INFORMATIC SYSTEM USED IN TELEPHONE FRANCHISES

SIVET

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Abstract: *The paper describes an efficient informatics system named SIVET used for making the sell process more efficient in the telephone franchises. SIVET is an application which was planned and implemented in order to achieve the administration from a telephone franchises company. The application was accomplished modular, respecting the principles of programming engineering. The access was done by login with username and password. The hierarchy was done through the rights established in the database for every user. The system allows performing periodic reports regarding transactions and operations. Also, it provides warnings and alarms for preventing the user to do a thing exactly at the moment he needs to. The entire application was implemented in VB programming language and using MySQL database.*

1. INTRODUCTION

Nowadays, franchise business represents the method of making money with the biggest raise worldwide. More than 600.000 of franchise businesses are spread through the American continent, generating gorgeous sales. According to a research made by Franchise Europe, more than 300.000 franchises provide services on the European continent, having a fiscal value estimated around 200 billion $. Certainly, franchise represents the real success business of XX century. [1]

The franchise can be defined like “an opportunity of business in which the landlord of a service or brand product grants the rights of service/product sales to an independent person” [2]

In the current situation, namely that one of a telephone franchise, the aspect in what defines the franchise and the commitments are broadly the same as the global rules of franchise. For example, an independent person who buys a “Vodafone” franchise, earns the right of developing the activity under the name previous specified.

An analysis has revealed that there are programs which have resemblances to my project. These programs are the CRMs (Customer Relationship Management). The resemblance between my project and CRMs is represented by the fact that CRMs also aim the loyalty of customers, providing to the operative a good package of mechanisms through can be stored essential information about the clients. But, the CRMs try to cover a large amount of activities and to do the loyalty of customers globally, which represents a difference between it and my application because mine is a dedicated application.

Studying the market can be observed that the prices for CRMs fluctuate between 5$/month to 343$/month depending on the company which offers de program and also the version of it.

2. PLANNING AND IMPLEMENTATION

SIVET system is represented like an ensemble formed by two applications:

- The application for Databases (MySQL)
- Desktop Application (Visual Basic)

These two applications are compound by lots of modules, every one of them having a well determined role inside of the project. Also, the modules bring benefit for the efficient functioning of the program.

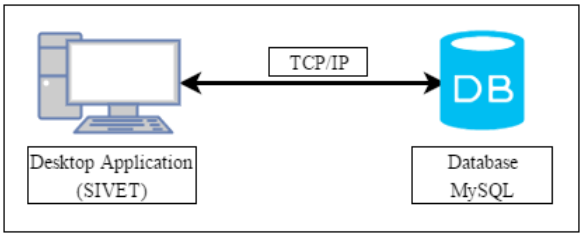

Fig. 1 Block diagram of the system

This scheme can be detailed by describing the principal sections of Desktop Application (SIVET) which is formed from graphical user interface and managing modules. The graphical user interface serves to assure the interaction between the operator who use the application and the mechanisms behind it. This mechanisms answer to every action of the user. Furthermore, can be observed that though the TCP/IP protocol can be allowed the connectivity of many computers on which the SIVET application was installed. The connection can be done in the same time and the computers will connect to the same database.

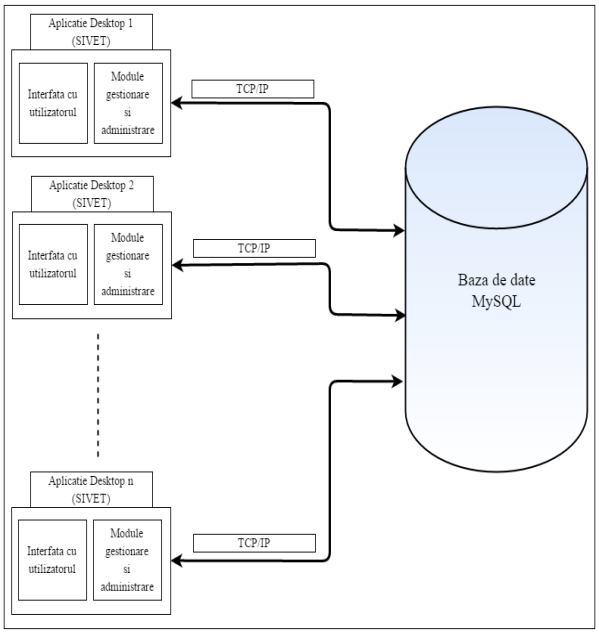

Fig. 2 Detailed block diagram of the system

In the situation of the current project, planning of database represents the planning of a logic scheme which has to exclude the appearance of possible mistakes or abnormalities during the work with database. It also ensure high performances at the moment of operating with it. Thus, a good planning of database will protect the user from unpleasant situations like losing some information or the appearance of the same information for more than one time.

An appropriate organization of data is realized by applying a well defined set of rules to the data arrangement. The scope is that one of reducing the structure complexity by transforming the global structure in low dimension structures which will bring more efficiency and easiness when handle.

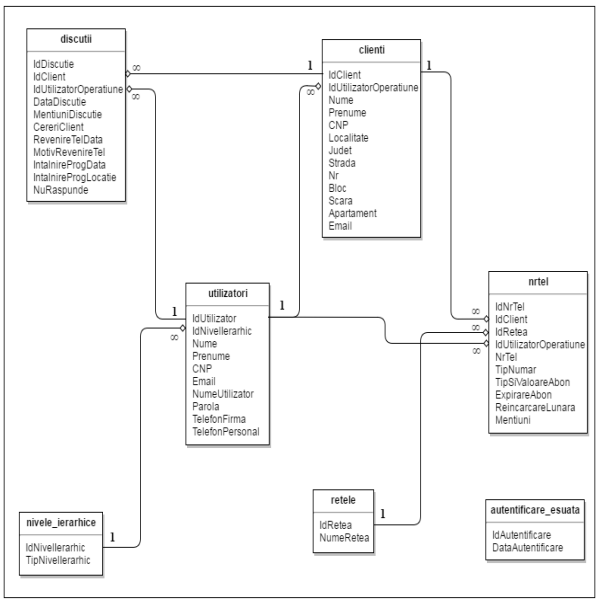

Fig. 3 Organization of tables in database

- "clienti" table represents the table of customers and has the role of keeping track of franchise's customers. In this table are stored data bout the clients like first name, last name, personal identification number, address, email. These information can be questioned by the users (agents or administrators) through the SIVET application.
- "nrtel" table represents the table of mobile phone numbers and has the role of keeping track about the phone numbers. Here are stored various information like the telephone number belongs to whose customer, number type (agreement or pre-pay), the facilities

which every telephone number has (agreement type, expiration date of agreement, top-up amount, mentions). These data can be accessed by all users of SIVET application, as well.

- "discutii" table represents the table of conversations and has the role of keeping track of all the discussions that took place with a namely client. Furthermore, the table keeps information about the customer's requests which are not related with the main request about the facilities on which the customer can benefit on:
  - Can be kept a calendar date for returning with a call and the reason of returning, in the situation of requiring thinking time for choosing the offer. Or maybe, the customer wasn't available for having a discussion on the moment he was called for.
  - Can be kept a calendar date for a programmed meeting with the customer and also the location of the meeting, in the situation when a customer requested it.
  - Can be kept a calendar date with the moment of time when a customer was contacted but he didn't answer. That's because the operator needs to know that he has to call the customer back again.

All these information can be accessed by all the users of application, no matter the hierarchical level they hold.

- "utilizatori" table represents the table which holds information about the users who have access to SIVET application. This table contains information like first name of the user, last name of the user, personal identification number of the user, email, phone number but also the username and the password with which will be done the login. Only the administrators can make searches, additions or updates in this table.
- "nivele_ierarhice" is a nomenclature table which keeps the types of hierarchical levels which can be assigned to an user account.
- "retele" is a nomenctature table which keeps possible phone networks which exist in the market. There networks can be assigned to a phone number.
- "autentificare_esuata" keeps information which have the role to block the access of an user account for a determined period of time if that account had three wrong logins.

SIVET application is formed by six modules. "Modul Gestiune Angajati" has exclusiveness for administrators which means that administrator are the only ones who have access to this module.

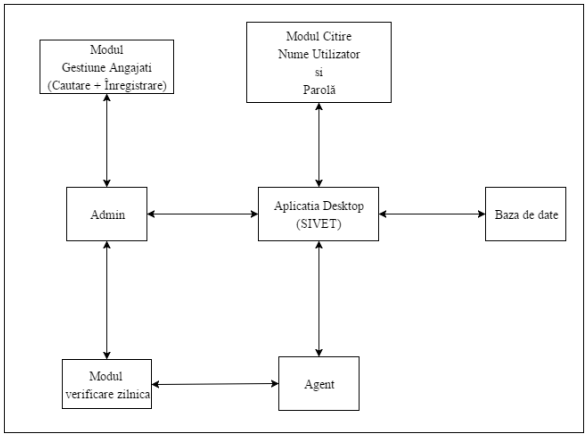

Fig. 4 Organization of tables in database

"Baza de date" module is the module of database and it communicates with the whole Desktop Application (SIVET) and has the role of storing data which are introduced in the database through the application.

"Citire Nume Utilizator si Parola" is the module of authentication. With this module, a user can do the login through introducing the username and the password. In this module is verified the level of hierarchical level. If the username and the password were introduced correctly, the application allows the access to other modules. If the authentication fails for three times then the access to the whole application will be restricted on a five minutes period of time.

"Admin" is the module which benefits of all available facilities that program offers. The modules of daily check and manage of employees are included in the "Admin" module. Also, this module allows viewing information about the user who added/made the last update on a client, phone number or conversation.

"Verificare Zilnica" is the module of daily check and represents the module that has the role of helping the user to draw a positive image in front of his client. The warnings and alarms which refer to a call back or programmed meeting will help the user to do an action exactly in at the moment he was requested to do it,

without appearing the situation of delay or of an overlook in doing that action. Furthermore, this module offers the benefit of previewing the agreements that are going to expire. Therefore, the operator holds important information before the expiry and he will have advantage in preparing a proper proposal of extension the agreement.

"Gestiune Angajati" module allows searching and registering of users. It is available just for administrators and gives them the possibility to add new users and assign for them an username and a password. It also provides the possibility of managing the users that already exist.

"Agent" module is very similar to "Admin" module, the differences are that the "Agent" module doesn't have access to "Gestiune Angajati" module and also from here can't be seen information about which user had added/made the last update of a namely customer, phone number or conversation.

The scheme of "Admin" module functioning is presented in Fig. 5.

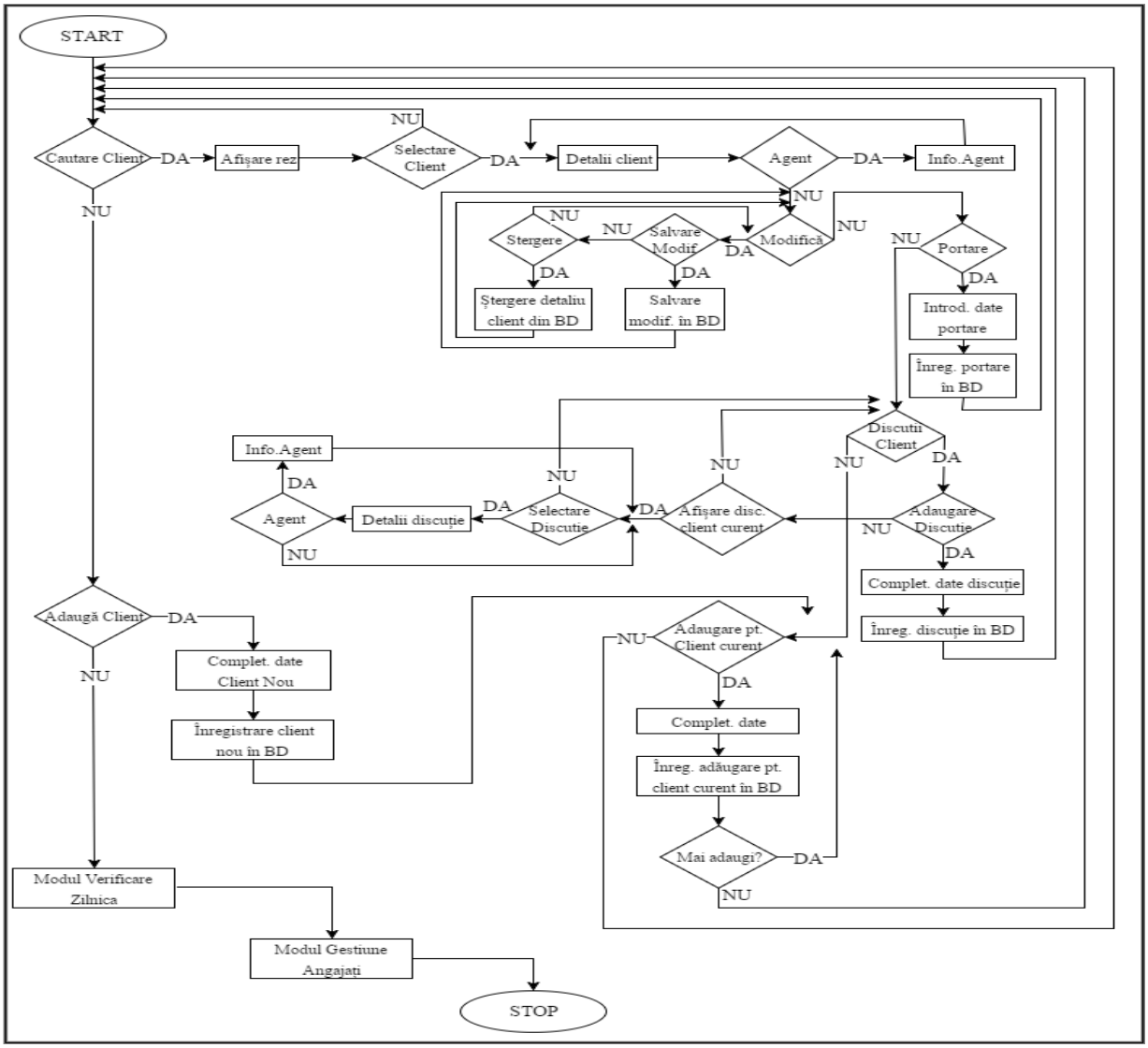

Fig. 5 The operation of "Admin" module

The implementation of a representative function: the function of searching clients according to the searching criteria which were introduced by the user of the application:

```
Private Sub btnCauta_Click(sender As Object, e As
EventArgs) Handles btnCauta.Click
        ActiuniBtnCauta()
        Try
            conn.Open()
```

```
            If txtBoxNumeCautare.Text = "" And
txtBoxCNPCautare.Text = "" And
txtBoxTelCautare.Text = "" Then
                ToateInreg = MsgBox("Nu ati
introdus nici o data pentru cautare!" & vbCrLf &
" Se vor afisa toate inregistrarile!" & vbCrLf &
"Sunteti sigur?", vbYesNo + 32, "Display")
                If ToateInreg = 6 Then
                    AfisareToateInregistrarile()
                    btnAnulare.Enabled = True

DataGridViewAfisareCautareClient.Item(0,
0).Selected = False
                Else
                    btnAnulare.Enabled = False
                End If
            End If
            If txtBoxNumeCautare.Text <> "" Then
                PreaMulteCriteriiIntroduse = 0
                VerificareCriteriiCautare()
                If PreaMulteCriteriiIntroduse = 0
Then
                    CautareInregistrariDupaNume()
                    btnAnulare.Enabled = True

DataGridViewAfisareCautareClient.Item(0,
0).Selected = False
                ElseIf PreaMulteCriteriiIntroduse
= 1 Then
                    Exit Sub
                End If
            End If
            If txtBoxCNPCautare.Text <> "" Then
                PreaMulteCriteriiIntroduse = 0
                VerificareCriteriiCautare()
                If PreaMulteCriteriiIntroduse = 0
Then
                    CautareInregistrariDupaCNP()
                    btnAnulare.Enabled = True

DataGridViewAfisareCautareClient.Item(0,
0).Selected = False
                ElseIf PreaMulteCriteriiIntroduse
= 1 Then
                    Exit Sub
                End If
            End If
            If txtBoxTelCautare.Text <> "" Then
                PreaMulteCriteriiIntroduse = 0
                VerificareCriteriiCautare()
                If PreaMulteCriteriiIntroduse = 0
Then

CautareInregistrariDupaTelefon()
                    btnAnulare.Enabled = True

DataGridViewAfisareCautareClient.Item(0,
0).Selected = False
                ElseIf PreaMulteCriteriiIntroduse
= 1 Then
                    Exit Sub
                End If
            End If
            conn.Close()
        Catch ex As Exception
            MessageBox.Show("Nu ati selectat
tipul cautarii!")
ComboBoxModalitateCautare.SelectedItem = Nothing
        End Try
End Sub
```

3. TESTING AND RESULTS

The first interface of SIVET application is represented by the login form.

A capture of this is showed in Fig. 6.

Fig. 6 Login interface

A representative capture is the searching interface for a namely client.

After the authentication, inside of the main form was done a search, using as a searching criteria, and the field for telephone number.

As a searching type was used the option “begins with”.

Thus, all the clients who have phone numbers which begins with “757” were displayed.

Selection of a customer is followed by selection of a network phone and followed by selection of the telephone number.

By selecting a customer, information about that customer is displayed and by selecting the network phone and after selecting the phone number, data about that phone number which belongs to that network phone will be displayed.

Fig. 7 reveals the searching interface capture.

4. CONCLUSIONS

The objectives which were accomplished through the application were:

- Decreasing of hours assigned for this activity of an operator in other conditions, respectively in conditions of not using software.
- Decreasing of work hours will generate a financial economy. This means that the saved money can be used into another direction just by exemption of work.

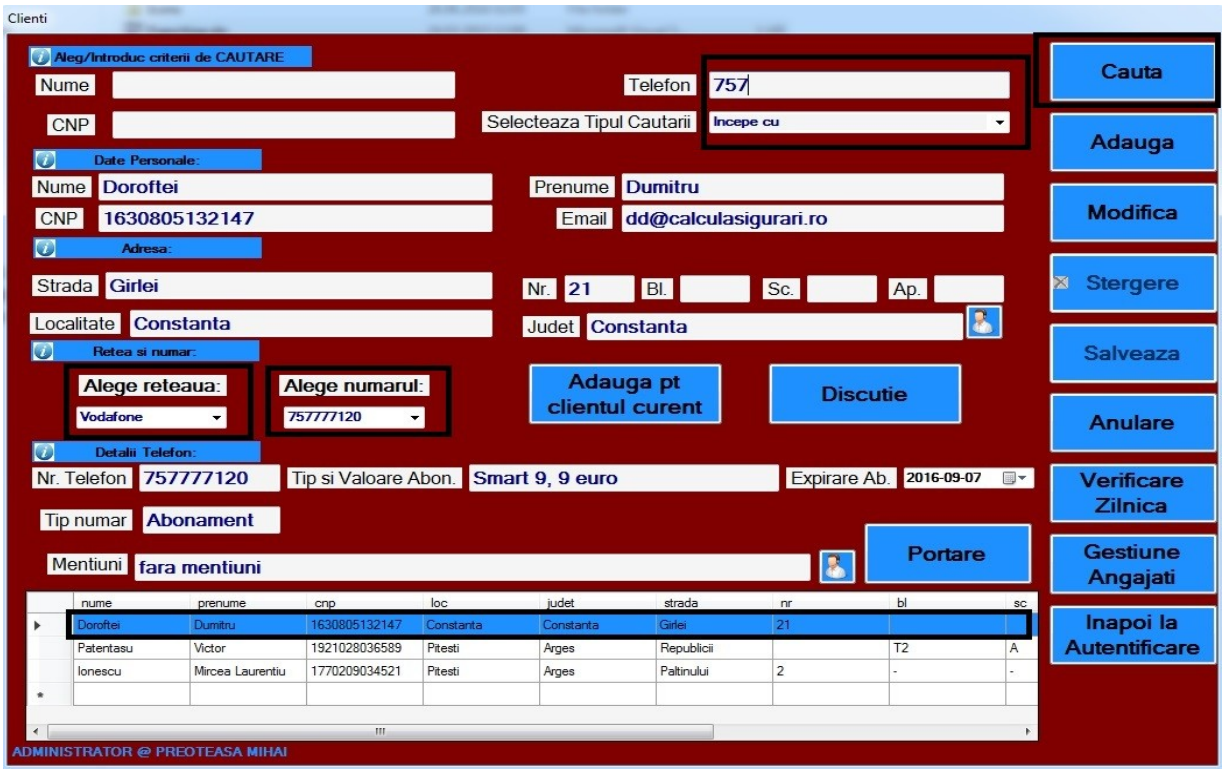

Fig. 7 Customer searching interface

- An efficient selling process means a monthly target reached easier and overtaking the target will generate further earnings.
- An efficient work and activity of operator will offer higher level results.
- Shaping a positive image in front of the customer, thus becoming a serious and punctual service provider.

The analysis done before starting planning and implementing of the system has revealed some aspects which relates to developing of the system to a higher level. The aspects which can be emphasized at this moment are:

- Exclusiveness of every user on its clients, which means that a user can see only his clients.
- The development of the business to a high level will bring the need of adding further hierarchical levels.

5. REFERENCES

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