Titolo (provvisorio): Heart Rate and Galvanic Skin Response analysis during the execution of rehabilitative exercises with Kinect and Leap Motion

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Descrizione

Motivazione e campo di applicazione

Human engagement and emotions during rehabilitation therapy can be expressed through physiological responses like accelerations and decelerations of the heartbeat and changes in electrodermal activity. For this reason, heart rate (HR) and Galvanic Skin response are chosen as physiological signals to monitor relevant changes during different phases of a rehabilitation session.

Obiettivi generali e principali attività

Undertake an analysis of correlation between the heart rate and Galvanic Skin Response. Inside a rehabilitation session, or simple monitoring, it could be very interesting to analyze simultaneously the beat and the galvanic response, combined with the parameters of the rehabilitative exercises in such a way that the occurrence of an abnormality in the heartbeat, can be more or less correlated to a variation of the galvanic response. Study of the adaptive processing that guarantees the customization of therapy for each patient.

Obiettivi di apprendimento (strumenti tecnici e analitici, metodologie sperimentali)

- Development of an innovative method of data processing with an adaptive approach
- Analysis of Heart rate and Galvanic Skin Response with features extraction
- Conducting experiments with healthy subjects

Luogo/i in cui si svolgerà il lavoro: DITEN

Informazioni aggiuntive

Numero massimo di studenti: 2