Analytical technologies and applications

SIX CASE-BASED RECOMMENDATIONS FOR DESIGNING MOBILE HEALTH APPLICATIONS AND CHATBOTS

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BACKGROUND-AIM

Over the last decade, the use of wearables and mobile applications for the monitoring of patient's biological parameters, lifestyle, medical adherence or enrolment in clinical trials has tremendously increased. However, recommendations for the design of such applications are still missing.

METHODS

This work builds on observations from three recent projects aiming at developing digital applications, one for the empowerment of patients with diabetes, another one for the engagement of patients in clinical trials and one centered on a chatbot to drive salivary cortisol testing.

RESULTS

We identified six important recommendations:
1. Build a multidisciplinary consortium of partners (medical experts, IT specialist, project and UX manager) where each member represents a specific discipline, relevant to address the clinical needs and to lead the project development.
2. Involve patients continuously throughout the project lifecycle and adopt an apprentice posture while meeting them. Encourage patients to share their perspective about the product and disclose insights about their needs and expectations. However questionnaire biases must be avoided.
3. Do not substitute consortium partners for real patients. Admittedly, all partners have an advanced knowledge of the problem but they lack perspective on the real needs of patients. Moreover, they cannot restitute exactly users' mental model, behavior or attitude.
4. Develop an application with few "call to action" but predict evolutions. Good user experience (UX) design is key for product acceptance. UX design requires technical and scientific staff and expertise in human-computer interaction, human factors or user-centered design.
5. Integrate UX methods and artifacts throughout the project lifecycle. UX methods can help significantly to reduce development time and costs, whereas UX artifacts can efficiently support communication within consortium and patients.
6. For educational tools, the development and inclusion of evidence-based and peer-reviewed content is mandatory to improve the literacy of users. The use of artificial intelligence could help patient in his pathology's understanding.

CONCLUSIONS

Our recommendations should help the development of efficient applications and chatbots.