APT Young Professional and Students Programme (APTYPS) 2022

"IoT Smart Challenge for Agri-Tech Sector"

Project Competition

FINAL REPORT

PREPARED BY

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Executive Summary

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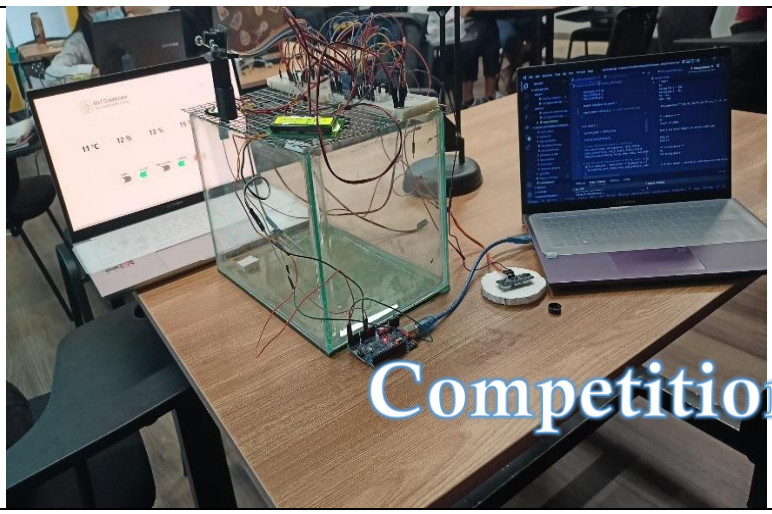
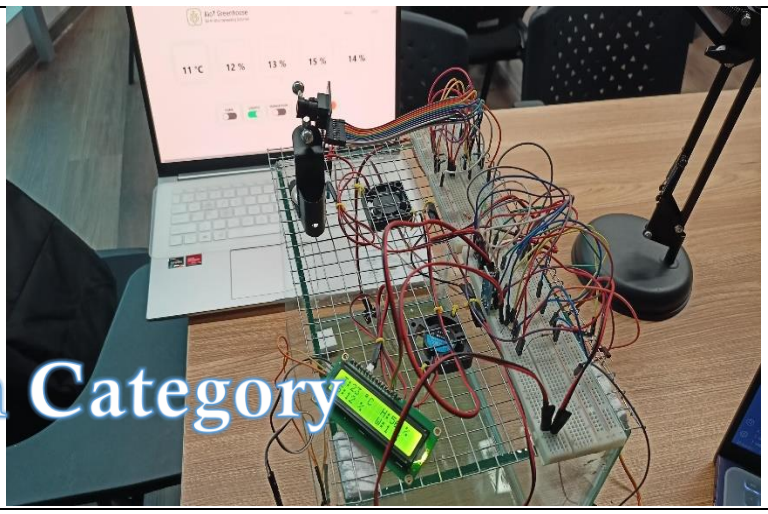
APT young professional and students programme (APTYPS 2022) " IoT Smart Challenge for Agri Tech Sector '' Competitions in Myanmar proved to be help for using the IoT technology continues to gain momentum in the modern industry in Myanmar, help farmer, researchers and tech enthusiasts are readily investing in the development of pioneering IoT projects. The IoT smart Challenge project method revolves all students participating for several create idea design to match with in current situation Myanmar agriculture Market. The competition experience helps to transfer technology applied methods and skill tools for hardware , network connectivity , cloud with new technology of AI & using components like Arduino mainboard controller, wireless & sensors, cloud real time management, acquiring skills in designing and programming.

The APTYPS 2022 programme, the “IoT Smart Challenge for Agri-Tech Sector" Project competition, will be held with base the following:

The aim of this market insight is to highlight the key technological developments in the field of agriculture, with a focus on enabling technologies that will transform the agriculture sector in ASEAN countries including Myanmar. It will discuss smart farming, and the crucial role which is set to address the major challenges of growing food demand, soaring operating costs, climate change, food safety, and nutrition loss. It explains how Internet of Things (IoT) can be applied in the agriculture sector, in light of precision agriculture for optimum resource utilization. It will also analyze with the main challenges faced by farmers, such as depleting water supplies.

There are many new entrepreneurial developments emerging in Myanmar, especially in the ICT-sector (coding, programming, and robotics). Based on knowledge taught and/or developed in our universities, young entrepreneurs are ready to start their own businesses. Besides start-up companies, existing companies could also benefit from the talent and the knowledge that is generated in universities and research institutes. The interaction between academia and business is, however, not very well developed in Myanmar. Improving this interaction will make universities more aware of business needs (in terms of knowledge and capabilities of graduates) and will also make businesses more aware of the knowledge and capabilities of research organizations.





Competition Category

Organizing each of the competition Events followed and improved established be Senior and Junior Project Competition.

- **Junior Project Competition**

Participants are required to build an own create idea and to aid organization and private school in country. A team member must be 2 members and one coach. All team members from currently enrolled at same high schools.

- **Senior Project Competition**

Participants are required to build an own create idea and to aid organization and school, universities and country. A team must be 2 members and they are currently enrolled at the same universities.

Senior and Junior participants need to follow by competition Guide and Rules assessment.

Support to each teams will be granted for assessment kits with Arduidno Based controller.

Competition shall be divided into 2 categories and qualifications for each category are same as follows:

*(See on Attachment **Annex -1**).*

Area of Projects types: Concept of project ideas allied with Agriculture Business with farm

Mission Events Summary: The contestants are to demonstrate any kind of IoT smart farm /structure that performs useful tasks for application of this year APT2022 IoT Smart Championship theme.

Criteria:

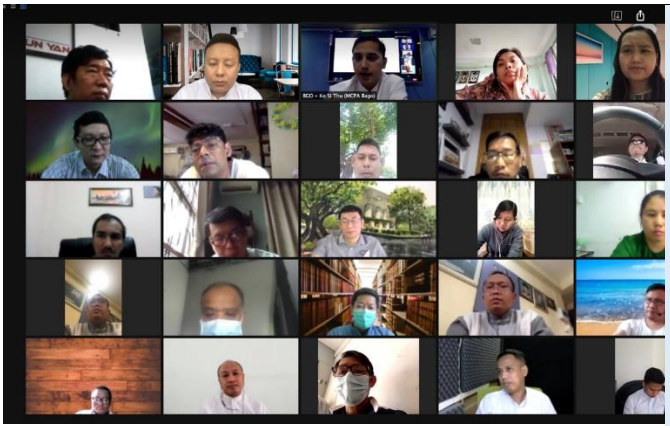
- The competing robots/structures, which can be self-navigating or remote controlled, will perform their capability for a period of time.
- The robots/project structures may move freely at any field type of agriculture system (e.g. Smart farming, soil & moisture, fertilizing land, pest control, water system or etc.).
- Participants may submit a video clip or digital photographs of their entry to the organizer for evaluation purposes.
- Design by Originality
- Using the robots/project structures must be any IoT based Arduino controller board as the main core/s of the system/s & microcontroller.

For young professional and students programme 2022

Qualification	Category	
	Junior Project Competition	Senior Project Competition
Nationality	Myanmar	Myanmar
Age	12 - 16 Years	17 – 20 Years
Degree Level	7 standard to 10 standard	Undergraduate students from all universities, private & international schools in Myanmar

Figure 1: Press release for APT Young Professionals and students Programme 2022

Press release on Date – June 6th 2022 , Invited to news channel and medias , technical & computer university of Yangon regional and other state . To release news and call for Participation, requiring teams application form download from website www.mcpamyanmar.org , https://www.facebook.com/photo/?fbid=134721062629312&set=pcb.134732469294838
(See on Attachment **Annex–2**)



Screening and Evaluation support

- Organizing committee received participation several teams of school and private university from state and regional of Myanmar.
- Screening and Evaluation result by date of 12 August 2022.
- Selecting the qualified teams from among the applicants ; only short listed 18 teams participate in two categories for Project competition by 12 August 2022. (*See on Attachment Annex – 3*)
- Support to each team members for robotic accessment kits with IoT Projects Arduino controller.
- Delivering the final version of the rulebooks, scoring criteria, modules and metric for benchmarking about 1 month before the actual competition dates. Check on Attachment rule assessment guide. (*See on Attachment Annex – 4*)
- Support for Teams several devices and software modules required by the competition rules.
- Preparing materials for teams (shirts, schedule).

DETECT TESTING AND PRACTICE WITH ARENA

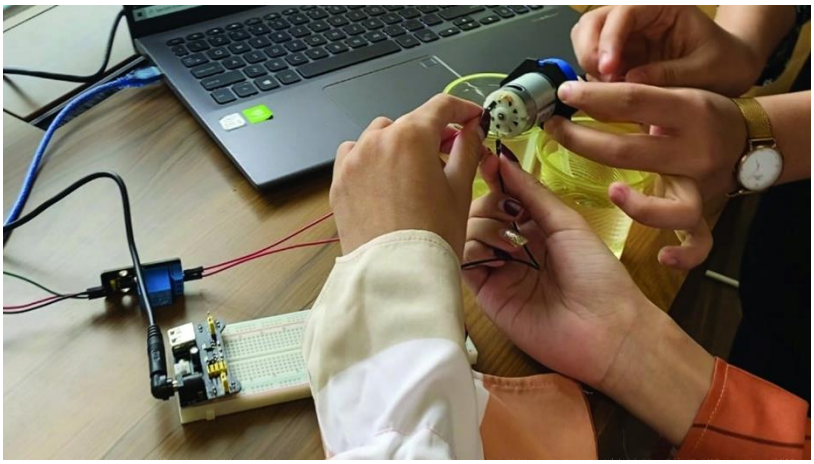


Figure 2: Test Drive on Prototype

- Preparing the testing equipment's IoT Smart Project Competition and detect software module for programming by Date of 7, August 2022, 1, November 2022.
- Explain rules and guide, to establishing a schedule for the competitions and their different components.
- Preparing the test drive on prototype video clip and powerful part for demonstration practice.

Competition

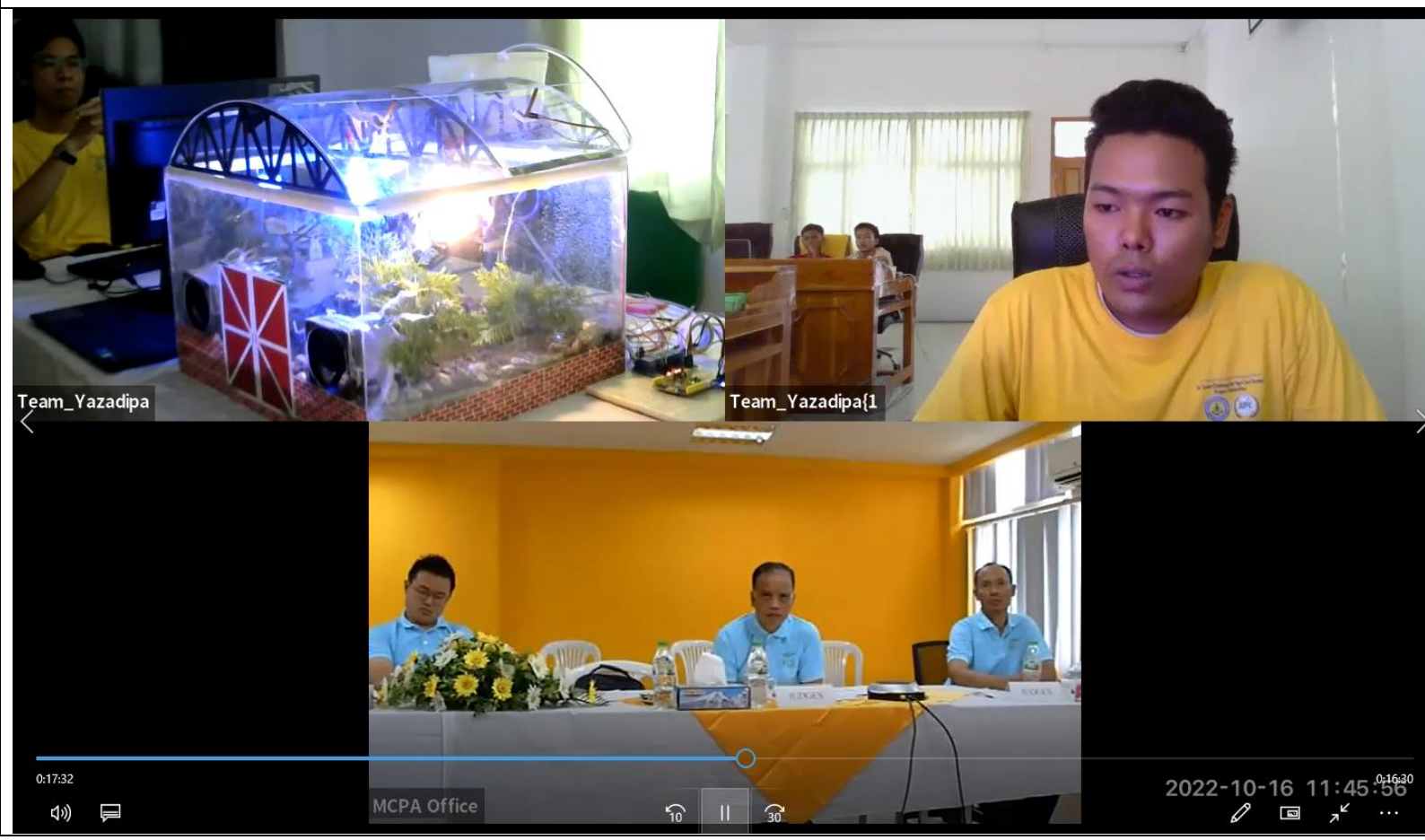
Date	:	16, October 2022 (Saturday)
Time	:	9:30 AM to 3:30 PM
Venue	:	Online (Zoom), Offline (Kanaung Hub, MICT Park, Yangon)

Award Ceremony

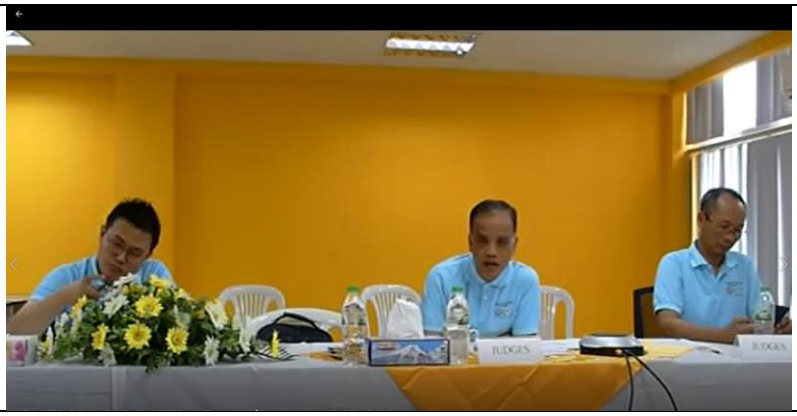
Date	:	5, November 2022 (Saturday)
Venue	:	Kanaung Hub, MICT Park, Yangon, Myanmar
Time	:	9:00 AM to 12:00 NOON
Best Concept & Performance award	:	choose best three of each senior and junior level on during competition
Award Winner Ceremony	:	11:00 AM – 12:00 NOON
Media	:	Facebook Page, MRTV-4, MCF Websites, Myawaddy Channel

Event Gallery

Online Competition



Online Competition Judges



Offline Competition Judges

Offline Competition

Offline Competition

Senior Team Award

No.	Team Name	Prize	Title	University
1	A.I Cloud Greenhouse	1st Prize	AIoT Greenhouse	AUSTON University
2	SFT	2nd Prize	Digital Greenhouse using Hydroponic and Aquaponic Methods (Tower Type)	University of Computer Studies, Yangon (UCSY)
3	Team Brewers	3rd Prize	IoT Smart Green House System	Technological University (Monywa)

Junior Team Award

No.	Team Name	Prize	Title	Private School
1	Twin Star	1st Prize	Plant nutrition with water and sunlight	Kye Sin Thoon Computer Training Centre
2	AUTOBOT	2nd Prize	Smart IoT Green House System	Institute of International Professionalism
3	Star Light	3rd Prize	Nutritional Enrichment	Kye Sin Thoon Computer Training Centre

Performance Award

No.	Team Name	Title	University
1	We are GROOT	Green Heaven	AUSTON University
2	Double K	Crop Guardian	AUSTON University
3	Colleens	Smart Fruit Sorting System	AUSTON University
4	E-Tractor Robotians	Poultry Automation	University of Computer Studies, Yangon (UCSY)
5	The Cultivators	Smart Monitoring and Caring System For Crops	Yangon Technological University (YTU)
6	YAZADIPA	IoT Based Smart Farming Controlling System	Computer University (TaungNgu)
7	Black Titans	IoT Irrigation for Paddy Field	Computer University (TaungNgu)
8	Robo Braniacs	Kalanganic	AUSTON University

Media Facebook View

Officially Live Facebook views on page
https://www.facebook.com/photo?fbid=1434806217533356&set=pcb.1434796584201119

Awarding Ceremony

Figure 1: Opening Address by Admiral Tin Aung San, Chairman of Myanmar Computer Science Development Council, Union Minister for Ministry of Transport and Communications

Figure 2: Congratulatory Remark by Special Guest Mr. Masanori Kondo, Secretary General of the Asia Pacific Telecommunity (APT)

Figure 3: Explanation about the Competition by U Myo Swe, Director General of Posts and Telecommunications Department, Ministry of Transport and Communications

Figure 4: Remarks by U Min Zeyar Hlaing, Chairman of Myanmar Computer Federation

Figure 5: 1st Prize of "IoT Smart Challenge of Agri-Tech Sector" Project Competition (Junior)

"Twin Star" Team

Figure 6: 2nd Prize of "IoT Smart Challenge of Agri-Tech Sector" Project Competition (Junior)

"AUTOBOT" Team

Figure 7: 3rd Prize of "IoT Smart Challenge of Agri-Tech Sector" Project Competition (Junior)

"Star Light" Team

Figure 8: 1st Prize of "IoT Smart Challenge of Agri-Tech Sector" Project Competition (Senior)

"A.I Cloud Greenhouse" Team

Figure 9: 2nd Prize of "IoT Smart Challenge of Agri-Tech Sector" Project Competition (Senior)

"SFT" Team

Figure 10: 3rd Prize of "IoT Smart Challenge of Agri-Tech Sector" Project Competition (Senior)

"Team Brewers" Team

Figure 11: Performance award of "IoT Smart Challenge of Agri-Tech Sector" Project Competition (Senior)

"We are GROOT" Team

Figure 12: Performance award of "IoT Smart Challenge of Agri-Tech Sector" Project Competition (Senior)

"Double K" Team

Figure 13: Performance award of "IoT Smart Challenge of Agri-Tech Sector" Project Competition (Senior)

"Colleens" Team

Figure 14: Performance award of "IoT Smart Challenge of Agri-Tech Sector" Project Competition (Senior)

"E-Tractor Robotians" Team

Figure 15: Performance award of "IoT Smart Challenge of Agri-Tech Sector" Project Competition (Senior)

"The Cultivators" Team

Figure 16: Performance award of "IoT Smart Challenge of Agri-Tech Sector" Project Competition (Senior)

"YAZADIPA" Team

Figure 17: Closing Remarks by Mr. Zaw Win Tun, Secretary of Myanmar Computer Professionals Association

Figure 18: Group Photo of Awarding Ceremony

CONCLUSION

Successfully ! And It's about Time.

Today we find most IoT Smart Project working for farm in agricultural sectors in Myanmar. IoT Smart things are useful in many ways. For instance, it boosts economy because businesses need to be efficient to keep up with the industry competition. Today IoT Smart Project roles include assisting research for university and industry in Myanmar. Our goals are university students to be participant world competition in future. Finally, as the technology improves, there will be new ways to use technology which will bring new hopes and new potentials.

ACKNOWLEDGEMENTS

Thanks you very much to Admiral Tin Aung San, Chairman of Myanmar Computer Science Development Council, Union Minister for Ministry of Transport and Communications, special guest from APT, Mr. Masanori Kondo, Secretary General of the Asia Pacific Telecommunity (Asia pacific tele -community), and U Myo Swe , Director General of Posts and Telecommunications Department, Ministry of Transport and Communications and then Mr. Min Zeyar Hlaing, Chairman of Myanmar Computer Federation. Special thanks for all of their financial support contribution of APT young professionals and students in Myanmar. Also Thanks support from Ministry of transport and communication and Myanmar Computer Federation.

Organizing Committee for Events

Myanmar Computer Federation (MCF)

Myanmar Computer Professionals Association (MCPA)

Reference

Opening Video Clip

Organizing Committee

Myanmar Computer Professionals Association (MCPA)

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