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FALLERT

Fall alert system for independently living older adults based on artificial vision.

Be aware of the falls of your relatives at the moment and without having to wear any device

TECHNOLOGY SOLUTION

Fall detection system for people (particularly elders) living alone based on a low cost artificial vision device. In the event of a fall, it generates automatic warnings (without intervention by the fallen person) to the mobile phones of caregivers or relatives (by telegram or email), allowing a quick attention after the accident. Messages include a photo of the fall for verification.

Its main advantage over commercial devices used today (wearables carrying accelerometers), is that it does not require human intervention: it is not necessary to wear it, thus avoiding forgetting to wear it (very common in people with Alzheimer's or other degenerative diseases).

"The user does not need to wear any device. The device is placed on the walls or ceiling of the rooms."

"Receive mobile alerts whenever one of your relatives suffer a fall"

AREAS OF APPLICATION

• **ICT**: applied to "Independent living , e-inclusion and governance".

• **eHealth**: ICT applied to "Health & Personal Care".

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MARKET DEMANDS

- Falls are the leading cause of injury and death of elder people.
- Between 28% and 35% of people over 65 years suffer at least one fall per year, and this figure goes up to 42% considering people over the age of 70 (according to the World Health Organization - WHO).
- Falls represent more than 50% of hospitalizations of older people, and about 40% of unnatural mortality for this population segment (WHO).
- The response time and a quick notification of the accident are basic parameters to reduce the health impact of a fall once it has occurred.
- Falls detection systems are a psychological benefit for older people by reducing the fear of suffering one of these accidents and not receiving help. And they are a relief for caregivers who know that if there are no alerts, everything is going well ("no news, good news").
- Older people (especially those with dementia) forget to wear fall detection devices.

> "The device continuously monitors the environment, automatically detecting falls, and notifying the caregiver. It is not necessary for the user to take any action."

MARKET POTENTIAL

- The sale of cameras in the US reached 65 M€ in 2014. It is expected to reach 84 M€ in 2016. And the shipment of IP cameras worldwide has moved from 0.1 M€ in 2012 to 2.8 in 2015, and is expected to be 25 M€ by 2019.
- Potential client: elder people living alone. Approximately one-third of people over 65 years in Europe live alone. And in the next 20 years, this population will grow significantly.
- Potential client: people with neurodegenerative diseases. In Europe alone, neuronal degenerative diseases account for more than 7 million patients. And that figure doubles every 20 years.
- The top 10 fall detectors on the web "http://www.toptenreviews.com" in 2016 are based on portable devices. Novelty in the market.

COMPETITIVE ADVENTAGES

- **No need to wear anything**. Commercial fall detection systems are based on devices that have to be carried by the user. The one we propose is installed in the rooms. No wear, no forget. It also avoids false positives due to sudden movements.
- **Immediate warning in case of fall**. The system sends a message without the need to press a button, which does not happen in other systems that depend to a large extent on the person being able to press the help button of the device.
- **Messages with images are sent in case of fall detection**, so that the caregiver judges the importance of the fall.
- **New warning in case of fall recovery**. Other systems do not have that feature.

REFERENCES

- Awarded by the Vocento group (one of the biggest Spanish media group) with the "2016 ABC Solidario" award, endowed with 10,000€.
- Project supported by the Alzheimer Foundation Spain.
- Developed by researchers of the UPM-CSIC Centre for Automation and Robotics (CAR).

DEVELOPMENT STAGE

Concepto › I+D › Prototipo Lab › Prototipo Industrial › Producción

CONTACT

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