Peter requires physical and existing parts and components, such as motors, batteries, a place to process everything. The list shows all the parts necessary for the construction and operation of peter.

The first item on the list is probably the most important, Single board computer (Jetson nano) this board computer. This computer designed by Nvidia prioritised for image processing and AI. This fits the narrative of an autonomous peter, that would need to process images.

The servo motors provided, are a very common, strong and accurate enough to meet the load requirements of the project, this choice takes account the monetary cost as better alternatives would come at substantially higher cost.

To produce the custom body, a custom manufacturing process needs to be used. As the robot the very custom made and changes might have to be made, combined with the low load requirements, the cheapest and easiest method available would be to 3D print the parts.

Batteries would be required to supply the robot, the batteries selected are modular so that they can easily be modified and cells can be added and removed with simple wiring.

The lidar selection should account for size, to see if it can fit on the robot itself, type we are only using a 2D lidar hence no need for a 3D lidar this should make integration easier. Finnaly but most importantly the lidar needs to be compatible with the motherboard (jetson nano) and the ROS operating system.

Wires and connections are used to connect everything with each other, they are provided by the lab generally free of charge, however if price is relevant, it has been accounted for just in case.

The camera follows a similar mentality of the lidar prioritizing compatibility with the board and software (for example I2c connection), whilst accounting for price and physical attributes.

Finally, to convert digital signals from the single board computer I2c drivers are used to power and drive the motors accordingly.