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A Mobile Application For Users Of Medical Services

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ABSTRACT

In this article the issue of creating software for digitization of medical services to the , population in the Republic of Karakalpakstan is considered. As such software, a mobile application for smartphones, which is now widely used by our people, is offered. The software developed by authors has a database of polyclinics located in Nukus and makes an electronic queue/appointment for the reception of the patients by the chosen doctor. The program has shown good results when tested by users.

KEYWORDS

Mobile application, health, medicine, electronic queue.

INTRODUCTION

Today, information technology is used in every aspect of our lives. At the same time, the development of mobile devices and smartphones have made it possible to process the reception and distribution of information via mobile phones. The installation of the operating system on mobile phones, the use of Internet technologies allows to perform many tasks remotely through mobile applications. Nowadays, it is difficult to imagine our society without mobile smartphones. For this reason, the development of mobile applications is also a topical issue for programmers today.

Information technology is also widely used in healthcare. This means that with the help of information technology we can digitize and automate the work process in institutions providing medical service [1]. There are a

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number of information systems for the provision of electronic services, including the health care system, and how could information technologies help to solve problems of patients waiting in line at the clinic for hours?

An example of this is the automated information system "e-registratura", which is a single electronic registration and appointment with a doctor via the Internet. However, the issues of providing centralized information to healthcare enterprises, such as clinics and dentistry, as well as making appointments via the Internet, remain open, and the development of an information monitoring system and an electronic queue to medical institutions is relevant.

RESEARCH METHODOLOGY AND RESULTS

The authors propose to solve this problem with help of an information system that monitors the online queue of patients or consultants of medical institutions under the Ministry of Health of the Republic of Karakalpakstan. The system includes data on all private medical institutions in the region, which will be entered into a single electronic database. This achieves the goal of uniting all medical institutions into a single electronic system and providing round-the-clock registration for an appointment with a doctor.

The system serves the registered user through the website and mobile application. The medical information entered by the user is stored in the system database and is the basis for creating a medical certificate and a user's personal account. Suppose that data is entered in the form of a file, and information in this format is entered into the system using a scanner or a mobile phone camera, the patient's previous medical diagnoses are recorded there, a diagnosis is made, and advice is given on methods of treatment and medication.

To create a system, first of all, information about medical institutions is studied, and on its basis a database with addresses of medical institutions and information about doctors is created. The system can also integrate the ability to make electronic payments for medical services. Patient appointments are made online. This includes the exact time when the doctor will see the patient, and this saves the patient time by eliminating the need to stand in line for hours at the facility. You can also link the location of institutions to geolocation, which will allow you to see the location of a medical institution on a map and show how to get there.

This system allows the user to provide feedback on the results of the visit to the doctor. In this case, the patient records his opinion on the medical diagnosis and consultation, and these comments can be found on the doctor's page at the institution. In addition, the system allows you to communicate with doctors via online chat. After the doctor makes the diagnosis to the patient, remote counseling is provided.

There are 3 different types of an electronic doctor's appointment queue:

- Through the website of the system
- Via mobile application
- Via service terminals.

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The patient's request for an appointment with the doctor is sent to the management server computer where the database is located. After the queue operator receives the request and places it in the queue, the patient's name appears on the board at the medical facility. In this case, a notification is sent to the patient's mobile application or his e-mail. After receiving the notification, the patient can view the queue in the mobile application or on the website.

After the launch of the system, electronic terminals will be installed in medical institutions and public places. If you do not have access to the mobile application and website, you can make an appointment with a doctor through these terminals.

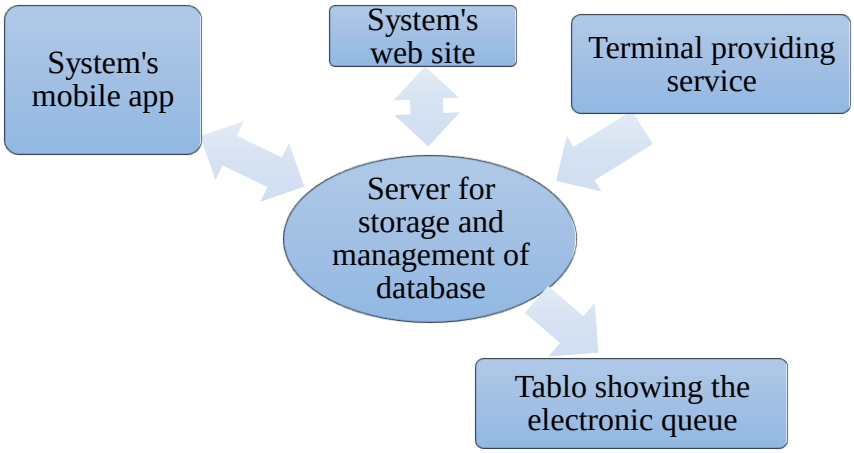

Fig.1. System's work principles

We suggest to save time of patients by using a special mobile application in their smartphones. New patients are recorded in a queue via this mobile app. The program monitors the queue and the patients can visit the clinic at the time of the turn which is shown monitor.

The e-queue is a mobile application, which allows you to subscribe to the receptionist remotely. The purpose of creating this program is to save patients time and create convenience for them. The electronic queue mobile application is developed in the Android Studio [2]using the Java programming language[3], the database is located in Google Firebase cloud service. This cloud service has a real-time database and user interface. The center serves to synchronize data in real time, which means that users can read and edit data from the database in real time. This process is only one, but many users use the database simultaneously.

The following information is included in the subscription menu:

- The hospital is selected;
- Doctor is selected;
- Username;
- User phone number;

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- Date and time for appointment.

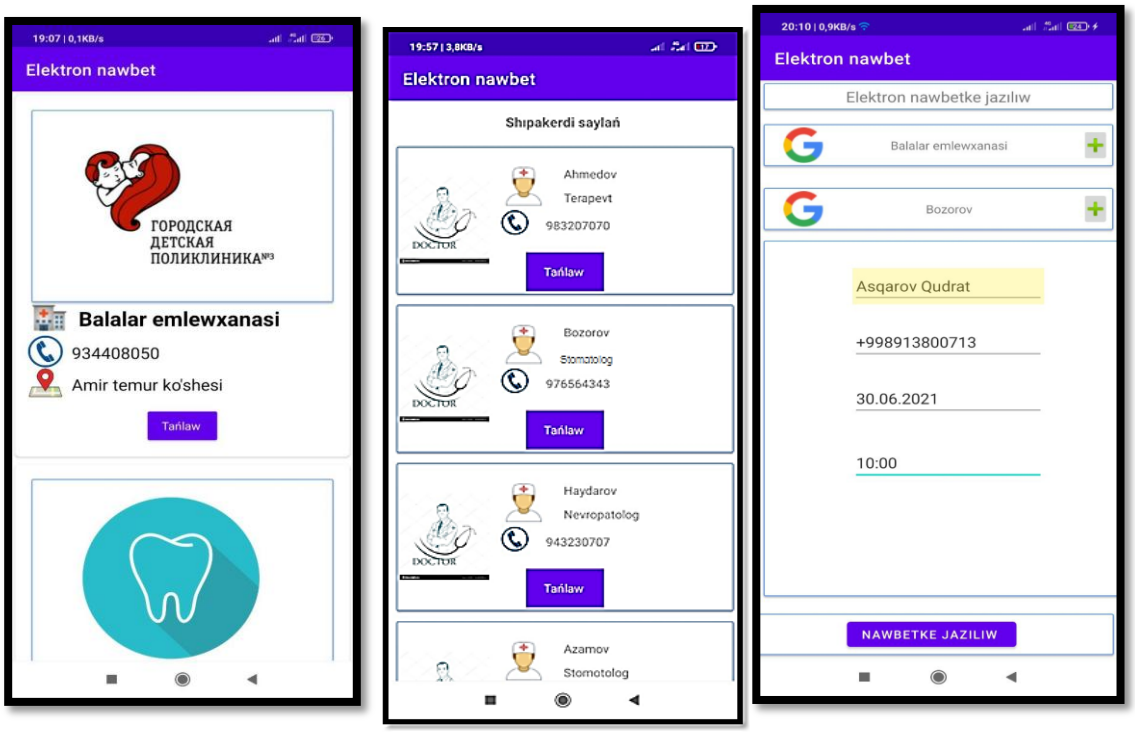

Fig.2. Windows of the application" selection of the clinics and the doctor, the result of making an appointment

The application database is the NoSql database [4]. As the database is used in real time, the information about the clinics can be changed and a new clinic is added. Each time you enter new information, the program synchronizes updates from the database. Once a clinic has been selected, the doctor also can be selected. After a doctor's appointment, the patient is removed from the queue.

No additional functions are included for the program to run in test mode. In future the following functions will be added to this program: search the nearest clinic by map, getting online consultation with the doctor, rating of clinics and feedback from users etc.

CONCLUSION

In conclusion, it should be noted that the developed application helps not only to save patients' time, but also to provide emergency medical assistance in a timely manner.

REFERENCES

1. Semenov A.S. Development of an electronic registry to automate the appointment with a doctor. Microsoft technologies in the theory and practice of programming [Electronic resource]: a collection of reports of the VIII All-Russian scientific-practical

conference of students, graduate students and young scientists (Tomsk, March 23-24, 2011)

2. David Griffiths, Don Griffiths. Head First. Programming for Android ".– PITER, 2018.

3. Herbert Schildt. Java: A Beginner's Guide.

4. Адам Фоулер. NoSQL For Dummies.