Electricity Bill Management System

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Abstract

Science and technology with all its thrilling advances have brought the standards of human life to the fore. The whole world will literally collapse without these new things. This project is a novelty, which makes the method of paying for electricity easier compared to other existing projects. This project has been implemented using Java Swing as before and MySQL as the latter. The aim of the project is to create an application system to reduce manual labor to manage the number of units used by customers and to generate an electricity bill depending on the type of customer - individual or commercial. Displays customer details, depleted units and credit history. It enables them to pay off their debt if they are not paid. The payment date will be updated when you pay the debt. It keeps accurate information and easily captures future developments and changes. Highlights: Bill History, Bill Payment, Electronic Bill, Java Swing, MySQL, Customer Type.

INTRODUCTION

It is a new concept of electronic credit repayment using Java Swing and MySQL, where other existing electronic debt management methods use Java, PHP, Python, C #, MS Access server. This system is designed to keep records of customer debt. The administrator can manage all accounts; users registered as individual customers, transaction buyers can only manage their accounts and cannot see the details of other customers. This plan helps to keep the bill and payments. There are four modules namely Registration, Login, Admin and Billing screen.

SOFTWARE DESCRIPTION

AVA

Java is one of the computer languages aimed at the object. It has many C ++ features. This language can be used to create web-based applications.

Java supports

1. Data extraction and encapsulation.

2. Ina.

3.Polymorphism.

4.Strong Binding

B. BENEFITS AND USE OF FREE

As oops support the legacy and polymorphism, it removes unwanted codes and extends the use of existing computers classes. So, we can create programs with classic performance model. This ensures high productivity. Hiding data helps the program builder to build secure programs.

It is easy to have too many things to be present and to be better it may be better. Software is easily complicated treat.

The following are the features of Java,

1. Compiled and translated.

2. The platform is independent and portable.

3. Focus on the object.

4. Strong and secure.

5. Distributed.

6. Normal, simple and small.

7. It is widely read and interactive.

8. High performance.

9. It is dynamic and expandable.

Java Compiler compiles and translates source code then generates machine code that can be run directly by Java

Working Time. Since this code is a platform.The private can be sent to any program we use or operate. These features enable the developer to upgrade the browser programs. In fact, Java offers an unlimited amount of saved applets and apps.Each item in Java is represented by objects. All methods of data and objects are reset within objects and categories. Java provides many safe guards, has a strong operating time and is compact to check the time. Java provides protection against encryption is designed as a waste language to release organizers of almost all memory management problems.

C.JAVA SWING

Swing API is a collection of expandable GUI objects to reduce developer life to create Java terminals / GUI endpoints applications. Built on AWT. The API works as AWT exchange. The API has almost all controls corresponding to AWT controls. Part of the Swing follows a **Model Build Model-View-Control (MVC)** filling

the following methods,

1.One API should be enough to support multiple looks and feel.

2. The API should be modeled to the highest level

3. API does not need to have data.

4. API to use the Java Bean model for the builder tool and Integrated Development Environment can provide better services for developers to use.

MVC Architecture.

The architecture of the Swing API architecture is based on the beauty of MVC in the following way.

1. The model represents the component data.

2. Views show visual representation of component data.

3. Control takes user input to view and indicate changes in items data.

Swing Features

1.Light Weight - Swing parts are available Stand alone with the traditional operating system API as swing API controls are mostly implemented using pure Java code instead of active application cells.

2. Rich Controls - Swing offers a rich set of advanced controls like tree, tabbed window, slide,color picker and table controls.

3. Highly customizable - Swing controls can be emphasized in a very simple way such as visual aids independent of internal representation.

4.Connected look and feel - Swing-based GUI the look and feel of the app can be changed at startup according to available prices.

D. MYSQL

MySQL is the most open source for SQL relationships data management system. MySQL is one of the best RDBMS is used for various web-based development software applications.

RDBMS

The Relational Data Base Management System (RDBMS) is that's software enables us to use the database with tables, columns and indexes.

Ensures basic integrity between lines various tables.

Translates a SQL query and compiles the data from various tables.

Automatically updates directions.

RDBMS Terminology

Database – A database is a collection of tables with related data

Table – A table is a matrix with data. A table in a database looks like a simple spreadsheet.

Redundancy – Storing data twice, redundantly to make the system faster.

Primary key – A primary key is unique. A key value cannot occur twice in one table. With a key, we can only find one row.

Foreign key – A foreign key is a linking pin between two tables.

Compound key – A compound key (composite key) is a key that consists of multiple columns, because one column is not sufficient unique.

Referential integrity – Referential integrity makes sure that a foreign key value always points to an existing row.

FLOW CHART
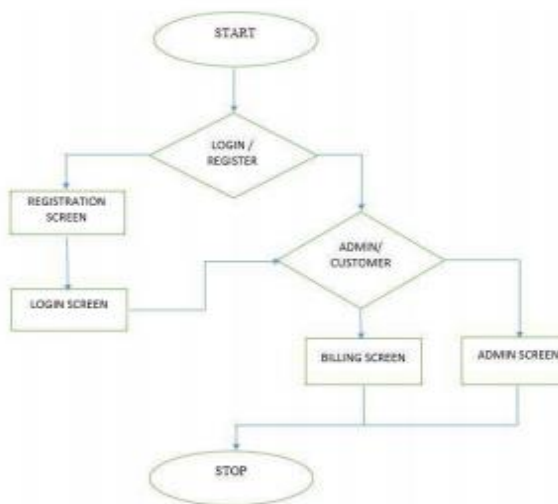
MODULE DESCRIPTION

A. REGISTRATION

This screen contains various fields like first name, last name, address line1, address line2, city, state, pin code, contact number, type of customer, username, password. At first, administrator should also register his/her details. Choices for the type of customer are admin, individual and commercial. If any field is left empty, a pop-up will be displayed after submission. After the successful submission of the details, a message named "Successfully registered" will be displayed and login screen will appear.
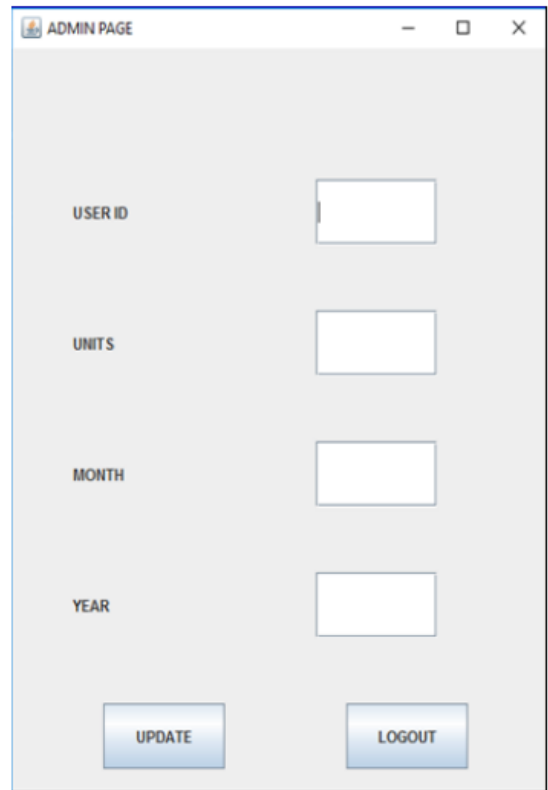

B. LOGIN

This screen contains various fields such as username and password. There are two different buttons called login and Sign up. The user must register their details to use this scheme. Once registered, they must only register login using username and password, he has entered at the time of registration. If the user is a manager, the administrator screen will be displayed. When the user is alone customer or trading customer, payment screen will be shown. This will

happen because of the following inside procedures. Once the user is logged in, the customer type will do so will be downloaded from the database by comparing the username and password entered. Depending on the type of customer the required screen will be called.

C. ADMINISTRATOR

After the administrator login, the administrator screen will be shown. This screen contains various fields such as user id, units used, month and year. The administrator must complete the details of the above categories. You only know the user id of
customer. The amount of the bill will be calculated according to the type of customer that uses the units installed by the administrator.There will be different types of taxes for different types of customers. The supervisor should update the details regularly
the moon.

D. CUSTOMER BILL

Fields on the payment screen include file details for customer, latest bill details, credit history, logout button. The whole field is displayed using a panel. So, absolutely rented panels. Customer details, located on the first panel include name, address, contact number and customer type.The latest details of the bill, which are in the second panel displays details of the current monthly bill and payment button. Once the user has already paid, the payment button will not be enabled. If the user does not pay, they can pay by clicking this pay button. Bill's history in the third panel includes columns such as year, month, payment date, payment status and units used. Once the user has paid the amount paid, payment date and payment status will be updated.

The sign-in button is located on the fourth panel. Structure used in this screen for payment Grid setting.

TOOLS USED
A. NETBEANS

NetBeans is a software development platform written in Java.The NetBeans platform allows applications to be developed from a set of software components called modules. NetBeans IDE is primarily intended for development in Java, but also supports other languages, especially PHP, C / C ++ and HTML5. NetBeans is a cross-platform and ongoing Windows Windows, MacOS, Linux, Solaris and other platforms support compatible JVM.

Maven

Worldwide, the keyword that appears most often in the file The NetBeans context says "Maven". The fact that there are no plugins needs to be installed to use Maven and that Maven projects It does not need to be imported, but can be easily opened, by a key feature introduced by the NetBeans user.

Out of the box
A key feature of NetBeans is the short-term difference between installing it and starting a meaningful creation applications in it. Except for its essential plugin feature, no much needs to be installed or repaired, because everything is available "out of the box" as soon as we start it up.

Java Editor

The NetBeans editor who knows the language finds errors while we type and help us with popup pops and smart code encryption - all with speed and simplicity lightweight text editor. Well, the Java editor in NetBeans is more than just a text editor - target lines, matches words with brackets and prominent source codes syntactically and psychologically.

JAVA EE

NetBeans tools on the Java EE platform are being developed at working closely with Java EE, Glass Fish and the Web Logic teams provide a strong and easy integration possible use of Java EE data.

Internet of things

Directly from NetBeans we can create, test, debug, submit and profile apps that will run on Raspberry Pi, cell phones, PDAs, set-top boxes and other mobile devices as well embedded programs.

Configurability

The NetBeans workspace can be easily changed. We can customize buttons in the toolbar or drag and reset tabs in the application frame to suit individual workflow and disassembly tabs and drag them out of app frame, even if you log in to a different monitor again modify keyboard shortcuts to match our favorites.

Git and Mercurial

Without having to install any plugins, NetBeans automatically allows us to work more easily and accurately across a wide range of popular translation programs, especially Git, Mercurial and apostasy.

CONCLUSION

The Electrical Regulatory Control System uses Java Swing once MySQL was developed with the help of NetBeans IDE successfully. It is simple and practical. From this program performed in Java, is an independent platform. In the wider range of future expansions. All manual at once paperwork can be completely eliminated from the payment branch. Accuracy and reliability are certainly increasing. It does is sure an unauthorized person cannot do this system. This program provides safe operation without any threats.

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