MICROBUS PRESENTS YOU

MICRO XPLORER

Problem Statement:

You are on a secret mission to explore an unknown terrain and you are using a robot to gather information about the terrain. The bot is autonomous, but has a backup system to control it manually using a wireless transmitter. Your bot has been partially damaged by the enemy, but manual control is still working. Now your task is to bring back the bot safely to your area in minimum possible time.

Task:

You need to design a bot that can be manually controlled from a distinct location using wireless communication techniques such as Bluetooth, wifi, RF module, DIP etc.

Arena:

The arena will be a rough terrain that will consist of curved path, inclinations, obstacles, sharp turns, tunnels and checkpoints.

Instructions:

> The robot must be controlled wirelessly.
> There will be bonus points if you control the bot using self made android apps,or gestures.
> Each team must have four members.
> Among the four members, only one must be the driver and one must be the guide.
> Manual touch is not allowed once the game begins.
> Bot dimensions must not exceed 250mm X 250mm X 250mm(Lifting mechanism not included).
> Potential difference between any two points on the robot must not exceed 18V.
> The bot should possess an onboard power supply. Use of adapters is also allowed but there will be a penalty.

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> Lego kits are not allowed.
> Extra points would be given for bot that has a lifting mechanism which can lift a block and place it in desired position(size of the block varies from 40mm X 40mm X 40mm to 90mm X 90mm X 60mm).
> The blocks mentioned in point 10 will be made up of thermocol sheets.

Scoring:

> The bot must reach the end point. The bots failing to do so will not be considered for evaluation.
> For each obstacle hit and failing to cross a bump, they have to suffer a penalty of 10 and 15 seconds respectively.
> Robots crossing the boundary line of the arena need to again start from previously crossed checkpoints (for 3 wheelers any one of the back wheels crossing the line will be considered a fault for 4 wheelers any two of the wheels crossing the boundary will be considered a fault).
> Bonus points for using a self-made android app or gesture control (-60 sec).
> Use of adapter will lead to penalty (+60 sec).
> Bonus points on completion of assigned tasks using lifting mechanisms.
> The team finishing the task in the least time will be considered as the winner.

Note:

> The scoring scheme may change during the event.
> Judges and event coordinators have complete authority to disqualify the teams which fail to abide by above guidelines and their decision will be final.
> The rules may be subject to changes as per the discretion of the coordinators and their decisions shall be considered final.

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Co-ordinators:
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