

Healthcare's digital assistants

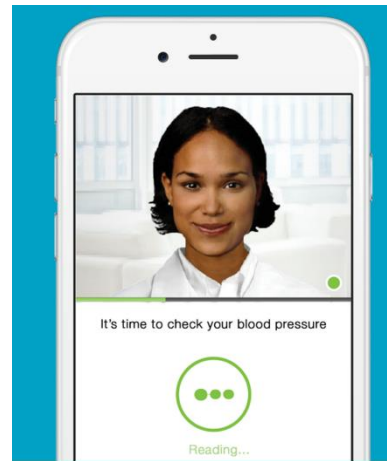
Introduction

Digital assistants are going to enable basic healthcare tools to the greater part of the world which is excluded from the regular Health service due to poverty. Through smartphone apps it will be able to make simple (and with time more advanced) diagnoses and recommend medicines or guide to the certain specialists. Like "Siri" or "Alexa" it is going to talk to us in a pleasant and polite way, interview us about the symptoms and (based on the neural networks algorithms or other artificial intelligence) choose whether to send us to the oncologist or prescribe paracetamol.

Benefits and threats

The most significant assets of HDA (Healthcare's digital assistants) are:

- availability
- low cost
- speed of the diagnosis



These benefits will solve medicine nowadays greatest problems. Although having so many spectacular advantages, HDA have one great weakness. They can only ask patients about their symptoms, they cannot test our blood or X-ray our body, which makes whole diagnosis much less effective. Nevertheless, HDA have huge potential in making basic Healthcare more accesable and maybe even relieving doctors from some part of work, which can be done automatically.

Problem with application on a global scale

Healthcare's digital assistants need a tremendous amount of data and strong, precise software. Creating data flow channels (from federal and local healthcare agencies) and making neural network models better is the crucial point to the development of artificial assistants [1]. Even if we already have enough data and programs satisfactorily enough, psychological aspect of integrating HDA is not irrelevant. Society do not trust apps when it comes to such important aspect as health, so persuading and promotion of such souldtions is another challenge we will face.

Potential

With the development of technology, HDA's with portable medical facilities (for example portable X-ray, or portable ultrasonography) will be able to turn medicine closer to the patient than ever before. Autodiagnosis with the help of advanced HDA's and accessible facilities is going to be the future of Healthcare in the next 20 years.

References:

[1] Sezgin, E., Huang, Y., Ramtekkar, U. et al. Readiness for voice assistants to support healthcare delivery during a health crisis and pandemic. *npj Digit. Med.* **3**, 122 (2020).

[2] P. M. Martins, J. L. Vilaça and N. S. Dias, "A study about current digital assistants for healthcare and medical treatment monitoring," 2021 IEEE 9th International Conference on Serious Games and Applications for Health (SeGAH), 2021, pp. 1-7