An Open, Ubiquitous and Adaptive Chronic Disease Management Platform for COPD and Renal Insufficiency

From 2008-02-01 to 2012-05-31

Project details

<table>
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<th>Total cost:</th>
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<tr>
<td>EUR 10 284 963</td>
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<th>EU contribution:</th>
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<td>EUR 7 249 995</td>
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<th>Coordinated in:</th>
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<td>Italy</td>
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<th>Topic(s):</th>
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<td>ICT-2007.5.1 - Personal health systems for monitoring and point-of-care diagnostics</td>
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<th>Call for proposal:</th>
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<td>FP7-ICT-2007-1</td>
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<th>Funding scheme:</th>
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<td>CP - Collaborative project (generic)</td>
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Health and lifestyle monitoring of people with chronic diseases at a European level. The project developed for example a smart T-shirt to monitor and help the chronically ill

Chronic diseases are the leading causes of death and disability for a large amount of people in most industrialized nations. Chronic diseases have also a deep impact on today's society costs. Adopting healthy behaviours can prevent or control the devastating effects of these diseases.

CHRONIOUS implements a system architecture that offers continuous monitoring easily adaptable to any chronic disease management programme.

The project goals will be achieved by developing a modular and flexible system design that integrates state of the art sensors and services in order to cover both patients and healthcare professional's needs.

Data will be collected by using monitoring sensors, mostly wearable, that control continuously vital signals, dietary habits and plans, drug intake, environmental parameters, biochemical parameters, activity and social context.

Every abnormal health condition will be noticed and reported by the system. In particular the CHRONIOUS system will report deviations and all conditions differing from those that are expected.

Healthcare professionals on the other hand will be provided with supporting decision support and data analysis tools.

CHRONIOUS, in its very final form, will be a universal solution to healthcare facilities and professionals for managing all different kind of chronic diseases increasing the quality of patients' life and reducing health assistance costs.

Objective

Chronic diseases are those that occur across the whole spectrum of illness, mental health problems and injuries. Management includes medication and/or lifestyle changes such as diet and exercise. At the same time, it should be noted that chronic diseases may get worse, lead to death, be cured, remain dormant or require continual monitoring.

CHRONIOUS primary goal is to define a European framework for a generic health status monitoring platform schema addressing people with chronic health conditions. This will be achieved by developing an intelligent, ubiquitous and adaptive chronic disease platform to be used by both patients and healthcare professionals. CHRONIOUS addresses a smart wearable platform, based on multi-parametric sensor data processing, for monitoring people suffering from chronic diseases in long-stay setting. It is constantly monitoring their activity using audio observation methods and
activity sensors while at the same time tracking their medical condition via vital signs sensors. Any trait of abnormal health status and possible alerting incidents are detected by CHRONIOUS Intelligence. The system generates alerts in case of invalid medical data or if current activity and behaviour lay outside the well established activity patterns and locomotion behaviour. Furthermore, CHRONIOUS objective is to face Europe's challenge for delivering quality healthcare to all its citizens by offering a ubiquitous and more personalised care solution that addresses the user needs, personal data security, confidentiality and privacy of information and all that at an affordable cost. Our proposed solution will be applied to the chronic diseases of Chronic Obstructive Pulmonary Disease (COPD) and Chronic Kidney Disease (CKD) and Renal Insufficiency.

Related information

| Top Stories | Feature Stories - A smart T-shirt to help the chronically ill |
| Documents and Publications | D4.1 |
| Multimedia | CHRONIOUS project logo |
| | CHRONIOUS Security Infrastructure |

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