

Team 13

Project Title: Automated Chess board

Date: 10/10/2021

## 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 – I recorded some of the audio for our first five-minute lightning talk presentation. Additionally, this week I did research on the pricing for the materials we would need to build the board, magnetics, pieces, glass panels, etc. Finally, I made a rough estimate for the actual size of the board as well as the size of the individual squares and pieces.

-Nathan Kelly - I researched the operation details of our magnetic sensing solutions and planned a rough sketch of possible testing prototypes to verify component compliance.

-Jeet Nair - I'm working on a sketched layout of our board so we can try to get as precise as possible dimensions in regards to the overall board size, motor framework, square sizes, etc. In addition to this I have contacted Square Off who is a direct inspiration source for our board to see if we can get a discounted board from them or any other information to give us a good foundation before we start our actual physical construction.

-David Imhoff - Helped record audio for lightning talk presentation. Researched different methods of implementing a UI. The main methods we've found are using a phone app or adding an integrated touch screen to the board. I think we've decided on using an integrated touch screen.

-Nathan Bellows - Helped create and record lightning talk. Gave minor input to Nathan Kelly about tradeoffs between different hall effect sensors, analog versus digital, microcontroller needs, and hysteresis curves.

- Dawson Munday- Currently looking into how one would go about using a stepper motor since I have not used one and hopefully will be useful to the team later on

-Isaac Sachse- Research on the plausibility and validity of using Hall Effect Sensors for our project.

## What we're planning to do in the coming week

-Luke Dirks – We need to finish our second lightning talk recording. Additionally, we are going to try to build a small working model to test the strength and accuracy of the magnets and hall effect sensors. It would also be a good idea to start working more with the Stockfish AI.

-Nathan Kelly - I'm working with the etg to start the design and prototype of the magnetic sensor test setup. This will help verify and aid in product component specifications. We plan on developing several custom solutions to diversity the selections in case.

-Jeet Nair - Still working on what motor needs to be selected. I'm hoping the framework for the board that I am sketching out will help us narrow it down based on size now.

-David Imhoff - Figure out what specific software/hardware to use to build the UI. Hopefully come to a decision and get an order in for some hardware so we can begin experimenting. Begin using Stockfish.

-Nathan Bellows - Work with David to decide on hardware needs and interface design. Vote on final sensor options (possibly multiple) so we can order some and prototype.

- Dawson Munday - Currently do not have a task I am working on, will end up discussing with the team to see who needs help or if anyone has anything else that nobody is working on

-Isaac Sachse- Prototyping Hall Effect Sensors for the board to determine how big the squares on the board will need to be.

## Issues we had in the previous week

-Luke Dirks – People have been pretty busy with midterms and interviews, so at times it has been a struggle to get everything done. Overall, though progress is good and there hasn't been too much trouble.

-Nathan Kelly - We had issues with team coordination on scheduling

-Jeet Nair - Few scheduling issues from some members but nothing too serious as everyone is communicating and staying on top of missed information.

-David Imhoff - Some difficulties with scheduling and communication, but nothing major

-Nathan Bellows - I missed our weekly meeting and ended up a little out of sync with the team. Generally have difficulty identifying meaningful tasks without any hands-on tasks to complete.

- Dawson Munday - Am currently sick so I have not been able to be the most productive and useful to the team

-Isaac Sachse- Minor scheduling issues.