Complex Event Processing for health monitoring

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Abstract. The increase of the life expectancy has become a problem in regions with a low population density. This fact is caused by the existence of small towns all far from one another and with the peculiarity of many elders with special health care living there. This situation increases in a high percentage the health costs of the region having to attend daily all these elders who need a close monitoring. We live in a IoT era with a huge quantity of new connected devices with lots of sensors. Taking advantage of this, it is possible to monitor these elders from the distance without having to cover the complete area of the region every day. This way, our approach is using a mobile centric architecture that permits the elders having a device which infers a health virtual profile of them with data from its sensors and from other smart devices like bands with pulsometers. At this point we propose using Complex Event Processing techniques to combine the data coming from all sources and analyze it to extract meaningful information for the doctors and caregivers and even detect important events like falls in real time.

Keywords: Internet of Things, Internet of People, People as a Service, Virtual user profiles, Complex Event Processing, Elders, Gerontechnology.