SOFTWARE APPLICATION FOR ACTIVITIES, CLIENTS AND CONTRACTS MANAGEMENT IN A LIFE INSURANCE COMPANY[1]

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Abstract

Insurance companies generally have applications for the management of contracts and clients at a central level. There is also the necessity of developing applications that follow all the management process of clients, contracts and financial statistics from the point of view of the insurance agent/his manager. Because insurance agents and financial consultants travel a lot all around the country, it is desired to facilitate remote access – from distance to the database and own accounts. The software application implements Java technologies and it is a web application that gives access to information from the distance and offers an important statistical decisional support, by offering useful situations and reports.

Key-words: *web application, management, decisions, statistics, insurance company*

Computing Reviews classification: D.2.3, J.1, J.4.

1. Introduction

In our days, insurance companies deal with many kinds of insurances: life, accidents, etc. Thus, they deal with a lot of information and that is why they confront with great problems: loosing of information or insurances, inaccuracies of information, inefficiency of agents in organizing information, etc.

Starting from the idea that at a big company it was decided to be implemented an information system for managing life insurances, this implementation appeared. The system should aid the insurance agents to manage the life insurances. There appeared the need of managing the clients, the contracts

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and the financial part, from the point of view of the insurance agents, who need strong tools for large amount of data.

As agents began to travel a lot around the country, in order to get more clients, there appeared the need of developing a web application, enabling them to connect to the application via internet.

2. Functional requirements of the application

The application was created in order to be able to answer actual needs of insurance companies, having as central point the insurance agents and their managers. This way, the functionalities are oriented towards the following topics:

- system of registration and authentication (username and password), based on 3 levels of accounts:
    - accounts for insurance agents users;
    - accounts for managers;
    - accounts for administrators.
- create accounts for insurance agents;
- display accounts and modify them;
- modification of passwords;
- introduce new clients in the database and associate contracts to them;
- display clients' information;
- display information related to contracts;
- modification of clients' personal data;
- modification of contracts;
- financial statistics for managers:
    - situation of payments;
    - overall situation of clients and their contracts, grouped on insurance agents;
    - total income per insurance agent;
    - evolution of total income in time, chronologic series.
- support for management decisions:
    - evolution of the activity of every insurance agent;
    - the best insurance agent due to total income over the last month, semester, etc.;
    - insurance agent having the most cancelled contracts;
    - insurance agent having the greatest number of new contracts.

There are implemented many functionalities for this application. Also, as future work, there is the implementation of other new functionalities, such that the application to become a very powerful one, in order to fulfill the insurance agents requests.

The functionalities were organized such that not to depend strongly on the insurance company where the insurance agent works, but to be a flexible tool, which can easily be adapted to the specific needs.

3. Application architecture

Application architecture is based on the following two objectives:
- known and stable technologies;
- open source.

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The web service is responsible with answering to the client application, while the data service offers answers to the database. The two services will be stored on the same server, but because the two services are logically independent and separate, they can at any moment be stored on different servers, without affecting the application. This transfer of one service onto another server might appear even if the technical constraints of the application will change in time.

Since this is a web application, it is not necessary for it to be installed on each client computer. The user will only need a browser. This way, the hardware requirements are minimum.

4. **Technologies used for the implementation**

There were used the following technologies for the implementation of the application:

- Java, J2EE – this is a free, secure and object oriented programming language, that offers the possibility of creating modular applications. Java offers security and performance, and the principle "write once, run anywhere" gives the possibility of developing strong and flexible applications.
- Servlets and Java server Pages (jsp) – technologies needed for the implementation of the software as a web application.
- MySQL database – the Database Management System that is used is MySQL and thus the application can run on almost all operating systems.
- Apache Tomcat 5.5 – The application is accessible via the web server Apache Tomcat. This web server was chosen taking into account the programming language for implementation and the application architecture. It is an open-source web server that can work very well with Java web application, and it is used as an official reference for Java Servlet and Java Server Pages technologies.
- HTML.

The software application was created using Eclipse 3.2 as an environment (Dynamic Web Project), MySQL Administrator and MySQL Query Browser.

5. **Design solution**

The architecture of the application is created as a collection of high level modules that interact in order to ensure the functionalities of the software program.

There are six modules, as follows:
1) register and authentication;
2) clients management;
3) contracts management;
4) search;
5) statistics.

Below there are presented each of these modules, in terms of role and responsibility.

Table 1. **High level modules**

Module number	Module name	Role	Responsibility (functions)
1.	Register and authentication	Management of administrators and insurance agents accounts and give access to the functionalities of the application	− management of users accounts: creation, modification; − login of users/system authentication; − filter non-users; − enable/ restrict access to the other modules/functionalities of the application according to the level of access (user/admin); − display account information; − keep access of each insurance agent only to his/her clients.
2.	Clients management	Management of clients of each insurance agent	− introduce new clients in the database; − view personal clients details; − modify clients details (personal data).
3.	Contracts management	Contracts management of each client	− add contracts to clients; − visualize contracts details; − modify contracts data.
4.	Search	Search for clients and contracts in the database	− search for clients in the database, using different criteria for search: name, contract data, birth date; − search for contracts associated to existent clients; − display information according to search criteria (data found or error message).
5.	Statistics	Financial statistics and support for management decisions	− create and present the situation of clients payments; − overall situation of clients and their contracts, grouped on insurance agents; − total income per insurance agent; − evolution of total income in time, chronologic series; − evolution of the activity of every insurance agent; − the best insurance agent due to total income over the last month, semester, etc.; − insurance agent having the most cancelled contracts; − insurance agent having the greatest number of new contracts.

6. Observations and conclusions

The application is desired to be an useful instrument for insurance companies, and especially to their insurance agents, financial consultants and their managers.

There are implemented many functionalities, but the application is designed such that new modules to be easily incorporated. So, the application can be developed and improved at any moment, taking into consideration the so called dynamic requirements of the market, marketing strategies, selling.

There are used powerful technologies, open-source, that give the possibility of running the application on any system configuration. Being implemented as a web application, it gives access to data from distance, which might prove to be very useful when insurance agents travel a lot in order to contact new clients.

The application can easily be adapted to any system that works with clients and contracts, having agents and coordinators (managers).

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