**Memo**

De : Meftah Ghrissi

A :

Date :01/10/2018

**Objet : e-health - Possible Use cases**

Our aim is to introduce "assistance robotics" to bring support to frail people (elderly people at home or in institutions, people returning from hospitalization, etc ...). These robots will be able to take care of the people they will assist through the technologies that will be deployed in the project (Cloud computing, AI, IoT, data processing, etc..). For that we propose to implement one or more of the following scenarios using tools proposed by the other partners:

**1-Mobility assistance :** Mealtimes can be a hectic event for the staff in nursing homes. Residents can have trouble getting to a set place and time on their own – due to physical or cognitive impairments. KOMPAI 3 can come to the rescue and not only remind people when meals are about to be served and what will be on the menu, but can also help to bring one or several people together to the common room, ensuring that everyone is there on time. KOMPAI 3 can help residents get up, move securely from one point to another, and sit in their personal chair. KOMPAI 3 has a special built-in holder for canes and can help to carry things in its basket, freeing-up resident’s hands. Meanwhile, caregivers can focus on other more pressing tasks and more dependent residents. Walking assistance can be used at home too.

What need to perform to answer secure mobility assistance: prediction module able to predict the position of the elderly during mouvement this will help to orient the robot in the correct orientation if an imbalance situation is detected thus avoiding the fall of the person.

**2- Remote monitoring and surveillance:** here we have a ‘surveillance’ scenario where the robot stays close to the person, observing changes in the person’s behavior, acquiring information through connected objects, answering questions and sending alarms to caregivers or surveillance center if needed. It is important to take into account historical data from the person’s records, for which conformance with ethics and good practices is necessary and will have to take into account wishes and preferences of the persons themselves in case these can provide informed consent or of relatives and the family in case the persons are not able to do so.

**3-Night surveillance :** Nursing homes are often constrained to bring residents to their rooms quite early for evening retreat. The long evening shifts are often carried-out with a great reduction of staff. KOMPAI 3 can help to « patrol » hallways and detect if anything is wrong providing a function of nighttime surveillance. The connected cameras can help to facilitate to see if a resident is unexpectedly leaving their rooms – as can be common for disoriented patients – in the middle of the night, and be connected to alarms on corridor and main doors. If KOMPAI 3 is inside a resident’s room, he can also help to monitor how the patient is doing, detect a fall, and make it easier for them to alert of an emergency. KOMPAI 3 can also be connected to various sensors and detect for sudden changes in temperature or the appearance of smoke

**4-Alzheimer unit assistance :** KOMPAI 3 can be a particularly important support for patients of Alzheimer’s. It can help calm and stimulate the patient with reassuring words, soothing music, photos, short how-to videos, and specially adapted cognitive and physical games and exercises. KOMPAI 3 can also bring resident from one place to another when they are lost within their unit. The robot can be an especially appreciated assistant for the nursing staff, as he can listen and respond to the same questions asked over and over again. KOMPAI 3’s camera and interactive screen can be a supplemental source of connection for the resident’s families.

**5-Group animation and individual entertainment :** KOMPAI 3 can provide group activities to help residents keep occupied, use their imagination, stay stimulated, connect with other people, and have a good time! With its interactive platform, facial recognition, and clear voice, KOMPAI 3 can lead fun memory games, name-that-tune, identify plants and flowers, bingo sessions, singing groups, and more. For individuals, apathy, or lack of interest and motivation in doing things, is a common problem for the elderly. Knowing when an activity is going to take place is not always enough to get people to participate. KOMPAI 3 can be of service to the activities coordinator, as well as to the resident’s families, by going to residents and interacting with them. This can be by suggesting a game, offering to look at photos, listening to a story, offering to video-call a loved one, suggesting going to the main room and participating in an activity if they have been alone in their own rooms too long, or simply suggesting to listen to the music of their choice. Active stimulation helps residents to feel better and be more connected.