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OVERVIEW OF TELEMONITORING SOFTWARE

Ismukhamedova Aigerim

Satiyev Olzhas

Zhumagaliev Aidarkhan

Tolegenov Iskander

Abstract: One of the actual applications of the «Internet of Things»(IoT) is the development and implementation of telemedicine systems, which are formed on the basis of built-in information and telecommunication means for registering physiological parameters of a person's condition and their constant monitoring. The global average annual growth rate of the number of telemedicine services is 19%. This article provides an overview of existing IT solutions for telemonitoring human activity.

Key words: software, telemonitoring, physiological parameters, control, monitoring, registration, analysis, visualization.

ОБЗОР ПРОГРАММНОГО ОБЕСПЕЧЕНИЯ ДЛЯ ТЕЛЕМОНИТОРИНГА

Исмухамедова Айгерим Мэлсовна

докторант

ВКТУ им. Д. Серикбаева

Сатиев Олжас Шагзадович

директор WebTotem

Жумагалиев Айдархан

инженер-программист WebTotem

Толегенов Искандер

инженер-программист WebTotem

г. Астана Казахстан

Аннотация: Одним из актуальных применений Интернета вещей является разработка и внедрение телемедицинских систем, которые формируются на основе встроенных информационно-телекоммуникационных средств регистрации физиологических параметров состояния человека и их

постоянного контроля. Общемировой среднегодовой темп роста количества телемедицинских сервисов составляет 19%. В данной статье представлен обзор существующий ИТ-решений по телемониторингу жизнедеятельности человека.

Ключевые слова: программное обеспечение, телемониторинг, физиологические параметры, контроль, мониторинг, регистрация, анализ, визуализация.

The use of information technologies and Internet of Things(IoT) services makes it possible to solve a wide range of diverse tasks in many areas of human activity. According to information technology experts, Internet of Things services are developing mainly in two directions: consumer (mass) and industrial (critical) [1,2].

One of the actual applications of the Internet of Things is the development and implementation of telemedicine systems, which are formed on the basis of built-in information and telecommunication means for registering physiological parameters of a person's condition and their constant monitoring. The global average annual growth rate of the number of telemedicine services is 19% [3]. Experts predict the further rapid development and spread of mobile devices for health status telemonitoring using mobile communication networks [4]. This article provides an overview of existing IT solutions for telemonitoring human activity.

The Live Video Wam software is developed by the Kazakh company MIR (Medical International Research), designed for pulse oximetry, medical examination, spirometry. Is a Windows-based software that performs interactive remote monitoring of patients, including spirometry and oximetry Live Video Exam is an application for use by a doctor, connecting in real time with the MIR Spirobank application (for use by a patient). The Live Video Exam program interface is shown in Figure 1.



Fig. 1. Live Video Exam program interface

The diagnostic software «cust_diagnostic» is developed by the German company «custo med GmbH». Designed for a medical office, it integrates electrocardiography, spirometry and monitors blood pressure. The software allows for functional diagnostics of the cardiopulmonary system. The cust_diagnostic function window is shown in Fig. 2.

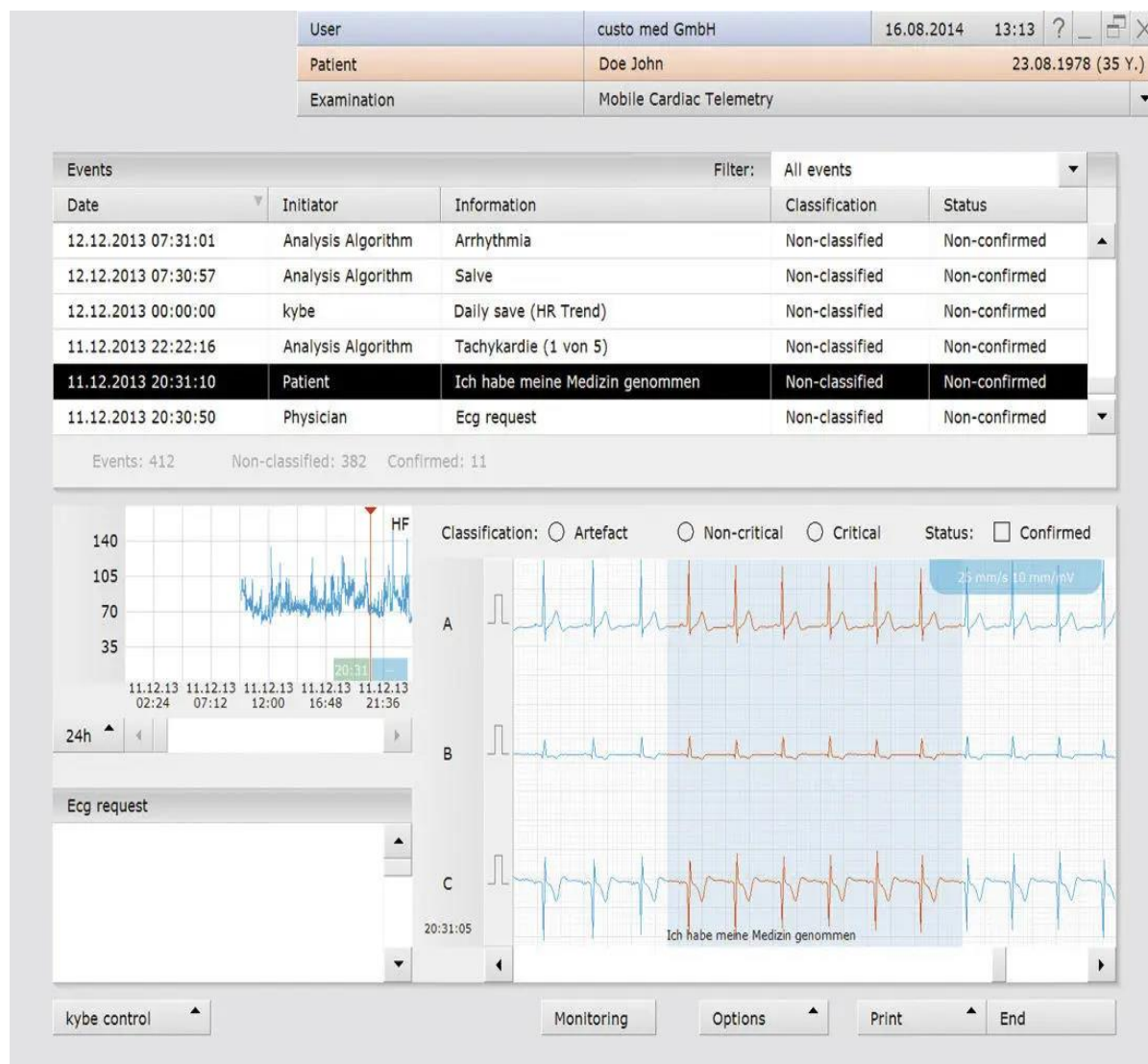


Fig. 2. Cust_diagnostic program interface

The TSLog_21 software is developed by the Italian company Tecnosoft SRL. The software functionality includes analysis and visualization of medical data, equipped with a hardware temperature control device. It has a simple and intuitive interface that allows you to control sensors, data loggers, data and alarms. Equipped with intelligent sensors. Scalability for multiple users is possible. The TSLog_21 program window is shown in Fig. 3.

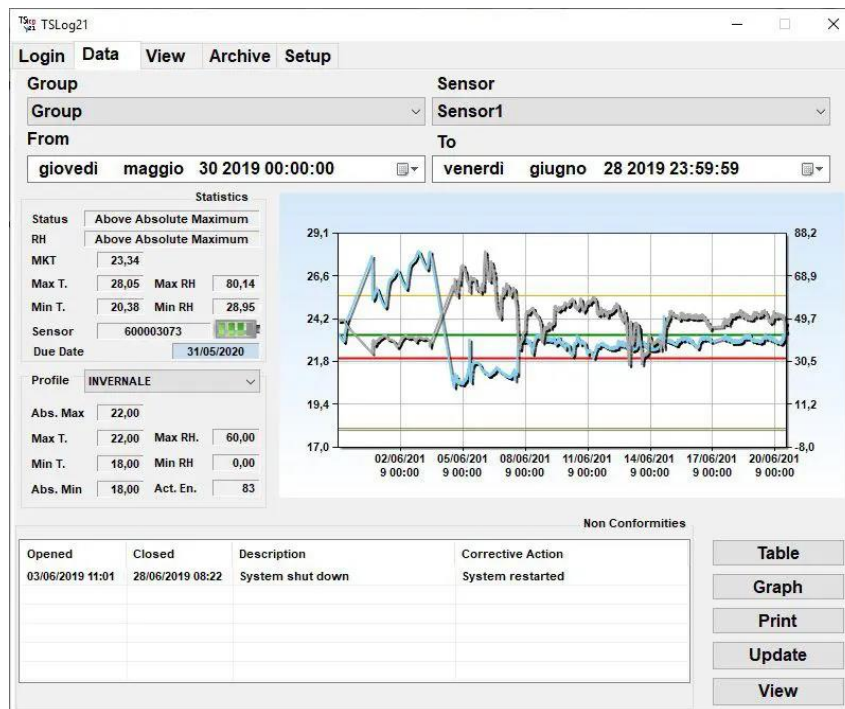


Fig. 3. TSLog_21 program interface

«Athos™ Ucri» Intensive Care Software, is a product of the Spanish company APD. The software functionality is integrated with databases on patients and medical services. Allows you to generate automatic reporting on patients and the organization of treatment. Athos™ Ucri is equipped with diagnostic and cardiac telemonitoring hardware. Athos™ Ucri program interface is shown in Fig. 4.

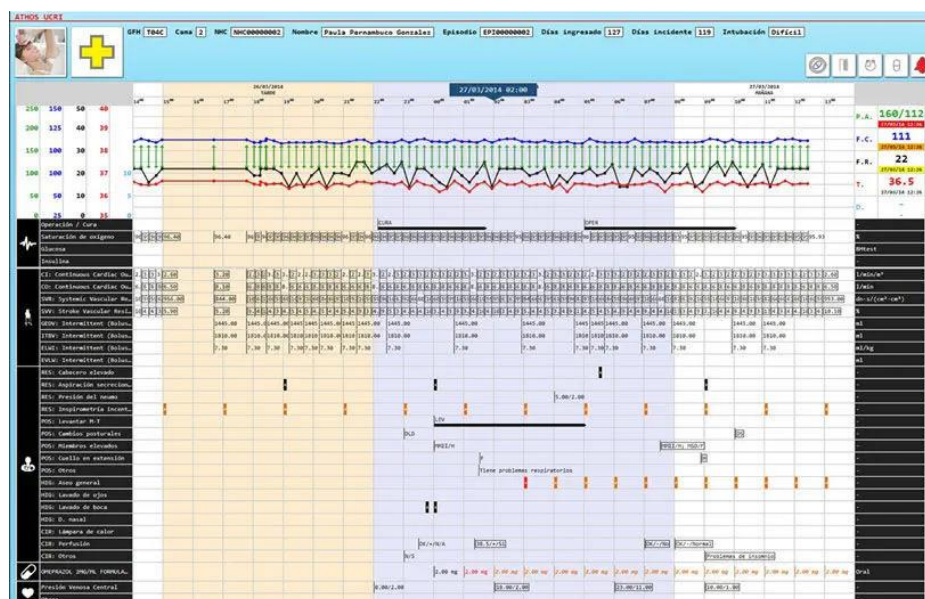


Fig. 4. Athos Ucri program interface

Athos™ Ucri is a software package that combines all the clinical information of intensive care units into a single platform. The system allows you to quickly and easily document and evaluate patient information, providing support for clinical decision-making and administrative control, opening up opportunities for collecting and using clinical information in various ways.

Satellite medical software is a software product developed by the Italian company Inventis, which allows you to interact and remotely conduct a complete hearing assessment in patients in real time. This technology includes a diagnostic function via videoconference. The Satellite program interface is shown in Fig. 5.

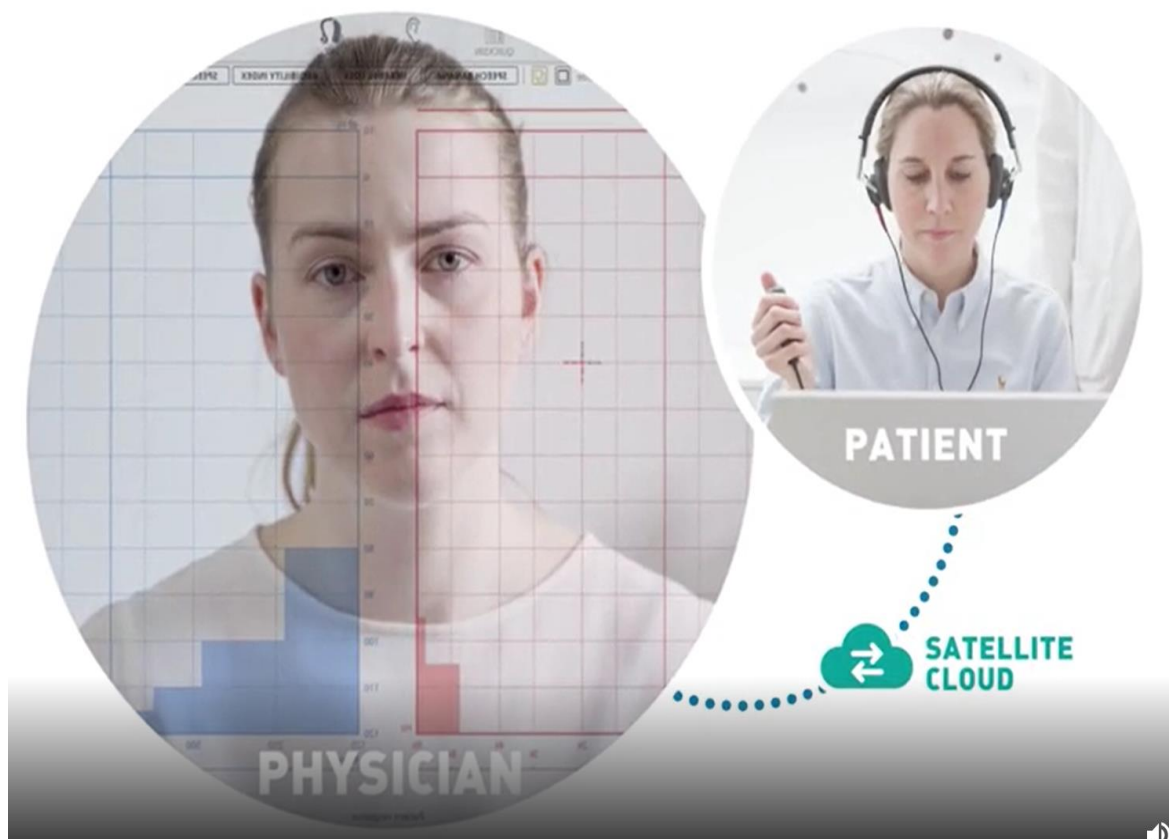


Fig. 5. Satellite program interface

The SpiroCloud software is an IT product of the Turkish company Inofab Health. Shirocloud is a cloud-based web dashboard for monitoring pulmonary functional tests and other results from SpiroHome Personal and SpiroClinic spirometers. Thanks to our cloud technology, all results and patient records can be easily managed digitally on a web platform. The SpiroCloud program interface is shown in Fig. 6.

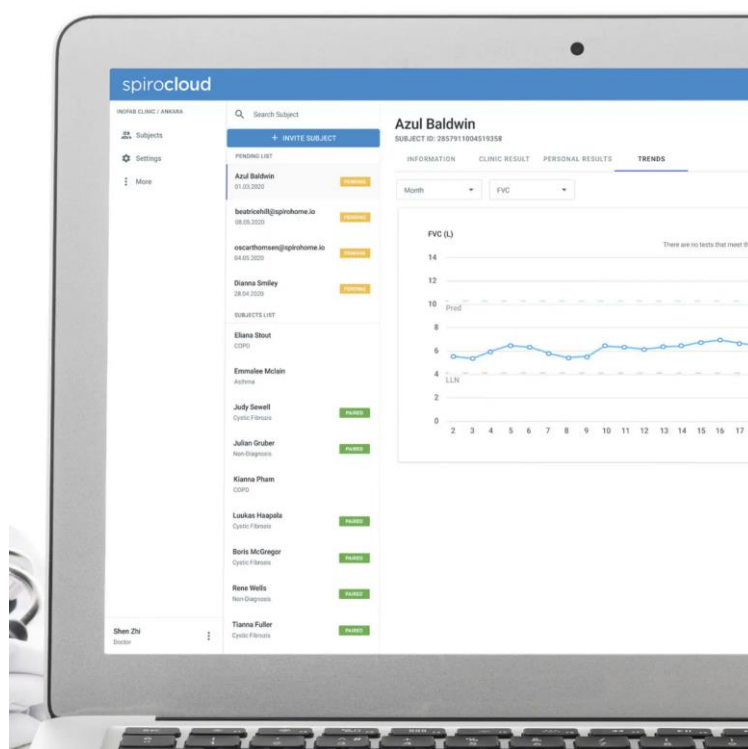


Fig. 6. SpiroCloud program interface

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