Hardware Based Offline Licensing System

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Abstract: Software licensing allows to get paid for each copy of the software. This paper is about licensing the software for any application. Normally software can be copied by one (or) more users without the knowledge of the owner. In order to avoid the situation, this work is proposed. To make Gas Booking work easy, the application is designed using ASP.NET and SQL SERVER 2005.

Keywords: offline Licensing system, MAC address, Gas agency.

I.   INTRODUCTION

Hardware based offline licensing is the best type of software protection for 99% of all software. The biggest benefit of using this is that the company has absolute control over how many times a customer installs the software. This increases revenue by preventing casual piracy. Usually, the existing licensing system is done for the big projects like Microsoft products etc. The copyright licensing is done by getting product key. Without product key software cannot be installed. Also once software is purchased, users can install it to any number of systems. The owner of the company does not know the number of users accurately. They can estimate it approximately. This licensing system is not incorporated in small projects. The manual works of the gas agency are done with the help of Notes (or) registers. Since it requires more manual work, tedious to carry out and prone to errors, we designed this system.

In the proposed system, without the knowledge of the owner no user can use this software as licensing is done by MAC address of the individual system. Based on this, any number of software can be created and it can be sold. This can be made as a background for any kind of software (or) application. Also manual work of the Gas Agency is computerized; thereby the details about the customer, booking of the gas can be handled easily. Reports can be generated periodically. This system is less prone of errors, more flexible and reliable.

II.   OVERVIEW

2.1.   Work Specification

This paper is about the licensing a software in offline mode. The goal is to make the licensing a software easy. Client gets the serial number while installing the software. Owner of the software generate the activation key based on the client's serial number. The software will be valid until the date on which the client needs. Again if the client wants to use the software, client has to approach the owner for the activation key with the validity days.

The gas booking agency works are computerized. Booking of gas, customer registration, employee registration, delivery data are handled. The overall view of the data also displayed in the form of report generation. All the details are stored in the database for verification and for future retrieval.

2.2.   Work Description

We have kept 6 modules for segregating the task. They are authentication module, activation_client module, activation_owner module, customer registration module, employee registration module, gas_booking module and delivery module. Finally, we have view_details module to view all the customer details.

2.2.1.   Authentication module

To authenticate the administrator username and password is given. When he/she sign in they have to give their correct username and password. It is checked with the details which is present in the database. After validating, the administrator is redirected towards the home page of the application. There admin able to do the further process of the application.

2.2.2.   Activation_client module

When a client opens a software a serial number is displayed on the screen in encrypted manner. This serial number is formed in the combination of client's MAC address and the current date of the system. The client will send the serial number to the owner along with the validity days for using the software. After receiving the activation key from the owner, the client will enter into the software and activate. While activating, the system will check whether the activation key's MAC address and system's MAC address are same. If both are same then software gets activated successfully and also until the needed date all the application's menu will be enable. The client can work with the application. If the date gets exceeded then all the menus becomes disable. No operation can be performed.

2.2.3.   Activation_owner module

After receiving the serial number from the client, the owner will decrypt the serial number and he/she will enter the validity days needed by the client. Again based on the client's MAC address and the validity date a new activation key is generated. Owner sends this new key to the client for the activation of the software.

2.2.4.   Customer Registration module

The customer who belongs to the particular agency is registered in this module. The details of the customer like passbook number, name, date of birth, mobile number, address, email id, address and id proof are entered and get saved in the database for the future reference. A unique id is generated for each customer for further operations.

2.2.5. Employee Registration module

The employees who are working in the particular gas agency is registered here. The details of the employee like name, date of birth, email id, salary are entered and get saved in the database for the future reference. A unique id is generated for each customer for further operations.

2.2.6. Gas booking module

As for every month each customer books for a new gas. So, for booking the gas this module is handled. When a customer needs a booking their id is selected. When an id is selected, automatically the detail of the customer is loaded in the corresponding controls. Booking date (current date) should be selected. 7 days from the booked date is calculated default and it is also displayed. This information is saved in the database.

2.2.7. Delivery module

The customers who have booked for gas are in the list of delivery. Based on the date of booking the order is followed and for everyone the delivery is being done. Those details are carried in this module. Based on the admin's choice the whole entered (or) registered details of customer, employee, booking of gas, delivery can be viewed in the form of report. This makes the administrator to view the information easily.

III. IMPLEMENTATION

Implementation is the state in the system where the theoretical design is turned into a working system. Here when the client starts running the application first time, it will not get activated. Initially serial number is generated based on the Machine Address Code (MAC) address. It will be in the encrypted manner. A client has to send the serial number to the Admin / Owner. After receiving the encrypted serial number admin will decrypt it and activation key is generated based on the client's MAC address. Again admin will send the activation key to the client. When the activation key is received by the client, the key is entered into the software and the application gets started. The sent activation key will not be applicable for the other client's software. Since MAC address is different for every user. This key generation forms the background for any application. Here to make Gas Booking work easy, an application is designed. In this application the details of the customer, employee, booking are handled. Reports can be generated for the easy view.

The system can be implemented only after thorough testing is done and to work according to the specification. Thus the concept of licensing the software is also done to small projects for the desktop application with the help of ASP.NET and SQL SERVER 2005. And also the serial number is given in the encrypted format in order to avoid misuse of software. This gives security.

IV. CONCLUSION

The point of licensing is to increase your revenue by preventing casual piracy. Here, a framework is being created for offline licensing system. Through this, licensing can be given to any kind of windows application. It includes services like gas booking, delivery details, customer registration are also done. Thus the process of form issue, submission of forms for gas booking, customer registration etc. are being reduced and made simple. The information given by the customers are computerized and the data kept more accurate. This framework is based on the .Net technology to access via the web where the information are stored in the database so that if any data get damaged it can be easily be retrieved from the web.

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