

ENIGROBOTS



"MY HEART AND SWORD  
ALWAYS FOR  
DEMACIA"

-GAREN

DEMACIA



5<sup>th</sup> Edition  
ENIGROBOTS





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# I. Introduction

## 1. Enig robots

In recent years, the importance of robotics has grown in various fields and has become an important science that continues to evolve.

In this context, the National Engineering School of Gabes presents its fourth 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 a competition where everyone gives their all to win. Therefore, we will give you this opportunity to show us what you have in our challenge "ENIG ROBOTS".

The event will take place on the **18<sup>th</sup> of February**, within the National Engineering school of Gabes.

**ENIGROBOTs** team wants you to go all out and prove your worth with your strong and bright inventions. We welcome you to our home. The challenges awaiting for you are:

**-Demacia (line follower and maze)**

**-Piltovle (All terrain)**

**-Noxus (Death ring)**

**-Bandle City (Junior)**

**Be prepared !**





## 2. The autonomous competition

The autonomous competition is a competition where the robot is 100% autonomous, and expected to complete the map and its various tasks without any external intervention or control and must function only through its program and various sensors.

The moment the robot enters the playing area no further intervention is allowed .

# GET READY CHAMPION ...







### 3. Demacia

**Demacia** is a strong kingdom, founded on strict laws and rich in a prestigious military past. Its people have always attached great importance to the ideals of justice, honor, and duty, and they are very proud of their cultural heritage. But despite its very noble values, this perfectly self-sufficient nation has become increasingly insular and isolationist over the last few centuries.

Today, the kingdom of **Demacia** is going through troubled times.

The capital, the Great City of **Demacia**, was founded as a refuge from sorcery after the nightmare of the Rune Wars and was built on the mystery of petricite, a strange white stone that can sap magical energy. It is from there that the royal family has always ensured the defense of the surrounding towns and villages, as well as the agricultural lands, forests, and mountains rich in mineral resources which constitute the kingdom.







However, after the sudden death of King Jarvan III, the other noble families have still not approved the succession to the throne of his sole heir, the young **Prince Jarvan**.

All who live beyond the kingdom's well-guarded borders are viewed with growing suspicion, and in times of doubt, many former allies turn to new sources of protection.

Some dare to whisper that the golden age of **Demacia** is over and that if its people cannot adapt to an ever-changing world,

which many believe they cannot, the decline of the kingdom is inevitable. And all the petricite in the world won't be able to protect **Demacia**.







## 4. Registration

- The inscription procedure will be posted on our social media accounts.
- Further information about the inscription details will be sent via our e-mail.
- A participant can only be a leader for one team.
- Each team must have **max 4 members**
- Each team leader is responsible for the inscription procedure.
- The participants must fill the adequate inscription forms put on our official Facebook page "ENIG ROBOTS"

**<https://www.facebook.com/ENIGROBOTS>**

- The participants must fill the form and pay the registration fees to confirm their participation.
- The inscription fee for each participating team is set at **55dt.**
- In case of a problem concerning the e-mail reception contact our human resources manager.
- For more info about the event refer to our event Facebook page: **<https://fb.me/e/2pq4ezyLZ>**
- Each team must provide us a proof of payment via e-mail.
- The participant must always be reachable via telephone or e-mail.
- The participants must be present before the starting of the competition by at least **30mins** to ensure the homologation process.



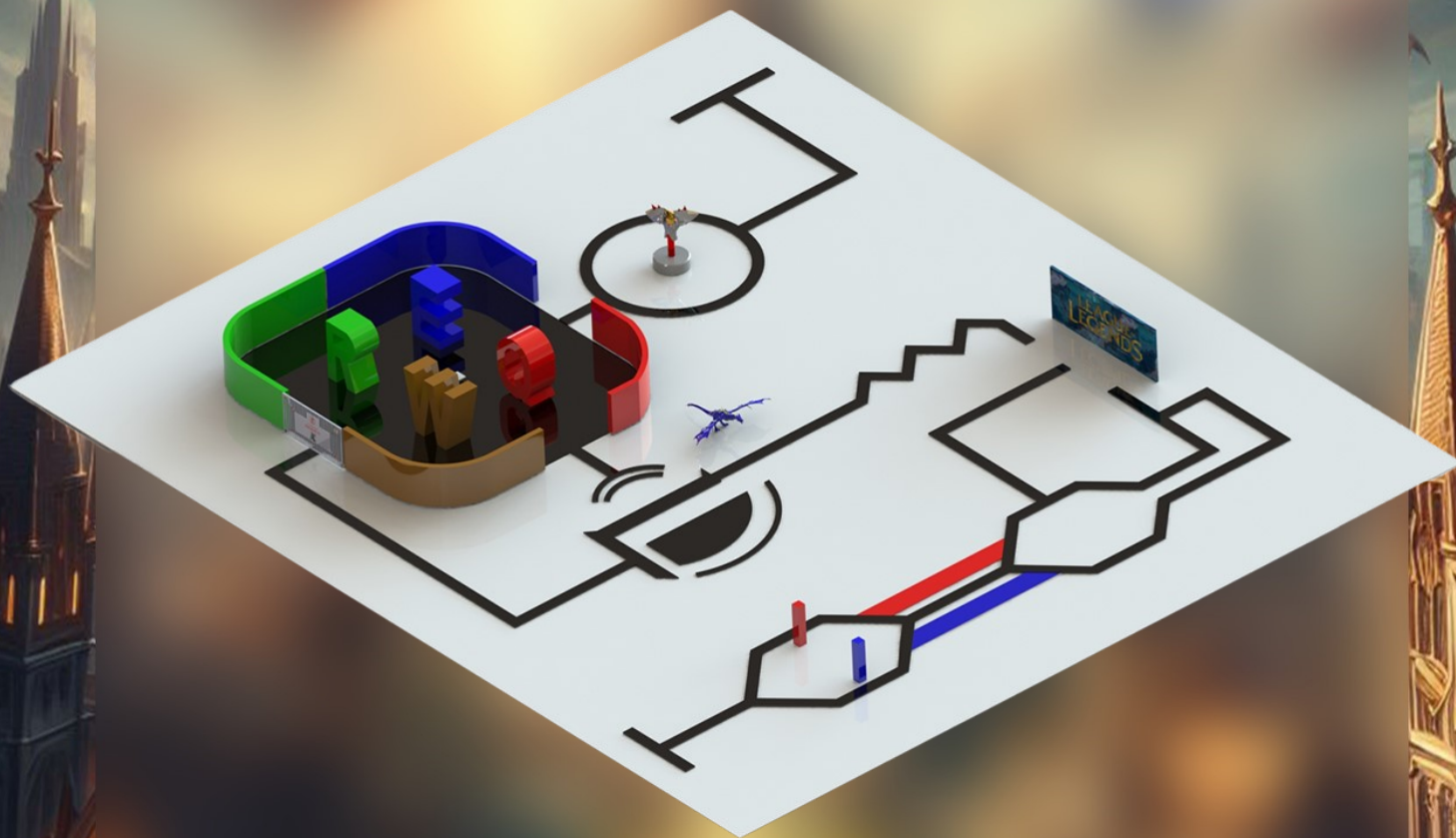


## II. Competition's Battlefield

The robot must follow the lines of the map, evade obstacles, and find its way through mazes in order to destroy the enemy nexus.

**Line width = 4cm**

All distances in sketches are in mm.





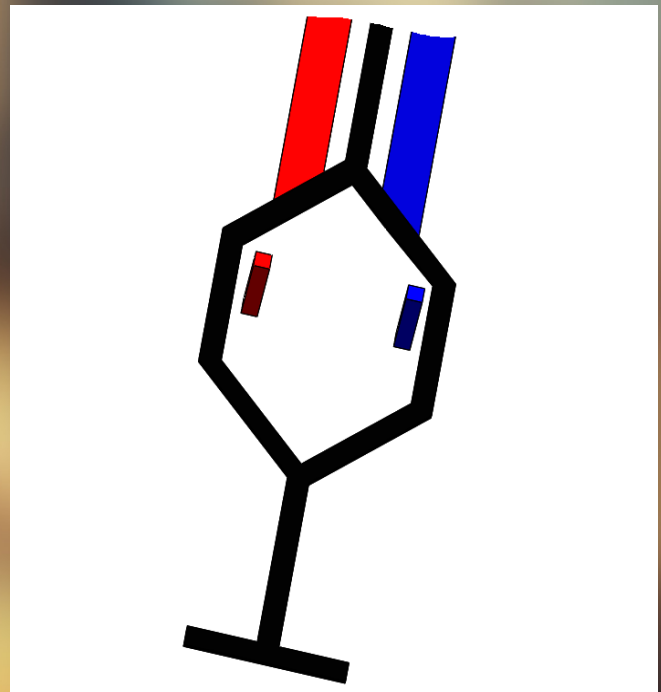
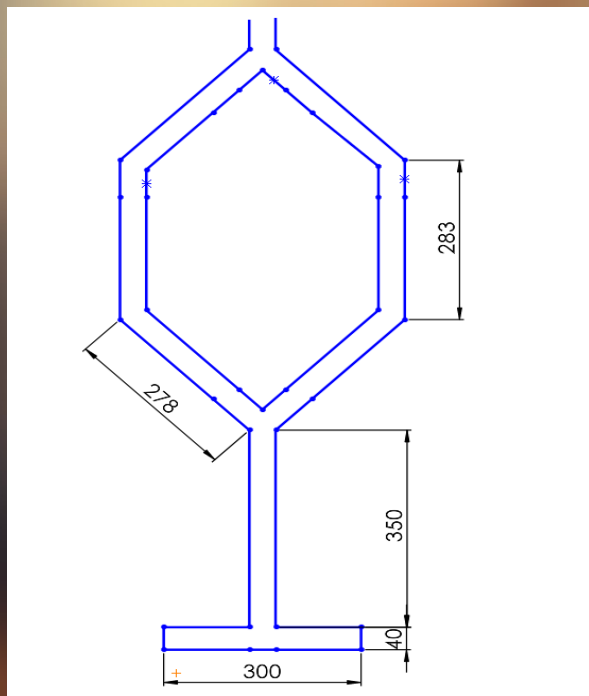


## 1. Butchers Bridge:

Once an ancient stone bridge leading to a temple entrance,

The objective of Butcher's Bridge is simple – destroy the enemy nexus. In order to do this, when the robot go straight forward hextech hexagon, champions must traverse down one path in order to attack their enemy either Anivia path blue one or Annie path the red one. The path color should be displayed by the robot itself:

If the robot accomplishes the bridge and displays the adequate color







## 2. Sommner's Rift

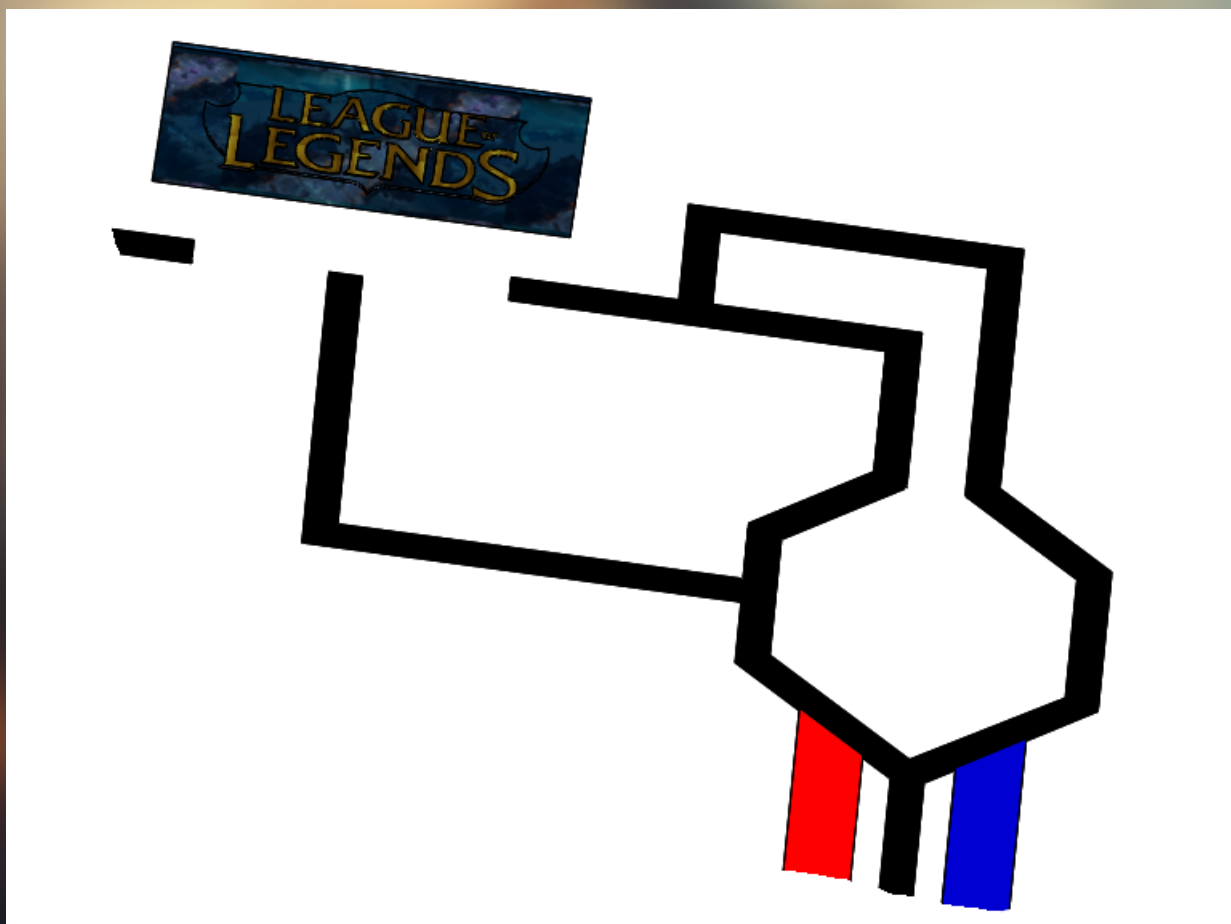
The oldest and most venerated Field of Justice. Traverse down one of three different paths of this battleground. There are three majors routes in Summoner's Rift namely: top lane, mid lane, and bottom lane.

Top lane .....35 pt

Mid lane .....25 pt

Bottom lane....20 pt

Always keep in mind that the in-game timing is regarded, so it's a good idea to check the shortest pathway.



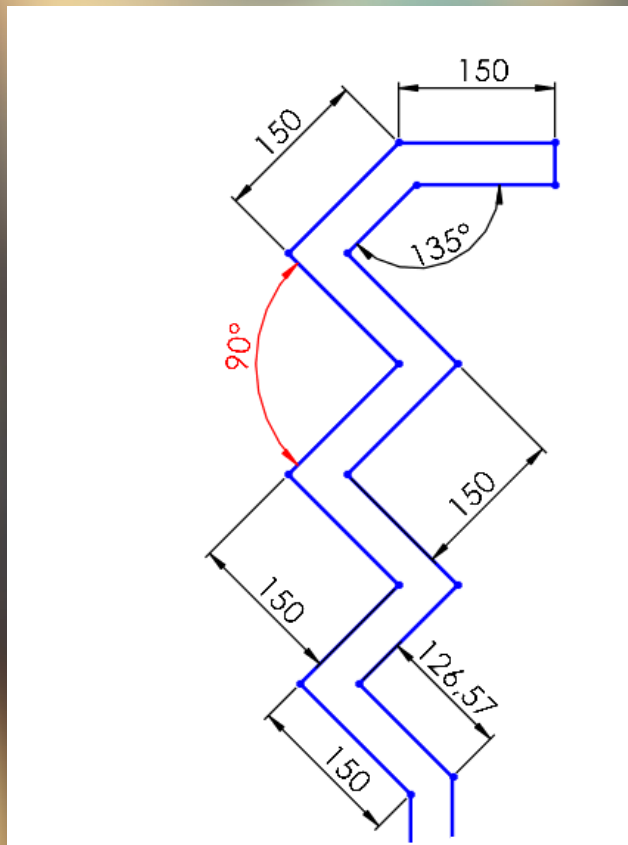
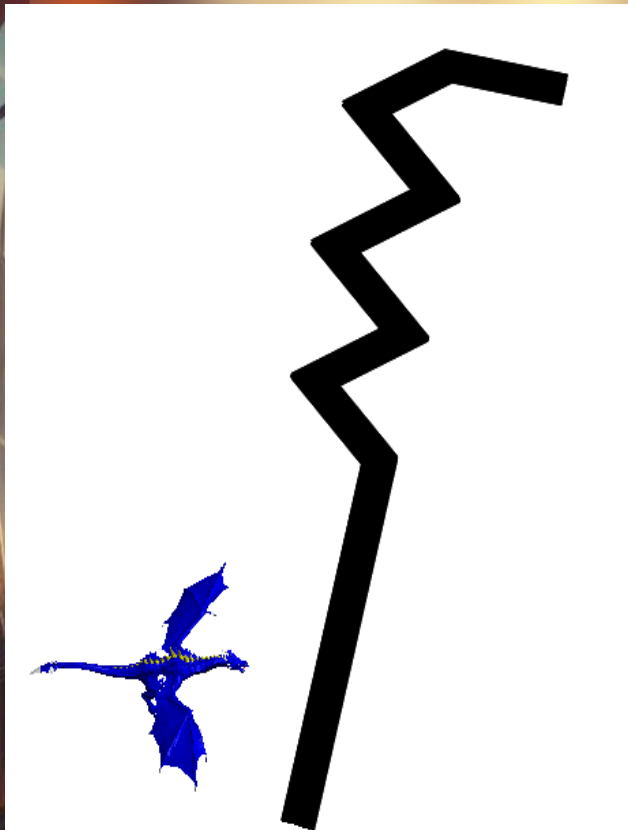




### 3.ARAM

After the Sommner's Rift you must enter the ARAM path and navigate through it .

Finishing the following section awards you **25 points**.

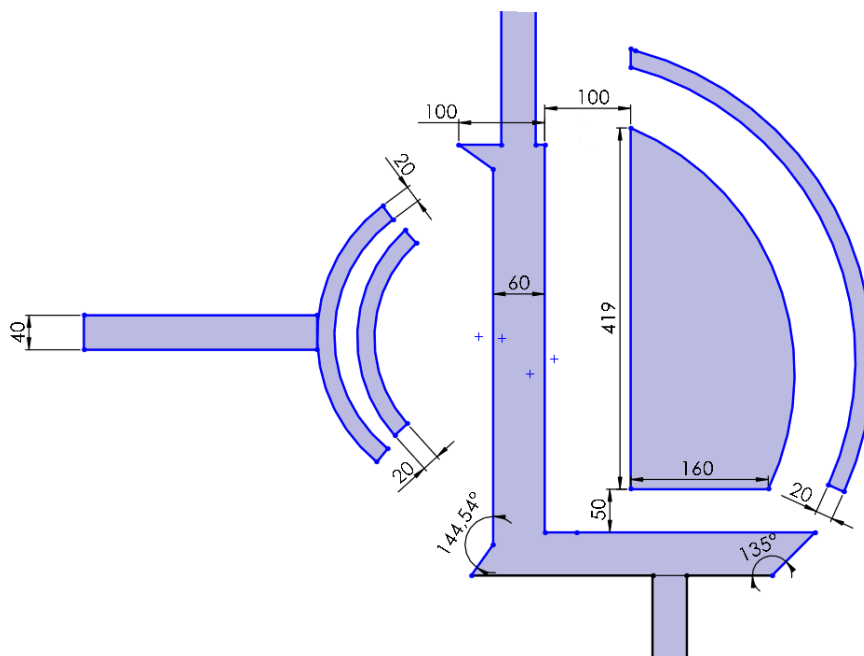
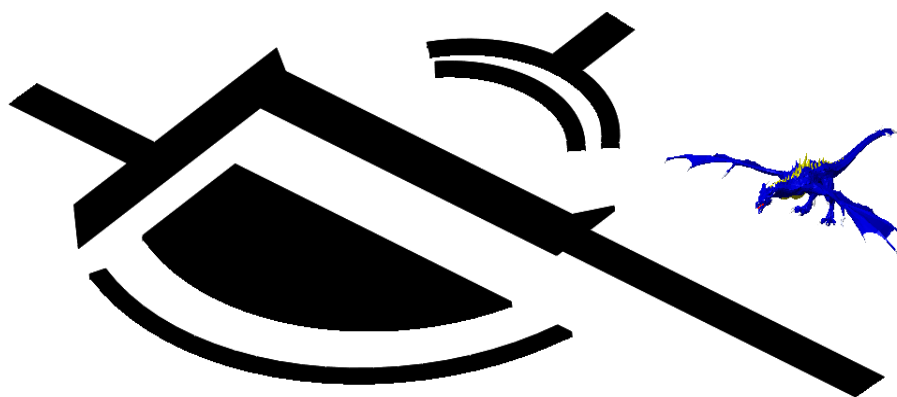






## 4.The Terrain

After leaving the ARAM you must enter the wrecked League of Legends building and navigate through it Finishing the following section awards you **50 points**.



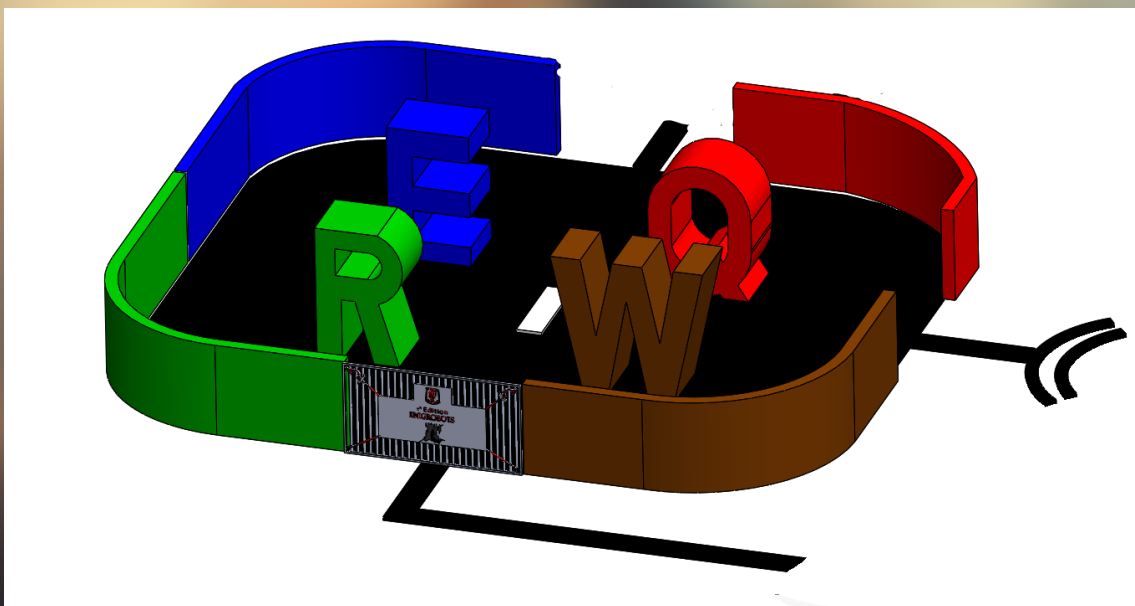




## 5. Inhibitors

These are structures located in each team's base that, when destroyed, temporarily weaken the enemy team's minions, and make the Nexus vulnerable.

Finishing this section awards you **80 points**.



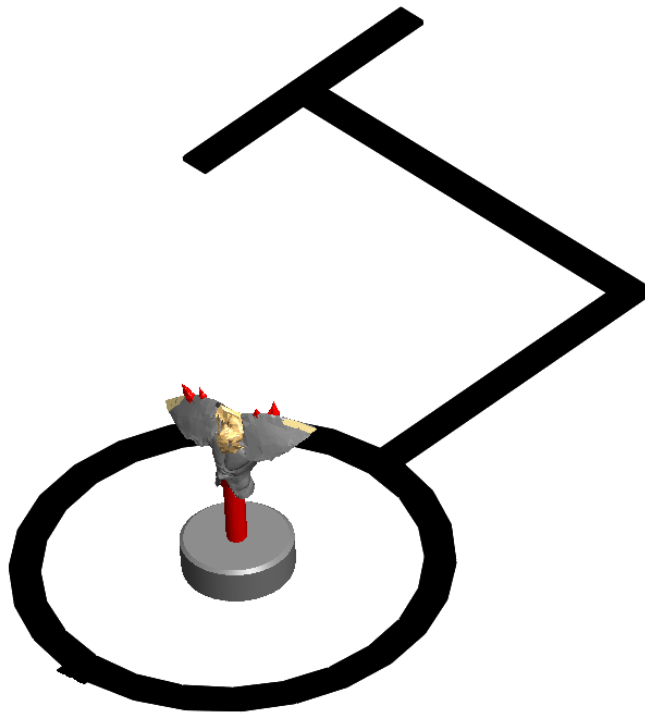




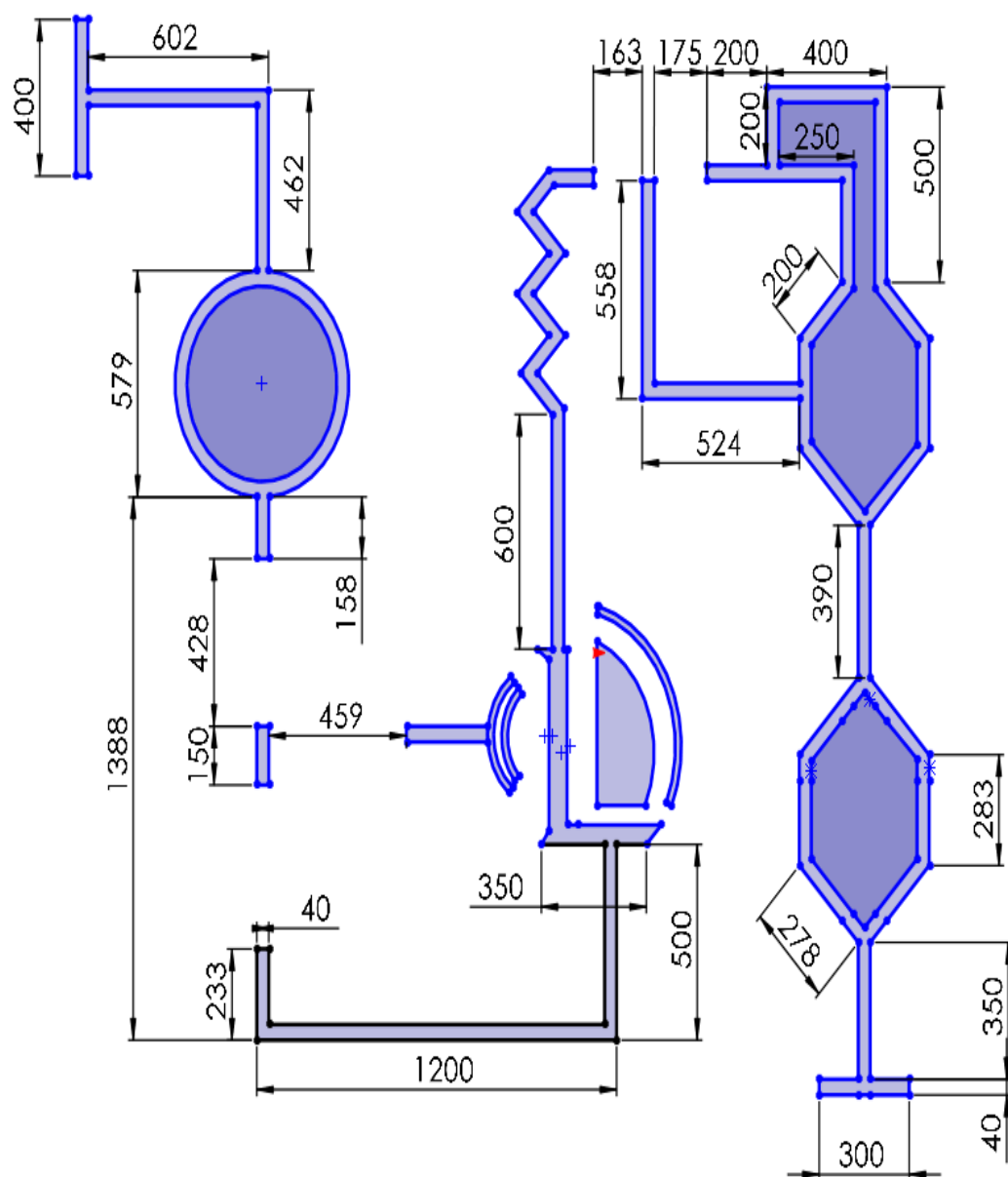
## 6. Nexus

The main objective of league of legend is to destroy the enemy nexus.

Finishing this section awards you **20 points**.











### III. Regulations

#### 1. Homologation

\*The robot must be designed by the participating team and present us as proof a mechanical and electrical print or digital design document. (The lack of documents will lead to a **20 point** deduction)

\*The robot must be completely autonomous.

\*The team leader must homologate his robot before the start of the competition.

\*Each team can only homologate one robot.

\*The robot must be completely or partially manufactured by the participating team (NXT robots are forbidden)

\*The robot must contain a power switch.

\*All sources of energy allowed except those implementing chemical reactions or potential danger.

#### 2. Robot dimensions

The dimensions of the robot:

\***25 cm** width.

\***25cm** length.

\***20 cm** height.














**A tolerance of 10% is allowed.**














### 3.Principales of the game

-  The robot must have passed the homologation process to participate.
-  The team leader comes to the playing area alone with his robot.
-  Upon calling the robot's name the team leader has **2 min** to present it in front of the referee.
-  The robot is placed on the starting line before the referee's signal.
-  You are rewarded the points only by finishing its section.
-  The robot that amasses the highest number of points will be declared the winner.
-  If two robots are equal in points or stop in the same zone the one who travelled the furthest will be declared winner.
  
-  If the draw persists the fastest (less time taken) robot will be declared the winner.
-  If the draw persists, the lightest robot will be declared the winner.
-  Each team only has two tries.
-  The robot has **4 min** to complete the track after which it will be disqualified.
-  If the robot is stuck for 10s, it will be disqualified.
-  If the robot leaves the model or the designated path, it will be **disqualified.**








**ATTENTION :The team will be disqualified in the following cases:**

-  Any immoral behavior towards the referee or other teams.
-  Leaving the starting line before the referee's signal.
-  Intervening on the track or touching the robot during the Competition.
-  Causing intentional damage to the playing area.
-  Modifying the robot after the homologation process.
-  Testing the robot on the map before the game starts.
-  Objections towards the referee's decisions.

**Take notice:**

-  The competing order will be established then displayed the day of the event.
-  In case of the team leader's absence, inform the referee in advance about the replacing member.
-  The final score is the best score between the two tries.







## 4. Evaluation










Butchers Bridge .....	20 pt
Sommner's Rift .....	35 pt
ARAM.....	25 pt
The terrain.....	50 pt
Inhabitants.....	80 pt
Nexus.....	20 pt

**Take Notice:** The points in the table above are the maximum awardable points without taking into consideration deductions.





## Rules

-  When the robot goes straight forward until it comes across the hexagon you have **2 alternatives** either you turn to the right, or you turn to the left
-  If the robot takes the right turn, the color light(blue) which is indicated will be displayed by the robot itself
-  If the robot takes the left turn, the color light(red) which is indicated will be displayed by the robot itself
-  If it fails to get passed the hexagon the robot has **15s** to accomplish the loop otherwise it's disqualified
-  If the robot displays the appropriate color light and has successfully gone through the hexagon it gains **20pt**
-  The robot has to travel a certain distance and comes across another hexagon and choose one of the three paths:
-  If The robot turns to the left, it will face two alternatives:
  - Either the robot turns to the left and goes straight for the barrier it gains **35pt** **OR** it chooses to go straight forward, going through this path the robot gains **25pt**.
-  If it takes the right turn, the robot will go straight forward and turns to the left it gains **20 pt**.
-  If The robot failed to reach the barrier and take another path it has **15s** to get through otherwise it's disqualified once it passes the barrier and turns to the left the robot has to pass the zigzag shaped path it's **25 pt**.







The robot will travel a short distance until it comes across a dragon, there it will stand still for **5s** and displays “LOL” so that it’s **5 pt** then it goes straight across until it finds the LOL logo



To be qualified the robot has to go through the logo it’s **50 pt**  
**If it goes through the shortest path across the maze the robot will be disqualified.**



If it fails to get passed the logo the robot has **10s** to accomplish the loop otherwise it’s disqualified.



The robot turns to the left then to the right and goes forward until it comes to the gate where it has to stand by for 5s in front of the gate. Displaying “Nexus Enemy” gains the robot **10pt** .  
Otherwise, if the robot didn’t wait **5s** it will be **disqualified**



After entering the temple “inhibitor” It has three alternatives:



If it turns to the left, it gains **50pt**



If it turns to the right, it’s **80pt** .



If it goes straight, it’s **40 pt**



Going through the nexus roundabout successfully, it gains **20 pt**



If it fails to get passed the Nexus, the robot has **10s** to accomplish the loop otherwise it’s disqualified.



The robot has to travel a certain distance and turns to the left until the end of the path.







## IV. Contacts



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