TECHNOVANZA

Taking Technology To Society

ROBOMAZE 2020-21

INTRODUCTION:

There is no one who doesn't know what E-Commerce is. It has become a necessity for our day-to-day life let it be online auctions, payment gateways, online ticketing, internet banking and yes, last but not the least the very popular ONLINE SHOPPING.
The current COVID-19 pandemic had stopped everything but it couldn't stop Online Shopping. We at Technovanza will take you to the amazing world of Online Shopping. You are a delivery person who carries the parcels and delivers them to their respective locations. But while travelling you have to take care and select the path which has the least exposure to COVID-19 in the minimum time possible.

OBJECTIVE:

The goal is to complete the task assigned to you in the least time taking care of your safety. You have to get out of the maze completing the task. Your main aim is to find the safest path in the maze for your task and collect maximum points within the given time constraint.

TEAM SPECIFICATION:

1) Only individual participants can take part in RoboMaze.

CERTIFICATE POLICY:

1) Certificate of participation will be awarded to all the teams and certificate of excellence will be given to the top three teams.
2) Disqualified teams will not be considered for any certificate.

PRIZE MONEY:

Cash Prize of 25000 in total.

ARENA SPECIFICATIONS:

Maze size-

1)15 feet * 15 feet (containing 12*12 grid). (For Round 1) 2)20 feet * 20 feet (containing 16*16 grid). (For Round 2) 3)40 feet * 20 feet (containing 32*16 grid). (For Round 3)

GAMEPLAY:

1) The maze base is designed considering the COVID-19 situation i.e., it has four regions in it marked with different colors.

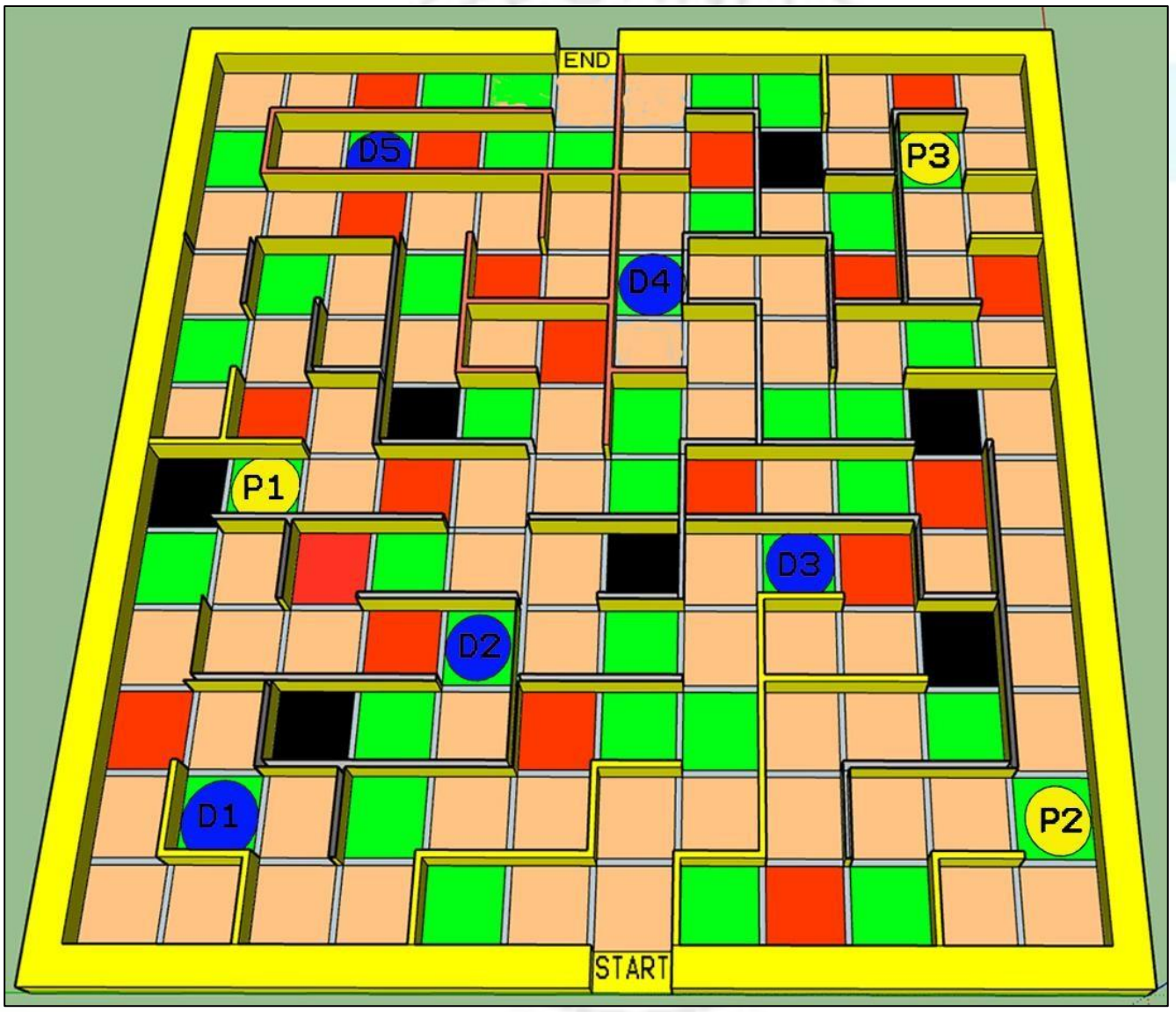
- **Green Zone:** The Safest zone. The zone will give you +100 points. 2.
- **Orange Zone:** This Zone will give you no points. (0 points).
- **Red Zone:** This Zone will deduct your score by -100 points.
- **Containment Zone:** This Zone is marked with Black color and will deduct your score by –120 points.
- **Pick Up Point:** You have to pick up your items from this point. (You will gain 50 points.)
- **Destination Point:** You have to put the parcels at this point. (You will gain 150 points.)

ZONE	POINTS	COLOR
Safe	+100	
Neutral	0	
Danger	-100	
Containment	-120	
Pick Up Point	50	
Destination Point	150	

2) Check points:

There are two types of checkpoints. One is pick up point from where you have to take the parcels and the other is destination which will be the location for delivery.

e.g.: Pick up cell will be marked as P1, P2... etc. and Destination cells as D1, D2... Etc.



3) The **main motive** of yours is to complete the given task.
You will be starting from the start position (which will be marked in the maze). There is no restriction for the order of completion of task, you can complete any task first, but at a time can do only one Task. And all the tasks need to be completed.
Let's take an example for better understanding:
e.g.: Task 1: P1-D2, D3
Task 2: P2-D1, D5
Here 2 tasks are given. (It will be your choice to select which task is to be done first) Let us complete task 1 first.
You have the **freedom** to choose which of the two tasks is to be done first, accordingly you can go to either pickup point P1 or P2 from start position.

Case 1- If you go to P1 first, then from there you can go to D2 or D3 first and then the remaining one, you need to deliver at those two destinations in any order, and after that go to the other pick-up point (i.e.P2) and then go to its corresponding destinations.

Case 2- If you go to P2 first, then from there you can go to D1 or D5 first and then the remaining one, you need to deliver at those two destinations in any order, and after that go to the other pick-up point (i.e.P1) and then go to its corresponding destinations.

4) Participant will be judged according to the points evaluation scheme explained below.

POINTS EVALUATION-

During the point evaluation note that once you pass over a green cell, it will not give any points during interval of next

5seconds,

A possible path traced above for solving the task mentioned above, it's point calculation is done below:

Task 1:

Start to P1: 0+0+0+100+0+100+0+0+0+0-100+0+100= +200

P1 to D2: -120+100-100+100= -20

D2 to D3: -100+100-120+100-100+100+100 = +80

Task 2:

D3 to P2: -100-120+100-100+100+100 = -20

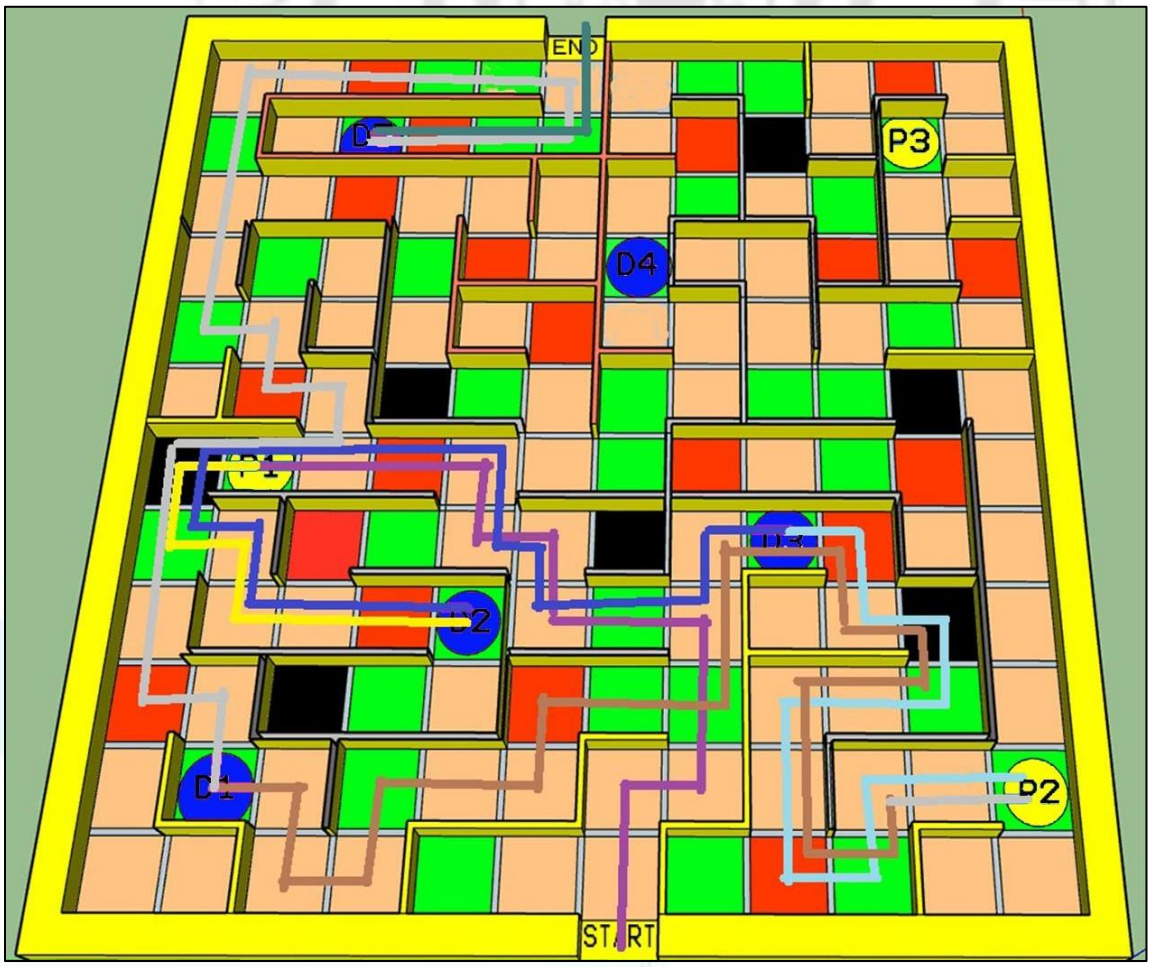
P2 to D1: +100-100+100-120-100+100+100+100-100 +100 +100 = +180

D1 to D5: -100+100-120+100-100+100+100-100 +100 +100 +100+100-100+100 = +380

D5 to End: -100+100+100 = +100

Total points= 200-20+80-20+180+380+100 = 900.

Sets will be made according to the **allocated tasks** in each round and points of participants will be compared inside to those task group only, so that competition will be even. Firstly, the team with higher points (path points) will be considered. If teams have the exact same points then the time of submission will be considered.



RULES-

1) In total 3 rounds will be conducted with increasing difficulties and a greater number of tasks.

- **Round 1-** (Qualifier Round (Any team can participate))
  A 12 X 12 maze will be given with pickup and destination points and task assigned.
  The participant has to solve the maze with max points and within the given time limit. Out of those who have solved within the given time limit, will be compared for points; if points are the same time taken will be considered.
  The number of tries a participant can take is 3. (After each maze end participant will be shown a screen where he can try again or submit the maze if he wants. Max three tries are thereafter third try your score will be submitted automatically to the system. Between to tries, you will be given a 1 min time to try again if you don't click either of the button mazes will be submitted automatically.)
  Top 50% of participants will qualify for Round 2.
- **Round 2-**(Quarter-Final)
  A 16 X 16 maze will be given with pickup and destination points and task assigned. The ranking will be done on the basis of the same rules mentioned in round 2.
  The number of tries a participant can take is 2, with the same rules as above. A certain number of top participants will qualify for Round 3
- **Round 3-** (Final Round)
  Those who qualified for the final round will be divided into groups of two. (Suppose X, participants are there, then X/2 groups will be formed).
  Each group of two will be assigned the symmetric tasks with pick up and destination points (in a 32 X 16 sized maze) and will play simultaneously on the same maze. The one who finishes all the tasks earlier and reaches till the end will win among them.
  So, we will be having X/2 such winners, those will be ranked according to a point scored during their task. And out of the certain number of top participants will be declared as winners.

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GENERAL INSTRUCTIONS:

1. The layout of rounds can be changed by the organizers of events at any point of time.
2. No rash behavior with the organizers will be tolerated
3. While solving the maze, make sure you are well connected to the internet as no complaints regarding low internet speed or poor connections will be entertained and the time period given for the particular round will be followed strictly.
4. Organizers decision will be the final decision.
5. Maze design will change after every round.

NOTE: Rules mentioned above are subject to change anytime. Participants should check for the latest updated PDF on the official website of TECHNOVANZA'20-21. However, this draft is to be followed as the latest version.

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