Summer Robotics – Syllabus

Instructors

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Course Overview

Improvise, Adapt and Overcome.

This summer camp session will revolve around the Lego Mindstorms robotics kit and the software involved with programming it. The purpose of the camp is not to just hang out and play with Legos but also to learn crucial life skills that will be excellent tools for later on in life.

The first week of camp will focus on the programming aspect of the robotics class. The first robot will be programmed to follow a wall. While this may sound lame the programming aspect is going to be intriguing and may be difficult to accomplish. When properly programmed you have essentially given the robot an A.I. (artificial intelligence). This is going to have huge impacts in the future. The build for this design is relatively simple and there is some room for experimentation and that is definitely encouraged.

The second week is going to be all about the build, while the first week was about giving an A.I. to a robot this week's project will be more outside the box. This week is about a three legged robot! This is going to force you to think outside the box and use all the resources that you have at your disposal. It may sound simple now but just wait till you start the build. As always individual flair and tinkering is encouraged and even expected!!

The third and final week: this is all about you and your imagination! You've learned the tricks and tools you need to do this project. The project is very simple… build a robot that will excite and amaze us all! The sky is the limit! Go crazy and use your imagination! Take what you have learned about programming and building and out it to good use!

You will be frustrated and have your patience tried. Things will be difficult and you will want to quit. When you reach this point take a step back and maybe take a quick break or do something to take your mind off the problem. When you're no longer bugging out jump back on the problem and solve it!!

Please collaborate with others, talk, email and make new friends! Don't forget to think outside the box, there is more than just one way to solve the problems that you will face!

Course Materials / Resources

I will provide the worksheets and building instructions ONLINE, they can be found here:

http://blog.blackmoretech.com/summerev3/

I will also post other relevant tips, notes, etc… on the site.

Homework Policy

There will be a worksheet assigned, along a project that needs to be completed for demonstration the following week. I encourage you to work together if you can, but make SURE you understand what is going on, as each project builds on itself to the next.