

# MEDICAL INFORMATION SYSTEM FOR SELF MONITORING AND DISTANCE CONSULTATION

„Patient's Diary“  
/Article/

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## Abstract

Medical information system for self monitoring and distance consultation is an application built as a mobile diary for remote connection of patient and doctor. As anyone who uses the system can both lead their own diary and have constant information about how they felt, and send these data to a doctor for consultation. Another option offered by the system for self monitoring is an Internet connection, allowing instant information about a symptom or whatever it was.

## 1. INTRODUCTION

The system - "Patient's Diary" was written for the mobile operating system Android (maintained and developed by the Open Handset Alliance consortium, led by Google Inc), using different applications specially designed for this operating system.

## 2. SYSTEM INTRODUCTION

The main menu of the application, from where the user chooses sub-menus.



Fig. 1. Main interface of the system

The next step is to choose the appropriate sub-menu (each person chooses which menu to fill, according to the disease). As each sub-menu is different from the rest, it depends on the underlying data to be tracked as a disease.

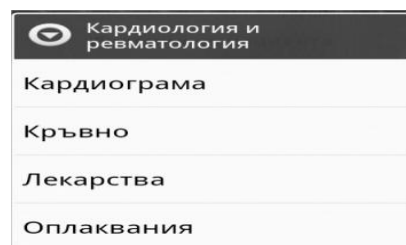


Fig. 2. Example: menu „Cardiology“

Table 1. Functionality of the system

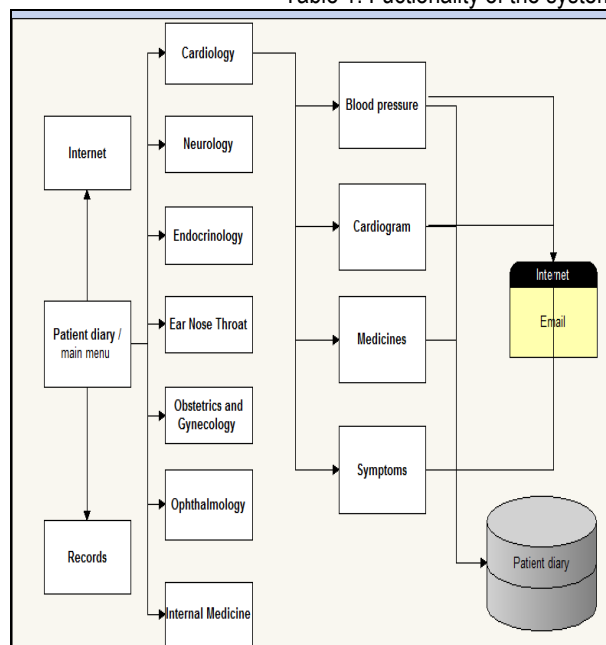


Fig. 3 presents the main menu of the application. From the main menu we go to the next menu as each menu meets the relevant field of medicine. The latest "Internet" gives possibilities for searching diseases and symptoms on the internet.

Each of the submenus has the functionality of recording in the database and an Internet connection, but the nature of the structure as input data varies according to the individual diseases.

For example I gave the menu "Cardiology", which in turn has four submenus (this is individual for each menu). The above figure shows the functionality of the submenus. Every one of them has the option to record in the database (similar to private patient card). And a part of the submenus have the option to send the data to email the doctor.



Fig. 4.1. Interface of the submenu



Fig. 4.2. Interface of the submenu

#### 4. BUILDING THE REMOTE CONSULTATION



Remote consultation

The aim of the application is embedded in the idea that anyone who has any health problems can lead personal "diary" and sends the data to the doctor without having it go to a hospital or doctor's office.

„Patient's Diary” to some extent realized above idea, it allows sending of symptoms, blood pressure, cardiogram, etc. to the Internet. As enshrined algorithm send all or just a cardboard parts of it, according to the wishes of the patient or the doctor. The algorithm is not limited to connection patient - doctor, but in the future will allow doctor - patient and preservation of the recommendations of the doctor to be kept as a separate record in the application, and patients always have access to them.

Another important feature of the application is direct connection to the internet and possibility for a person immediately to check their symptoms online. As completely separate menu that offers list of options with different diseases and issues that can search the Web.

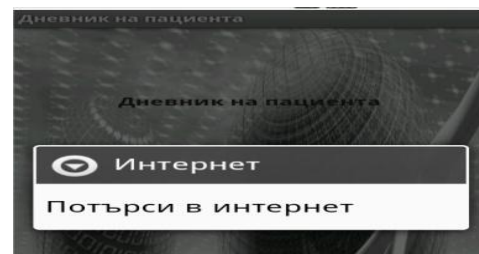


Fig. 5. "Internet" submenu

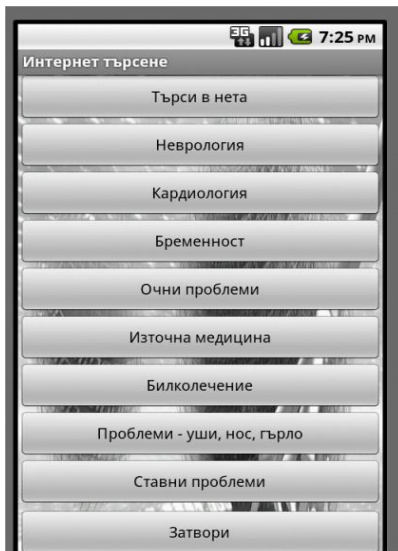


Fig. 6.1. Separate menu with list of possible choices

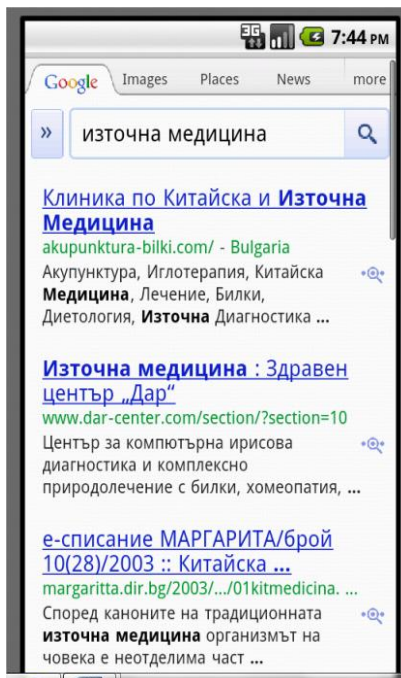


Fig. 6.2. Separate menu with list of possible choices

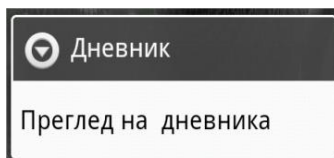


Fig. 7. Sub-menu "View diary"

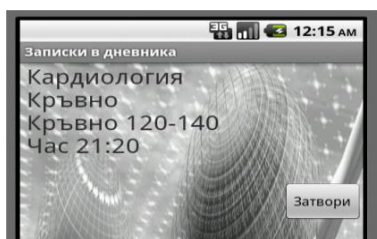


Fig. 8. The layout that displays the available records in the application

## 5. CONCLUSION

1. As a comparison between the „Patient's Diary” and existing medical systems, „Patient's Diary” is targeting the patients, the application is built to be used by the patient, to help both sides patient-doctor.

2. From the research that I've done, for similar to "Patient's Diary" applications from the ranking of the top 15 medical programs for mobile phones, the first five of these are directed to work with the medical staff and like my application was not elaborated

3. The system is friendly and flexible, used for distance monitoring if the patient by himself, using GSM.

4. The number of different parameters that are been monitoring depends in the patient illness and can be increased.

## References

- [1] R.Meier, "Professional Android Application Development", Wrox, London, 10-08.
- [2] R.Rogers, J.Lombardo and Z.Mednieks, "Programming with the Google SDK", Shroff Publishers & Distributors Pvt Ltd, 01-10