ChessOverIP

Team Name:
(AA)^2

Team Members:

Parth Kothari
Manan Doshi
Harsh Sheth
Yashraj Gurumukhi

Project Introduction:

A setup which allows two people to play the same game of chess on physical chessboards sitting in two different corners of the world via the internet.

Details:

One player plays a move on his chessboard. The Raspberry Pi identifies the move using image processing. The move (if legit) is sent to the Raspberry Pi of the second player,using internet protocols , and the move is played on his board using sliders and an electromagnet. If the move is not legit, the speaker will notify the corresponding player.

Plan of Action:

Week 1:

One group starts learning Raspberry Pi and acheives basic usage and internet communication using 2 Raspberry Pis. The second group starts working on making the automated parts of the boards operational.

Week 2:

Should get a good grasp on how to use the Rasp Pis to relay chess moves and how to make all possible chess moves automatically in this week. Start work on image processing to be able to read the state of the board.

Week 3:

Will finish image processing in this week and start integrating the 3 modules (i.e. Communication, ImageProcessing, Automated Chess Board).

Week 4:

Will finish integrating the 3 modules and start the debugging process and improvising our bot. If we have more time we can even think of add ons on our bot.

Week 5:

We will keep the last week as buffer for any last time emergencies and thorough testing.

Components:

1. 2 Webcams
2. 2 Chessboards
3. Magnetic Chess Pieces
4. 2 Raspberry Pis
5. Stepper Motors
6. Electromagnet
7. Sliders
8. Speakers
9. Wires, Tape, etc.

Estimate Cost: About Rs. 10,000 mainly the cost for 2 Raspberry Pis

Learning:

1. Using Raspberry Pi.
2. Learning internet protocols.
3. Implementing a model to enable motion of objects using magnets.
4. Image Processing.
5. Integrating multiple modules.