
POSTER ABSTRACT

Group Sessions Performance Feedback System to Promote Physical Activity and Health Decisions- Making

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Introduction: In recent times, there has been a boom in data analytics in different sectors (banking, retail...) this type of task facilitates decision-making or helps to better understand the needs of patients/users. Now, these techniques are also starting to be implemented in the world of physical activity, with different objectives. Among them may be the prevention/prediction of injuries, or obtaining the maximum performance, but they are also an element to analyze the physical activity of chronic patients, people with special needs or elderly people. This project promoted activities such as walking, physical activity in parks or in the gym in groups.

Objectives: The main objectives are:

- to capture and digitize all available information
- to design an interactive web application to help doctors, caregivers and patients themselves to make decisions about their health.
- to test the application results with the final users

Methodology: The data come from activity wristbands and video recordings of group exercise over several sessions (at least 2-3 sessions).

The groups that have participated in the tests are composed of between 5 and 15 people (of legal age), and all of them with some kind of disability or chronic disease. The recordings have been made on a minimum of 3 sessions per group carried out on different dates and with repetition of exercises.

After extracting and digitizing all the data, it is stored in a database, and analyzed following the CRISP-DM methodology.

Results: The resulting application allows visualization of individual and collective statistics of measured variables, comparisons of performance between patients/users, and provides information in text that can be interpreted by anyone.

All users receive feedback after their sessions via cell phone, and they, as well as their doctors or caregivers, can review the detail in the interactive application.