sort out with a single tangible solution. So, our focus shifted to the Setsubun, and we intended to create a fun and safe device for kids to enjoy the day more. Also, we encountered one problem in conducting the interviews: not everybody in the group spoke Japanese. But, we managed to cross the language barrier tangibly and effectively, developing an engineering solution and completing the mission.

6 Outcomes of your participation in the program

Reflecting on my participation in the ASPIRE Undergraduate Engineering Design Challenge, I recognize several valuable outcomes that have emerged from this transformative experience. The program's impact on my personal and professional growth is significant, and I am eager to share the insights gained during this journey.

One of the most enriching aspects of the challenge was the opportunity to form meaningful connections with participants from diverse backgrounds. Engaging with a wide range of unique viewpoints and experiences broadened my horizons and enriched my understanding of various subjects.

Moreover, the program provided me with a profound understanding of the perspectives and ideas that resonate within Japanese culture. As an international student in Japan, this insight is crucial for fostering effective collaboration with Japanese colleagues and stakeholders. Appreciating their cultural context will undoubtedly enhance my ability to work efficiently and contribute positively to future projects.

Additionally, the challenge facilitated a deeper insight into problem-solving through the "Design Thinking" approach. This hands-on experience allowed me to understand and apply the fundamental steps involved in this methodology, which will undoubtedly prove beneficial in addressing complex issues in my future projects. The emphasis on problem analysis, interviews, and collaborative teamwork has significantly enhanced my problem-solving abilities.

Overall, participating in the ASPIRE Undergraduate Engineering Design Challenge has been an incredibly rewarding experience. It has equipped me with valuable knowledge and skills, fostered cultural understanding, and provided me with an expanded network of like-minded individuals. Most importantly, I thoroughly enjoyed the program and look forward to applying what I have learned in my future endeavors.

7 Any comments regarding “Japanese Culture Program

This cultural immersion was not only enlightening but also invigorating, as we had the opportunity to participate in the drum performance. I was quite surprised to see the similarities between Japanese drums and the Bengali Dhaak. Much like Bon Odori, during Bengali New Year or Durga Puja (a Hindu festival), the streets of Dhaka come alive with the sound of Dhaak, a traditional Bengali drum. I hadn't heard that grand, powerful, and lively sound in a long time, and the moment the Yukigaya Daiko team began their performance, my heart started dancing, and a wave of nostalgia washed over me.

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

Firstly, I highly recommend this program for students eager to meet new people and gain insights from different perspectives. The group work involved fosters collaboration, allowing students to build strong connections with peers from diverse backgrounds as well. Secondly, for those looking to enhance their presentation skills, this program offers numerous opportunities to present ideas and projects, significantly improving communication and public speaking abilities. Lastly, if you have a genuine interest in learning more about design thinking, you will thoroughly enjoy this program. It provides not only theoretical knowledge but also practical experience through hands-on projects with your teammates.