

TUMEDICINA

DESCRIPTION OF THE TECHNOLOGY

Often polymedication patients make mistakes when taking their medication. These mistakes usually involve confusions in the drugs themselves, the administration of their correct dose or forgetting to take a drug, any of which may have severe consequences. In order to avoid them, patients help themselves: using pill boxes, associating a drug with their meals and/or making a note on the drug box of the dose and therapeutic indication.

TuMedicina is an application for smartphones and tablets as an electronic prospect-like (message voice system and codes scanner) that allows the self-management in the taking of medication, supporting its use to improve the safety of patients, especially in situations of polymedication and mainly in elderly patients.

The app transforms the ean-13 (barcodes) and Quick

Response codes (QR) into verbal instructions. All you have to do is place the medication box on the screen of the mobile device to detect the barcode and it issues a voice message with the name and utility of the medicine. A menu appears in which the patient can select the information that he or she wants to hear next (what is it for, when to take it, how to take it, cautions, next physician visit and expiration).

The information about each medicine can be adapted to the individual preferences, therapeutic regimen, dosage or lifestyle of the patient and can be modified as many times as desired. It has two different app areas: the caretaker area, with restricted access and where the information about the medicines is introduced; and the patient area, where patients access such data.

MARKET APPLICATION SECTORS

TuMedicina may be especially useful for elderly patients being looked by different persons, whose schedules and homes can rotate and who do not always accompany the patient to the physician. Therefore, they don't receive any direct instructions about the adequate use and dosage of the medication to be taken.

On the other hand, it can be a support tool for the community pharmacists, who could introduce information to the app and contribute to the patient's safety. In addition, it could help the pharmacists to manage their own stock.

TECHNICAL ADVANTAGES AND BUSINESS BENEFITS

The application has the following advantages:

- Easy to use. The application is able to scan the code of the medicine boxes, using both the rear camera and the front camera of the tablet or smartphone, so if the front camera is used, the device can be placed on a table and the user only has to pass the medicine box on it (similar to a supermarket cashier scanner).
- Interface design adapted to the target population, generally of advanced age (simple menus, with few commands, big letters, bright colours, few words, etc.).
- Safety. It allows the self-management of the medication in a safe way. For example, in the occasions in which the patient may have doubts because the usual format of the medication is changed, ensuring that a medication is not used when it is not indicated. Restricted access allows us to leave the patient's area and enter the caregiver's area, where all the data associated with a medication can be stored or modified. The caregiver can also check the current recordings.
- Simplicity. As soon as the app is started, it begins a code search. Once the code is detected, the app enters the patient area and allows the patient to hear the different data fields associated with the medicine.

CURRENT STATE OF DEVELOPMENT

The suitability, relevance and effectiveness of the application have been evaluated positively by an observational study among elderly people who take 5 or more drugs daily.

TuMedicina is available in both English and Spanish for devices with IOS platform for its higher update rate, although it is intended to develop the Android version. It can be downloaded for free at Appstore: <https://itunes.apple.com/sv/app/tu-medicina/id838432047?mt=8> where its utility, functionality and proper operation have been technically verified, according to the strict review of Apple.

INTELLECTUAL PROPERTY RIGHTS

The ownership of the app rights belongs to FISABIO and the Miguel Hernández University of Elche (UMH).

COLLABORATION SOUGHT

The group that presents this App combines their experience in the healthcare and academic fields. They have knowledge

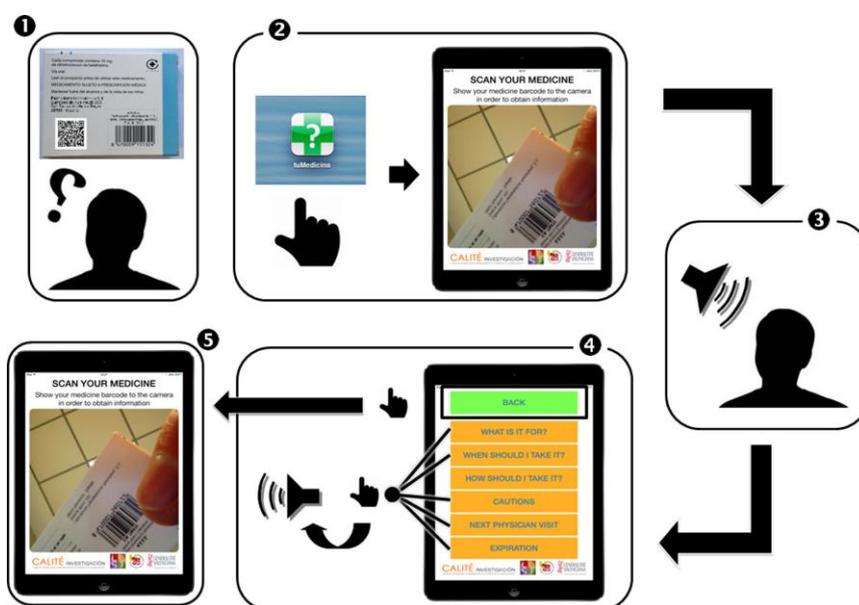
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and skills to adapt the app to the specific needs of the company or to provide technical assistance for use. Recently, the team has developed other apps on health related to patient safety or adherence to treatment.

Collaboration is sought for the development of the Android version and the translation into different languages of both versions. Moreover, it is intended to combine these information systems through codes and voice messages with alarm systems.

The development of the application may be of interest in the field of community pharmacy, warning the patient of important dates, such as the collection of new medication and the time of taking the drug, as well as for the management itself by the own pharmacist.

RELATED IMAGES



CONTACT

José Joaquín Mira Solves
Clinical Psychologist. University Professor
Tel.: +34 606 433 599
E-mail: jose.mira@umh.es

Innovation Area
FISABIO
Avda. Catalunya, 21 46010 València
Tel. +34 961926351
E-mail: innovacion_fisabio@gva.es
Web: www.fisabio.es