

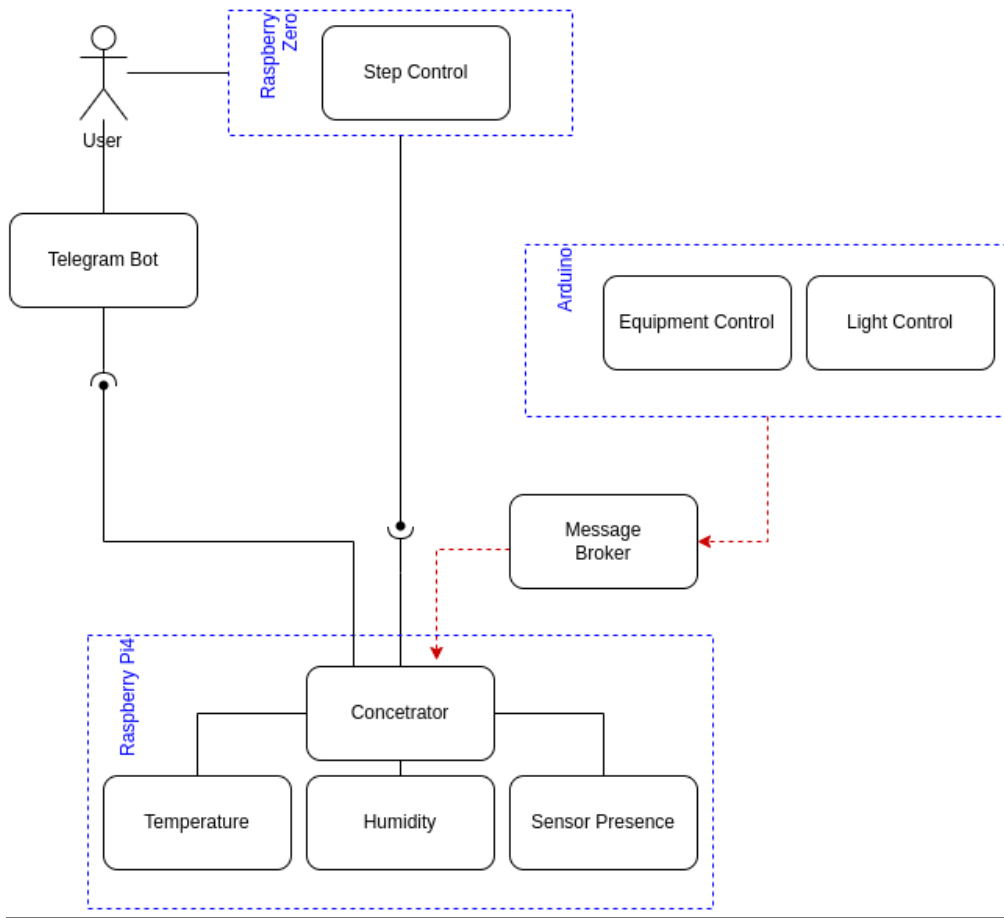
1 Name of Use Case

Name of the Use Case	Insurance health control and monitoring System
Version No.	1.0
Submission Date	10/10/2022
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2 Scope and Objectives of Function

Scope and Objectives of Use Case	
Scope	Smart system that is wearable and capable of interacting with sensors deployed in strategic parts of the home in order to monitor health information and life aspects of patients to evaluate data to help in the treatment of diseases, avoid illnesses ,diagnose early possible health problems.and improve the patient life.
Objective(s)	Safety control:Ensuring mental and physical well-being of elderly
Domain(s)	Health care
Stakeholder(s)	Diseased, elders and comorbidities patients
Short description	The idea is to have some sensors deployed in key places in the home (bedroom, kitchen, bathroom) and a wearable for patient personal use that will collect data about the environment and the user (primarily steps). This information can be transferred to a central where a microcontroller as a raspberry. It will be responsible for learning about the patients habits and evaluate informations about the health to improve the patients follow up. The data will be sent to users, doctors that can evaluate eventual changes in patterns that may be indicational to underlying health conditions. A mental support for the patient is provided by adding a "panic" button on the wearable, giving the patient a secure feeling.

3 Diagram of Use Case



4 Complete description of the system

Wearable:

As long as the accelerometer is counting steps there is no problem.
A comfortable armband with a panic button gives the patient a feeling of security & is not fearful of forgetting it because you don't need to take it off

Thermometer & humidity in bathroom and kitchen:

These parameters are there as extra assurance. If it can deduce a pattern of the patients habits we can make assumptions some things are "not normal"

Smart lights:

The patients house is equipped with smart lights. Each light is named after the place it's hanging. Here we can also deduct habits. Moreover the lamps can serve as lamps. If the system thinks there is a problem it can switch the lights on & off. If the patients starts moving, to put out the alarm, the wearable will detect steps & the alarm switches off there is no problem. The switching of lights can also alarm the neighbours

Presence Sensor

In order to improve the monitoring of patients in home and evaluate the presence in strategic parts of the house and how many times the user stay in each room and how long it takes in them.

Possible add-ons:

If the patient stays home more it can indicate something about mental health and add others kind of sensors to measure a blood pressure, sound noise and weight,

5 Desired Hardware components (only among those we can provide)

1.

Device Name	Quantity	Needed for...
Thermometer	1	Measure body temperatures of patients
Humidity sensor	1	Measure the humidity conditions of the users environment
accelerometer	1	Track the steps and the movements of patients
Sensor Presence	3	Evaluate position of users in determined places in home
Leds	5	Indicate informations about the using aspects of the systems
Buttom	1	In emergency situations to call for help