PROGRESS REPORT FOR AQUAPHOTN'S MEGATRAINING PROJECT 25

Heading

Date: 19/8/2024

To: Aquaphoton Academy

From: Amr Zeina, Ibrahim Ismail, Mahmoud Morsi, Mohamed Yousry, Yassin Khaled.

1. Hardware (Ibrahim Ismail & Amr Zeina):

   Ibrahim and Amr Today we fabricated the PCB we helped each other in the soldering in testing the circuit to check that there is no short circuit put we face some problems at the PCB we faced error in the PCB after it is fabricated that the input power after entering the mosfet which is used for reverse polarity protection it came out as 0v even there that the Vgs>Vgs(TH) but we will fix this error

2. Firmware (Yassin & Mahmoud):

   We met at the workshop and we made the circuit on bread board to test the code and to test the Bluetooth module we faced some issues for connecting the Bluetooth module put at the end we solved this problem

3. Software (Yousry):

   Met Ibrahim and Amr as I finished the software codes so I helped them in the pcb fabrication to be more quick in the fabrication

3-Status

Challenges Faced

- Hardware: while creating the footprint we didn't find 3D model for the components some of them we made it with solid and only two is left without 3D model
- Software: delay in output stitched video between every frame processing per second (low FPS) which I solved by using CPU multi-processing and cv2.Stitcher_PANORAMA which is faster than the defeault stitch
- Firmware: During the development of the GUI, we had a lot of challenges, such as determining how to create icons and facing difficulties in their integration. Presently, we are continuing to explore methods to effectively merge our Arduino IDE code with the GUI code.

4-Conclusion

Significant progress has been made in both hardware and software development. The schematic and component footprints are nearly complete, with minor issues remaining. The GUI design is underway, and video stitching performance has been finished using OpenCV. An offline meeting is scheduled at 1**4:00 tomorrow** for purchasing components and testing the method of programing the ATMega 328 p f