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JIBEBE INTERNSHIP 2022

ELECTRIC TEAM: PAUL MOSES MULWA

TASKS COMPLETED LAST WEEK

- [#67]Alpha testing of the battery for the tricycle.

Testing of the battery was done on two fronts:

1. Validation of general working- whether it supplies 48V and in general whether it works. This was done successfully and the battery passed all the tests.
2. Verification that it can supply the motor with desired voltage and current. This was done successfully and the motor was able to run comfortably.

BATTERY TESTING

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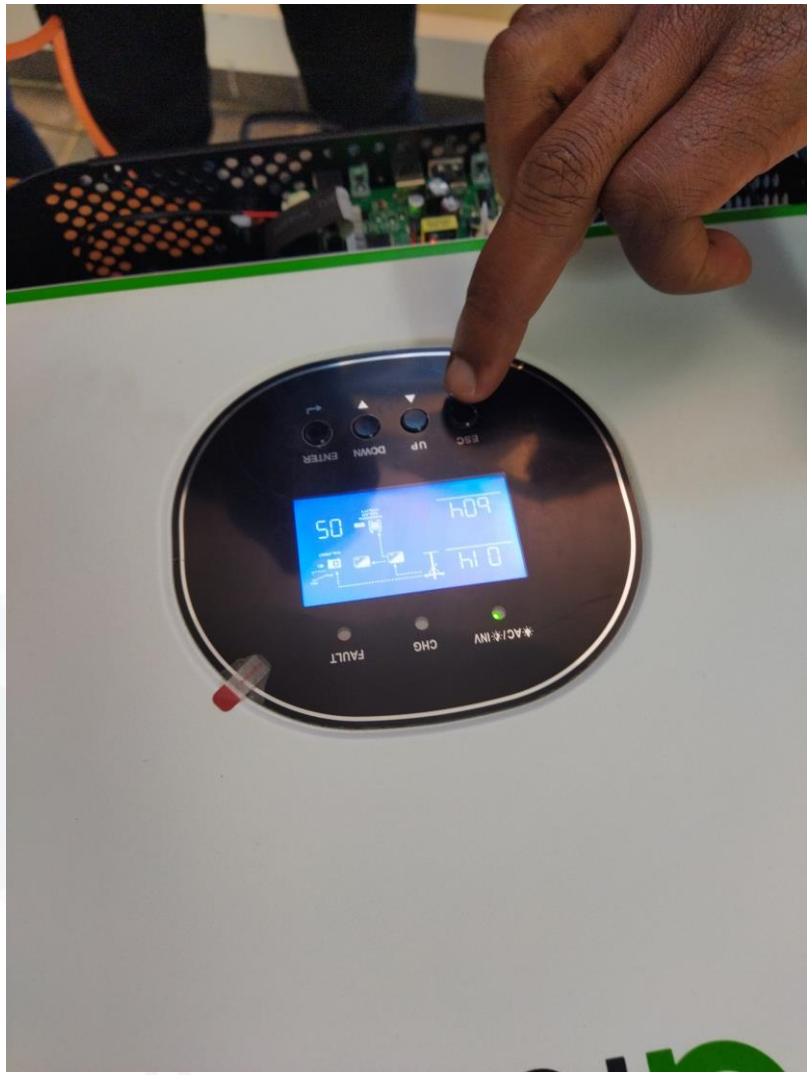
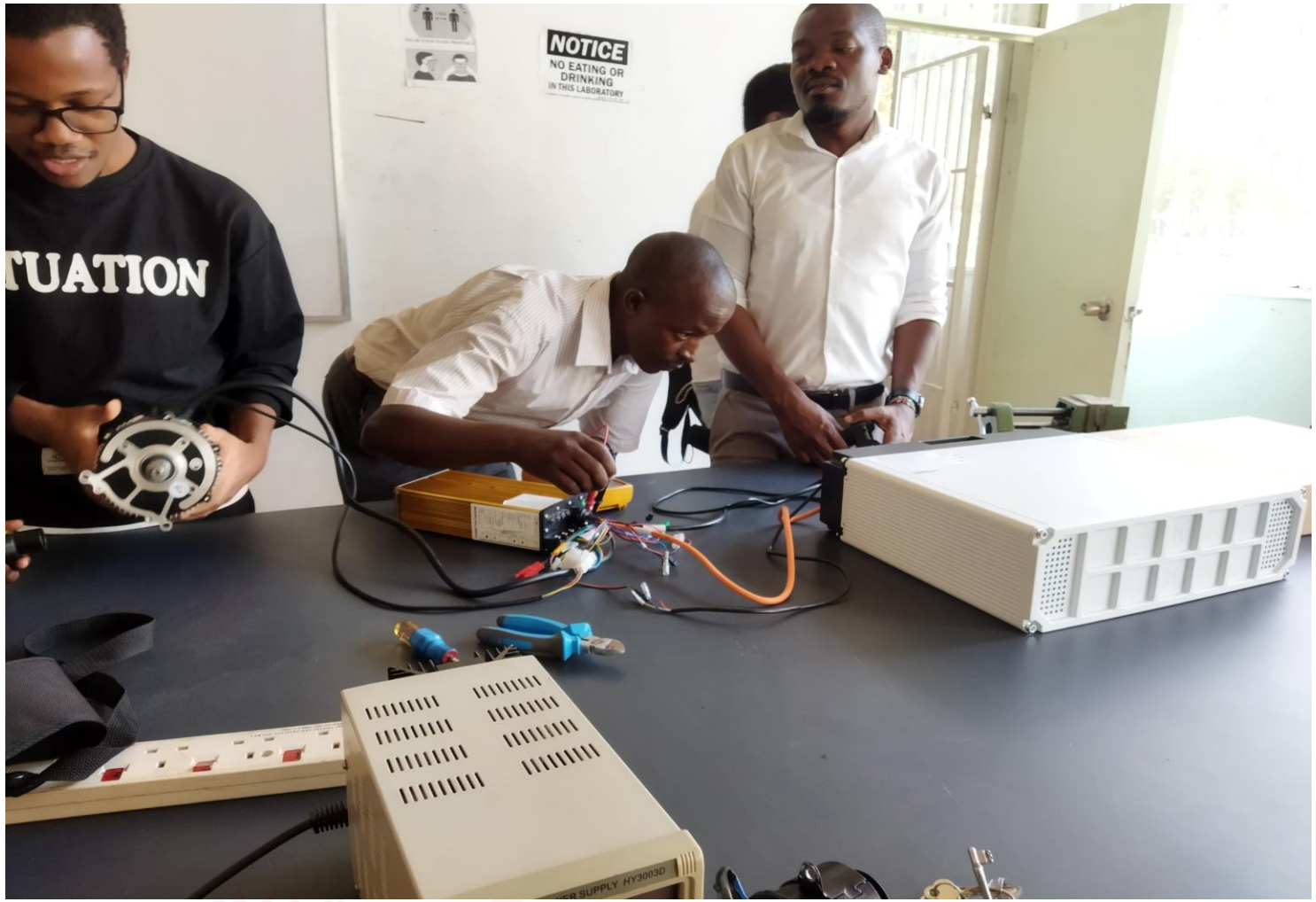


BATTERY TESTING



TASKS COMPLETED LAST WEEK

- [#75]Alpha testing of the charge controller.
- This was done on two fronts:

1. Testing general working- The controller successfully works and supplies the correct voltage
2. Testing that the controller charges the battery after some reduction in battery percentage – To achieve this, the motor was run intermittently for a period of three hours. This allowed the battery charge level to reduce to about 95%. Afterwards, the charge controller was connected and it was noted by the team that charging was happening successfully.

CHARGE TESTING

CHARGE TESTING

PROGRESS UPDATES

- [#70] Design of a microprocessor controlled system for controlling acceleration – A digital moving average filter was designed for use in an MCU. This and other avenues will be followed up this week.
- [#73]Speed meter mechanism – The speed meter mechanism now falls into the microprocessor system. It will be handled by the microprocessor team.
- [#72]Start/Stop Mechanism - This was done successfully and motor now stops when switching the key on/off.

TASKS IN THIS WEEK

- [#70]Design of a microprocessor controlled system for controlling acceleration – This should enable acceleration to scale in a linear manner(or as linear as possible). This is so as to have consistent acceleration even at different speed ranges.
- [#76]Design of a microprocessor controlled system for limiting maximum rpm- This system will limit maximum rpm to 600 or 800 from the current 2500
- Change of battery –The mechanical team has complained vehemently that the battery is too heavy for their design. An alternative battery having a lower weight would be beneficial. This task will be dealt with by both the mechanical and electric teams
- [#77] Design of charge controller, motor, battery power port- Current port is shared meaning that when the motor is connected to the battery it can't charge and vice versa.

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Thank You