

Home-care Robot for monitoring and detection of critical situations

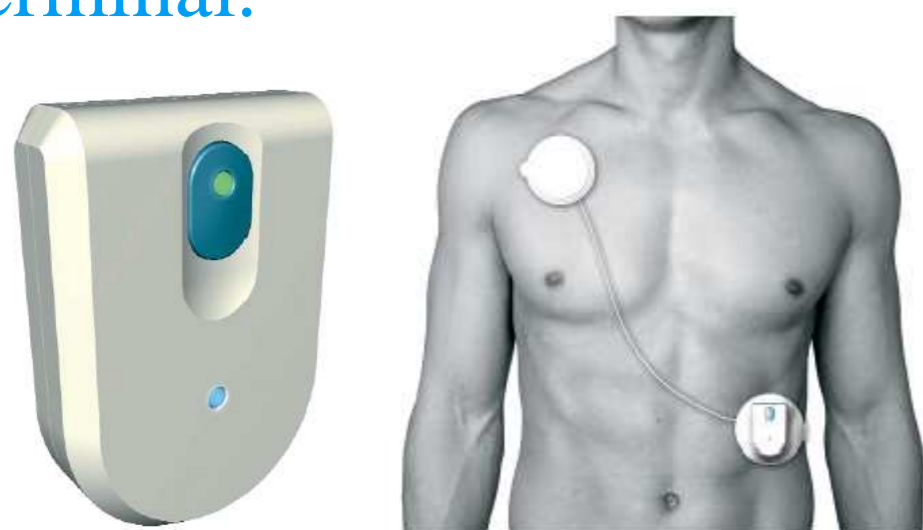
Description: Robo M.D. is one of eight sub-projects in the Interreg IVC project Innovation 4 Welfare. A home-care robot for monitoring and detection of critical situations is developed to improve quality of life of risk patients like elderly people and also to reduce costs of home care-systems. This robot allows a monitoring of risk patients without the need of a caregiver and thus provides important benefits for this class of patients giving them the opportunity to stay at home independently.

System Architecture: The system mainly consists of three parts which are communicating over a wireless connection to guarantee mobility of the user.

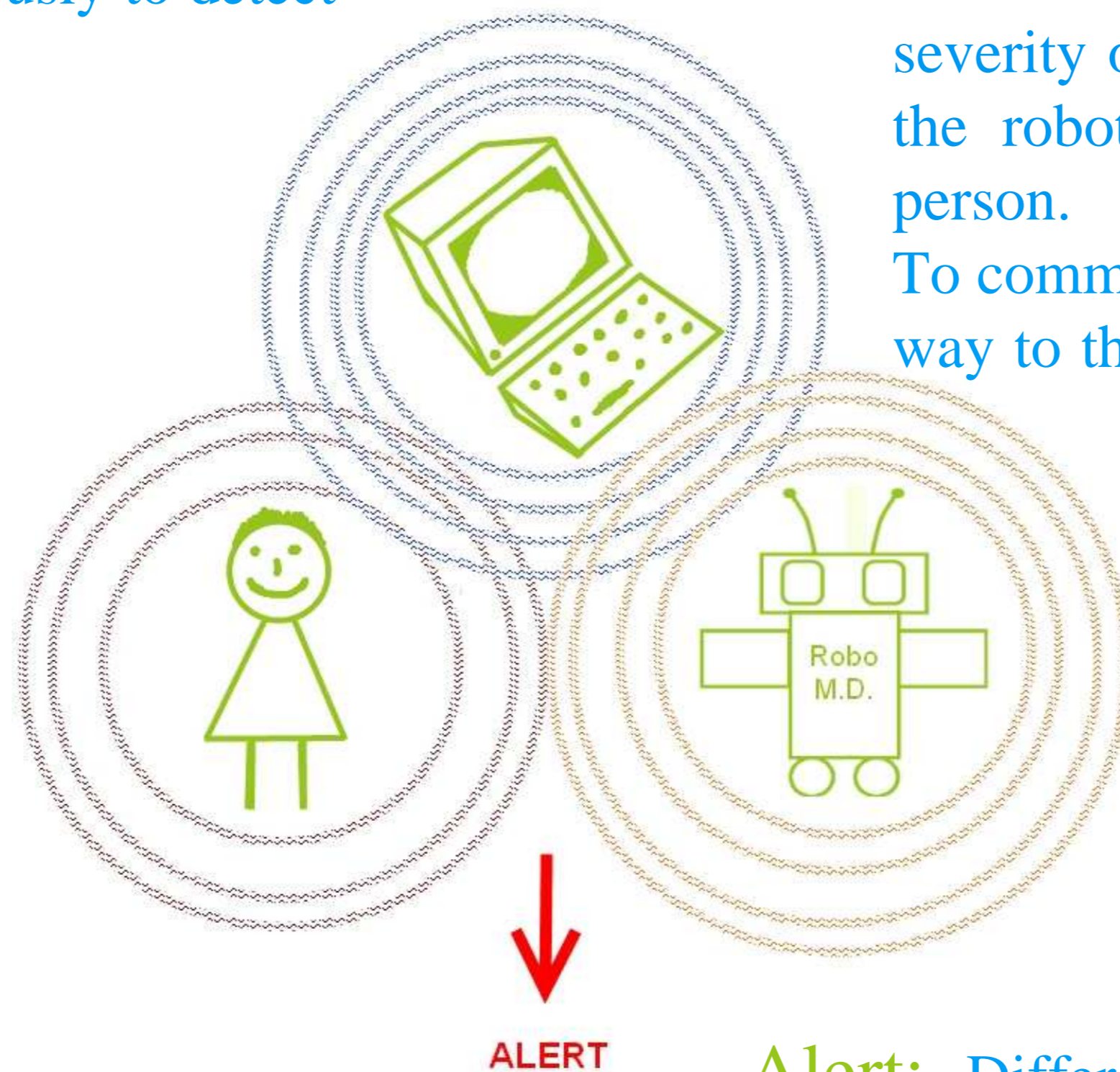
Terminal: Stores the measurement data and analyzes the data continuously to detect critical situations such as:

-) Fall
-) Acute heart attack

Monitored user: The monitored person has to wear an unobtrusive sensor. This sensor carries out two roles: measuring vital signs and sending them to the terminal.



The VS 100 device of the Company Intelesens provides single lead ECG, skin surface temperature and 3 axis acceleration.



Robo M.D.: In order to avoid false alarms the robot attempts to establish a communication with the user with the aim to assess the severity of the situation. To accomplish this, the robot has to find a way to reach the person.

To communicate with the user and to find the way to the patient the robot is equipped with different types of sensors and actuators. For instance video camera, speakers and microphone. During daily life the sensors can be turned off, which gives the user the feeling not to be observed, thus increasing the user's acceptance of the robot.

Alert: Different alerts will be triggered depending on what kind of episode occurred. E.g., in a fall event it might be enough to call a neighbour. However the emergency medical doctor has to be notified in case of an acute heart attack.

Participants

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Interested Parties:

