Host

Majelis Dikdasmen DKI Jakarta

SMP Muhammadiyah 9 Jakarta

2022 JAMROF JAKARTA MUHAMMADIYAH ROBOTIC FESTIVAL

JAKARTA MUHAMMADIYAH ROBOTIC FESTIVAL

JAMROF 2022

Webinar **Workshop** **Competition** **Expo**

TIME FRAME JAMROF ROBOTIC

WEBINAR
Serunya Belajar Coding & Robotic
Menuju JAMROF Robotic 2022
Sabtu, 1 Oktober 2022

PraWorkshop 1 JAMROF Robotic (Zoom)
Sabtu, 8 Oktober 2022

PraWorkshop 2 JAMROF Robotic (Zoom)
Rabu, 12 Oktober 2022

Technical Meeting JAMROF Robotic 2022
Sabtu, 15 Oktober 2022

Kompetisi Online : Animation Robotic
Senin, 17 Oktober 2022

Workshop Offline Coding Mission &Trial Robot
Penjurian Robot Creative (08:00 - 12:00)
Penjurian Coding Mission (13:00 - 16:00)
Selasa, 18 Oktober 2022

Pendaftaran Terakhir
10 Oktober 2022

Pengumuman Pemenang & Expo
Selasa, 18 Oktober 2022

*Bagi yang tidak memiliki robot, akan dipinjamkan Robot (Gratis)/Maze Solving.
Bagi yang belum menguasai, akan diberikan training/Workshop (Gratis).

GAME CATEGORY

- Creative Robot (Offline)
- Coding Mission/Maze Solving (Offline)
- Animation Robotic (Online)
- Soccer Robot (Offline)

Level : SD-SMP-SMA

SMPM 9 Jakarta
Jl. Limau III, Kebayoran Baru, Jakarta Selatan

Bit.ly/DaftarJAMROFRobot2022

Bit.ly/ZoomJAMROFRobot2022

Registrasi

390k (2 Orang) / Team
(1 Kategori Lomba Online + 1 Offline)
Tambah Kategori +100K /1 Lomba

Rekening Bank Muamalat
a.n. PT Racer Robot Indonesia
No. 328 000 92 01

Road to AJR

AJR Malaysia 2022
25 Nov 2022

Nara Hubung:
0838-9321-9801 (Ms. Syifa)
0895-3342-34403 (Ms. Lila)

Support By

Organized By

GENERAL RULES

1. the competition was held online and offline, broadcast on the Racer Robotic Official Youtube channel.
2. The copyright of the works remains the property of the participants. While the organizer has the right to duplicate, publish and distribute the selected videos.
3. If the participant is less than 10 teams then the committee has the right to change the level of the category to open level or eliminate the category uniliterally.
4. Participants who take part in JAMROF 2022 are deemed to have agreed to all the decisionsand regulations that have been established without exception.
5. Participants are required to prepare equipment and or applications needed to support activities during the JAMROF 2022 activities.
6. Participants who violate the rules and commit fraud willbe sanctioned or even disqualified.
7. Match results will be announced on 18 October 2022.
8. The decision of the jury is final and cannot be contested

Head Referee/Judges

Dr. Riza Muhida, M.Eng.
Steering Commitee IYRA Indonesia, Director CRIM
Saharuddin, M.T
Senior Lecture, Electrical Engineering Dept, Institut Teknologi Indonesia
Lukman Fajar Purwoko, MT
Head of NFBS Bogor
Neny Anggraini, MT
Senior Lecture Informatics, UIN Jakarta

Organizing Committee

Team Kampong Robot
Team R&D RACER Robotic Indonesia

ESTIMATE RUNDOWN

Monday, October 17th 2022	**Activity**	**Information**
08.00 – 08.15	Opening JAMROF 2022	Announcement of the theme
08.15 – 12.00	Scratch Animation Robotic	Online
12.00 – 13.30	Break	
13.30 – 15.00	Scratch Animation Robotic	Online
Tuesday, October 18th 2022	**Activity**	**Information**
08.00 – 08.15	Opening JAMROF 2022	-
08.15 – 12.00	Creative Open	Offline
	Soccer Cup	Offline
	Coding Mission	Offline
12.00 – 13.00	Break	
13.00 – 15.00	Coding Mission	Offline
16.00 – 17.00	Award & Ceremony Closing	Offline

GAME LEVELS

Levels
SD/MIN
SMP/MTs
SMA/SMK/MA

GAME CATEGORIES

Category	SD/MI	SMP/MTs	SMA/SMK/ MA
Animation Scratch	✓	✓	✓
Creative Open	✓	✓	✓
Coding Mission	✓	✓	✓
Soccer Cup	✓	✓	✓

List of Awards

Award @ Games

1. **Gold Medal:** Voucher KRON/MRT Robot
2. **Silver Medal:** Voucher KRON /MRT Robot
3. **Bronze Medal :** Voucher KRON /MRT Robot
4. **Excellent Award Medal***:** Voucher KRON/MRT Robot

**exclude Humanoid, Drone Coding,Brick Speed

Term Voucher KRON: Not Accumulate,Refund money, valid until 25 Oktober 2022

Robots Types

1. MRT Robot.
2. OPEN Robot.

Animation Scratch

Level	- SD - SMP - SMA
Team	Individual
Software	MRT Scratch
Mission	Make animation for expressing the given theme
Game Method	Mission completion and Time record
Competition	ONLINE

1.0. Objective

Participants make animation works, presentations, stories, videos or music on the computer,then work to make them able to interact, act or respond to the physical world outside the computer using various sensors, so that the work becomes alive and able to interact between the computer and the physical environment.

2.0. Theme grid

Junior : Sport or Animal

3.0. Animation creation limitations

1. Participants can use the MRT Scratch software (download on following link :https://s.id/MRTScratch)
2. Participants must submit a work plan to be made and details of the story, the tools used.
3. If necessary, participants can create their own stage, with their own background.
4. THEMES are given at 08.15 WIB and must be collected at 12.00 WIB (Participants are given up to 12.10 WIB, if it exceeds at that time the participant cannot upload files to Google Classroom)
5. Design files (.sb2 format) and presentation Live (via Zoom) are saved in Full Name Format andSchool (example: Andriana Bayhaqi_MIN3 Tangsel)
6. Participants collect the design by writing (name and school) in Private comments on GoogleClassroom
7. Using MRT hardware and components will be an added value.

4.0. Deciding the Winner

Determination of the winner will be judged from several points which will be later accumulateto Total Points. Following are the points of assessment:

Logic to solve the problem	Relation to the theme	Content	Prototype design	Interactive	Program	Property and background	Creativity and uniqueness	Presentation skill
10	20	10	10	10	10	10	10	10

Coding Mission

Level	-SD -SMP -SMA
Team	Team (max 2 person)
Robot	MRT 3 Kit
Mission	Program maze solving robot that make correct decision at junctions to find shortest route and gain all the points.
Game Method	Mission completion and Time record

1.0. Objective

This game required participant to construct and program a Maze Solving Robot that will move by following the line track and make decision at each of the junctions to reach more points. The robot is considered completing the task when the robot successfully reaches the END point.

2.0. Robot Dimension and Weight

1. The size of the robot at the starting box shall not exceed **20cm (H) x 20cm (W) x 20cm (L).**
2. Each robot must fully comply with size restriction, even after all the appendages have been fully expanded.

3.0. Restriction on Robot Design

1. Robots shall not damage any part of the field or obstacles deliberately.
2. Robots are **not allowed** to have any power supply above **9V DC** (Volt of Direct Current).
3. Robots shall not cause any danger to the arena and surroundings in anyway whatsoever.
4. Robots will need to protect their sensors if necessary from any outside interferences.

4.0. Game Rules

4.1. Length of a Match

1. Programming, trial, and match session will be given for 3 hour.
a. Programming: **1 hours**.
b. Trial and match: **2 hours.**
c. When match session, each team have only **5 minutes** to run their robot.
2. In the following cases, a match will end even before 5 minutes.
a. When the task is achieved and robot stop at the END point.
b. In the event of disqualification.
c. When the referees judge that continuation of the match is impossible.

4.2. Building of Robot

1. Prebuilt.

4.3. Starting the Robot

1. Whistle will be blown as a sign of start of the match.
2. Participant is allowed to start (SWITCH ON) the robot using single switch operation.

3. After the switch is 'ON', the robot should move autonomously and no communication allowed between the robot and team member (no assistance of remote control or similar) until it crosses the finish line.
4. If the robot run out of the track or crosses the finish line while match, then the jury will stop timing and recorded as end of match.
5. The participant who performs the starting operation shall keep distance with the game field area without touching or disturbing the game field.
6. The participant who are touching or disturbing the game field will be disqualified from the match.

4.4. Competition Tasks

1. Each team have to program their own robot when the jury showing up the game track first.
2. Time will be given 1 hour for programming.
3. When programming, each team member have to use software, robots that are not programmed through software will be **disqualified.**
4. When the team has finished programming the robot less than 1 hour, participants are entitled to **trial 2 times** with **2 times re-try**.
5. In match session there's **1 times attempts** and **2 times re-try** will be given to each team.
6. There will be a trial sequence, if the team who first completed in programming the robot, then that team gets first order in the trial stage.
7. Once the match has begun, each robot shall complete the tasks as below:

a. Following the line track.
b. Make decision at each junction to complete the task.

8. All robots **MUST** stop at the **END POINT** in order to get **10 points**.
9. Timing will begin when the referee whistles at the Start line.
10. Timing will stop once the robot stop at the Finish Line or the robot run out of the track and the time taken to complete the route will be recorded.
11. Robots can deploy any tactics as long as it does not constitute a foul.
12. The parts which are fallen or broken from the robots cannot be fixed back into the robots during the match.

4.5. Deciding the Winner

1. Each robot will be given 1 times attempts include 3 times re-try to complete the whole course and the best score will be taken as the final score. The score priority consists of:
    a. **Points** (after the robot has following each obstacle).
    b. **Time**.
2. In the event of a draw, or there are 2 or more participants gain the same points, the winner will be decide based on the fastest time.

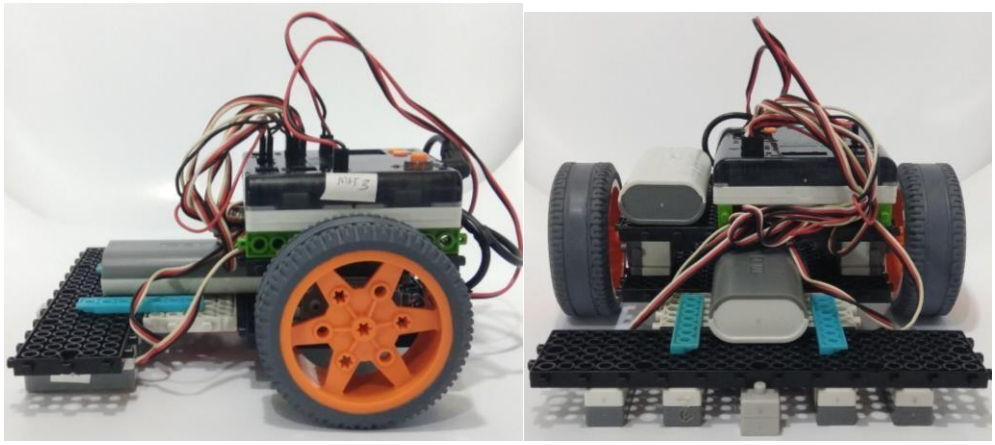
4.6. Disqualification

A team shall be disqualified if it commits any of the following during the match :

a. Team member touches the robot without referee's approval.
b. If Robot is unable to move off 5 seconds after whistle blow.
c. Robot does not comply with the size restrictions.

d. A robot is stopped for more than 10 seconds.
e. A robot is moved outside of the play field for 10 seconds.
f. Participants are not programmed their robot through software.

5.0. Sample Robot



CREATIVE OPEN

Age	-SD -SMP -SMA
Team	Team (3-5 students and 1 teacher)
Robot Kits	Open Robot
Mission	Create a robot expressing the given theme
Robot Building	Pre-build
Game Method	Presentation and on/off-line evaluation by panel

1.0 Objective

Provide a platform for student to showcase their creativity, innovative and programming skills. They are required to work together as a team to design a robot based on the given theme. Besides, they will also need to present and demonstrate their robot creation well to convince and impress the judges.

2.0 Robot Dimension andWeight

The size and weight of the robot is not limited.

3.0 Restriction on Robot

1. Participants are allowed to used products other than MRT such as arduino etc. There is no limitation to the amount of blocks used to build the robot. You are allowed to cross use the parts from the above mentioned systems for the robots.
2. Robots shall not damage any part of the field or obstacles deliberately.
3. Robots allowed to move or make motion autonomously OR use remote control.
4. Robots can use and add other materials such as camera, sensors, paper, rings, clips, chopsticks, paper cups, and 3D Printing materials etc.
5. VAC (Volt of Alternating Current) power supplies are strictly prohibited for safety reasons.
6. Robots shall not cause any danger to the arena & surroundings in anyway whatsoever.
7. Robots will need to protect their sensors if necessary from any outside interference.

4.0 Game Rules

1. Method of a Match
   - Participants shall build a robot in advance.
   - Participants are given 2 hours duration to prepare their robot.
   - Each group has presentation time of 5 minutes to introduce their robots to the referee on the stage. Presentation can be done in English. If they are unable to present in English they have to prepare their own translator.
   - Robots may be displayed in/around the venue. The team members or teacher may keep the robots and explain to the public.
   - Participants should carry the printed manual (presentation). About the manual, please refer to the rule
   - Theme : UN's Sustainable Development Goals (SDGs)
   - The 5 themes are selected among 17 SDGs proposed by the United Nations. The robot can be based on one of the following field ONLY:
     - Zero Hunger
     - Good Health and Well-Being
     - Clean Water and Sanitation
     - Affordable and Clean Energy
     - National Defense
     - Sustainable Cities and Communities
     - You are strongly recommended to study what the themes above mean at https://www.un.org/sustainabledevelopment/sustainable-development-goals/

2. **Deciding the Winner**
   - The judges will check if the team meets the requirements or not, and evaluate teams' works online first.
   - The judges will notice the results If the participants are qualified or disqualified.

3. **Score shall consist of :**
   - Relevance to theme (10 score)
   - Creativity & Uniqueness (30 score)
   - Robot Functionality (30 score)
   - Team work (10 score)
   - Presentation skill (20 score)

Soccer Cup

Level	- SD - SMP - SMA
Team	2 participants per team with 2 robot
Robot	MRT Robot Kit
Mission	Soccer match using remote control
Game Method	Tournament

1.0 Objective

To promote team work and test student ability to construct a robot with high stability and controlling skill to play soccer game.

2.0 Robot Dimension And Height

1. The size of the robot at the starting box shall not exceed **20cm (H) x 20cm (W) x 20cm (L).** However, robot is not allowed to expand to any size after the game starts.
2. The maximum weight of the robot is **1000 grams** (Include batteries).

3.0 Restriction on Robot Design

1. Only MRT parts are to be used to build the robot. There is no limitation to the amount of blocks used to build the robot. You are allowed to cross use the parts from the above mentioned systems for the robots.
2. However, ONLY maximum **2 number of DC motors** and **1 mainboard** are allowed to use for for the competition.
3. Robot built is allowed to modify the mechanical parts (painting/folding) but not electronic parts. If found guilty, the player would be **IMMEDIATELY** disqualified.
4. Robots shall not damage any part of the field or obstacles deliberately.
5. Robots are not allowed to have any power supply above **9V DC** (Volt of Direct Current). VAC (Volt of Alternating Current) power supplies are strictly prohibited for safety reasons.
6. Robots shall not cause any danger to the arena and surroundings in anyway whatsoever.
7. Robots RC receivers will need to be protected from any outside interferences.
8. Robot cannot be design in a closed structure to handle the ball. The judge will check the robot structure before the competition begin.

4.0. Game Rules

4.1. Length of a Match

1. Each game is stipulated for **3 minutes**.

4.2. Building of Robot

1. Prebuilt and programmed

4.3. Starting the Robot

1. Whistle will be blown as a sign of start of the match.
2. The participant who remote controls the robot shall keep distance with the game field area without touching or disturbing the game field.

4.4. Competition Tasks

1. All the games will be based on “knock out” system. All the teams will be distributed in opposing pairs by JAMROF committee randomly.
2. Each team shall consist of 2 robots and 2 paticipants with each participants controlling one robot.
3. During the match, the participants who control their robot please keep distance with game field, and don’t touch or damage the field.
4. A robot **not allowed to handle the ball** for more than **5 seconds**.
5. Upon removal of a robot from the playing field, it can only re-enter the game upon referee’s approval.
6. Robots can deploy any tactics or maneuvers, as long as it does not constitute a foul.
7. The robot can only stay within the penalty area for a maximum of 5 seconds. Participant will be warned by the jury to move their robot if the robot stay within the penalty area more than 10 second.
8. Extra time of 1 minute shall be played only in the event of a draw.
9. Sudden death shall be played only in the event of draw on extra time.
10. The parts which are fallen or broken from the robots cannot be fixed back onto the robots during the match, unless permitted by jury.
11. While the match is in progress, at any time the jury whistles, the participants should stop the robot.

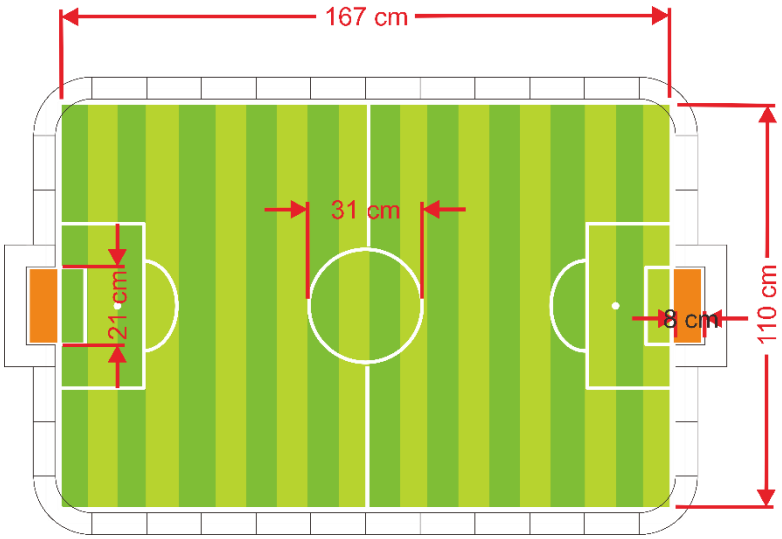
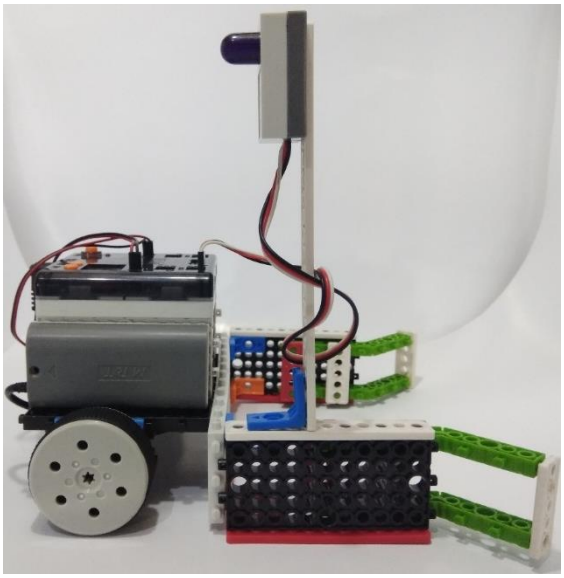
4.5. Deciding the Winner

1. Within 3 minutes, the team with highest goals will be the winner.
2. The ‘knock-out’ stage shall not consist of any points and the winner of the game shall proceed to the next round.
3. The time limit for extra time shall be 1 minute.
4. In the event of a **DRAW** by the end of extra time, ‘Sudden Death’ time shall decide the match in the event both teams are still tied for score. The team that missed the first ball, loses the game.

4.6. Disqualification

1. Touching the robots while the match is in progress.
2. Robot does not comply with the size restrictions.

5.0. Game Field



6.0. Sample Robot Design