Team Name : HEATHENS

Objective : **ELDERLY CARE SYSTEM**

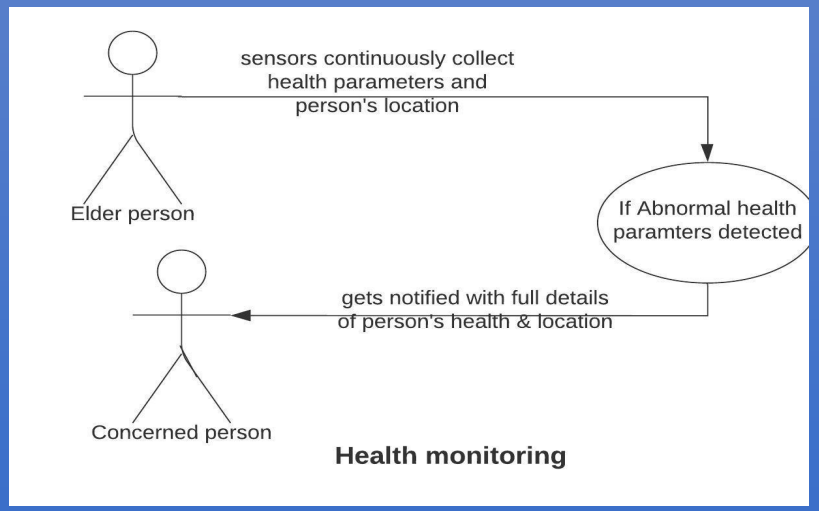
SOLUTION

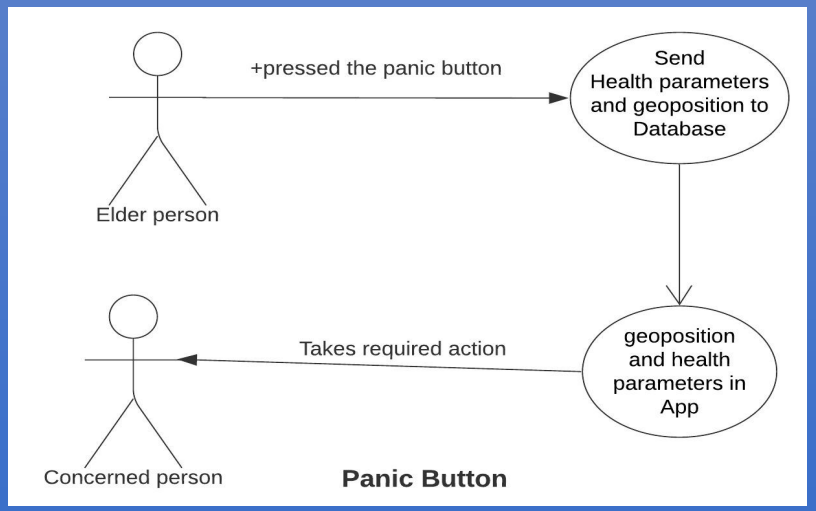
We are developing an Android application in which the user can set some particular geographical boundaries at which the safety zone of dependent person ends.
On the other end the person under supervision will have a GSM GPS based setup in form a wearable device. This is a state of the art model which includes health monitoring sensors like temperature sensor, heartbeat rate sensors and an accelerometer embedded for fall detection.These sensors will be interfaced with a microcontroller which will have the boundary coordinates of the geofence set by the user. The raw data from the GPS and other sensors will be compared with the values predefined on Android application and then sent to firebase for further processing. The app will have access to the firebase and whenever alarming situation is encountered the caretaker or user will be informed or alarmed. This health data can be further used for research and development of the individual. The device will also have a panic button, which can be pressed in case of an emergency and the supervising person will be alarmed instantly.
For further development of the project, the health data can be stored and accessed by nearby health centers, in order to provide required treatments on time and other medical facilities.

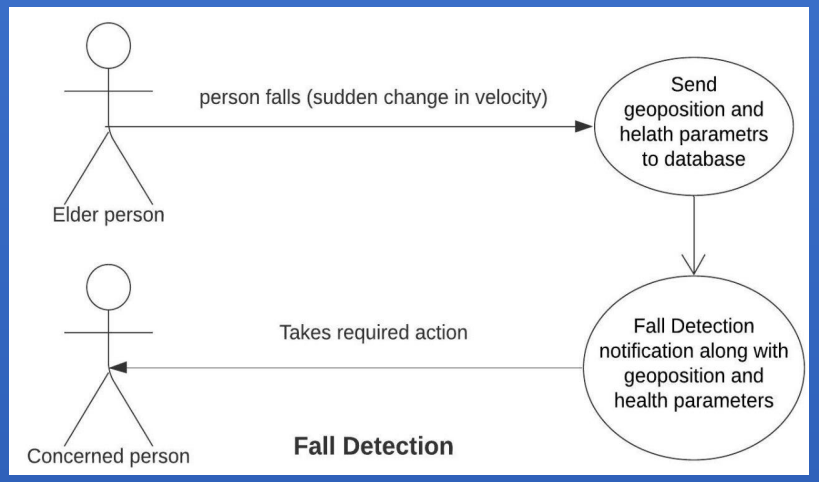
TECHNICAL STACK

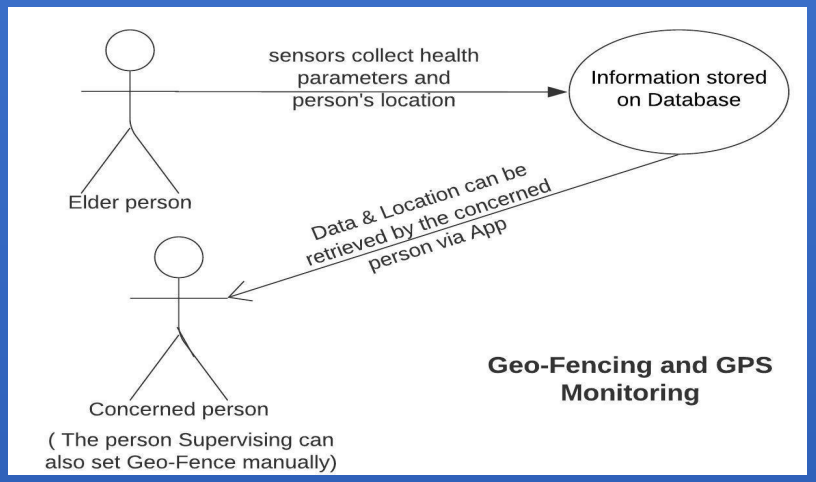
- Android Studio (Open source platform for app development)
- Arduino IDE (Open source)
- Google Firebase Service
- C++, XML, Java, Python (Open source)
- Raspberry Pi 3

USE CASES



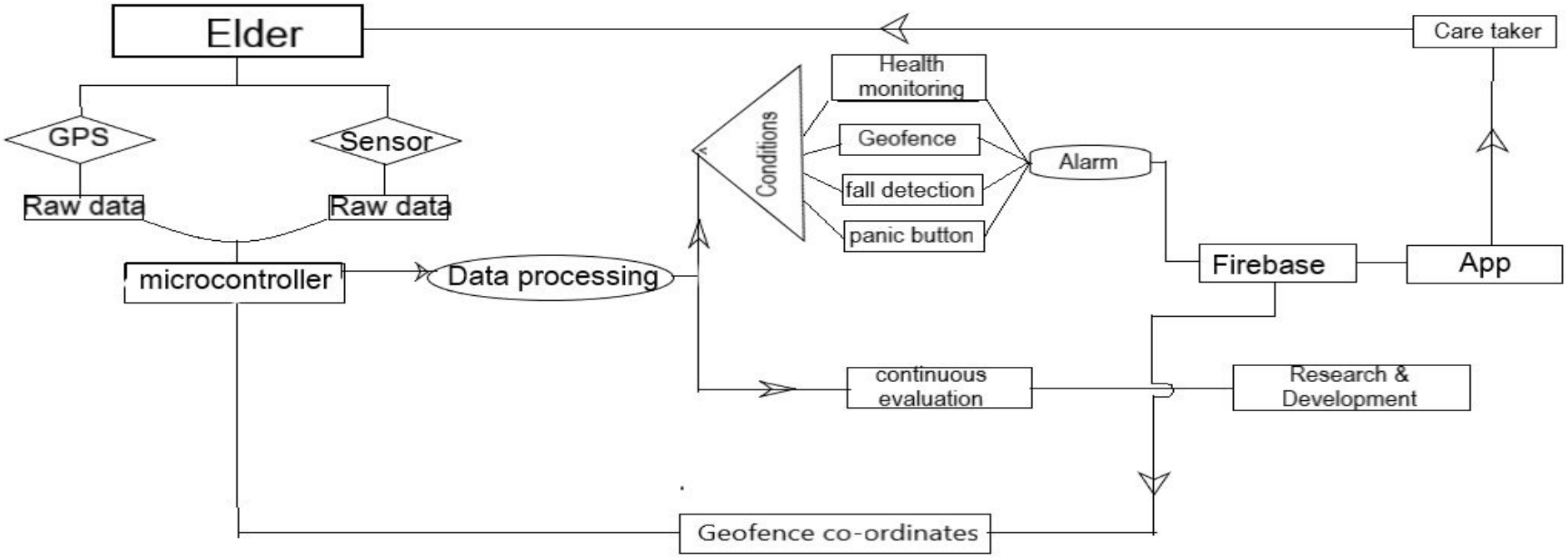






- Elderly care
- Monitoring of people suffering from dementia, alzheimer and other mental diseases.
- Monitoring of kids suffering from autism.
- Monitoring of pets.
- Data collected from health sensors can be further used for research and development of these individuals.
- Fall detection of elders.

WORKING FLOWCHART



DEPENDENCIES/SHOW STOPPER

The dependencies will be mobile network,internet access and GPS accuracy .