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IoT Book Bot

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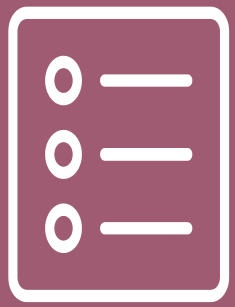

Contents

Introduction

- Robot will ensure the timely submission of issued books from the library.
- It is enabled with a barcode scanner using OpenCV.
- Can remotely drive the robot back to the library.

Tools and Technology

- QR Code & Barcode Decryption
- Blynk Communication Interface
- HX-711 Load Cell Amplifier Module
- Neo-6M GPS Module

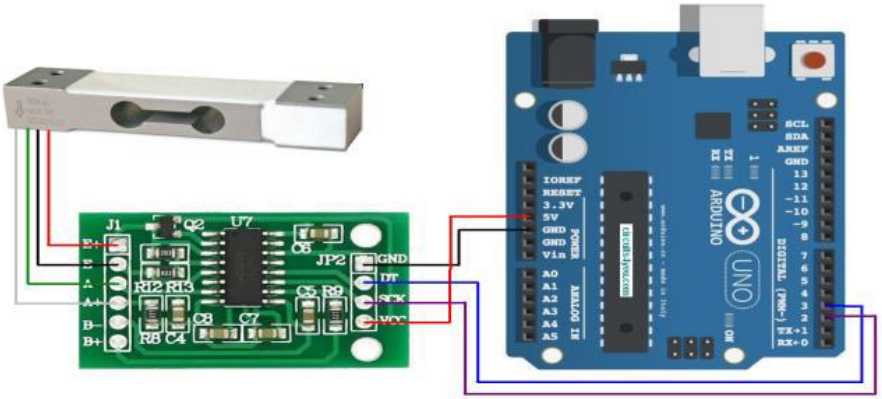

Fig. 1. HX-711 Load Cell

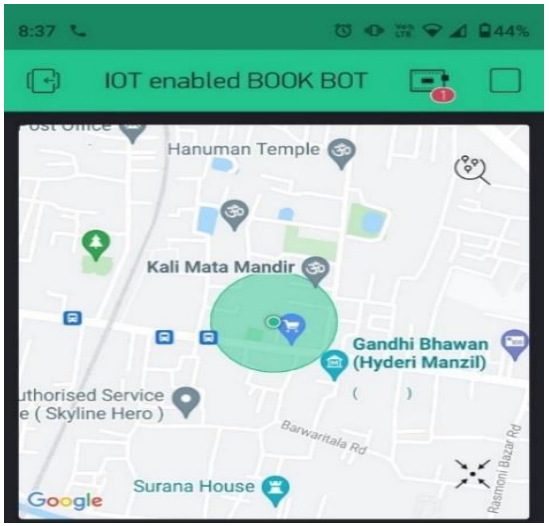

Fig. 2. GPS Live Location

Block Diagram

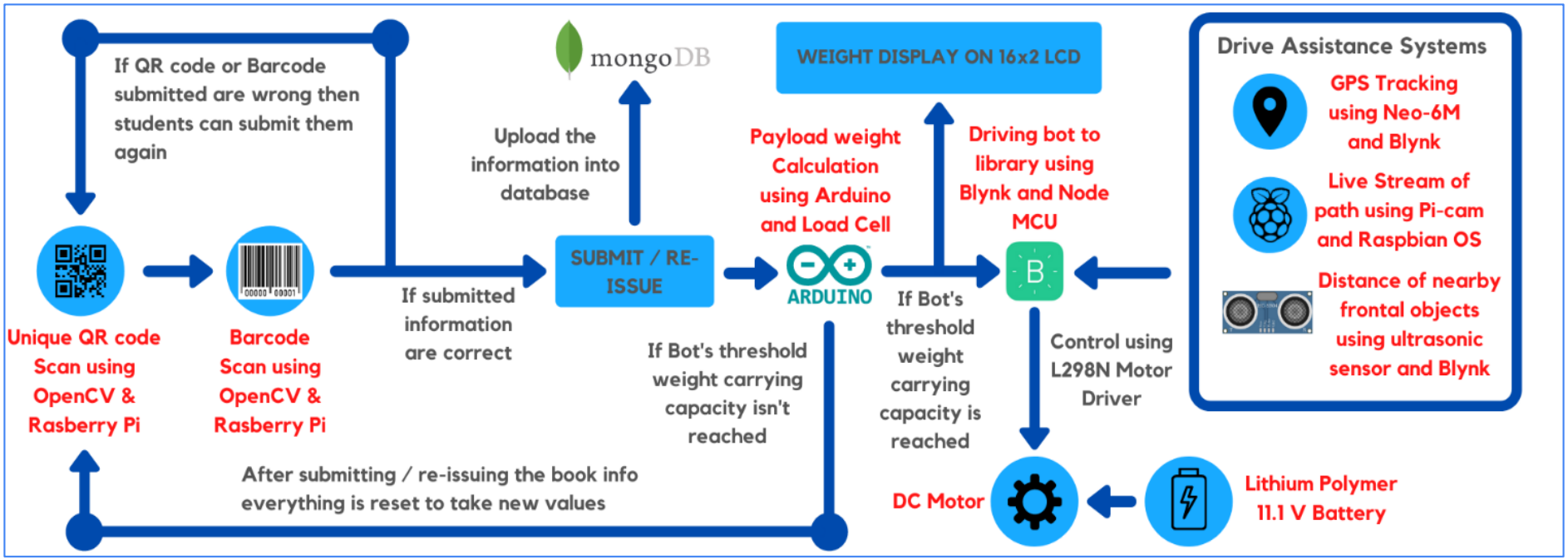

Fig. 3. Block Diagram of the entire workflow

Circuit Diagram

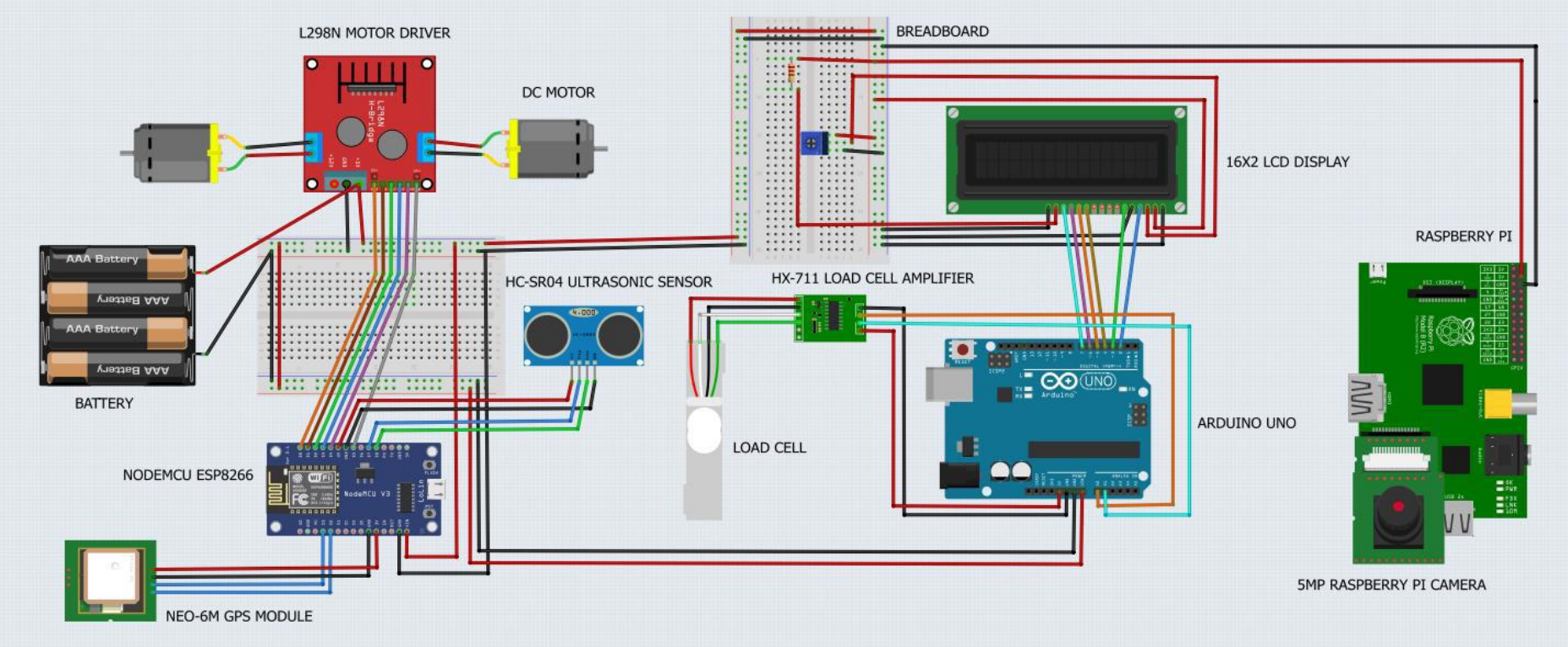

Fig. 4. Circuit Diagram of the Model

Hardware Model

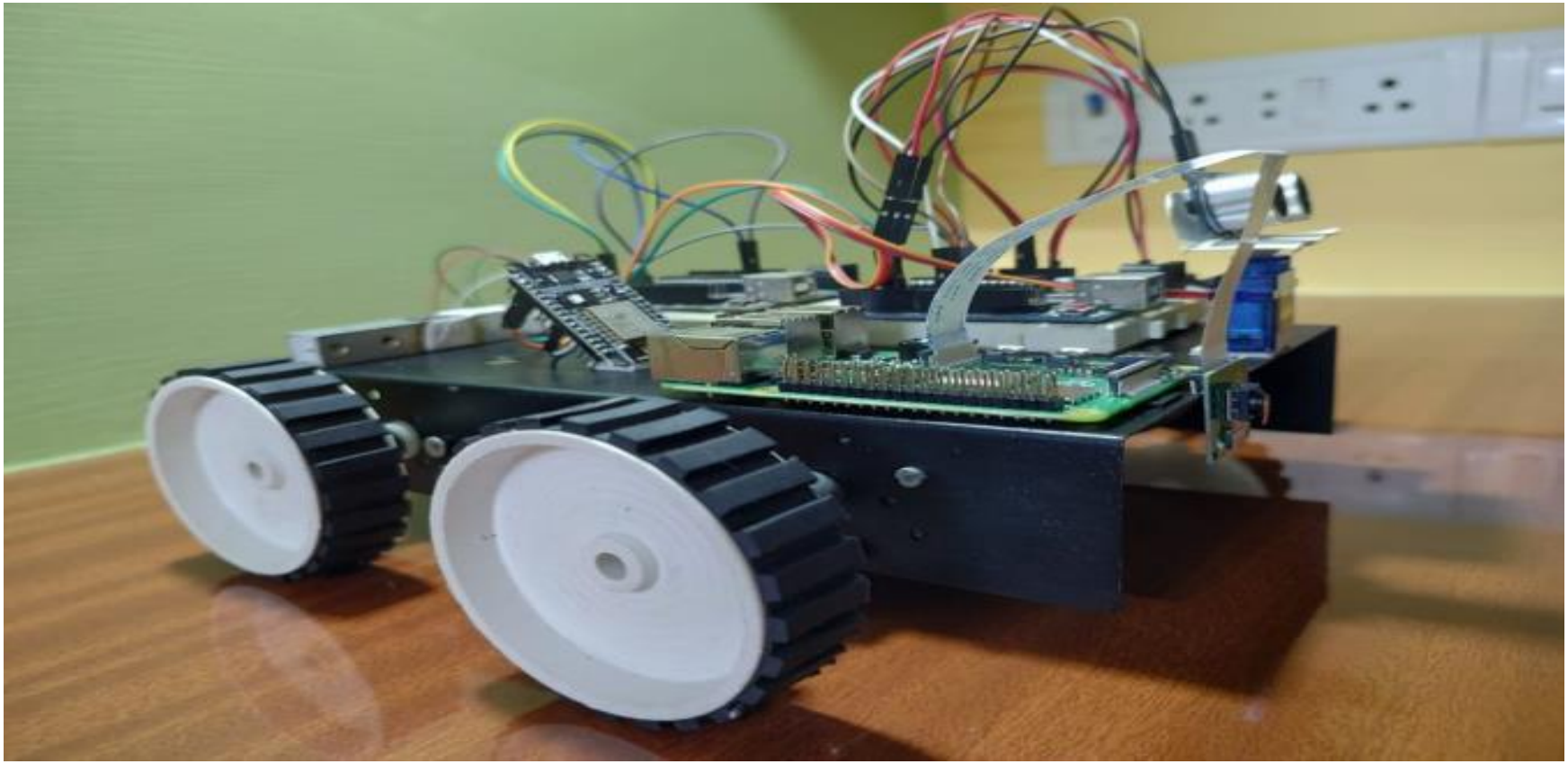

Fig. 5. Proposed Hardware Model

Fig. 6. Odometry controls on Blynk App

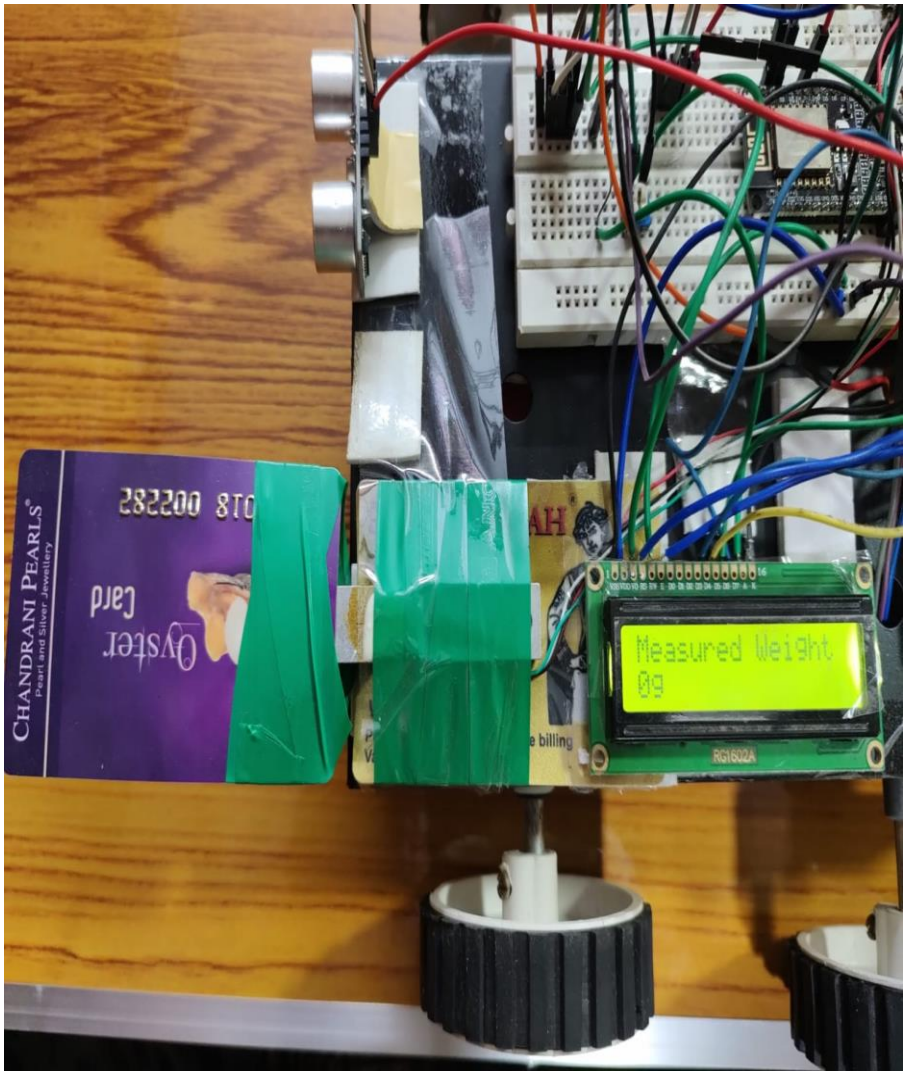

Fig. 7. Weight cantilever alongside LCD

Conclusion

- Robot can be present in the student's hostels for submission or re-issuing of books

- Bot is provided with a GPS Module, Distance Sensors and a live video stream through Pi Camera to assist the controller.

- Help the library management system by automating a major part of it.

Future Scope

- Develop a autonomous Book Bot.
- Smart Mobile Application for the users.
- Upgrade the overall UX by adding a Thin Film Transistor (TFT) Touch Screen.

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