Girl Powered 22-23 Vex iQ

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What comes to mind when you hear the phrase Girl Powered?

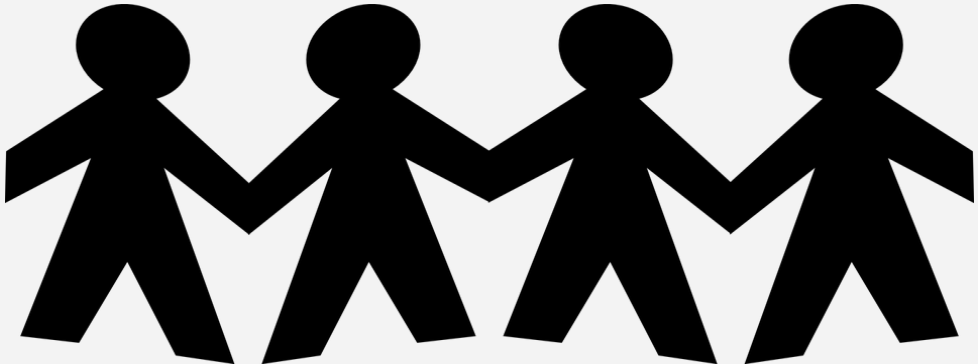
Girl Powered gives me a sense of empowerment, and says "You Can" especially to females in a place where female representation is low. Females get almost no recognition for their works and contribution to STEM at all. My school is a STEM school, where STEM is highly encouraged. Despite that fact, only 3 out of the 18 kids we have in our robotics program are females. This makes us as women feel dejected. We believe that girls are not able to move up in STEM, since it is almost entirely male dominant. However, Girl Powered, brings a change to that. It is a well needed reminder that females can contribute as well. As a female in robotics, I feel that I am sometimes looked past, and disregarded just because of my gender. Some people do not believe that women can help and do things just as well as a man can. Even during competitions many people believe I am part of a different team, even when I am standing with my team. It is very sad that people resort to saying "good luck to you boys" because it is uncommon to actually see a female in STEM or participating in VEX IQ. Girl Powered inspires us to join a science related field and inspire other females to work hard and change the workforce; not just in STEM related jobs, but in every job. Girl Powered is the change us as woman always needed in STEM and is the motivation to represent women in the workforce. Girl Powered makes me feel represented, and included among my peers.

Team 21037a introduction

Introducing King Cobras
And our robot, B-Bob

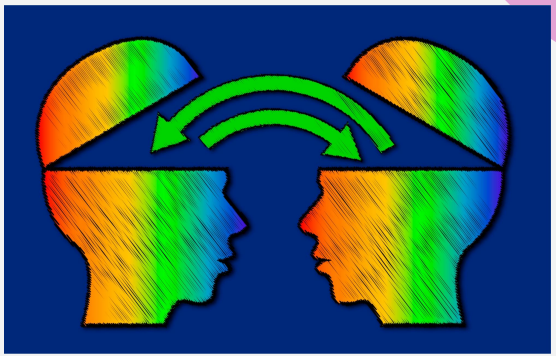
introducing the team members

You may think that I am on a team with only girls, like many of the "Girl Powered" participants are. However the team I am on, 21037A, one of the 6 teams at Central Middle School, is made up of four members, 3 boys and one girl; myself. Our builder/strategist AJ is a previous member of 21-22 Vex IQ team 21037A, which was a one of the Vex IQ worlds qualifying teams. Evan, our head programmer and builder was also a member of the same team in the 21-22 season. Evan, also having experience in the FTC team 3796 at South River High School, has helped to answer questions that I or other teams at our school have. The experience Evan and AJ have has made them our most reliable teammates. Liam, who joined Vex IQ in the 22-23 season has contributed to planning and designing some of our ideas. He has also assisted our coder in programming the robot. Last but not least, Alison is the main journalist on our team and also a builder. Alison has experience with art and has used her skills to include hand drawings along with photos in the journal to show the development of our robot. Although she works on the journal, Alison has helped with building and designing the robot.



Trying Various roles

As a team, we all try to contribute to everything even if we aren't the best at every role. For example, you might have noticed I did not mention specific drivers when introducing the team. This is because we all switch off drivers during competitions. We also do not have specific groupings of who drives with who. This helps us collaborate with everyone and not just one person. When we try various roles in the team, we gain new experiences in different aspects of building a robot. Although we do have people who specialize in a certain role, such as me, as the journalist, that doesn't mean that other members of the team cannot add to the journal. In such a teamwork based challenge such as VEX IQ, it is crucial that everyone collaborates and works together on the robot. We learn soft skills that are essential in everyday life such as how to work well with others, and how to mentor others on something you might be better at. We get better at communication. When a different person tries a new role, another perspective is added on as well. New ideas come from others, and it is crucial to listen to your teammates ideas. They might have an idea that I, or another team member does not have, and problem solving is much faster when working with others.

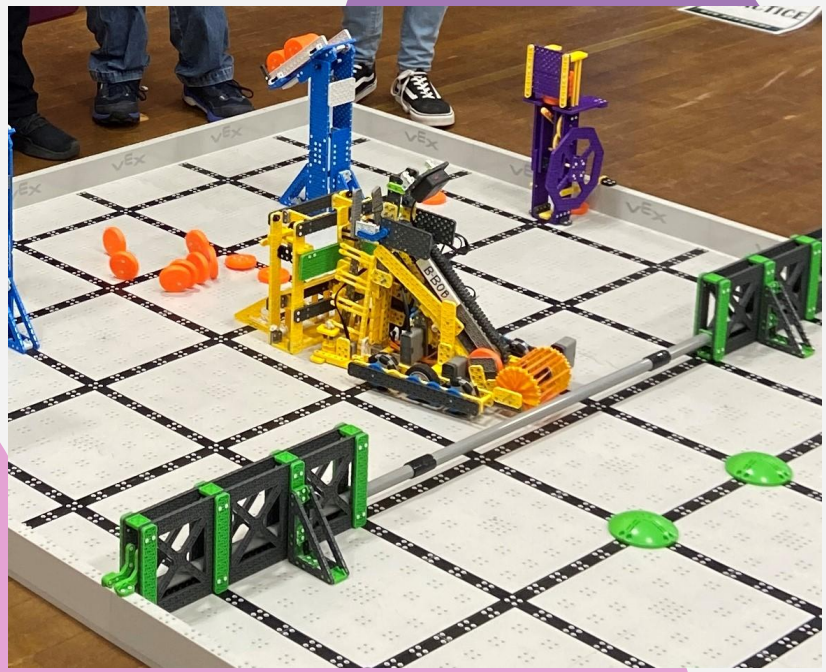


B-Bob

The robot

(Pronounced Buh bob not bee bob)

Although B-Bob is still in the works...

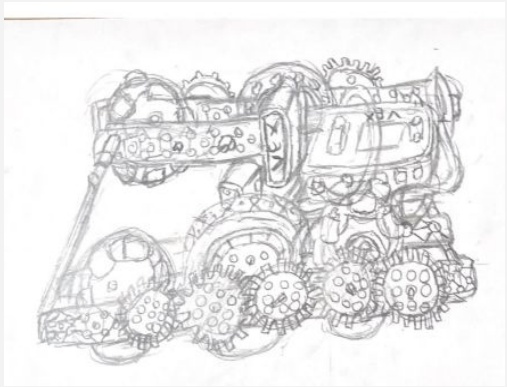


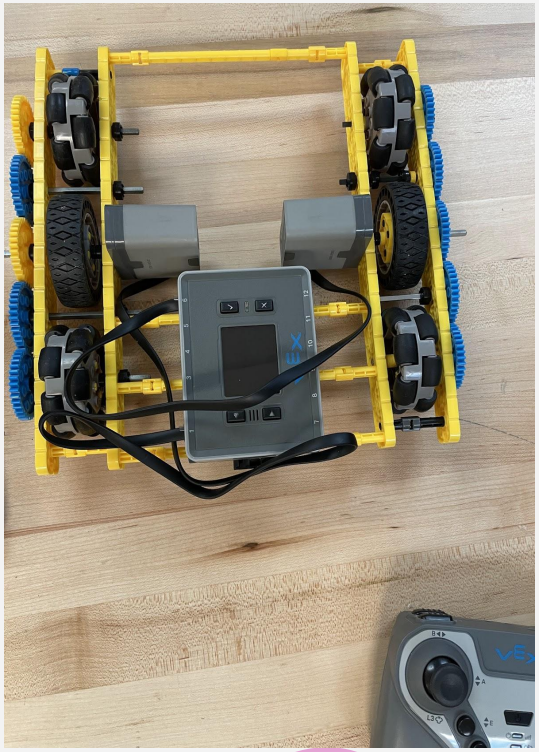
First final product of B-Bob. This was used in our first competition

Here are some photos of our robot that were put in the journal, and taken at our first competition . All drawings done by myself, Alison

B-Bob started out as just a drivetrain

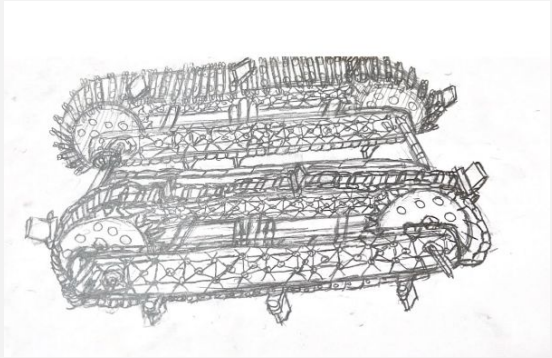
When B-Bob was in the works we definitely struggled to come up with an idea that would work, and was original. When we came together as a team and brainstormed ideas, we found it much easier to come up with a solution. That is teamwork!

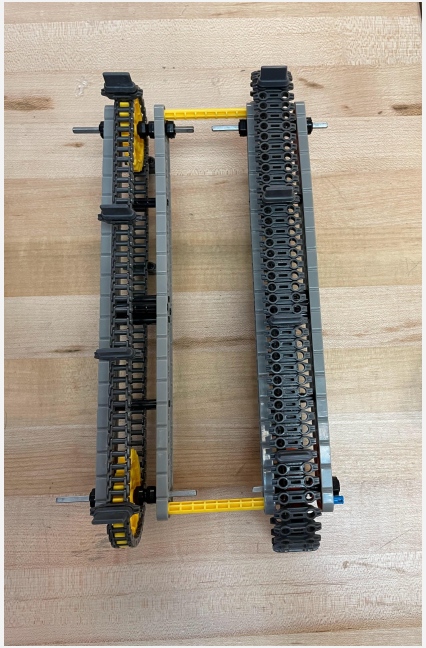




Then we added an intake system

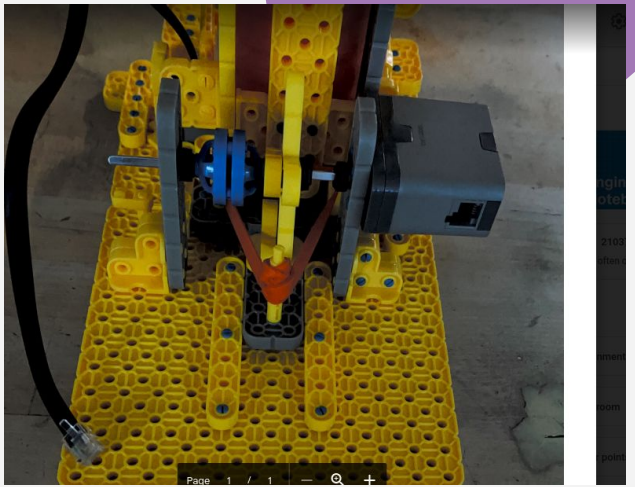
This innovative design works like a conveyor belt to carry and pull the discs into the funnel to later be shot into the scoring zone. Although the idea is not in use currently, the idea helped us with further building and new ideas.

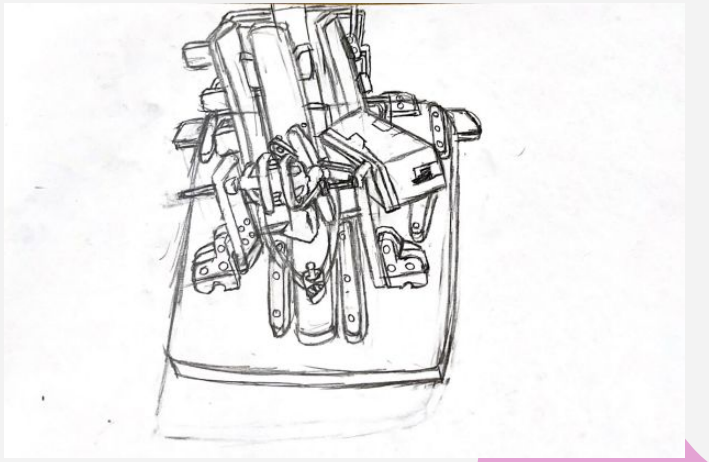




Shooter

I built this one myself, along with the help of another teammate. This shooter was used at our first competiton. Originally we had two shooters, but it was unreliable. So, we came up with a solution, which only had one shooter, and it was much eaiser to fix.

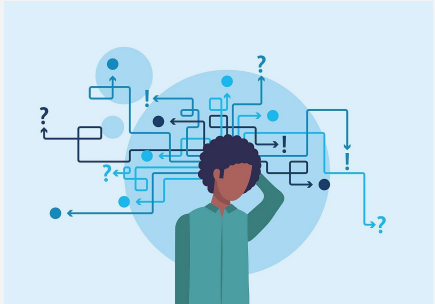


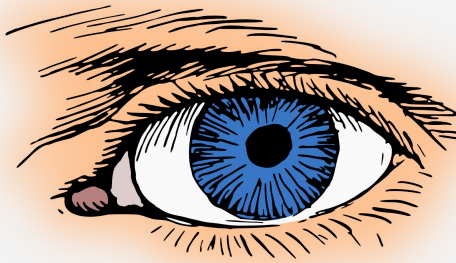


Diversity in our team

Diversity of Perspective

In our team, we all try various roles. The diversity of perspective coming from different people building, journaling, etc. brings new possibilities and ideas. Diversity is crucial when in a team. For example, if we all had the same ideas, and outlook, we would not have any new ideas. Sometimes, when a problem presents itself, our builder does not know the solution, or why it is not working. In order to resolve this issue, another teammate is called over in order to take a look. When a new person looks at it, they look at it with fresh eyes, especially if they were not involved in that step previously. Diversity improves teamwork, as well as problem solving skills. Vex IQ is a heavily teamwork based challenge. If we could not work with each other, we could never even dream of success, or even make it past regionals. All teammates participate in almost every stage of building the robot, which greatly increases our chance at success.





Creating an inclusive environment

My team makes certain that the environment is inclusive by giving everyone the chance to share. We believe that when everyone has a voice and a chance to share, it makes everyone feel welcome. It makes everyone feel like they are a valuable part of the team. Everyone can freely express their ideas and points of view, while still being comfortable to fully express themselves. As the only female in my team, I feel I am not looked past and that my ideas are valued just as much as everyone else's. To be inclusive, everyone must have a chance to collaborate and my team does that, and more. All ideas are tested, even if it may seem weird. You never know what kind of idea someone on your team may have, and you must have an inclusive environment so they feel comfortable sharing it.

STEM role model

Who is your STEM role model?

My STEM role model is one of our robotics mentors at CMS, as well as one of my science teachers from last year, Mrs. Scott. Role models demonstrate their commitment to a desired goal and are willing to invest the necessary time and effort to achieve success. They don't give up easily and they persevere when confronted by obstacles. Their passion to succeed inspires others to follow through and reach the goals they set for themselves. This perfectly describes Mrs. Scott. She inspired me to join robotics last year, and has helped me advance in science. We both share a passion in learning about space, and wanting more females in STEM. The fact that we have a female mentor at our school helps other women want to join robotics, because they see that another woman has been through it. This then helps fulfill the goals of Girl Powered of creating a more inclusive environment for everyone.