Autonomous Checkers Playing Bot

Team Name – *The Y-nots!*

Introduction
Make a checkers playing bot with electromagnetic movement with help of 2 motor (each of it in either direction).

Components required
-2 motors
-Arduino
-TSOP and other ICs (if required)
-Electromagnet
-Things for mechanical and electrical assembly
-Board and pieces (maybe self-made)
The total price estimate is around 4000

Description
The project is divided into three parts-coding, mechanical and electrical
Coding – write a code for single player checkers using Minmax algorithm and Alpha-beta pruning.
Mechanical – make a motorised moving system to give freedom to electromagnet over the board.
Electrical – making electrical system (Arduino related) which connects the above two.

Idea
The basic aim behind making this project is to learn algorithm implications and make autonomous checkers playing bot. We plan to use minmax algorithm and Alpha-beta pruning (more if we can). We also plan to make autonomous bot which can move magnetic pieces with help of a electromagnet. The bot will be able to move in 2 directions with help of 2 motors which give it freedom to move on board. We also want to learn and implement Arduino coding. We also plan to try making a simple sensor to get if piece is available on the square or not so that we can make human make a move.

Plan of Action
Week 1
-Code for single player checkers.
-Make a note of things to buy.
-Think about possible flaws that would result in the working of the system and correct it.

Week 2
-Work on mechanical and electrical part of the bot.

Week 3
-Learn Arduino coding.
-Start assembling mechanical structure.

Week 4
-Test, debug and calibrate mechanical part.

Week 5
-Complete Mechanical Assembly.

Week 6
-Final Test, debug and calibrate.

Team Members

Chandrakanth BKC
Aakansha Bordia
Krishna Harsha
Harsh Parmar