

Greater St. Louis region

Maja Mataric Team from Wabash Valley

Team 0320-19

Period 1 – Project Plan

Goals and Tasks for Botball 2019

Game Goals and Tasks:

1. Goal: Get all people to the hospital. Deadline: March 19.
 - a. Task: Design and build an arm. Deadline: March 16.
 - b. Task: Program it to grab people and move them to the hospital. Deadline: March 16.
2. Goal: Get medical packs to home area. Deadline: March 12.
 - a. Task: Design and build an arm. Deadline: March 9.
 - b. Program it to grab the packs, and move them to the starting zone without dropping them. Deadline: March 9.
3. Goal: Get Botguy and the Mayor to home area. Deadline: March 9.
 - a. Task: Make a device that can reach up high. Deadline: March 6.
 - b. Task: Program it to grab Mayor + Botguy. Deadline: Deadline: March 6.
 - c. Task: Program a sensor to detect the Mayor/Botguy. Deadline: March 6.

Robot Building Goals and Tasks:

1. Goal: Design and build the Create robot. Deadline: March 15.
 - a. Task: Make it able to get Botguy and the Mayor. Deadline: March 2.
 - b. Task: Make it able to move people to hospital. Deadline: March 12.
2. Goal: Design and build the Create robot. Deadline: March 10.
 - a. Task: Make it able to Push medical packs. Deadline: February 23
 - b. Task: Make it able to push the Water. Deadline: March 7.
 - c. Task: Make it able to move firemen/ambulance. Deadline: February 23

3. Goal: Design and build the Double Elimination robot. Deadline: April 5.
 - a. Task: Make a blocking device. Deadline: March 26.
 - b. Task: Make a water-moving device for other side's water. Deadline: April 2.
 - c. Task: Make it invade other side!! Deadline: April 2.

Programming Goals and Tasks:

1. Goal: Program the robot to move. Deadline: March 1.
 - a. Task: Make motors spin. Deadline: March 1.
 - b. Task: Make code high quality. Deadline: March 1.
 - c. Task: Make an infinite-loop program for double-elimination. Deadline: March 1.
2. Goal: Program the robot to open and close claws. Deadline: March 6.
 - a. Task: Make claw open and shut with servo. Deadline: March 3.
 - b. Task: Make partial open and close so it can grab objects. Deadline: March 3.
 - c. Task: Change speed of claw. Deadline: March 6.
3. Get camera to recognize on fire/red cards, Botguy, and Mayor. Deadline: March 19
 - a. Task: Make a color model for these objects: Botguy, Mayor, and cards. Deadline: March 16.
 - b. Task: Make the camera able to say whether or not a particular color is there. Deadline: March 16.

Documentations Goals:

1. Goal: Complete documentation due for Period 1. Deadline: February 20.
 - a. Task: Get a list of goals for Period 1. Deadline: February 17.
 - b. Task: Make tasks for these goals: Deadline: February 20.
2. Goal: Make Complete documentation due for Period 2 . Deadline: March 20.
 - a. Task: Start working on it. Deadline: March 17.
 - b. Task: Make a video. Deadline: March 17.
3. Complete Documentation due for Period 3. Deadline: April 10.
 - a. Task: Do final code review. Deadline: April 7
 - b. Task: Give advice for other teams. Deadline: April 7
 - c. Task: Test if robots are competition ready. Deadline: April 7

Schedule Conflicts

1. Rose Final Exams 2/19

2. SAT/ACT 3/9
3. SPARK 3/16
4. Spring Break 3/25-3/29.
5. Rose-Hulman Spring Break 4/8-4/12

Team Organization

Meeting times:

- Regional Workshop.
- Regional Tournament: April 14, 2009.
- Meetings: Starting in January, and going until the Regional Tournament: Every Tuesday and Wednesday evening, 6:30 to 8:30 p.m., and every Saturday from 1 to 4 p.m. Special meetings to be scheduled for the last week before the tournament. All meetings are at Rose-Hulman in Olin 269.

Conflict of Ideas Resolution:

1. Discuss Pros and Cons of both
2. Test the different choices
3. Rank choices via Decision Matrix
 - Find attributes of devices, e.g. claws
 - Rank choices by strong, medium, and weak
 - Find which gives the strongest combination of attributes

Conflict of People Resolution:

1. Ask them to stop
2. Compromise
3. Get coach to help others solve the conflict

Division of Labor:

1. Programmers:
 - Moving Robot: Sophie
 - Moving Claw: Ethan + Gabe
 - Camera: Matthew + Brady
2. Builders:
 - Get people to hospital: Niccolo + Sam
 - Medical Packs to home area: Jack
 - Get Botguy + Mayor to home area: Sophie + Thomas + Matthew

- Get water to buildings: Gabe + Jack
- Move ambulance and firemen off line: Gabe