IPRO 316 - Project Plan

Objectives

This IPRO is dedicated to continuing the robotics initiative at Illinois Institute of Technology. There are so many ways that this group of people can accomplish that task. The importance of this overall goal is significant due to the growing use of robotics in the commercial world today. This IPRO intends to investigate more what is being done in the commercial world. The knowledge gained can in some form presented to the IIT students and professors on campus. Reaching out to the community would also be a goal of this IPRO. This could possibly be accomplished through means of a robotics software package being distributed in area schools along with a how to workshop to get them started. Continuing on with the past semester's work there is plenty that can be done in terms of hands-on robotics. The Peppy™ Robot has many abilities now but refining them to make it a more marketable product was a goal set in place by the past IPRO. The other robot is the Roomba. The possibility of getting more Roombas donated is a goal of this semester's IPRO. Advancements will hopefully make it more practical as a robot and increase student interest.

Background

The past IPROs have put a lot of work into researching what is being done at the college and high school levels in robotics. They found that there are not very many programs dedicated to this topic. This leads to robotics uneducated students coming into colleges. This perpetuates the cycle even more and is a major hindrance to the field. The past semesters also put many man hours into building the Peppy™ Robot. They equipped it with sonar, voice recognition, movement abilities, and a mechanical arm. They also set into works the idea of making Peppy™ into its own Enpro. Two Roombas were purchased and an attempt at reverse engineering them was made. Overall, the base that was handed over to this semester's group was a good base to work from.

Research Methodology

A lot of the research that will need to be done is anticipated to be on the internet. It is such a useful tool for finding all sorts of information especially when it is specific. The internet also allows for communication between places that are geographically far away from each other. This would be helpful in dealing with other schools which have a robotics initiative. Electronic resources are not the only thing that will be used. Libraries are wonderful tools especially the one on the IIT campus or any of the Chicago Public Libraries. Professors on campus in the Electrical, Computer, and Mechanical Fields as well as contacts that they may give us would all be welcome sources of information. Last but not least, the most obvious research method would be picking the brain of students from the most recent IPRO 316.

Expected Results

The expected result of this IPRO is to advance the robotics initiative at IIT. There are a number of ways that this could be accomplished. Hopefully the interest of students on the IIT campus will be increased so that a robotics club can be formed and grow. This interest will hopefully also have spread to area high schools as well. General knowledge of robotics on campus could also be increased by possibly having a speaker from the working world come to campus. Progress is also expected on both the robotics platforms in terms of increased the abilities of both of the robots or by making them more practical to every day activities.

Project Budget

As of now, the projected budget is not nailed down. There are expected costs with both of the robotics platforms, Peppy™ and Roomba. New electrical and mechanical parts are anticipated as future needs but the costs are unpredictable at this point. If a lecture is held on campus money will be needed to provide food and beverages.

Task Schedule

There are no real task deadlines set at this point. The only solids dates are having the IPRO goals attained by the end of the semester and to produce the deliverables by the required date as specified by the IPRO office.

Assignments

So far the IPRO has divided itself into two sub-groups and a team leader. In the next few weeks the structure of the IPRO will solidify itself more and form more sub-groups based on interests and topics that pop-up. One sub-groups is the Roomba group formed by Tyge Sopko comprised of members; Jesse Collins, Saurabh Dass, Eddie Schwalbach, and Eddie Yang. The second was the Peppy™ sub-group with members Dennis Payonk and Robert Todd. The position of group leader was taken over by Amanda Bieberich.