Introduction to IoT

Problem Statement:

We need an e-stroller.

1. The mother wheels the baby out.
2. Sometimes, she is not in a position to push it. So, she needs some assistance.
3. While going down the slope, the stroller pulls her, so she's likely to fall.
4. On a few occasions, she has to handle it with one hand as she's taking her knitting bag along.
5. She's worried that somebody will lift the baby when she's busy knitting.
6. She also needs some assistance while steering the stroller.

Solution:

1. Add a remote control feature (also equip it with a few fixed voice commands for the movement).
2. Automatic braking system to slow down the movement of the stroller during downward motion on a slope.
3. Sensors to detect changes in heat signatures. Any change in the signature will give an alarm (the message will be given loudly to alert the parent/nearby people).
4. GPS system to monitor the location of the stroller in real time.
5. Option to connect to the phones of the parents or guardians (a maximum of five devices) to monitor the stroller's location.

For the mobile app:

1. It should connect to the stroller using Bluetooth (as internet connections are not available everywhere).
2. Include features like remotely accessing the stroller's controls and track its location after providing the required credentials for authentication.