

SOFTWARE AND HARDWARE SYSTEM INDIVIDUAL MONITORING OF FUNCTIONAL AND ADAPTIVE HUMAN RESERVES

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The main feature of living in a modern megalopolis is constant exposure to complex multi-stress psychological, social and technological impacts. The consequences of such impact often include prenosological symptoms of health disorder: disorders in circulatory system, fatigue, low work efficiency, irritation, sleep disturbance, excess weight or being underweightweight, headaches etc.

As a result of the mobile devices boom, more and more people use them for health purposes, for regular monitoring of their own health data. Familiarity with new technologies allows many people to change their general approach to maintaining personal health state. Researchers say that about 21% of people who maintain healthy lifestyle, use information technologies for this purpose. Health applications and services are the most quickly growing industries in the IT-sector today. Venture funding of this segment increased by 20% from January 2012 till September 2012. Such growth is defined by the increase of consumer interest in wellness practices and medical support in general.

The main goal of the project is creating software and hardware for individual monitoring of the circulatory system, including applied services of diagnostics based on the sequence of R-R intervals, blood oxygenation level and respiratory function.

Such complex will allow tracking and correcting if needed the psycho-emotional state of a person and will monitor functional and adaptive human reserves based on the use of mobile devices, sensors and Internet services.

The purpose of the project is also creating feedback between the system and users. Each user has a set of measurement sensors, connected to a mobile device (smartphone or portable computer). The mobile device in combination with the sensor creates an extension of basic abilities of the system client. All data is accumulated by the device for its further storage, processing and analysis, and developing of recommendations for correction of the user's health state.

The scientific innovation in the proposed solution consists of using modern mobile and Internet technologies that will allow the use of abilities and a culture of maintaining a healthy lifestyle, especially in the sphere of leisure and ways of thinking, satisfying natural psycho-emotional, cultural and physiological needs, and directed to saving and strengthening human health harmoniously and overall.