A Home-Care PDA-Based Program for the Management of COPD Patients

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Problem
Chronic Obstructive Pulmonary Disease (COPD) has become a major cause of morbidity and mortality in the world.

- Regular and seasonal exacerbations.
- Usually causes overload in hospitals and health centers.

Home-Care benefits
- Tailor-made assistance.
- Early treatment.
- Avoid more serious damage to health.
**COPD**

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This project aims to have a **multipurpose** nature, providing solutions in COPD management in two ways:

As a welfare tool, it makes easier to keep under control the evolution of the disease in a group of patients.

As a research tool, the system seeks to obtain new objective indicators on the progress of the disease from the monitoring of physiological signals.
PDA-Based program for the management of a group of patients.

- Monitors the disease evolution.
- Provides relevant medical tests.
- Captures a set of structured data about this illness.
Data Model

Clinical History Evaluation
- Physical examination
- Cough, dyspnea and fever tests
- Vital constants measurement
- Daily survey

Therapy management

Quality of life tests
- SF-36
- Saint George

Physiological signals capture
- Electrocardiography
- Pulse Oximetry
- Spirometry

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User Interaction

Interface design focused in **simplicity** and **usability**.

Vital constants measurement

Electrocardiography test
User Interaction

Saint George respiratory questionnaire

Patient Management

Therapy Management
1 All data are stored in XML format in the local memory of the PDA.
Data Management

2 Data are physically transferred to a data warehouse.
3 All personal information is deleted.
Data Management

4 Monitoring records are posted on an online repository.
Servando makes easier for the medical services the management of a group of COPD sufferers.

The collection of a broad set of relevant data about this illness will permit the application of data mining techniques leading to obtain new indicators about the state and evolution of the disease.

This development has laid the basis for the construction of an extensible software platform for the provision of remote medical services.
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