

Sprints and Stand-Ups: A System for Time Management and Goal Setting

1. Introduction

Having effective time management techniques is important for any team. On Hillsdale, we used to struggle with this a lot. This is in part because one of our biggest challenges is that we are 100% student run and do not have a coach. As a result, we have to keep ourselves focused, without having an authority figure to enforce any rules. As our team has become bigger and more committed over the past 4 years, one major success that we have had is finding a time management and goal setting system that keeps us focused and working efficiently.

2. Scrum

Scrum is a system for managing small teams used in the professional world, especially in the tech sector. It was first introduced to our team through a parent who works in tech. Scrum has many strategies and roles designed for efficiently creating products for a client (Sims and Johnson). However, our team decided not to use many of these strategies for the sake of simplicity. This is because we are students, as opposed to full time employees, and meet for robotics only a few times a week. For our purposes we adapted two main elements of Scrum to educational robotics: Sprints and Stand-Ups.

3. Sprints

a. Implementation of Sprints

Each Sprint begins with a meeting in which each bot team (4-6 people that work on a particular robot) decides on one or two goals to achieve over the next two weeks. These goals are then written down. Since our team meets twice a week, this means each sprint is four meetings long. At the end of the fourth meeting we have “sprint demos” in which each bot team demonstrates its robot’s progress and the entire team analyses together whether the goal(s) were met. The entire team then discusses each robot’s potential challenges and solutions to those challenges. This process repeats until competition.

b. Benefits of Sprints

- i. Our team has 20 members and we build about 4-5 robots each competition. This system allows members from each robot to be constantly updated on the progress of the whole team so that we can

maintain a cohesive strategy. Additionally, the entire team is able to collaborate on problems that other robots are having.

- ii. Sprints also give each bot team a smaller sized goal to focus on for only a few meetings and hold their work ethic accountable to the entire team at the end of the sprint. It breaks the problem of creating an entire robot into more manageable pieces.
- iii. It is fun and motivating to showcase your work to the entire team and receive positive feedback from your peers for your effort. This improves team morale.
- iv. This system allows our team to identify robots that are not making progress long before competition arrives. If a team has the same goal many times that it is not meeting, then that robot is probably not feasible and we can change our strategy.
- v. At the start of the season, teams can break their robot into sprint-sized goals based on how long the team has until competition. The team can then evaluate if these are reasonable goals to achieve each sprint in order to figure out if a robot itself is feasible, or if they should simplify the robot.

4. Stand-Ups

Stand-Ups happen every meeting at the start of the meeting. We stand in a circle and each person briefly says what they will work on that day. This is also a time for any announcements that need to be made to the whole team. Stand-Ups are important because they ensure that each person has something to work on during the meeting. Additionally, they unify the team at the start of every meeting before everyone disperses to work on their own goals.

5. Conclusion

When teams are run more efficiently, there is less conflict and more, better robots are produced. Our team has found that using Sprints and Stand-Ups allows us to be a more cohesive unit, even without a coach leading us. One of the best parts of botball is the ability to learn not only STEM skills, but life skills. By learning how to collaborate more effectively as a team, students are more prepared for future jobs in any industry.

6. References

Sims, Chris, and Hillary Louise Johnson. *Scrum: A Breathtakingly Brief and Agile Introduction*. Dymaxicon, 2012.