TECNOLÓGICO
NACIONAL DE MÉXICO

Tasu Chart
Technical manual by:

Luis Ernesto Barranco Nuñez
21130876

INDEX

OBJECTIVE

Explain in more detail the software “Tasu Chart”.

INTRODUCTION

Welcome to the Technical Manual of the Tasu Chart program. This Technical Manual provides an introduction to the program and its main technical features. Tasu Chart allows you to generate graphs from a database and export it as a pdf file. The Jamail program was developed on Java with JDK 8 and encoding utf-8, using the IDE NetBeans 8.2 and 12.0, and the libraries itextpdf-5.5.9, jcommon-1.0.23, jfreechart-1.0.19, and mysql-connector-java-5.1.47. Below are the main technical features of the program and how they work.

REQUIREMENTS

To use this program, you will need a computer or laptop running Windows 10 with Java installed. Java version "1.8.0_331" is required for proper functionality. A database connection is also necessary to log in. Please note that the program only supports your database, contact me for more details .

INSTALLATION

To install the email application, you must follow these steps:

Download the application file from the site mega.nz/file/qUhWXI4A#AF2Ix3Qp6dUxxLbHrE-Z900-AlI3DNYJf0U9X_L0MtU
Save the file to a folder on your computer.
Double-click the .jar file to run the application.

HOW IT WORKS

The application's main frame includes several tabbed panels that allow users to login to their database and access data from tables. One of the panels displays all the available tables. The primary classes utilized within the application are "ConexionMySQL," "graficas," and "pdf." A data dictionary is available for users seeking specific information.

The mainFrame is the user interface that enables users to interact with all of the application's features.

ConexionMySQL is the class responsible for managing the connection between the database and the application. It utilizes mysql-connector-java to function correctly. With this class, users can retrieve data from tables to display in a table format.

The graficas class provides a set of methods for manipulating charts from JFreeChart. The class attaches the JFreeChart object to a panel for display and offers conversion methods for different data types to use with other types of charts.

The pdf class uses itext libraries to extract necessary data from the main frame and create a PDF file. The primary function of this class is to generate a PDF file containing essential data from the application.

DATA DICTIONARY

Class name: ConexionMySQL

Attributes:

- conexion: Connection object to a MySQL database.
- estadoConeccion: A boolean value that indicates the current state of the connection. False by default.

Methods:

- Constructor: Initializes the conexion attribute to null.
- conectar(): Attempts to connect to the MySQL database using the JDBC driver. Returns the conexion object if successful, and sets estadoConeccion to true. If there's an error, it displays a message with the error information. This was used for test purposes.
- conectar(String user, String password): Same as the previous method, but it takes a username and password as parameters for authentication.
- desconectar(): Closes the current database connection and sets estadoConeccion to false. If there is an error, it displays a message.
- mostrarTabla(JTable tabla, String nombreTabla): Calls conectar() to establish a database connection. Retrieves all the rows from the table named nombreTabla and adds them to the JTable object passed as a parameter. Then, it sets the JTable model to the one created and populated, and calls desconectar() to close the connection. If there's an error, it displays a message dialog with the error information.

Class name: graficas

Methods:

- agregarGrafica(JFreeChart grafico, JPanel panel): Adds the JFreeChart object passed as a parameter to the JPanel object also passed as a parameter. Sets the dimensions of the ChartPanel to the same as the panel. Enables mouse wheel zooming for better user experience. Then, it sets the layout of the panel to BorderLayout and adds the ChartPanel to the NORTH region.
- convertirXYDataset(DefaultCategoryDataset dataset): Converts the DefaultCategoryDataset object passed as a parameter to an XYDataset object. Creates a new XYSeriesCollection object and adds each row of the DefaultCategoryDataset object as an XYSeries object to the XYSeriesCollection. For each column of the row, it creates an x-value equal to the column number and a y-value equal to the value of the cell. Returns the resulting XYDataset object.

Class name: pdf

Methods:

- exportarPDF(JFreeChart chart, String texto, String cuerpo): Exports a JFreeChart object as a PDF file. First, the user selects a location to save the file. Then, it creates a new PDF document and gets the content writer. It creates a new template for the PDF with the same size as an A4 page. It adds a title to the document, centered on the page, and adds the body text aligned to the left. Next, it creates a Graphics2D object from the template and a rectangle that fills the entire template. It draws the chart onto the rectangle and disposes of the Graphics2D object. Finally, it adds the template to the PDF content and closes the document. If any errors occur during the process, it displays an error message.

CONTACT

nezzlu87@gmail.com