

Training New Members
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1 Getting New Members

In order to get new members, our team displays a simple robot at every school event for interested eight graders such as Catholic Schools Night, Open House, and Freshman Orientation. We also make announcements that the Robotics Club is open to all interested students every day during the first couple weeks of school. Since we have been so successful, during the beginning weeks of robotics as many as twenty or twenty five freshmen attend the meetings.

2 Training New Members in the Pre-Season

At the beginning of the year we give the same task to all freshmen: build a robot that can follow a black tape of an unknown shape. Then they present that robot at the school open house held each year at the end of October. This year we decided to have them perform two additional tasks in between Open House and the start of the season. We asked the new members to build a claw that could pick up a cup and to design a robot to score points in a mock game.

2.1 Training New Members Interested in Mechanics

Usually we divide new members interested in mechanics into two groups and have them work with minimal assistance so they can learn from each other; however, this year we decided to break into small groups with senior members as mentors. Each group consisted of 3 to 5 new members and one mentor. These smaller groups worked much better as they gave everyone in the group an opportunity to participate in the construction of their robot and to get more advice from an experienced member. After Open House the new members stayed in their small groups and designed a robot to pick up a cup using a claw. After their claws were tested and found successful we also gave them a mock game to compete in amongst themselves.

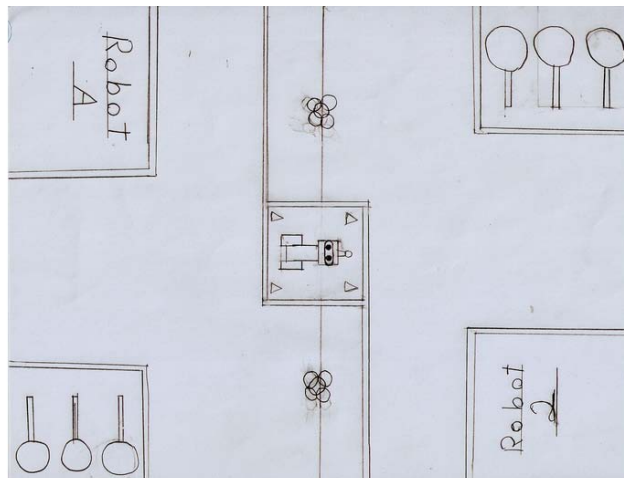


Figure 1: A drawing of the new member game board used for a mock competition between small groups.

2.2 Training New Members Interested in Programming

Freshman interested in programming were tasked with writing the code to run the robots the mechanics built. Since the number interested in programming is usually small, we teach them together, but each is assigned a small group to write a program for. We hold programming classes after school several times a month. These classes are usually taught by our head programmer, but occasionally past members have led the classes. Everyone, including senior members, is welcome to sit in on these programming lessons, but they are most helpful to newer members because we focus on the basics.

3 Training Members During the Season

Until this season new members work with the rest of the team to build our robots for the competition. During this time we would lose many new members because they would not work on the robot because of a lack of experience. This year we decided to have the new members participate in Botfest. Two of our sophomore members led the Botfest team by providing additional mentoring while at the same time gaining leadership experience. The group split into two, one building a Cricket-based robot while the other worked on a robot using the CBC. The Cricket-based robot was designed to open a cooler and take out a soda while the CBC-based robot tracked a ball using a camera, found a goal using the camera, and kicked the ball into the goal. All new members had a chance to work on a robot and enjoy themselves and senior members were able to concentrate on the competition robot and be at ease knowing no one felt excluded.

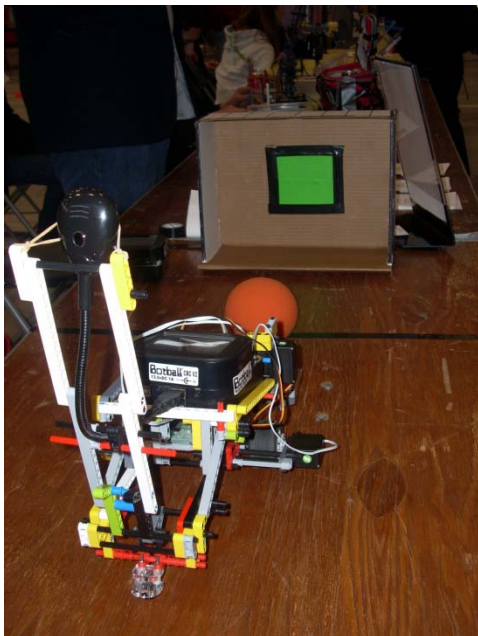


Figure 2: The CBC based robot new members built for Botfest.

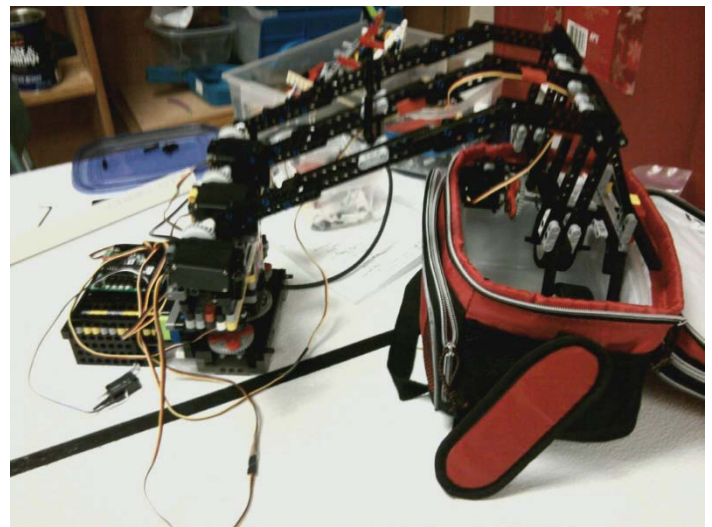


Figure 3: The Cricket-based robot new members built for Botfest

4 Conclusion

Between the regional competition and GCER new members were welcome to help with the competition robot or to perfect their Botfest robots to present at the Autonomous Showcase. As opposed to previous years, we kept many of our new members, which was a huge relief. Since we had been ineffectual in retaining new members in previous years, we had had doubts as to whether or not the team could survive in two years after the bulk of our senior members graduated.