## **Virtual Assistant for Monitoring Health Indicators**

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**Abstract.** This article briefly discusses what preventive medicine is and the basic problems of medicine nowadays. After analyzing all the problems, a solution has been found to help people take better care of their health through information technology in general and echo-devices apart. Also analyzed the main customer segments, key competitors and cited UML diagrams.

Keywords: Healthcare, Preventive Medicine, Echo Device.

## 1 Introduction

In the 21st century, preventive medicine began to develop rapidly. Preventive medicine is an active prevention, notification and preservation of disease. Regular examinations and daily health monitoring will not only help you identify and prevent them in time.

The main problems of modern medicine are:

- late diagnosis;
- low level of development of preventive medicine (at present day);
- human negligence for one's own health;
- insensibility to chronic illnesses.

## 2 Solution

After analyzing of main problems and considering the rapid progress of information technology and the popularization of echo-devices (Alexa, Google Home), one of solutions is controlled by voice virtual assistant for tracking pressure, pulse, temperature and other indicators.

A virtual assistant is the home's best helper for taking care of yourself or your loved ones. After all, he will not forget to ask about the quality of slumber, pressure and pulse, keep in mind all indicators, analyze and report you if there are any negative changes, if so, he urgently recommends to visit a doctor.

The main customer segments are doctors, people with chronic illnesses, people which taking care of their health and active people with a busy lifestyles.

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The main competitors are nurse, who comes to care, and fitness bracelets already existing on the market. Considering competitors, we can conclude that the virtual assistant is much more reliable and secure, since it is always near "at hand" and executes a wider range of functions.

Below are diagrams of all users interactions with the system and the basic activities modeled using UML, namely: Use Case Diagram and Activity Diagram.

The Use Case diagram (see Fig.1) shows the main actors, including User, Echo-Device, Doctor, Skill and use cases, which show the basic interactions with the system.

The activity diagram (see Fig. 2) shows the basic activities that will be performed by the user in the system.

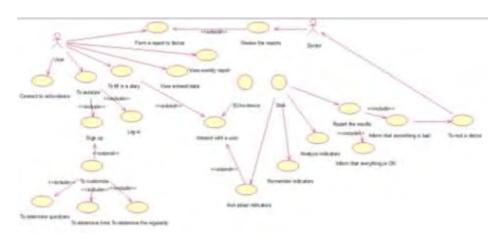


Fig. 6. Use Case Diagram.

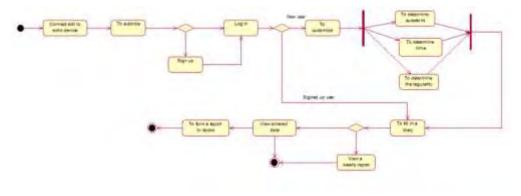


Fig. 2. Activity Diagram

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So, the development of preventive medicine is one of the main sections for preserving and maintaining human health. It is easier and cheaper to prevent the disease than treating it. The illustrated solution will help to monitor your health every day and help you identify an aggravation to visit your doctor in time.

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