

Hardware Requirements List

In order to build the project, we need the following hardware components:-

1) Raspberry Pi Zero Wireless – Quantity 1 - To keep the project development cost down and to test the latest version of Raspberry Pi we have used the Raspberry Pi Zero wireless. Feel free to use any version of Raspberry Pi for this project.

2) Power bank (1000mah) with 5v 2Amps output – Quantity 1 – For the portable power supply to the Raspberry Pi Zero wireless. We only need the power bank for the real-time demonstration of the project, when the entire circuit will be embedded within the child's bag or vehicle.

3) Micro USB cable – Quantity 1 – This will connect between the power port of the Raspberry Pi Zero wireless and the power bank.

4) OTG cable – Quantity 1 – We will be using the OTG cable to connect the USB to UART converter.

5) Prolific PL2303 USB to UART converter – Quantity 1 – We will be using this module to connect to the RX and the TX terminal of the GPS module.

6) Long Antenna based GPS module with USB or UART connector – Quantity 1- Please purchase the GPS module with a long antenna because It increases the range and you can easily get a 3D fix.

7) Jumper wires female to female – Quantity 4 – These wires will help us to connect RX and TX port of the GPS module with the USB to UART module.

8) Portable WIFI dongle – Quantity 1 – This will help us to provide the connectivity on the go. The device will travel along with the circuit to provide regular internet connectivity.

9) Cardboard or container – Quantity 1 – A standard A4 paper size cardboard or container to encapsulate the entire circuit.