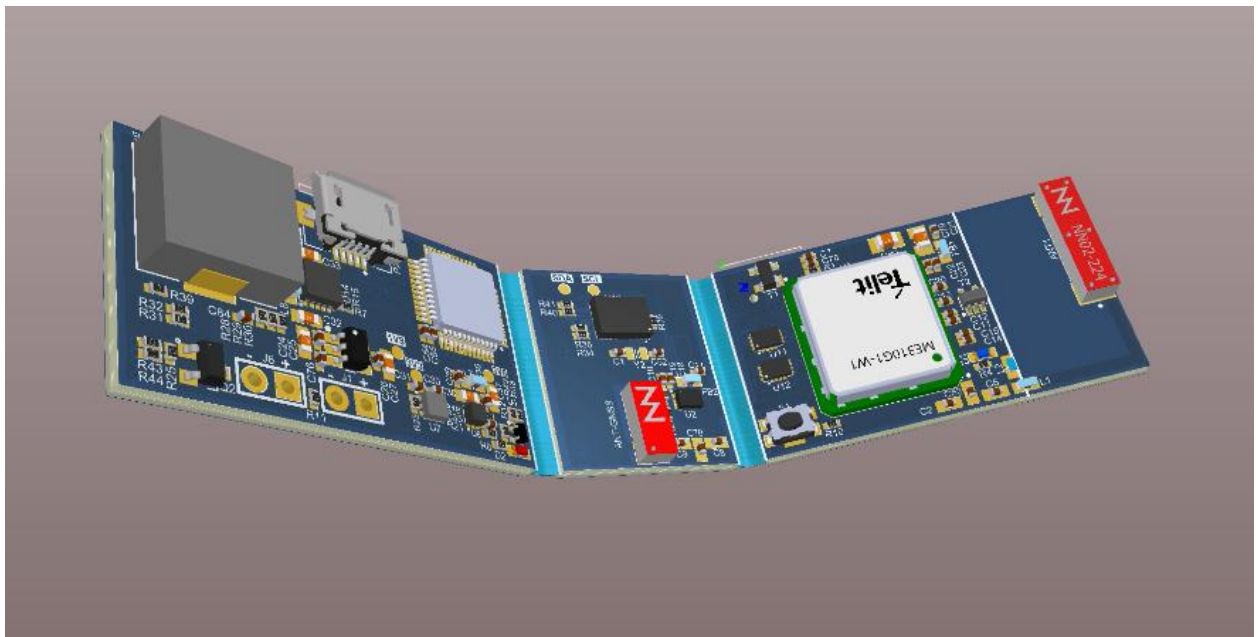


Smart Cat Collar

The Cat Collar is a cutting-edge device designed to track the position of cats and facilitate training through ultrasonic sounds. It serves the dual purpose of ensuring the safety of cats by monitoring their location and training them to avoid danger zones using sound stimuli.

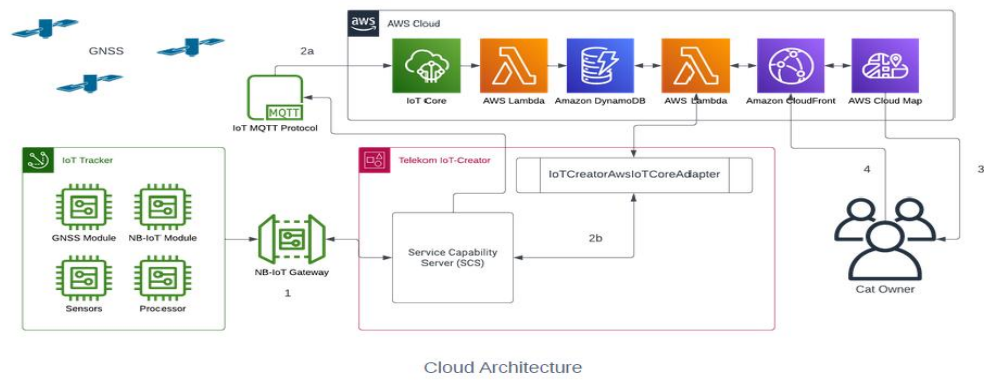
Hardware Development:

- Hardware and PCB design
- Flex PCB design



Firmware Development:

- Utilizing the ME310 module for GPS location tracking and updating it on the portal.
- NB-IoT connectivity via the ME310 module and a SIM card for communication.
- Integration of a buzzer to indicate the cat's position in case of loss, initiated through the portal.
- Ultrasonic buzzer for generating frequencies based on the distance between the cat and defined danger zones, with varying frequencies based on proximity.
- Data logging mechanism for collecting and analyzing location and ultrasonic frequency data to assess the cat's response to stimuli.



Applications:

- IOT
- Pet Tech market

Technologies Used:

- MCU: ATSAM21
- GPS and IoT Module: ME310
- Connection: NB-IoT
- SD card for data logging