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JIBEBE INTERNSHIP 2022

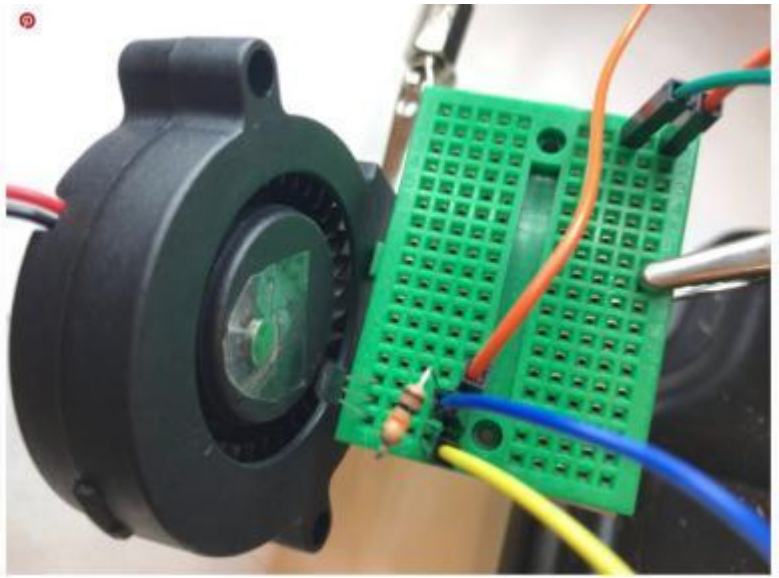
WEEKLY REPORT; AMOS WANENE

[#89] Design of speed meter mechanism_ the team managed to come up with a effective way to measure the speed of the Tricycle , the output is shown below. The team is working on a code to display the same on a 7 segment display.

[#86] Linear acceleration control – the team experienced a few challenges while testing the model that was later resolved currently the model is in working as expected.

[#82] Integration of electrical brake lever- The team acquired a power cut-off brake lever and managed to come up with a circuit that factors in both mechanical and electric stop controls. It also factors in the start stop mechanism.

```
Time Passed: 10.14s
59.19 RPM
6.69 KM/H
Time Passed: 4.65s
129.06 RPM
14.60 KM/H
```



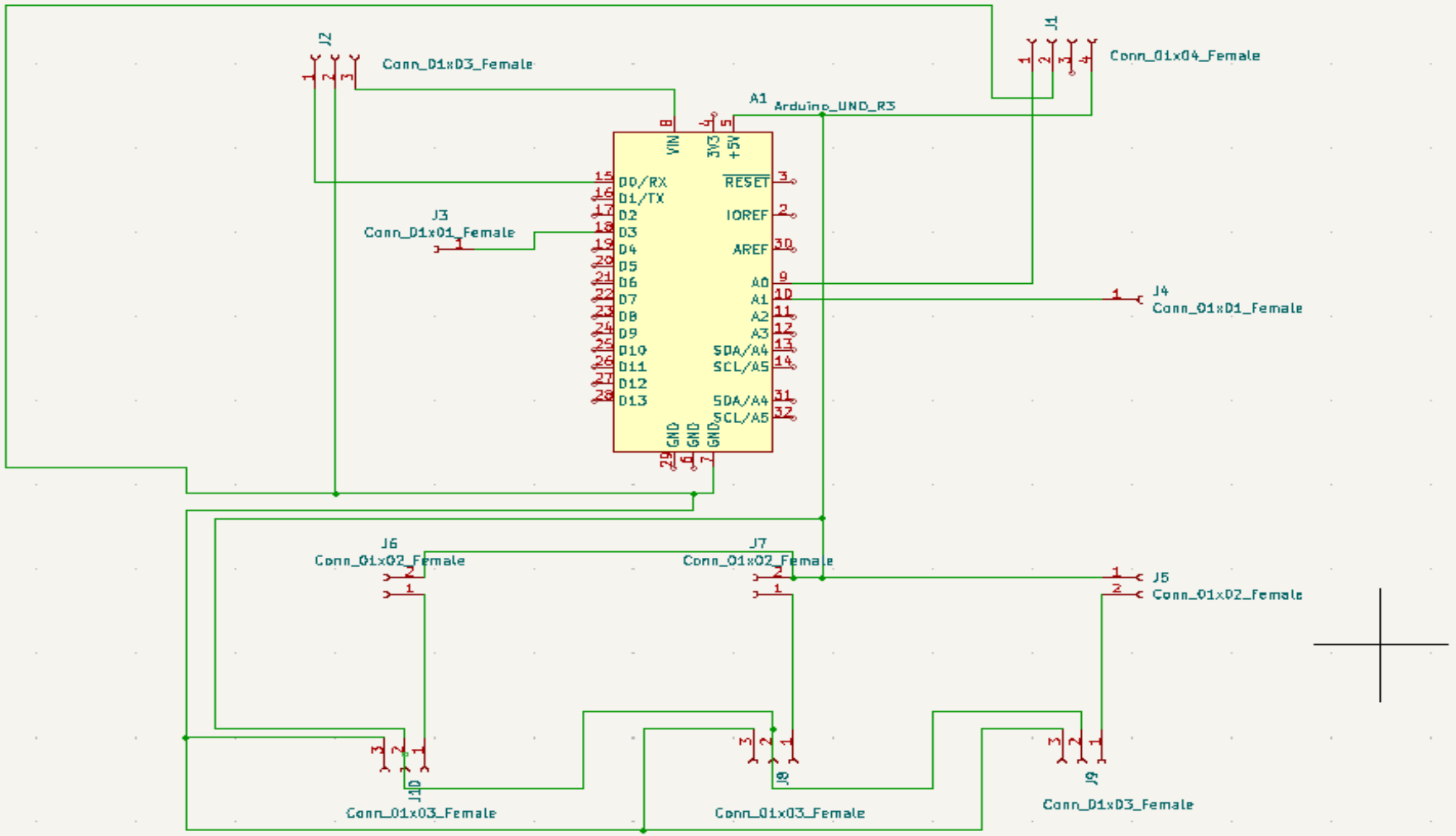
TASKS THIS WEEK

[#84] PCB Drawing and fabrication – With the drawing and layout complete, the team is set to finish up on the fabrication. A few challenges with the fabrication are:

i) All modules must work properly both independently and when integrated to give the confidence level necessary for PCB fabrication.

ii) Any and all issues must be anticipated and addressed before th final layout is fabricated.

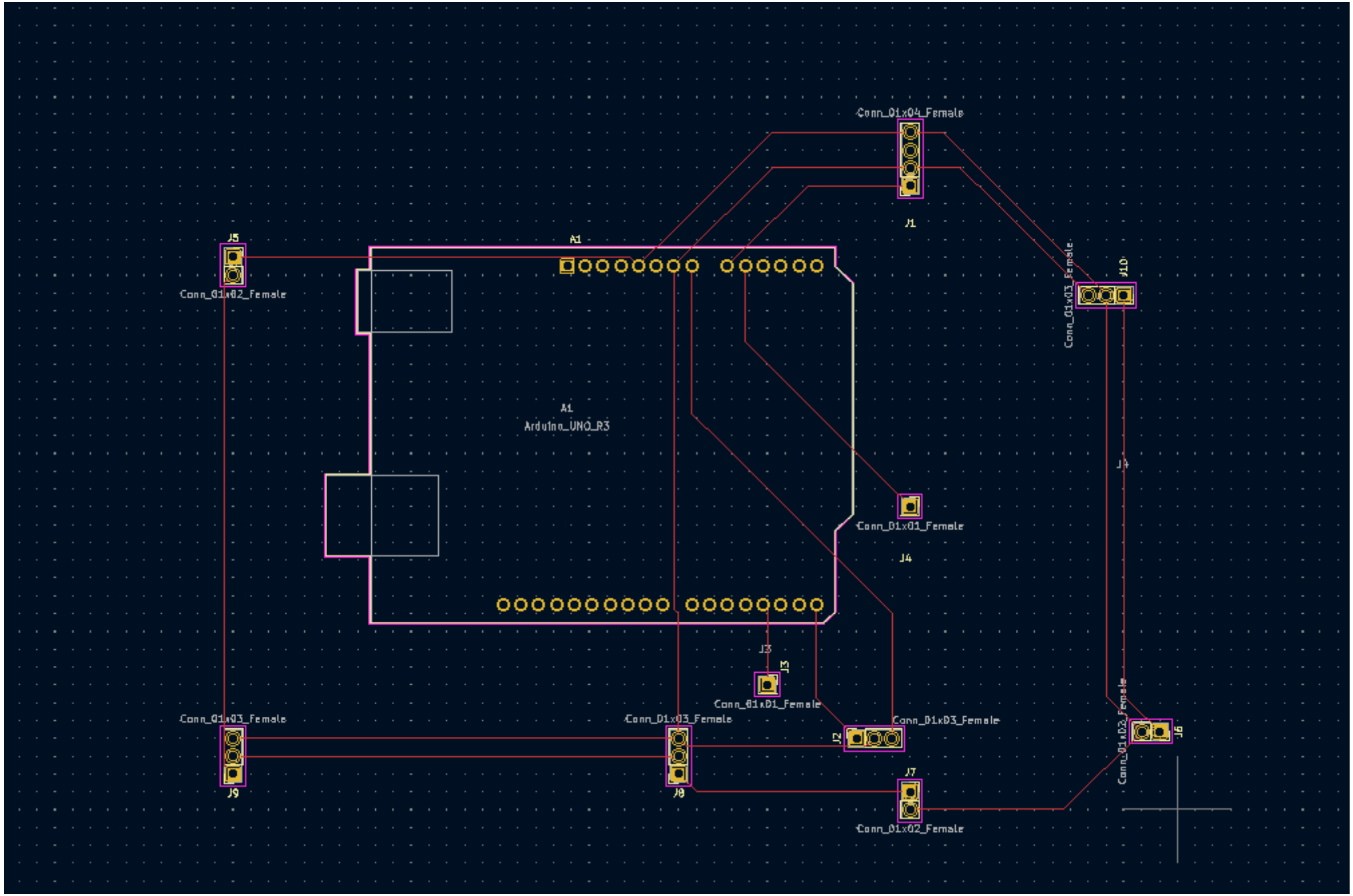
iii) The microcontroller must have the required memory size and po sinking ability to support all the modules. Here it could be the Arduino Uno or the mega.



AMOS WANENE, ELIAS CHERUIYOT, MOSES MULWA & BRIAN KUSIMBA
JKUAT

Sheet: /
File: PCBElectric.kicad_sch

Title: JIBEBE E-TRICYCLE PCB


Conn_01x04_Female
J1
J5
A1
Conn_01x02_Female
Conn_01x03_Female
J10
A1
Arduino_UNO_R3
J4
Conn_01x01_Female
J4
J3
J3
Conn_01x01_Female
Conn_01x03_Female
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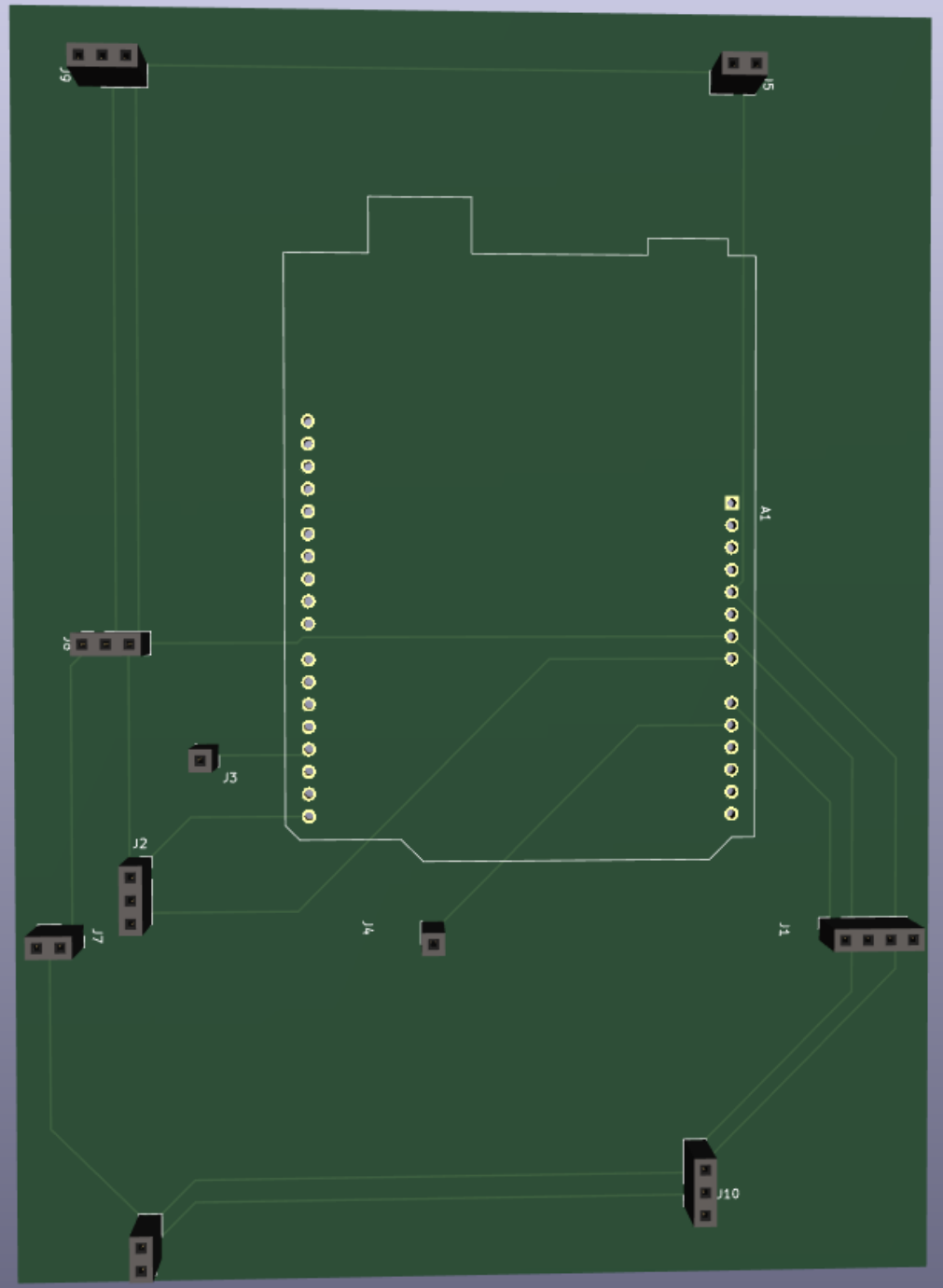
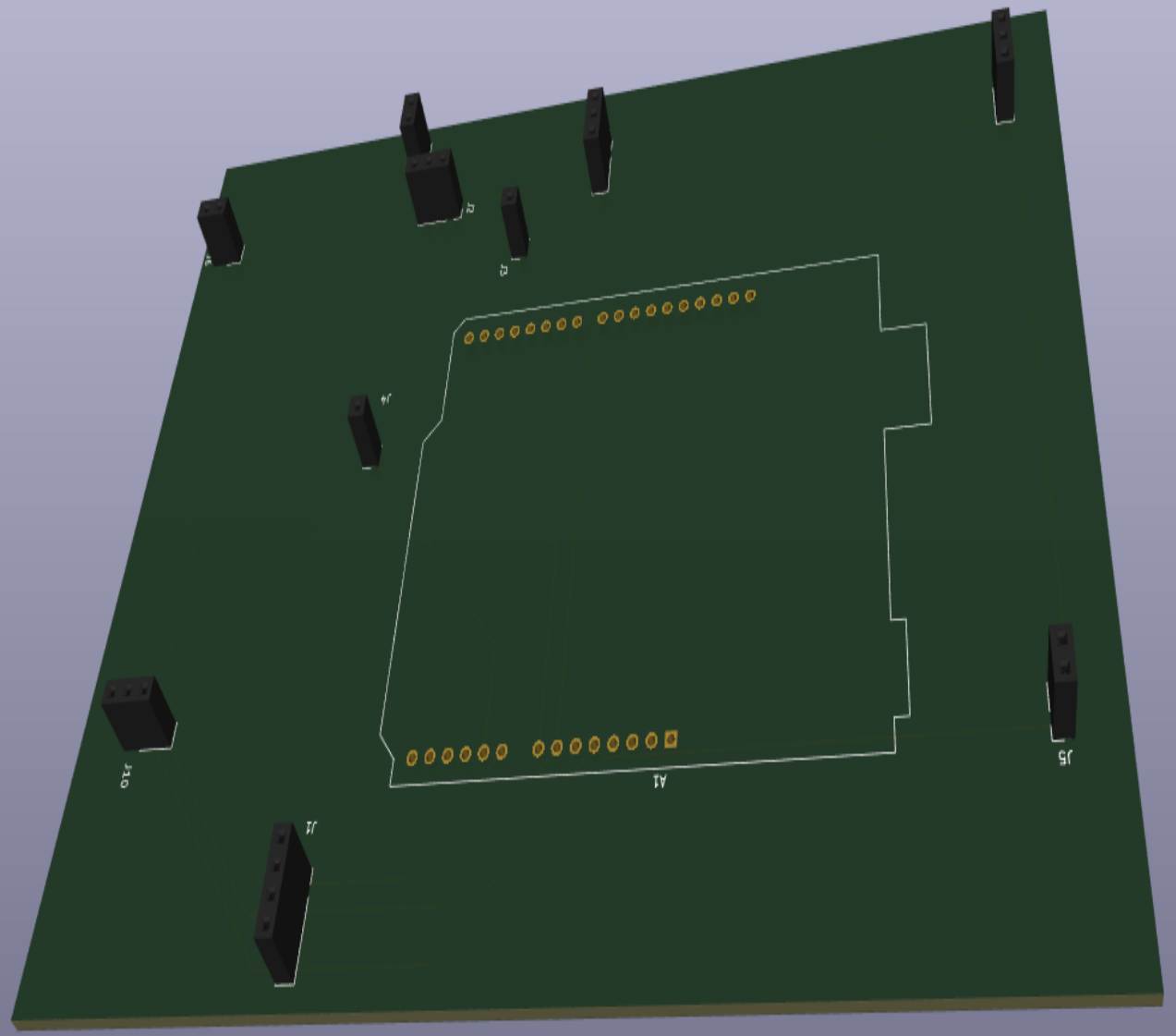
Conn_01x03_Female
J2
J9
J8
J7
Conn_01x02_Female
Conn_01x02_Female
J6


J9
J5
A1
J6
J3
J2
J7
J4
J1
J10


J2
J3
J4
J10
A1
J7
J5

Week	Tasks	Reporting	Hrs	Month
5 - Requirements review				
5.1	Finalize on battery acquisition for the Tricycle	None	20	Feb
5.2	Finalize on motor and torque requirements for the Tractor	None	8	
5.3	Clarify best choice for motor orientation for use in Tractor to allow for automation	Team meeting to review the best course of action	5	
6 - Research				
6.1	Research and recommend best motor for our specific use case in the Tractor	Electric Team Meeting	20	Feb
6.2	Get experimental data for motors and run simulations for verification	None	20	
7 - Testing				
7.1	Alpha testing of newly arrived battery for the tricycle.	Electric Team Meeting	20	Feb
7.2	Testing of integration with other components of the electric subsytem	None	25	
8 - Deployment				
8.1	Deployment of the electric subsystem of tricycle to finalized Tricycle	None	20	March
8.2	Fixing of any issues that may arise during Integration	None	20	
9 - Testing				
9.1	Alpha testing of newly arrived components for the tricycle.	Electric meeting	16	March
9.2	Getting experimental resuts of the components and NDT to validate correct operation and performance under load	None	24	

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Thank You