
CONFERENCE ABSTRACT

The digital transformation of fall prevention at the home environment

ICIC20 Virtual Conference – September 2020

Jaime Campos¹, Jan Aidemark¹

1: Department Of Informatics, Linnaeus University, Växjö, Sweden

Introduction

The digitalisation of the health sector has brought new opportunities as well as challenges for the ehealth. However, to be able to achieve a successful implementation there is a need to change the way of handling its data for a fruitful use and implementation of the big data approach. But not least, it is crucial to understand how to best elicit and understand the needs of data for the system from the elderly to achieve a fall risk prevention system.

Theory/Methods

The study is based on a project where both academia and industry are brought together to develop a platform for fall prevention. To understand the data needed workshops were arranged and test periods to understand the efficiency of the sensors. Thus, in a 24-hour test the sensors were tested and implemented. Also, data was produced by the use of a diary where the elderly had to fill in different activities done during the day. The approach used was the co-design, which emphasises on the users' involvement during the development's life cycle.

Results

The results show that the integration of the data involves the transfer of the data into opensource alternatives that consider the characteristics of the big data, such as, its variety, volume and velocity. Thus, the variation of the data concerns the different kind of data that needs to be handled, stored and processed, such as, document, figures and data that the elderly fill into the system manually. While the volume and velocity concern much the sensor data that is continuously fed into the system.

Discussion

The aim with the use of these technologies is to support the elderly and to provide them with the possibilities to live longer at home with increased quality of life. Thus, for a successful implementation, the elderly use and acceptance of the technology becomes crucial. The workshops highlighted the importance of co-design and modelling since the data needs and the interaction with the system of both the elderly and the technology have to be understood by all parts involved to be able to advance successfully in the development process. Also, the use of reliable and light sensors is essential since the elderly should be motivated to wear them.

Conclusions

To be able to achieve successful use of the emergent technologies in the area there is a need to change the way of handling data, its structures as well as storage. Also, its acceptance and motivation of the elderly people become crucial for its successful implementation. Therefore, behavioural factors like motivation and attitude are essential factors to consider for its success.

Lessons learned

The importance of the different stakeholders' interests, i.e. the elderly, owner of the technology, etc. are factors that should not be disregarded in order to achieve a successful fall prevention system.

Limitations

The content of the current work is based on a project, which diminishes its generalisation aspects.