ENIGROBOTS

PILTOVER

"ONE DAY THIS CITY'S GONNA RESPECT US"
-Vi

5th Edition
ENIGROBOTS

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I. General introduction

1. ENIGROBOTS :

In recent years, the importance of robotics has grownin various fieldsand has become an important science thatcontinues to evolve. In this context, the **National Engineering School of Gabes** presents its fifth edition of **"ENIG ROBOTS"** with the aim of promoting technical and scientific education. This meeting is intended for robotics enthusiasts of all ages and for people who want a challenge especially in competition where everyone gives their all to win. So, we will give you this opportunity to show us what you've got in our challenge "ENIG ROBOTS". The event Will take place on the **18 februrary 2024**, within the **National Engineering school of Gabes**. "ENIG ROBOTS"team wants you to go all out and prove your worth with your strong and bright inventions.

We welcome you to ourhome. The challenges awaiting for you are

- Line follower and maze
- **All terrain (PILTOVER)**
- Death ring
- Junior

Be prepared!!

2. All Terrain Competition

The competition is a race between robots controlled by the contestants, where each team seeks to reach the finish line by overcoming obstacles and completing various tasks. The competition seeks to foster team spirit and allow them to demonstrate their abilities in racing and create robots capable of competing

GET READY CHAMPION ...

3. Piltover and Zaun:

Piltover, also known as the City of Progress, is a thriving, progressive city whose power and influence is on the rise. It is Valoran's cultural center, where art, craftsmanship, trade and innovation walk hand in hand. Its power comes not through military might, but the engines of commerce and forward thinking.

Situated on the cliffs above the district of **Zaun** Crest icon Zaun and overlooking the ocean, fleets of ships pass through its titanic sea-gates, bringing goods from all over the world. The wealth this generates has given rise to an unprecedented boom in the city's growth.

As the two leading city-states in the development of **hextech**, **Zaun** and **Piltover** have a deep competitive rivalry, both vying to be the ones directing the future of techmaturgy on **Runeterra**. The two cities also share deep historical, social, and cultural connections, as **Piltover** (literally and figuratively) rose from the foundations of **Zaun.**

4 . Registration

4.1. registration :

- Registration details will be revealed on our social media
- Registration is by team
- A team (if it contains 2 robots) is made up of a maximum of **4 participants** including **2 team leader**.
- If the team contain 1 robot ,it will be made up of **3 participants (including team leader) .**
- A participant can only be a leader of one team.
- A team must complete a form and pay the registration fee for confirmation of participation.
- Each team must have **2 leaders** (or one) who will be present on the day of the competition to registration.
- All information concerning the procedure registration and payment will be sent by email to the team leader.
- The registration form will be available on our social media.
- Registration fees for each team are mandatory and set at **110DT**(if a team contain **2 robots** the fee is **110 DT** for both)
- If the team choice to participate with one robot the fee is **60 DT**

Take notice

- ⚠️**Each team must send us their proof of payment by email.**
- ⚠️**The candidate must regularly check his mailbox and be reachable byphone.**
- ⚠️**Each group leader must show up on the day of the competition to complete the robot registration and homologation process.**

4.2. Why a team

- ⚜ To apply the theme to the game and give it a new luster.
- ⚜ Try something new and go out of the ordinary in « tout terain » competition.
- ⚜ When you play in a team, you will have an advantage in several aspects :
  - o The odds of winning will rise.
  - o It is enough for one of the team members to complete the track for the team to be considered a winner.
  - o You can cooperate with a partner, especially in difficult obstacles.

GOOD LUCK ...

II. Competition map

Just like in the game, To defend their tower each team must participates with two robots to compete against another team

The playing area is meterslong and divided into different parts

Both teams aim to find the **Hextech** who can destroy the opposing castle. To find it, they must overcome the obstacles of the **Piltover** and pass through **Zaun**.

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1.Bluewind Court :

To defend their tower, each team participates with **two robots** that will be placed on the **same side** of the starting line, considering that there are **4 starting** points on the model (divided into two symmetrical parts).

The robot should be prepared in the departure zone when the referee gives the departure signal the adventure begins.

After the signal, the robots will descend a **30-degree** slope where they will encounter small spherical obstacles with a diameter of **5cm**, spaced **28cm** apart.
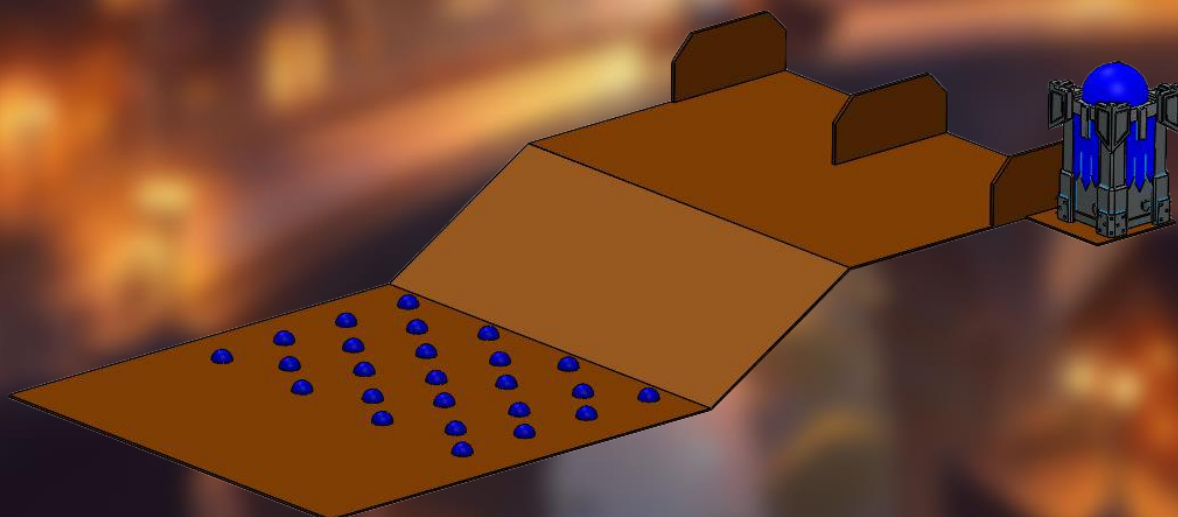
2.Connected Cities:

Now you have to pass through Connected Cities because it is the only forked road that will lead you to the goal After successfully passing the first part.

The robot will face two slopes (**both 30 degree**) separated by a horizontal part (**L=40cm**), after climbing the slopes the robot required to pass the horizontal part containing a gap (**w=4cm**) and two steps (**2cm**) then slow down a **30 degree** slope.

⚠️WARNING !!!!!!

This part does not contains a board. The robot should be careful In the next part, the robot can demonstrate its running capabilities by covering a distance of **120cm** before making a turn and continuing its path for an additional **322cm**.

3. Vi fists

Now you will find yourself entering to zaun, which is the area under the Piltavor Here you will find yourself in a dilemma because of several obstacles, the first of which is « **VI** »

After crossing the first track, the robot finds itself facing Vi. It must be careful not to push you and knock you off the track.

Vi delivers a punch every 30 seconds.

 NB : *Crowding is prohibited in this area Whoever arrives first is the one who enters

*The two fists are seperated by a distance of 50 cm
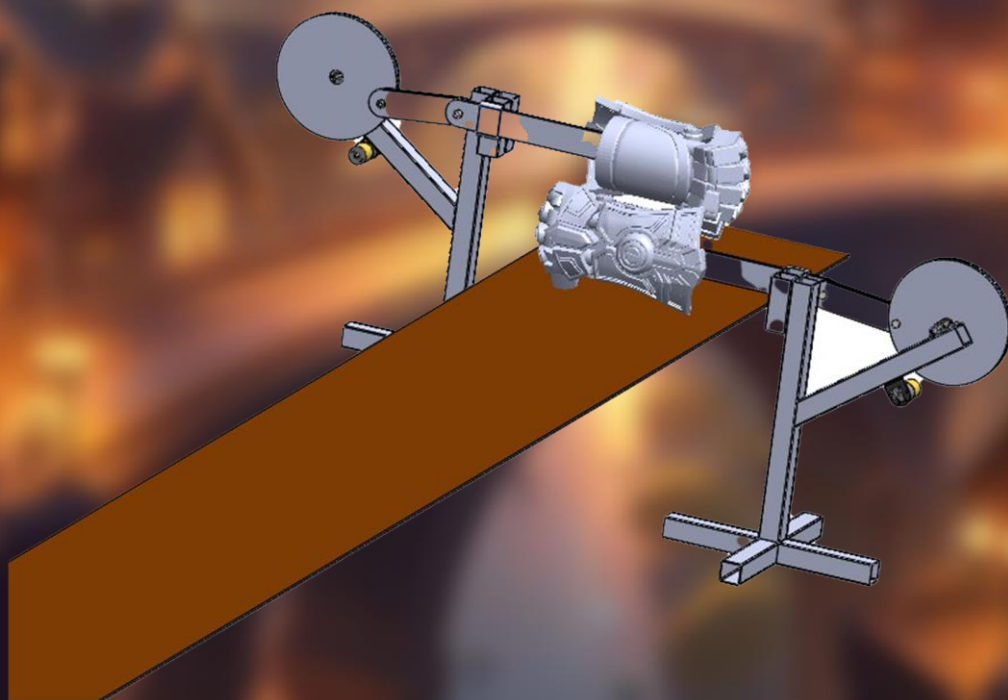
4. Silco traps

After successfully dodging Vi's punches, you are now forced to pass Silco's traps who always seeks to disrupt any rebel who enters the zone.

At this level, All of the players must enter one of the traps. First player who come at this level can choose any trap he want. Each team has to enter to two traps and complete the mission in order to be able to exit

First trap

Each team will receive an envelope on the day of the competition. This envelope contains a paper containing hints about one of the characters present in the game, specifically in« Piltavor and zaune»

Each team must search and find this character. When the contestant chooses this task when playing, he will find several characters and he must choose the correct character by placing a square in front of it.

If the contestant chooses the wrong character, he will be locked up for 10 seconds.

NB *There are two tasks of this type. If a player from a team chooses it, his teammate does not have the right to choose the same task.

*In each round the character will change

Second trap

When choosing this trap, the player will find the letters of « L O L » scattered and must arrange them.

Third trap

When you descend into this trap, you will find the place filled with the poisonous cave of the **Zaune**, which will paralyze your movement for **30 seconds**. When this time has elapsed, you can exit and complete the path.

5. The Cliff (The Sun Gates)

After getting past the Silco traps, you will leave the zone via the cliff .

You will find a rotating disk automatically that you must pass to reach the area containing the **Hextech (It is symbolized here by the switch)**, which will enable you to destroy the opponent's castle and take precedence in winning the competition.

After that, you will continue your way out by descending a slope and reaching the final challenge.

NB :

Crowding is prohibited in this area Whoever arrives first is the one who enters

Each team must enter the opponent's zone (red teams must go into the blue team's zone and vice versa)

If the contestant goes to the wrong area, he must return and go to the correct area

If he insists on going to the wrong area and pulling the trigger, he will be eliminated from the game
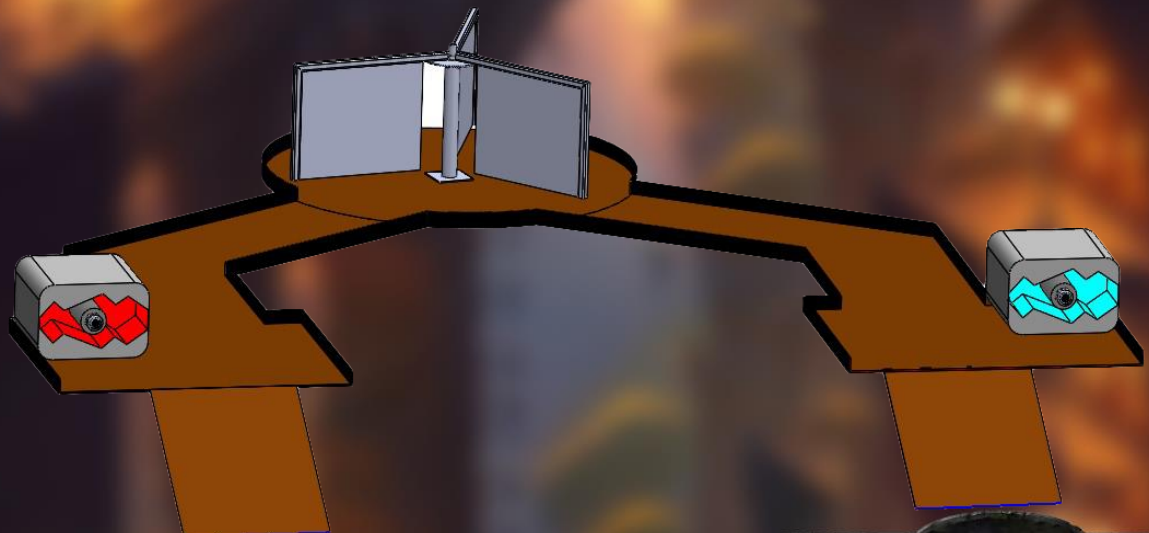
6. New Piltover

In the final stage, you must cross the grassy path and climb the slope to reach the highest point in Piltover to be the winner of the competition

The slop in 30° desgree
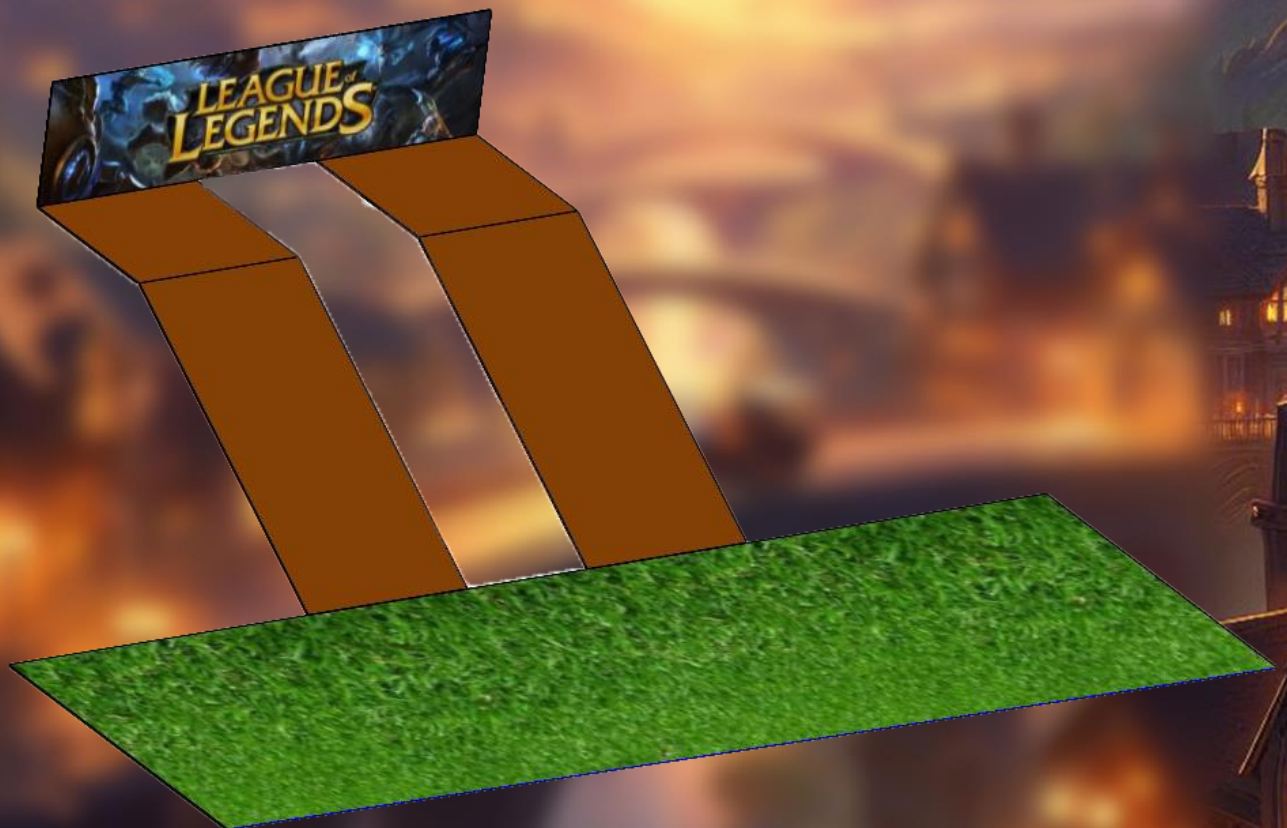
NB : All roads are 40 cm wide

III. Regulations

1. Homologation

- Registration and homologation of the robot is done only by the team leader.
- Each team can approve two robots.
- Checking the interior part of the robot is required.
- The team must show a technical file to the Jury describing the mechanical and electronic design of the robot.
- Each team passing the homologation phase will have an identity paper.
- It should be noted that the homologation will be strict and without exception.
- The team leader is responsible for guiding the robot during the game.
- Any changes in the robot after the test approval will lead to the **disqualification** of the robot.
- The absence of the team leader and his robot in the game arena after **two minutes** of the call will result in the disqualification of the robot.
- Any violation of the rules or cause of problems will result in the immediate disqualification of the team.

The team must show a technical file to the jury describing the mechanical and electrical design of the robot:

- Overall assessment of the presentation of the well-organized technical file on paper or in PDF **20pt**
- Mechanical design evidence (SOLIDWORKS or Catia design etc...) **10pt**
- Proof of electronic design **10pt** .
- A control board created by the team (PCB design images). **20pt**
- A power map created by the team (PCB design images). **20pt**
- A remote created by the team. **15pt**

2. Robots Criteria

a. Dimensions

The maximum dimensions of the robot are:

- Width: **35 cm**
- Length: **35 cm**
- Height: **35 cm**
- weight: **4 kg**

with 10% tolerance on the 3 dimensions.

b. Characteristics of the robot

- The robot must be made completely or partially by the team.
- NXT robots are prohibited.
- The robot must be remote-controlled, not autonomous.
- Protection of the robot against shocks and different environments is highly recommended.
- The robot must contain an on / off button **It must be placed in a visible position.**
- The robot must be remotely controlled, not wired.
- The use of electric shock systems is prohibited.
- Non-conformity of its characteristics will disqualify the team

3. Principles Of the Game

- Each team must have two robots
- The event that there is a contestant who does not have a team, he is allowed to participate alone, but he will be considered as a team and the same conditions apply to him
- To be able to participate in the competition, the robot must be approved
- The opponents are chosen from a draw and their position on the start line is deduced from the order of the draw.
- Each team has **2 minutes** to prepare their robot and set it up
- The game begins as soon as the referee's signal is triggered.(Intervention is prohibited after the start of the game).
- The team that has no opponent will qualify for the next round automatically.
- If no robot reaches the final line, the one with the longest trajectory wins.
- If the match starts with two robots they will take positions 2 and 3 respectively.
- The start line, **4 robots** are set and the race starts as soon as the referee triggers the start sinal
- The duration of the match is **5 min**

4. Match evaluation

- The first robot that crosses the finish line is the robot declared the winner and his team be qualified for the next round.
- In the event that the **two teams** cannot pass the last barrier, the team that destroyed the opponent's castle first is the winner
- If the game time is up, the team that travels the longest distance is the winner.
- If the tie remains the technical file is taken into consideration, the winner is the one who has more points
- The team without an opponent will be automatically qualified Whoever has travelled the longest distance is considered the winner.

At the end and during the game except for the referee no one can touch the robots and elements of the game.

Any of these actions will lead directly to disqualification:

- Any damage to the game arena, will disqualify the robot
- The departure of the robot before the referee's signal is forbidden. This actleads to the disqualification of the robot.
- If you don't respond to your name **in 2 minutes** you will be disqualified.
- Any non-sporting behavior or inappropriate act against any of the otheropponents or to the referee.
- Any intervention during the race will lead directly to disqualification

IV.CONTACT

Event Chief:

Aymen Jarraya

aimanjarraya55@gmail.com

+216 26174070

Funding Manager:

Oumaima Kasdali

oumaimakasdali789@gmail.com

+216 93191982

ALL TERRAIN chief:

Oussama Jhimi

Oussamajhimi123@gmail.com

+216 23356450

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