AM5011 - Course Project
VR Gloves with Thermal Interface

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Abstract

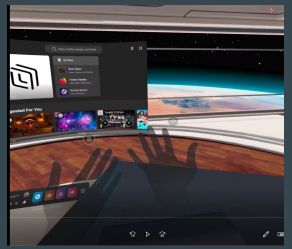
- The goal of the is to prototype an affordable VR gloves with thermal interface that provides thermal sensation when the user interacts with the virtual world.

System block diagram

Unity

Bluetooth

Oculus Hand tracking



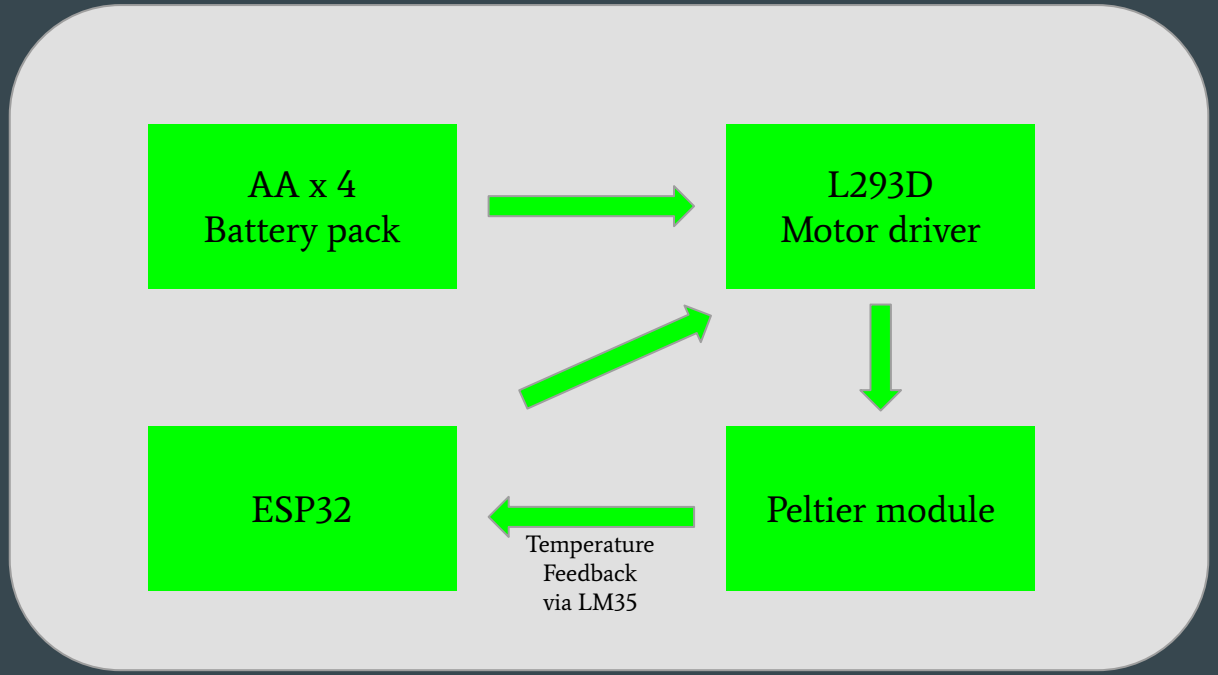
Thermal interface gloves

Need to finalise

Tested & works

Hardware setup

Bluetooth

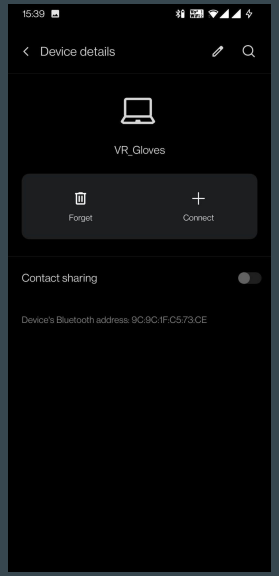


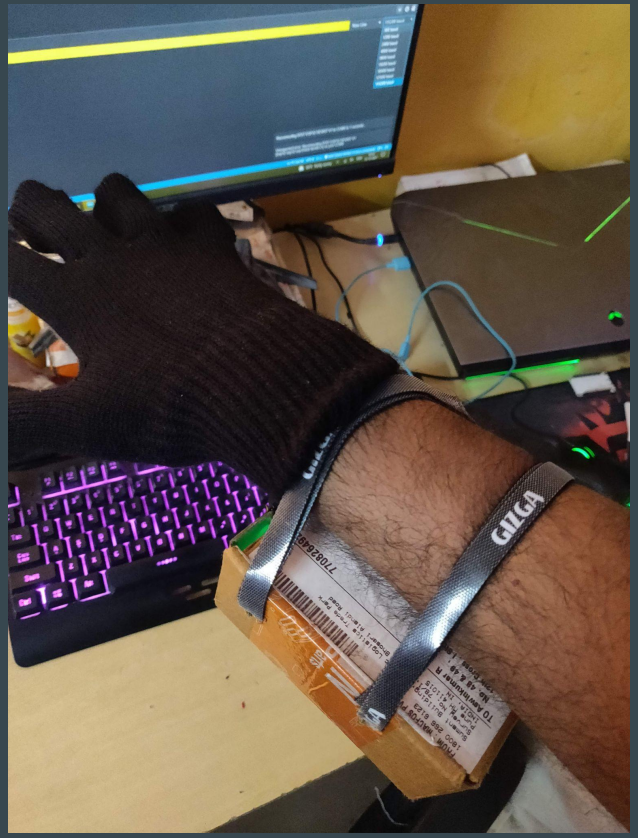
Need to finalise

Tested & works

Results :

- Hardware for the project is complete , it is **portable** and **works** wirelessly with the battery pack.
- It is currently controlled using a Bluetooth application from an Android device.

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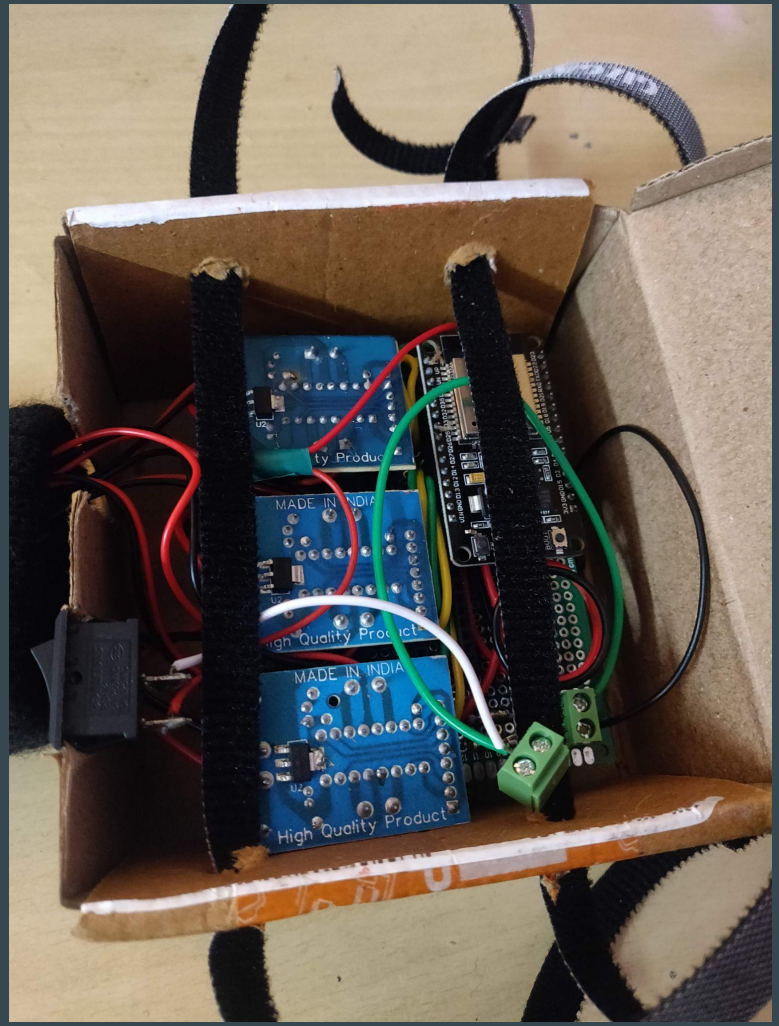
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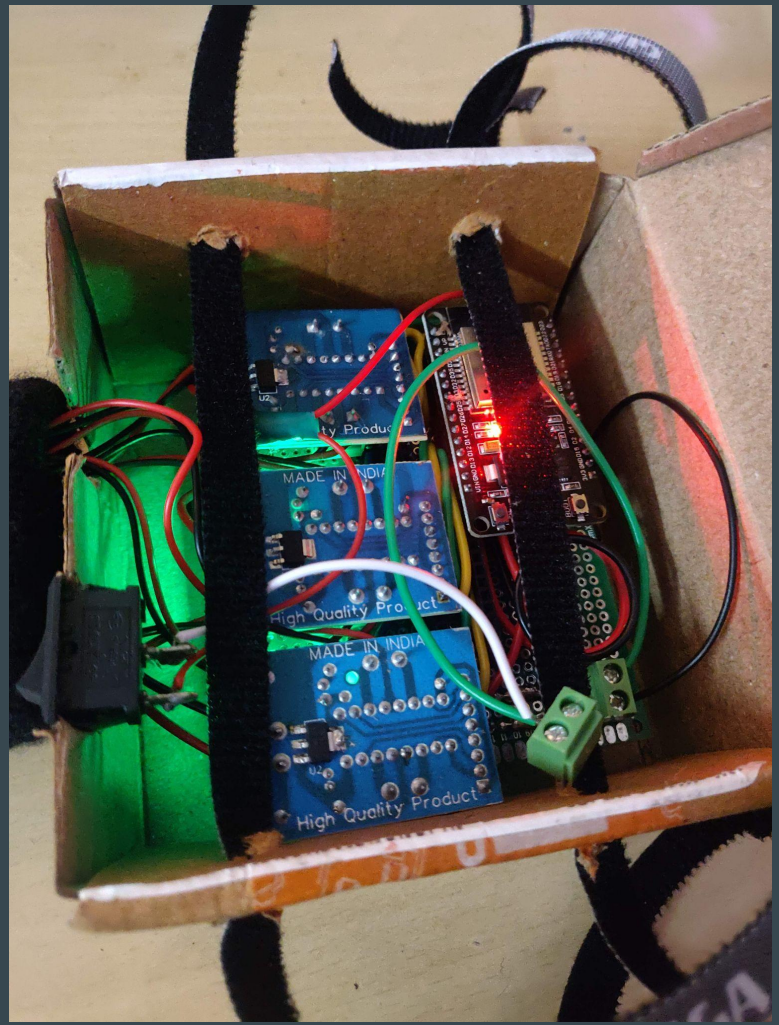
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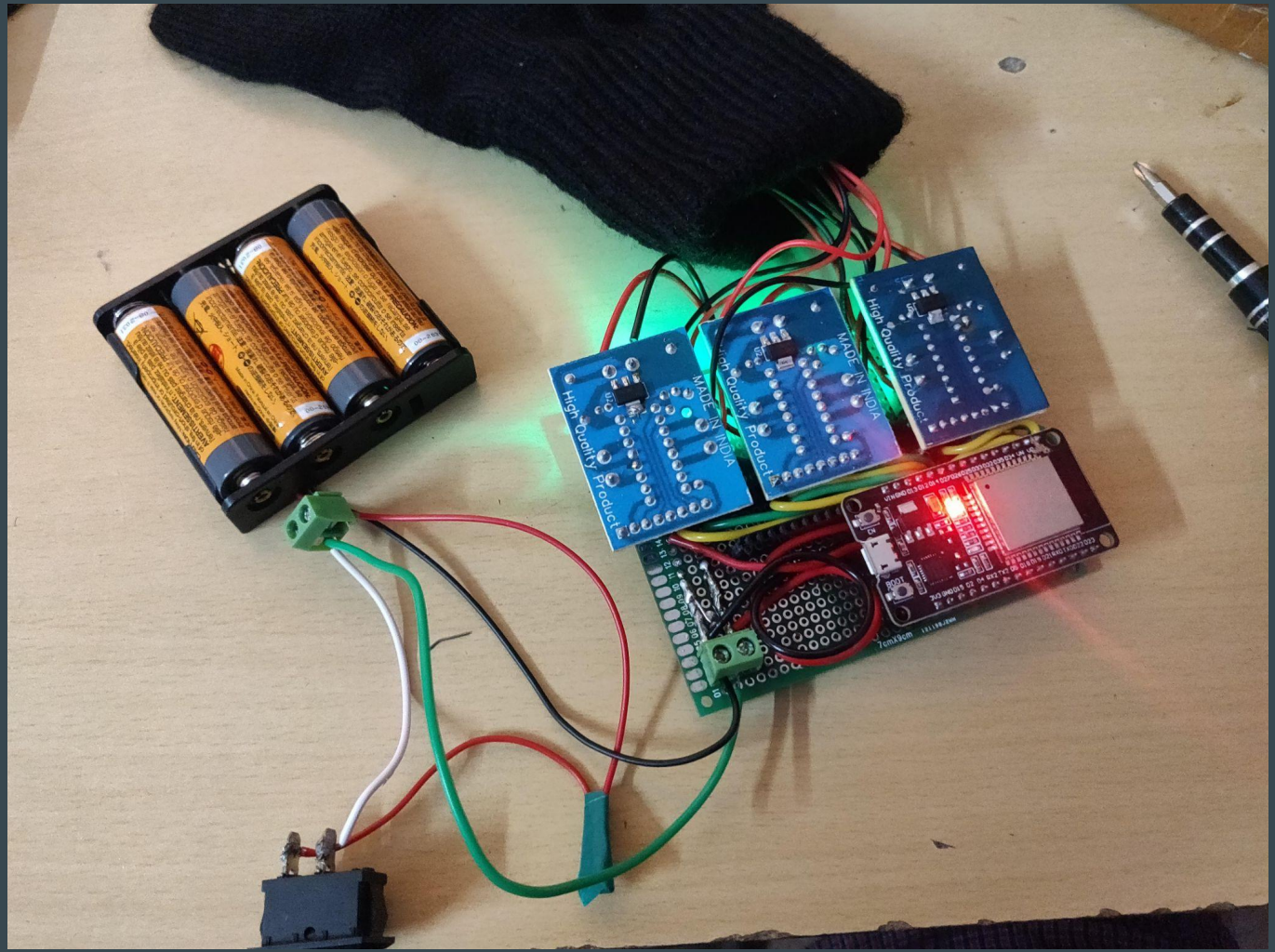
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Issues faced while implementation :

- 6V battery packs in parallel crashes the SoC and a single pack has lower slope in change of temperature , need to switch to LiPo battery (7.4V)
- Oculus SDK Plugin Bluetooth issue , Bluetooth isn’t included in the Android manifest and is getting removed automatically.

Plans for future :

- Changing battery pack to LiPo pack.
- Fixing the Unity bluetooth issue with Oculus plugin.
- Design and fabricate a PCB to have reduced footprint.
- Use a small 3d printed box to fit all the components.

Something that I found very fascinating during the testing :

- I was pressing buttons for Hot/Cold testing and during the hot mode I **involuntarily** moved my hand towards my face and neck to transfer the hotness of my hand to my face only to realise that i had the system on ,

Thank you