

# Developing a future safety alarm for elderly

The population of the world is growing larger and getting older. This demographic growth is causing an increased load which the current healthcare system is not coping with, thus lowering the standard of healthcare. Specially affected by this is the elderly care. To unburden the retirement homes and home-services; safety alarms were invented. However, these are in much need of design, ergonomic and technical improvements.

It was therefore, for this thesis, interesting to, from an end-user perspective, explore how to further develop and improve safety alarms in combination with the digitalized world to come. Resulting from the followed design methodology, was a sophisticated and discrete smart-ring prototype. To complement the physical prototype, a digital platform was developed as well. Through this platform, the users, their relatives and doctors were able to study health data gathered by the ring-worn sensors and reassure the real-time wellbeing of the user.

The full concept delivered in this thesis addresses and strives to solve issues found through literature studies, user-interviews and -tests. For example, many safety alarm users have experienced technical issues, thus lowering the trust and therefore stripping away the sense of safety. Issues regarding aesthetics and ergonomics were also found as many felt that the safety alarms were big and clumsy.

By addressing these issues, the delivered concept is beneficial in many aspects. The introduction of modern digital technology may solve issues experienced with the analogue technology and lost alarm-signals. By integrating sensors that co-operates with an artificial intelligence, diseases and accidents may be foreseen. Benefits of this includes saving lives and making the healthcare more efficient. Through final user-tests it was also found that the delivered prototype is more aesthetically appealing and discrete than the current safety alarms. Therefore, motivating the users to wear their alarms and removing the feelings of shame, associated with using safety alarms.

For this thesis, a concept was delivered and not a final product. However, if further developed, the impact on elderly care could be huge. By making the healthcare more efficient, resources may optimally be allocated thus providing care for those in urgent need and in the end saving more lives.