

Design Brief:

Sunnaas Sykehus – “Active on wheels”

Participants

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Sunnaas Rehabilitation Hospital is Norway’s largest specialist hospital in the field of physical medicine and rehabilitation. The hospital provides multidisciplinary rehabilitation for patients with complex functional impairment following illness or injury. In addition to the actual rehabilitation process, training and advising patients and relatives and conducting research are important activities at Sunnaas. The hospital also has its own User Committee to assist in ensuring the protection of the rights and interests of patients and relatives.

Partners

This project is a collaboration between us, the “Active on Wheels design group”, and Matthijs Wouda at Sunnaas Sykehus, where Wouda is the head of the clinical physiological laboratory and currently researching how rehabilitation of patients with incomplete spinal injuries (REF) can be enhanced with the help of mobile and ubiquitous technology.

As part of his PhD, Wouda is developing an innovative mobile application that utilizes consumer grade ubiquitous devices, smartphones, heart rate belts, and armbands, to measure and calculate energy expenditure on wheelchair-bound people. This app, with a rudimentary interface and design, has been developed by Wouda with the help of Torkjel Skjetne, a former IFI student.

Current project: “Active on Wheels” interface design

The focus of this project is following this to develop an interactive, motivating and userfriendly design for this app. In seeking to enhance user enjoyment and adherence in use, the design will contain motivational affordances along with general principles of gamification. These elements, such as competitions, challenges and achievements. Are often used in (normal) activity promoting apps, and it will be interesting to see how this translates to our target population. By using available information from the connected devices, we can also provide real-time tracking, and hopefully visualization, of the users workout, such as performance and energy expenditure.

Thus, the technology of the app in combination with our design will hopefully make the app, motivational, inspiring and fun for the users.

Target Group

The target group for the “Active on Wheels” app is current and former patients recovering from spinal injury. This group has on most cases gone from having functionality in their lower extremities to not having it, and maintaining an appropriate level of physical activity can be both physically and mentally strenuous. Yet, this group has an even larger need for staying active to reduce the risk of lifestyle illness, as one burns a lot less calories when sitting than when walking.

Currently the sample size for our design studies looks to be small, with 5 to 10 users participating.

Ethical considerations

Patients are often people in reduced or frail states and periods of their lives. Thus, working with patients requires careful considerations of the ethical ramifications not only with respect to privacy, but also on a personal and empathic level.

We will ensure that all procedures comply with ethical requirements, rules and regulations for data security and confidentiality, and will submit applications to the appropriate ethical authorities

Visual Profile / web / colours

As our target group is patients with motor impairments, the project must rely on universal design principles. This means also making sure the app is possible to operate whilst being safe in a wheelchair, for instance by only requiring one hand.



1. Current "Active on Wheels" Logo

Earlier experience

This project is unique in its nature in that a functional exercise-app for people in wheelchair has never been developed before. However, there is a plethora of exercise-apps available for fully functional people, and for rehabilitation in clinical and not clinical contexts. By investigating literature on these topics, we hope to identify designs or design elements that can make our work a success.

Who will make decisions in this project?

As this work is done as part of the PhD project of Matthijs Wouda, he is the project owner and primary decision maker. However, Wouda has given the group carte blanche with respect to design and solutions. The group will seek to make our decisions by consensus. Stian Jessen is the appointed contact link between the group and Wouda.

Other Stakeholders

Torkjell Skjetne, a former IFI-student, did the programming on the app, and is when needed available to confer with on technical matters.

The goal with this project

Tu surmise, our goal is to develop a functional, motivating and simple interface for the “Active on Wheels” app to improve the user experience.