Team 14

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2. Isaac Lebogang Khobo, KHBISA001 (ME)
3. Nasko Stavrev, STVATA001 (ECE)
4. Benjamin Scholtz, SCHBEN011 (ME)

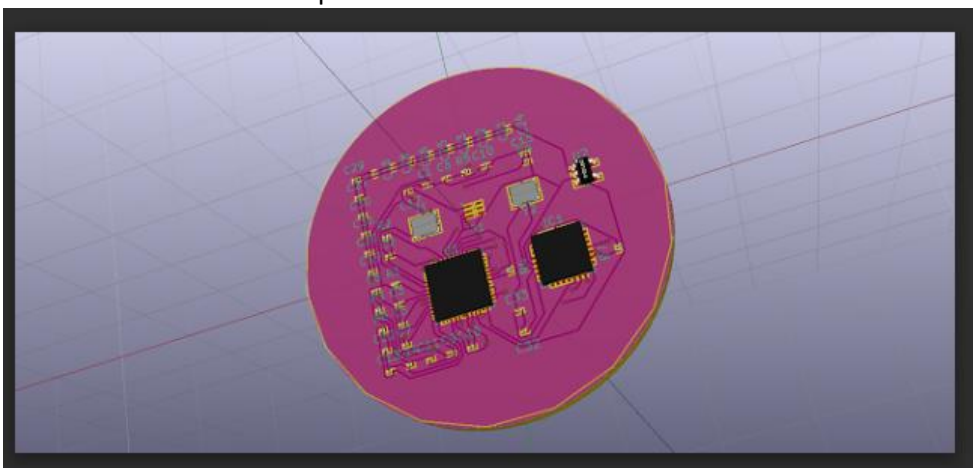
Meetings details

We used the WhatsApp group to arrange the meeting in the usual venue, Blue Lab. It took place on Thursday, March 10th at 8 am.

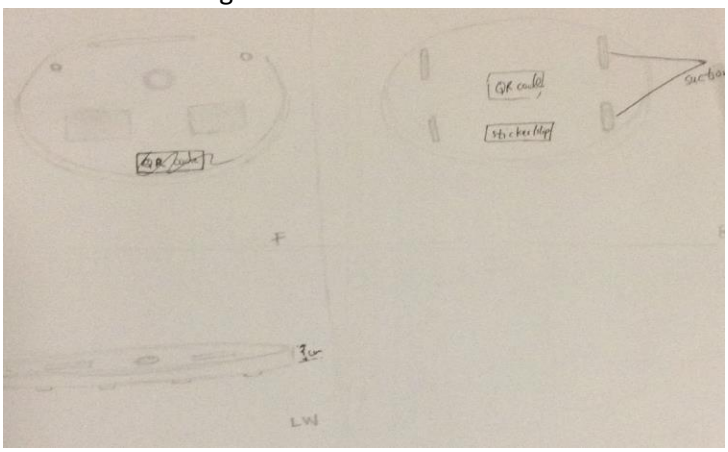
Progress on the allocated tasks

We convened to discuss individual progress on tasks allocated in the previous meetings. The following are the progresses or plans presented.

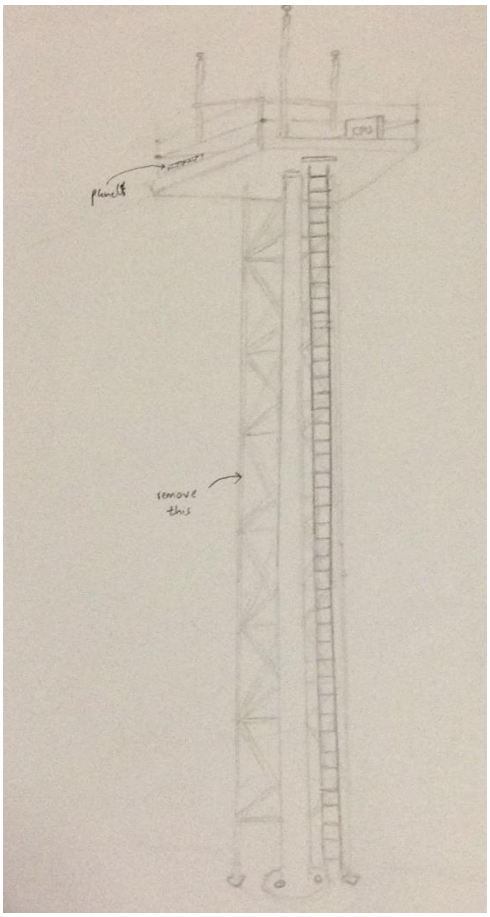
- Ben on electronics/PCB & Report
  - Firstly, the report template compiled with LaTex was discussed; the section already completed (Task clarification) and how to add to the document the information required, that is to modify the code.
  - The PCB construction was presented



- Isaac on tag case, and beacon construction
  - The case was designed with reference to the PCB.



- The chip will be attached to the car by suction; and the case will have a QR code and sticker/slip for identification.
- Beacon construction was discussed



- Small modifications were to be made to the beacon structure; removing some material in order to reduce the costs.

- Nasko on simulations and software back end
  - The simulation and code is going to focus on how the data is sent and received by the transceivers as well as the chips then triangulated.

- Jarushen on power summary
  - Dewave can be powered using Li-poly cells, standard alkaline batteries and Ni-MH rechargeable cell (AAA, AA sizes). The design process requires us a select one. Our internal stipulation is that we want rechargeable batteries which will prove cheaper in the long run.
  - System power consumption can be reduced using DC-DC switching regulators.
  - The use of Buck-Boost converters to allow lower battery voltages to be used while maintaining the minimum supply voltage
  - In order to maximise the amount of time spent in low current states, the following needs to be done
    - ✓ Using the highest data rate possible
    - ✓ Keeping the number of data bytes as long as possible
    - ✓ Keeping the turnaround time between Transmit and Receive modes as short as possible by ensuring the anchor/tag code is efficiently written

- ✓ Returning to SLEEP/DEEP SLEEP/OFF as quickly as possible after the last ranging exchange is complete.

- For triangulation, the beacon/disc will use more power than the receivers because it needs to function as both a sender and a receiver.

Next step

All members to carry out the plan and schedule the completion of sub-tasks made; and finally incorporate the sections in the final document.