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APT Young Professionals and Students Programme 2020

"Innovative Robot" Project Competition

FINAL REPORT

PREPARED BY

MYANMAR COMPUTER PROFESSIONALS ASSOCIATION

MCPA | MYANMAR
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Executive Summary

APT young professional and students programme (APTYP2020) “Innovative Robotics” competitions in Myanmar proved to be creative technology-based community, impact young professional student interest in technology, their motivation to engage with technology, and with their confidence in their own ability to continue their technology explorations. The “Innovative Robotics” method revolves around all students participating in several idea design processes. The competition experience helps to transfer the applied methods and skill tools for components like mainboard, servos, motors, LEDs, and sensors and acquire skills in designing, fabricating, and programming.

The APTYP2020 programme, the “Innovative Robot Project” competition, will be held with the following goals:

- To promote ICT innovation and creativity among students
- To promote teamwork and collaboration skills and competencies in school
- To promote and develop STEM (Science, Technology, Engineering and Mathematics)
- To further encourage the proliferation of analytical skill, knowledge sharing and teamwork mindset via the interaction during the competition.

Participants are encouraged to explore using new normal (Because of COVID Spread out Myanmar) ways and use different materials to challenge fields of IT, electronic, and innovative idea engineering design. That competition provides opportunities for newly formed friend to build teamwork and bond with online / offline others. And at the end of the competition, each one will bring university home more than medals and trophies . Results they will bring home and sharing experience of building a community of STEM education network in Myanmar.



COMPETITION CATEGORY

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

- Junior Robot Project Competition

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

- **Senior Robot Project Competition**

Participants are required to build an own 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 microbit controller.

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

(See on Attachment Annex -1).

Annex - 1

For young professionals and students programme 2020

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



Press release on Date – September 4th 2020 , 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/APT-Young-Professional-2020-109913724169134> (See on Attachment Annex – 2)



Figure 1: Press release for APT Young Professionals and students Programme 2020



Screening and Evaluation support



- Organizing committee received participation several teams of school and university from state and regional of Myanmar.
- Screening and Evaluation result by date of 1 November 2020.
- Selecting the qualified teams from among the applicants ; only short listed 16 teams participate in two categories for Robotic competition by 1 November 2020. (See on Attachment Annex – 3)
- Support to each team members for robotic assessment kits and micro 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 robotic competition and detect software module for programming by Date of 12, October 2020, 1, 24, November 2020, 6, December 2020.
- 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.

INVITATION FOR JUDGES, SPECIAL GUEST, UNIVERSITY AND MEDIA

- Officially invited as judges for competition from Professor (University of Information Technology , Yangon) , Vice President (Myanmar Engineer Society) , Director (Department of Research and Innovation, Ministry of Education, Yangon)
- Officially invited as special guest from Myanmar Computer Professionals Association, Yangon Region Computer Professionals Association and Myanmar Computer Federation, and related rector from all university and interest people.
- Invited as Media from Local news of MRTV 4 , MNTV , news of journal.

Sr.	Judges Name	Position	Organization
1	Mr. Zaw Win Tun	Secretary	Myanmar Computer Professionals Association
2	Mr. Zaw Min Htwe	Chairman	Administration Committee, Myanmar Computer Professionals Association
3	Mr. Aung Pyae Hein	Secretary	Yangon Region Computer Professionals Association
4	Mr. Ye Kyaw Thein	Vice-President	Yangon Region Computer Professionals Association
5	Dr. Kyaw Kyaw Moe	Vice-President	Myanmar Engineering Society
6	Dr. Khin Htar Nwe	Professor	Faculty of Computer Systems and Technologies, University of Information Technology
7	Dr. Aye Aye Thinn	Joint Secretary (2)	Myanmar Computer Federation
8	Dr. Thazin Han	Director	Department of Research and Innovation, Ministry of Education, Yangon

Senior Teams		
No.	Team Name	University
1	Black Titan	University of Computer Studies (Taungoo)
2	WEACM	University of Computer Studies, Yangon (UCSY)
3	Kimura	Myanmar Institute of Information Technology (MIIT), Mandalay Technological University
4	UCS(Dawei)	University of Computer Studies (Dawei)
5	Endeavor	Myanmar Institute of Information Technology (MIIT)
6	Team Kayin	University of Computer Studies (Hpa - An)
7	Underdogs	University of Information Technology (UIT)
8	Moana	Technology University (Monywa)
9	Made In Hmawbi	Technology University (Hmawbi)
10	Team Incredibles	Info Myanmar University (IMU)

Junior Teams		
No.	Team Name	School
1	J.A.R.V.I.S	Brainworks Integrated
2	The Great Kaytu	B.E.H.S(1) Taungoo
3	Best of Best	Edupark Private School (Dawei)
4	Star World	Edupark Private School (Dawei)
5	Best of Star	Edupark Private School (Dawei)
6	Team Alpha	B.E.H.S (7) Taungoo



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APT Young Professionals and Students Programme 2020 "Innovative Robot" Project Competition



COMPETITION AWARD AND EVENT TIME SCHEDULE



Dec 12, 2020 (Saturday)



2:00 pm - 3:30 pm



MICT Park, Hlaing Campus

"Innovative Robot" Project Competition Prize List

The best (4) Candidates will be selected for

Junior Innovative Robot Project Competition Winner Prize

Prize	Amount
1st Winner	200 US\$
2nd Winner	100 US\$
Performance Award	Gift

Senior Innovative Robot Project Competition Winner Prize

Prize	Amount
1st Winner	300 US\$
2nd Winner	100 US\$
Performance Award	Gift
Performance Award	Gift
Performance Award	Gift

Competition

Date : 11, December 2020 (Friday)

Time : 9:30 AM to 3:30 PM

Venue : Online (Zoom), Offline (Meeting Room, MICT Park, Yangon)

Award Ceremony

Date : 12, December 2020 (Saturday)

Venue : Meeting Room, MICT Park, Yangon, Myanmar

Time : 2:00 PM to 3:30 PM

Best Concept : choose best two of each senior and junior level on during competition

& Performance award

Award Winner Ceremony : 3:00 PM – 3:30 PM

Media : Facebook Live show on whole events.

Event Gallery



Offline Competition Judges



Online Competition Judges



Online Competition Judges

Offline Competition



Figure 3: J.A.R.V.I.S Team



Figure 4: Made In Hmawbi Team



Figure 5: Team Incrédibles



Figure 6: Underdogs Team



Figure 7: Weacm Team

Online Competition

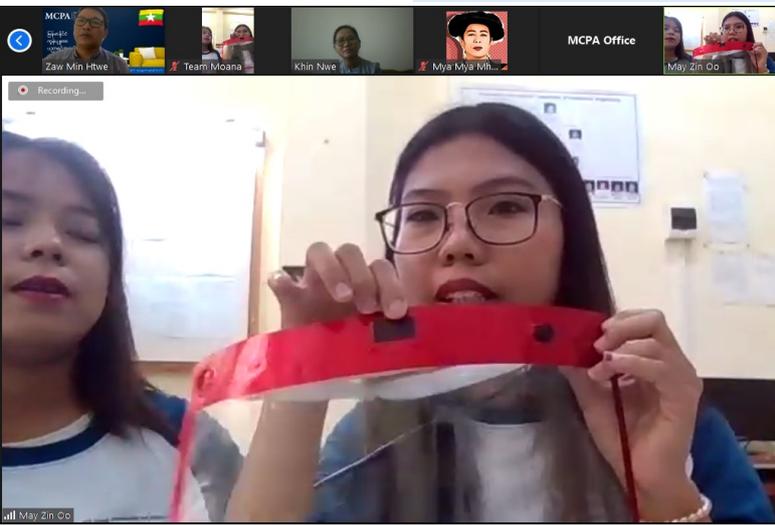


Figure 8: Moana Team



Figure 9: Team Kayin



Figure 10: The Great Kaytu Team



Figure 11: Kimura Team



Figure 12: Endeavor Team



Figure 13: Team Dawei

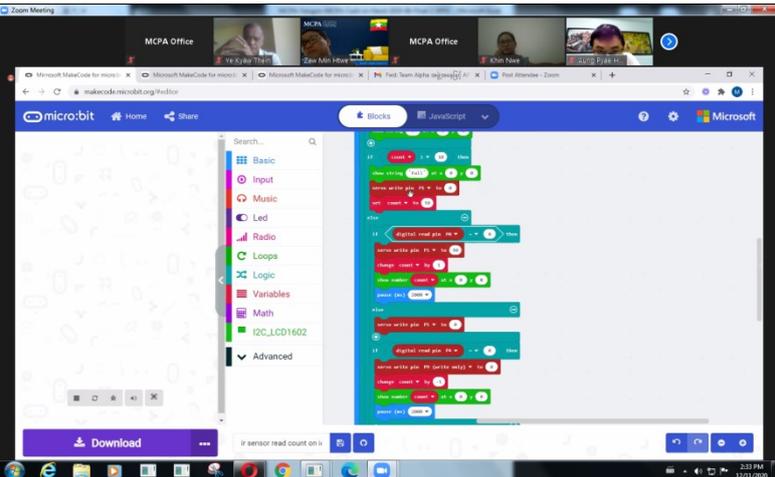


Figure 14: Team Alpha





Final Competition Award

Junior Innovative Robot Project Competition Winner List

Prize	Team Name	Project Name	School
1st Winner	J.A.R.V.I.S	Automatic Underground Garbage System	Brainswork Intergrated School
2nd Winner	The Great Kaytu	Health aids machine (hand sanitizer, mask giver)	B.E.H.S (1) Taungoo
Performance Award	Team Alpha	Car Parking	B.E.H.S (7) Taungoo

Senior Innovative Robot Project Competition Winner List

Prize	Team Name	Project Name	School
1st Winner	Underdogs	Portable Storage Management System for Refrigerators using Computer Vision with Convolutional Neural Network	University of Information Technology (UIT)
2nd Winner	Made In Hmawbi	Multi Sensor Vehicle	Technology University (Hmawbi)
Performance Award	Endeavor	Humidifiers Robot	Myanmar Institute of Information Technology (MIIT)
Performance Award	WEACM	Self-Caring Garden	University of Computer Studies, Yangon (UCSY)
Performance Award	Team Incredibles	Nursing Robot	Info Myanmar University (IMU)

Media Facebook View

Officially Live Facebook views on page

<https://www.facebook.com/mcf.myanmar.computer.federation/>

<https://www.facebook.com/mcpmyanmar.org/videos/2135312873397189/>

<https://www.moi.gov.mm/moi:eng/news/2217?fbclid=IwAR2juxCg47mJ2WARfsQ74ZKYHibEpphiFb5s6MrtwP8UztRfflbVoYr1Lx8>

Awarding Ceremony



Figure 15: Opening Address by His Excellency U Thant Sin Maung, Chairman of Myanmar Computer Science Development Council, Union Minister for Ministry of Transport and Communications

Figure 16: Congratulatory Remark by Special Guest Ms. Areesan Haorangsi, Secretary General of the Asia Pacific Telecommunity (APT)



Figure 17: Explanation about the Competition by U Myo Swe, Director General of Posts and Telecommunications Department, Ministry of Transport and Communications

Figure 18: Remarks by U Min Zeyar Hlaing, Chairman of Myanmar Computer Federation





Figure 19: 1st Winner of Junior Innovative Robot Project Competition

"J.A.R.V.I.S" Team

Figure 20: 2nd Winner of Junior Innovative Robot Project Competition

"The Great Kaytu" Team



Figure 21: Performance Award of Junior Innovative Robot Project Competition

"Team Alpha" Team



Figure 22 : 1st Winner of senior Innovative Robot Project Competition

"Underdogs" Team



Figure 23: 2nd Winner of senior Innovative Robot Project Competition

"Made in Hmawbi" Team



Figure 24 : Performance award of senior Innovative Robot Project Competition

"Endeavor" Team





Figure 25: Performance award of senior Innovative Robot Project Competition

"Weacm" Team

Figure 26 : Performance award of senior Innovative Robot Project Competition

"Incredibles" Team



Figure 27: Closing Remarks by Mr. Zaw Win Tun, Secretary of Myanmar Computer Professionals Association

CONCLUSION

Successfully ! And It's about Time.

Today we find most robots working for people in industries, factories, warehouses, and laboratories. Robots are useful in many ways. For instance, it boosts economy because businesses need to be efficient to keep up with the industry competition. Today robots roles include assisting research for university and industry in Myanmar. Our goals are university students to be participant world robotic competition in future. Finally, as the technology improves, there will be new ways to use robots which will bring new hopes and new potentials.

ACKNOWLEDGEMENTS

Thanks you very much to U Thant Sin Maung, Union Minister, Ministry of Transport and Communications and Ms. Areewan Haorangsi, Secretary General of the APT (Asia pacific tele -community), U Myo Swe , 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)

Address : Ground Floor, Building (9), MICT Park, Hlaing Tsp, Yangon, Myanmar.

Phone : +95-1-652276, +95-9-5067168

Email : office@mcpamyanmar.org

Website : www.mcpamyanmar.org

Contact : Zaw Win Tun (Mr.)

Person Secretary

Myanmar Computer Professionals Association

Ph: 959254200579

Email : zwintun@gmail.com, zawwintun@mcpamyanmar.org

APT Young Professionals and Students Programme 2020 Myanmar

"Innovative Robot" Project Competition

1. CONTESTANT PARTICULARS

Choose area of Project Types Junior Innovative Senior Innovative

(Choose One)

Team Name

Member List

	Leader (for Senior)	Member 1	Member 2
Name			
Date of Birth			
NRC No.			
University / School			
Education			
Phone No.			
E-mail			
Address			

Coach Information (for junior)

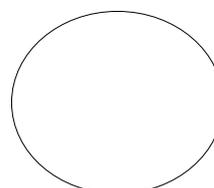
Name -----

Position -----

University -----

Phone -----

Email -----



ကျောင်း Seal (သို့မဟုတ်) ဌာန Seal

2. Project Goals and what you solution for :

(100 words)

3. Explain Micro-bit Platform and what you have created it, who it is for, how it will help business process today.

(100 words)

4. Describe how the Robotic Project will attract a diverse student body today

(100 words)

5. Past Experience and any Award (or) Recognition (If there is video clip/photos to give)

Please submit the completed form to office@mcpmyanmar.org , ptyoungprofessional12@gmail.com no later than **8 October 2020**.

Declaration

The Applicant(s) all information is true and correct to the best of my Knowledge.

Signature _____

Name _____

Position _____

University _____

FOR OFFICE USE

Form Received

By:

Signature

Date

Time

Remarks

INOVATIVE ROBOT CATEGORY

1. OBJECTIVE

1.1. The contestants are to demonstrate any kind of robot/structure that performs useful tasks for application of this year APT2020 Innovative robot Championship theme.

2. BRIEF DESCRIPTION

2.1. The competing robots/structures, which can be self-navigating or remote controlled, will perform their capability for a period of time.

2.2. The robots/structures may move freely around or be in a static position.

2.3. Participants may submit a video clip or digital photographs of their entry to the organizer for evaluation purposes.

3. RULES AND GUIDELINES

3.1. A total duration of up to 10mins is allocated for presenting the robots/structures and any accessory equipment and demonstration of its capability. The time duration will be measured from the moment the contestants enter the arena. Participants will need to stop all presentations when 10 mins is up

3.2. In the case where the contestants wish to employ radio control, they should inform the organizers in advance. Contestants should not broadcast radio signals while another contestant's robots/structures or games are performing/on.

3.3. In the case that a robots/structures requires special accessory equipment or tools during its performance, the contestants will provide such items.

3.4. In the case that robots/structures performance is to be accompanied by music, the contestants should provide the means to reproduce this music.

3.5. All forms of compress air are not allowed for safety purposes.

3.6. The designs of the competing robots/structures must be original and unique. No two identical designs are allowed in the competition.

3.7. The expenses incurred in transportation and setup of equipment is to be borne by the individual teams.

3.8. There is no size limit to the robots/structures designed but participants need to provide their own equipment to facilitate the presentation.

3.9. The robots/structures must any micro:bit controller board as the main core/s of the system/s.

4. JUDGING CRITERIA

4.1. Degree of Innovation 20%

4.2. Design & Realization 20%

4.3. Performance 30%

4.4. Content 30%

4.4.1. Presentation 15%

4.4.2. Applications 15%

5. EXHIBITION

5.1. All entries will be allocated exhibition space where the robots/structures will remain throughout the day. Contestants are to man the exhibits at all times and should be available to answer questions from judges and members of the public.

5.2. Prize winners will only be announced at the end of the day of the competition.

5.3. Judges decision is final.

APT Young Professionals and Students Programme-2020 "Innovative Robot" Project Competition
TOTAL marks for Online/ Offline Teams

11/12/2020

Team Name							
Project Name							
Time	10:00 – 10:30 AM	10:40 – 11:10 AM	11:20 – 11:50 AM	1:00 – 1:30 PM	1:40 – 2:10 PM	2:20 – 2:50 PM	3:00 – 3:30 PM
Degree of Innovation (0-20)							
Design & Realization (0-20)							
Performance (0-30)							
Presentation (0-15)							
Applications (0-15)							
TOTAL marks							

APT Young Professionals and Students Programme (APTYPs) - 2020

“Innovative Robot” Project Competition

Award Ceremony

12.12.2020 (Saturday)
Meeting Room, MICT Park



Agenda

Awarding Link - <https://bit.ly/APTawarding1212>

- 2:30 PM Announcement of the opening of "Innovative Robot" Project Competition Award Ceremony
"Innovative Robot" Project Competition ဆုပေးပွဲအခမ်းအနား စတင် ဖွင့်လှစ်ကြောင်း ကြေညာခြင်း

- 2:35 – 2:40 PM Opening Video Clip Presentation
ပြိုင်ပွဲဖွင့်ပွဲ ဗီဒီယို ဖွင့်လှစ်ပြသခြင်း

- 2:40 – 2:50 PM Opening Address by His Excellency U Thant Sin Maung, Chairman of Myanmar Computer Science Development Council, Union Minister for Ministry of Transport and Communications
မြန်မာနိုင်ငံကွန်ပျူတာပညာဖွံ့ဖြိုးရေးကောင်စီ၊ ဥက္ကဋ္ဌ၊ ပို့ဆောင်ရေးနှင့် ဆက်သွယ်ရေး ဝန်ကြီးဌာန၊ ပြည်ထောင်စုဝန်ကြီး၊ ဦးသန့်စင်မောင် က အဖွင့်မိန့်ခွန်း ပြောကြားခြင်း

- 2:50 – 3:00 PM Congratulatory Remark by Special Guest Ms. Areesan Haorangsi, Secretary General of the Asia Pacific Telecommunity (APT)
အာရှ-ပစိဖိတ် ကြေးနန်းဆက်သွယ်ရေးအဖွဲ့ချုပ် (အေပီတီ) အထွေထွေအတွင်းရေးမှူးချုပ် Ms. Areesan Haorangsi က ဂုဏ်ပြုအမှာစကား ပြောကြားခြင်း

- 3:00 – 3:10 PM Explanation about the Competition by U Myo Swe, Director General of Posts and Telecommunications Department, Ministry of Transport and Communications
ပို့ဆောင်ရေးနှင့် ဆက်သွယ်ရေး ဝန်ကြီးဌာန၊ ဆက်သွယ်ရေးညွှန်ကြားမှုဦးစီးဌာန၏ ညွှန်ကြားရေးမှူးချုပ် ဦးမျိုးဆွေက ပြိုင်ပွဲနှင့် ပတ်သက်၍ ရှင်းလင်းပြောကြားခြင်း

- 3:10 – 3:20 PM Remarks by U Min Zeyar Hlaing, Chairman of Myanmar Computer Federation
မြန်မာနိုင်ငံကွန်ပျူတာအသင်းချုပ်၊ ဥက္ကဋ္ဌ၊ ဦးမင်းဇေယျာလှိုင် က အမှာစကား ပြောကြားခြင်း

- 3:20 – 3:35 PM Highlight Video Clip of “Innovative Robot” Project Competition
“Innovative Robot” Project ပြိုင်ပွဲ၏ Highlight Video အား ဖွင့်လှစ်ပြသခြင်း

- 3:35 – 3:45 PM Awarding the winners of the Competition
"Innovative Robot" Project Competition ပြိုင်ပွဲမှ ဆုရရှိသည့် အသင်းများအား ဆုချီးမြှင့်ခြင်း

- 3:45 – 3:55 PM Closing Remarks by U Zaw Win Tun, Secretary of Myanmar Computer Professionals Association
မြန်မာနိုင်ငံကွန်ပျူတာပညာရှင်အသင်း၊ အတွင်းရေးမှူး၊ ဦးဇော်ဝင်းထွန်းက ကျေးဇူးတင်စကား ပြောကြားခြင်း

- 4:00 PM Announcement of closing of the “APT Young Professionals and Students Programme (APTYPs) – 2020 “Innovative Robot” Project Competition Award Ceremony”

APT Young Professionals and Students Programme (APTYPs)-2020 “Innovative Robot” Project Competition ဆုချီးမြှင့်ပွဲ အခမ်းအနား အောင်မြင်စွာ ပြီးမြောက်ကြောင်း ကြေညာခြင်း