Mobile CRM-system application

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ABSTRACT

The most popular CRM-systems and existing mobile applications for them have been considered. Requirements to the created program has been created. The architecture of the application and its first version has been developed. Conclusions about the work done have been made.

Keywords

CRM-system, Xamarin, mobile applicaton, cross-platform, programming

1. INTRODUCTION

The Customer Relationship Management System is one of the most popular systems in business sphere. CRM-system is intended to automatize business processes. One of the processes automatized by it is the creation of the report on a call between the employee of the company and the client. Workers often forget about this routine process.

However there are situations when the employee interacts with the client out of working office. For such cases, companies which develop CRM-systems have created mobile applications. Nevertheless, not all applications can give a full set of opportunities of initial system.

The purpose of this article is consideration of the existing mobile applications for CRM-systems, the analysis of their functionality in the field of automatic registration of communication with clients, and also making a solution which would be capable to add to any of already existing offers.

2. MOBILE CRM-SYSTEMS REVIEW

As the mobile device has all necessary information of calls, it is desirable for the application to automatically register a call in CRM-system. It is necessary to carry out the analysis of applications of popular systems. Analysis purpose is to reveal the existence of the module of automatic registration of the calls connected to the client base of the company.

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To find out the existence of this module for the chosen set of systems the following operations have been performed:

- The account of the user was created.
- The contact with the known phone number was added.
- The application of target CRM was installed on the smartphone with Android OS.
- A call from the mobile application to the registered contact was made.
- A call from the registered contact to the smartphone with the installed application was made.
- The Events/calls tab and the existence of the registered call in it was checked.

As a result of the experiment the results presented in table 1 have been received

Figure 1: Applications possibility

	Possibility of a call from the application	Automatic call registration in system
Мегаплан	+	-
amoCRM	+	-
Bitrix24	+	-
bpmonline	+	-
Zoho CRM	+	-
FreshOffice	+	-

3. TASK DEFINITION

It is necessary to create a mobile application which main function would be ability of monitoring the calls on the mobile device. The application has to react on incoming and outgoing calls. Upon termination of a call the application has to register a call in third-party CRM-system.

To communicate with CRM-system application has to be able to:

- make authorization in system;
- obtain information on clients from the system server;
- create a call event and fill in the information about it.

In the design of the application it is necessary to provide such approach which would allow using the received program code for work with different CRM systems. In other words, the application has to be easily transferred to a different Customer Relationship Management System. Changes made to the application for the use with new systems have to be minimized.

Because Customer Relationship Management System is designed for team, all team members have to have equal capabilities. However, it is the most possible that employees will have smartphones with different operating systems. Thereof the application has to be cross-platform. The possibility of the application assembly to different mobile operating systems is necessary

4. APPLICATION ARCHITECTURE

On the basis of objectives it is possible to design architecture of the application

The architecture of the application is influenced by two fundamental factors:

1. the Application has to be cross-platform for a mobile operating system.
2. Application will be used with different CRM systems.

The first factor divides architecture of the application into two parts. The first part is platform-independent and can be realized by means of a cross platform framework. The second part is the code written with aiming at a certain operating system. The second part has to be as little as possible to exclude realization of the same methods repeatedly.

4.1 Platform-dependent part

In a platform-dependent part of the application two functions have to be realized.

The first function is an application launch in the background. The background mode is necessary so the application could monitor the events related with calls even when the application is closed. The incoming and outgoing calls can be made in the way, habitual for the user, âĂŞ from the notebook. These calls also have to be processed by the application.

The second function is related to a call event. The application has to be able to react to an event of the ending of a call and to obtain information about it. After obtaining the necessary information, the process of checking the base of clients for the phone number has to be initiated.

4.2 Cross-platform part

First of all, the graphic interface belongs here. The chosen cross platform cursor of Xamarin allows creating the graphic interface common for all platforms. During the compilation of the application under a certain operating system also the graphic interface will be compiled.

The main logic of the application belongs to a cross-platform part. Further some tasks which are carried out in this part are presented.

- Data read-out from the fields filled with the user.
- Call of authorization function.
- Saving correct data of authorization and, further, verification of that data.
- Request of the list of clients, its display in the graphic interface.
- Comparison of phone number, from which a call was made, with numbers from base of contacts.

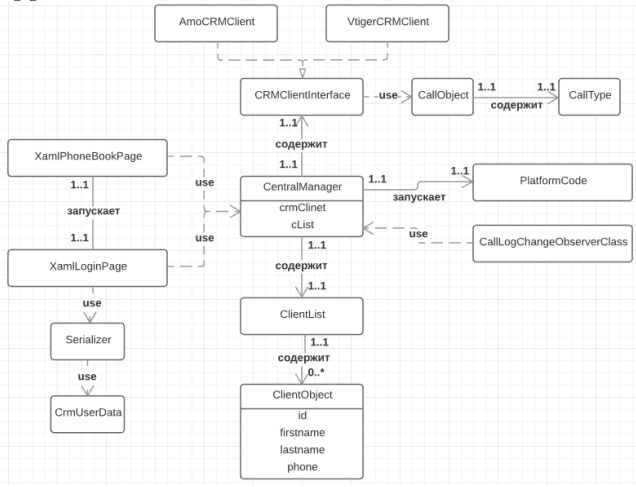
The architecture of the application is presented on picture 2.

Figure 2: Applications architecture

5. DEVELOPING

The application, which has been created, is satisfying the requirements described in problem definition. On picture 3 the chart of classes of the created program is represented.

Figure 3: The diagram of classes of the developed application



Classes of the application can be divided into four main groups.

The first group of classes is displayed in the left part of picture 3. These are the classes which are responsible for the graphic interface and interaction with it. The second group

is located on the top of the picture and unites the classes interacting with CRM systems. The third group of classes is responsible for a platform-dependent part of the application and is on the right part of picture 3. In the central part of the picture classes of the main logic are represented. Their main task is to realize logic of operation of application and to provide interaction of other three parts.

6. CONCLUSION

In this research the analysis of mobile applications of the existing CRM systems is carried out. It is established that the majority of systems are not able to perform function of registration of the incoming and outgoing calls which are carried out from the device. Thus, the subject of this work was very urgent.

After carrying out the research part requirements to the final application have been created. Proceeding from requirements, the main approaches to creation of the program have been allocated and its architecture has been designed. As a result of development, the cross-platform mobile application which is ready to work has been received. Testing has shown that the program answers the minimum requirements put in a task. To conclude, it is possible to say with confidence that this project has huge potential for development, and would be relevant in the field of CRM-systems.