

Team 13

Project Title: Automated Chess board

Date: 10/31/2021

Members:

-Luke Dirks

-Nathan Kelly

-Jeet Nair

-David Imhoff:

-Nathan Bellows

-Dawson Munday

-Isaac Sachse-

What we've accomplished in the past week/what we've been researching

-Luke Dirks – This week I worked on researching and building the GUI for our user interface. I also iterated on the initial design on the stockfish interface.

-Nathan Kelly - I have tested and verified the ordered hall effect sensors

-Jeet Nair - Not able to help as much this week. Did some basic reading more into stockfish and looking at the mockup UI that Luke made this week.

-David Imhoff - Helped with generally required docs for the week. Helped Luke with setup of Raspberry Pi and beginnings of a UI

-Nathan Bellows - Tested the hall effect sensors in the lab, particularly with some basic Arduino programs to plot sensor output and detect threshold conditions. Got somewhat started on a software simulator for our physical board so that eventually it could be used for testing software functionality even before a board is completed.

- Dawson Munday - Been looking into how interfacing with hall effect sensors works

-Isaac Sachse- Worked with Nathan Kelly and Nathan Bellows testing our digital and analog hall effect sensors.

What we're planning to do in the coming week

- Luke Dirks – We need to decide on a library to use for our user interface. We also could do more hall effect sensor testing, and we need to get a stepper motor.
- Nathan Kelly - I plan on ordering the stepper motors and drivers, I will research the 2 axis frame. I will also start working on hall effect pcb.
- Jeet Nair - Will help with sensor testing and possibly more programming application.
- David Imhoff - Finish required docs and keep playing with stockfish api. Continue building the UI.
- Nathan Bellows - I will finish up the basic board simulator and try to stay up to date on further experiments with our hardware design. I would like to do some more complicated sensor tests and possibly try different magnets due to concerns I have with the repulsive force of our current magnets requiring too much space between chess pieces.
- Dawson Munday - Hope to be able to help out on the software side of things as in the interface with the chess game
- Isaac Sachse- Working alongside Nathan Kelly with hall effect sensors and stepper motors when they arrive.

Issues we had in the previous week

- Luke Dirks – The Raspberry PI is running slow, this might be due to our power adapter. The GUI library Tkinter isn't ideal for what we are trying to do, so we need to find a better library.
- Nathan Kelly - lab equipment didn't work as desired but Nathan b made a solution
- Jeet Nair - No issues amongst the team. Mainly personal issues in my apartment making me unable to do much work this past week.
- David Imhoff - Some difficulties with scheduling and communication, but nothing major. Waiting on parts to arrive. I forgot my raspberry pi root password :(.
- Nathan Bellows - This week went pretty well, but possibly leaves us at another open-ended area of design where we have to make some significant next steps.
- Dawson Munday - Missed out on the testing of the stepper motors since I had lab during that time.

-Isaac Sachse- It was difficult to see hysteresis on the basic oscilloscope, but Nathan Bellows made a great solution using an arduino.