WTAWARD 2012

Categorie Premio	Accessibilità	Sostenibilità	Qualità della vita

Product Name	Bones
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Description of innovation social values
- product category
- formal and functional features
- problems solved by innovation
- user
- field of application

'Bones' is an orthopedic cast with sensors for capturing muscle activity around the fracture area and simulates the full recovery time of the patient.

The goal of Bones is to offer concrete information and a sense of achievement according to the level of exercises that users do during the cast period. Based on all the physical activity data of the patient, Bones simulates the time reduced from user's full mobility and muscle strain recovery treatment. All the information collected from the user goes to the community based website of Bones where it is available online to all. Doctors, physiotherapists and new users of Bones can consult and follow the patient's progress. On the website new users can visualize the achievements of current and former patients with the same type of fracture. Sharing this information is a way to encourage new users to engage with their recovery process from the beginning of their treatment.

Description of technical features
- operations
- technology

After a fracture, the patient goes to the Hospital to be analyzed and receives the proper treatment by their doctor. There they are presented with Bones. Each time the user turns on Bones, all the muscle activity around the fracture area is captured by electromyographic (EMG) sensors and stored in the cast device.
This information can be synced via wireless to the user's online profile where they have a history of their activities as a simulation of their full mobility recovery time according to their progression and exercising routine. On the website, Bones analyses the user's achievements and suggests specific exercises in order to keep the muscles active around the fracture area. Ultimately, using the Bones cast will

Dimensions

40 x 15 x 15cm

Materials

Polycaprolactone

Certifications

Benefits for environment

Benefits for human being

The recovery process for patients with fractures is not only about restructuring the bone, but also the recovery process of the muscle strength lost during the time the limb was inactive. This project is user-centered driven, which means, first I started from user needs to then define the design direction. I was intrigued by how hard it is for orthopedic cast users to have mobility like they did before their fracture. In