SDKLIB LIBRARY(JAR) FOR MODERN UI AND DBMS ADVANCED LIBRARY FOR JAVA DESKTOP APPLICATION
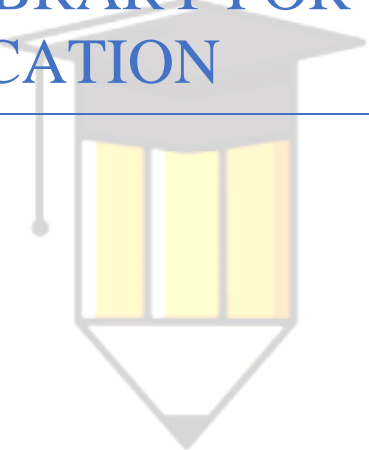
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INTRODUCTION

SDKLIB jar file is a library for time Saving for small projects like dashboard application with Advanced Graphics for JPanels, JButton etc swing components. Its main Objective is to reduce the time of Development of desktop-based Java application using advanced swing graphics.

If generally a developer want to use advanced graphics for his application , he have to whole source code even for such small applications.

Below is the Demo of Jar with UI Graphics
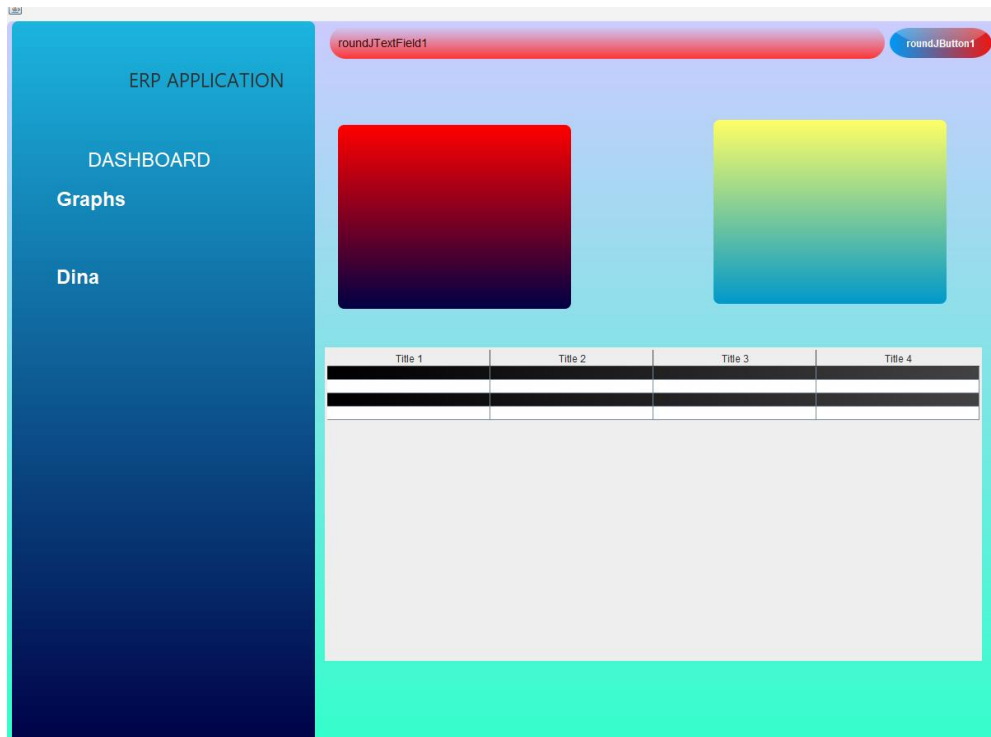
Throughout the project I have seen that there are some libraries exist but they don't have some feature like rounded panels or buttons etc in same jar file or gradient colour .Other Libraries are much complicated.

LITERATURE REVIEW

Jar file very important. It is Java Archive, it is a compressed file format used for packaging classes, resources and metadata. It simplifies distribution, deployment, and sharing of Java applications and libraries. Classes are compiled in .class files.

In recent time Jar Files are commonly used many desktops application. Many advanced jar files are been made for Software development. Here we have seen that Advanced graphics are only used in big projects. Small projects are still running in default graphics which java offered long time ago or barely uses advance graphics.

Below Is demo of Default Swing Graphics: -
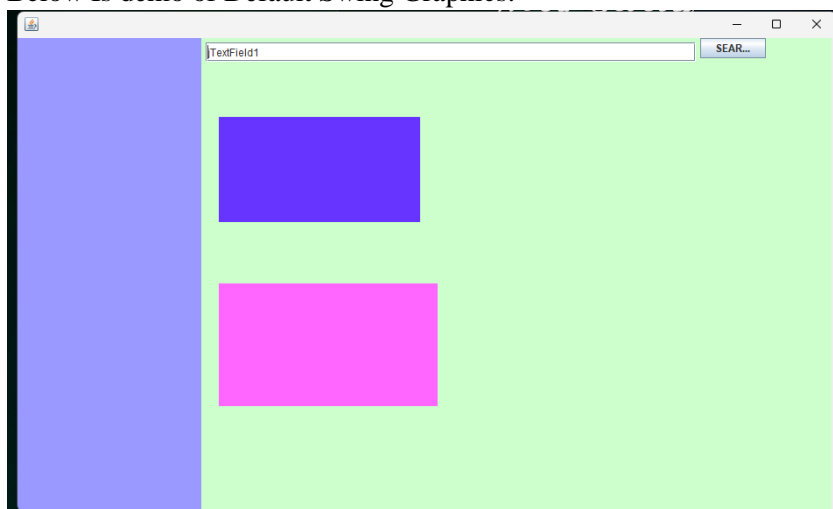
There is other problem that many people have to Write codes for JDBC and conversion data into array.

Need for SKDLIB.jar File

When we develop the Software we should not only focus on back end but also in front end . Making software attractive is also important. It displays the quality of the software.

There are 8 classes in the SdkLib.UI package

1.ListMenu- It will render the each menu Item With image ,title

2.MenuItem- A panel used for list menu

3.MenuJPanel- It is the Panel Contains Name of application with logo

4.MenuModel

5.MordernJPanel

6.PanelBorder

7.RoundJButton

8.RoundJTexField
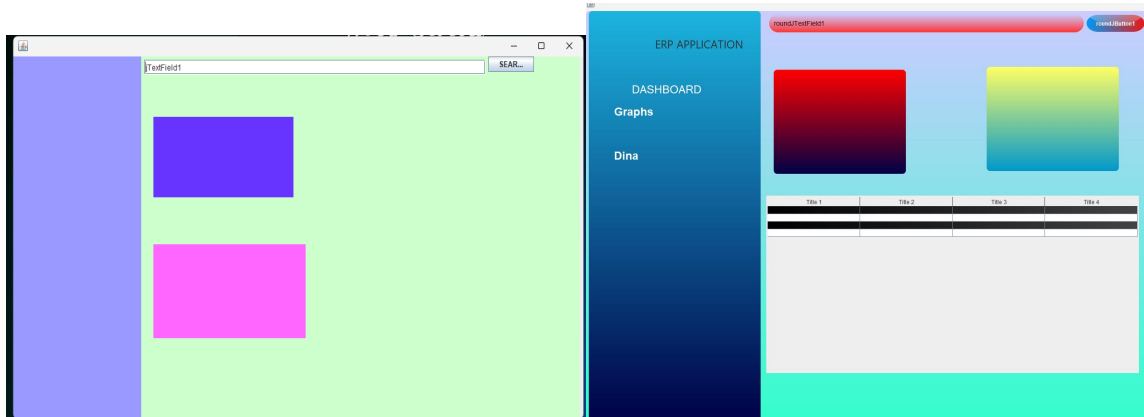
Figure 1: Default Swing Graphics   Figure 2:Costomised UI swing graphics

Hence it also needed that code for JDBC should not be written again and again. It will help in reducing the time of writing code for JDBC it will manage everything we just need to run methods are inside this package "SdkLib.jdbcHandler". In this package have 2 different classes

1.DB_handler class – For Database handling with various methods.

2.DataTypeConverter Class- For converting data types such as conversion of result set into 1d or 2d array me

Methodologies for JAR

We have Studied that can create good graphics by using 2 things

1.Awt kit

2.Swing.

So I have created graphics using swing with AWT graphical component.

There are various method which can change shapes, size, colour, Colour gradient.

By using those methods and properties I am not only able to make changes in swing component, also make looks and feel good.

With default graphics we were getting only rectangular buttons and panels. After we can also add animation to buttons with different colour gradients.

To change any Component colour gradients just open properties and search for color1 and color2.
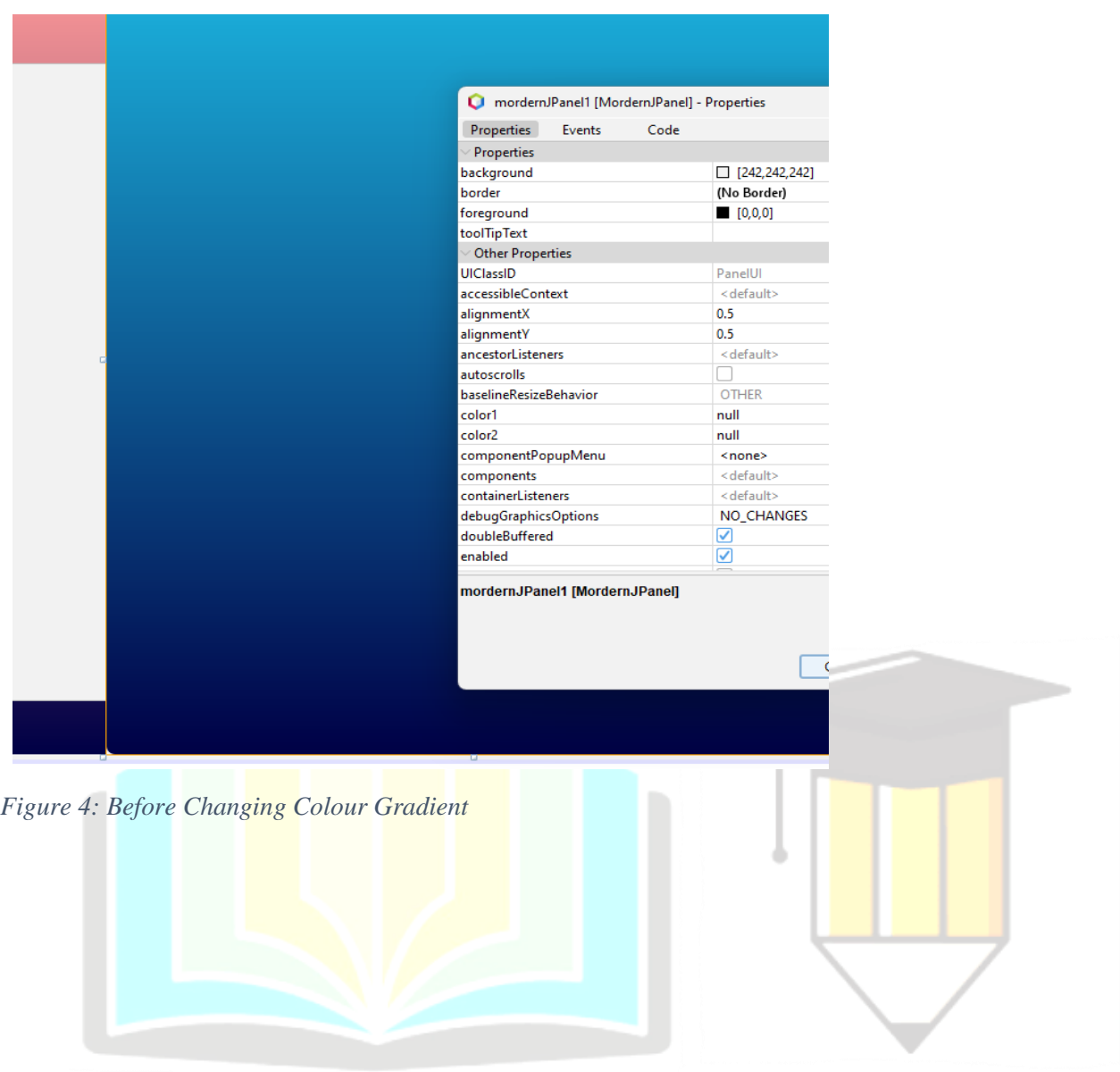
Figure 3:Before Changing colour gradient

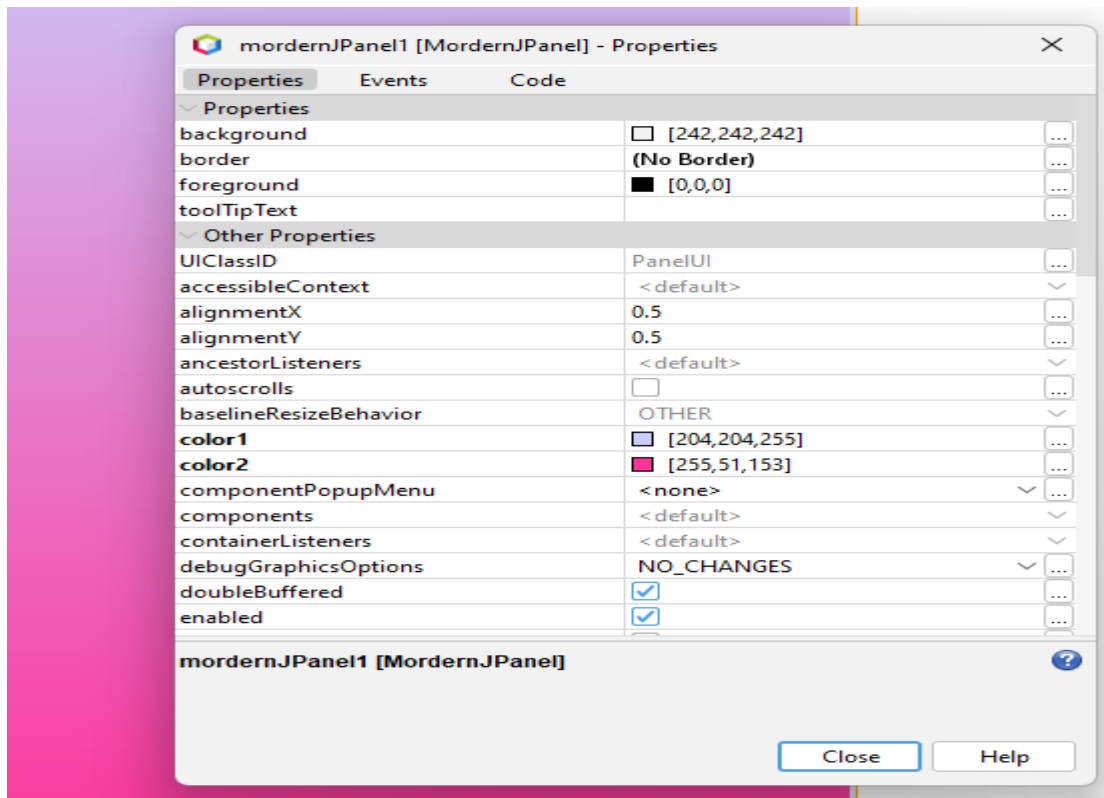*Figure 4: Before Changing Colour Gradient*

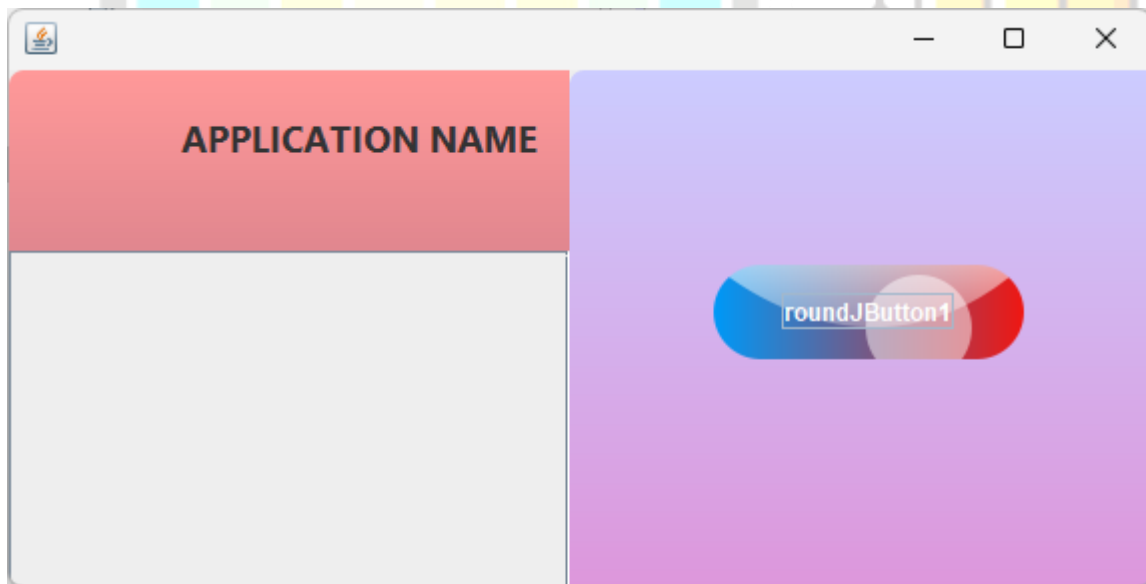*Figure 5: After Changing Colour Gradients*

Buttons are much costomised with animation and graphics

Recent Advancements and Challenges

When we used to create our library for GUI in java , we used to face problem of adding

Component on the customised panels. Then We got to know about null layout it can help add
component on Customised JPanels. There are many customised code on GitHub for Jpanels and other

GUI but it used to give errors Other people used to complaint about it in public forums such as stack over flow or Quara etc.

Finally We have make a such a library we can add anything on panels.

We have to lean About AWT and Swing completely how both can work together.

Converter class was build to convert other types of data into other hence it can also change resultsets into 2d or 1 d array.

Current Trends and Applications

1.Ecommerce Application – It can handle easily by methods in the From JdbcHandler class.

2.Dashboard Application- It can be used for all types of Dashboard apps.

3.Library management system.

4.College Management Systems.

6.Widigts.

CONCLUSION

In conclusion, the SDKLIB JAR file serves as a valuable resource for time-saving development in small projects, particularly dashboard applications that require advanced graphics for Swing components like JPanels and JButtons. Its primary objective is to streamline the creation of desktop-based Java applications by providing sophisticated Swing graphics.

Here are the key points:

Challenges Addressed:

Developers often face the burden of writing extensive source code even for small applications that require advanced graphics.

Existing libraries lack certain features, such as rounded panels, buttons, and gradient colors, within the same JAR file.

Some alternative libraries are overly complex for straightforward tasks.

SDKLIB Features:

The SDKLIB JAR file offers essential classes for UI development:

ListMenu: Renders menu items with images and titles.

MenuItem: Represents a panel used for list menus.

MenuJPanel: Contains the application name and logo.

ModernJPanel, PanelBorder, RoundJButton, and RoundJTextField: Enhance the visual appeal of Swing components.

JDBC Handling:

The need for efficient JDBC handling led to the creation of the SdkLib.jdbcHandler package.

The DB_handler class simplifies database interactions with various methods.

The DataTypeConverter class converts data types, including result sets into 1D or 2D arrays.

Methodologies for JAR Creation:

Leveraging AWT and Swing, I designed graphics using various methods for shape, size, colour, and gradients.

By customizing Swing components, I achieved a more visually appealing look and feel.

The SDKLIB JAR file enables not only rectangular buttons and panels but also animated buttons with gradient colours.

Recent Advancements and Challenges:

Overcoming challenges related to adding components to customized panels led to the adoption of null layout.

The SDKLIB library fills a gap by allowing seamless component addition to custom JPanels.

The integration of AWT and Swing required a deep understanding of both frameworks.

The Converter class facilitates data type conversions, including result sets.

Current Trends and Applications:

The SDKLIB JAR file finds relevance in various applications:

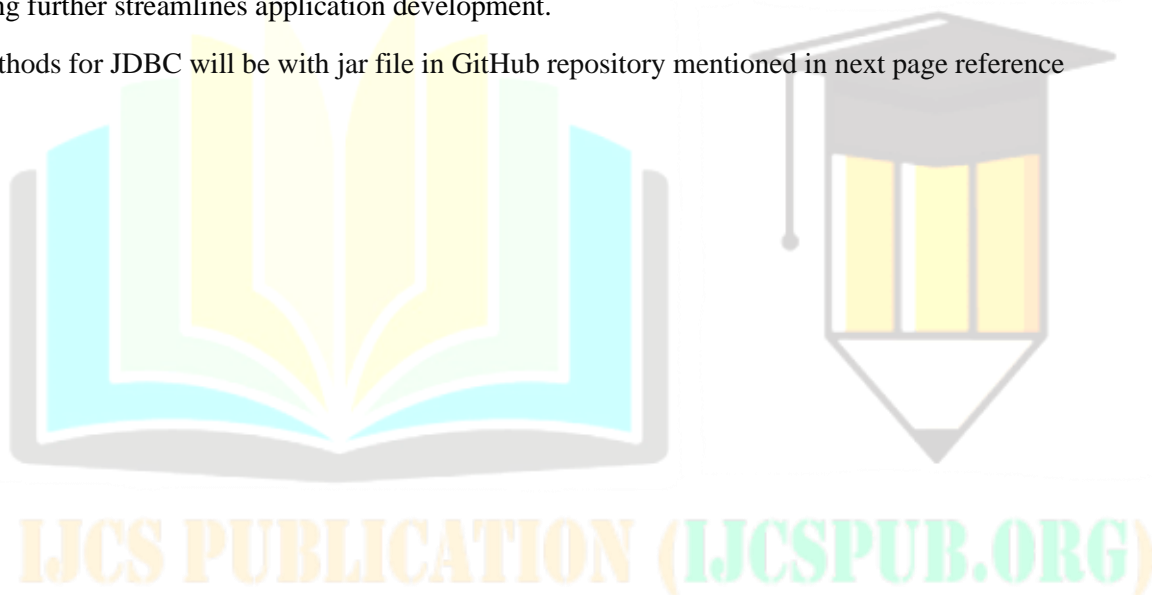E-commerce Applications: Effortlessly handle UI graphics using methods from the JdbcHandler class.

Dashboard Applications: Suitable for all types of dashboard apps.

Library Management Systems and College Management Systems: Benefit from advanced graphics.

Widgets: Enhance the user experience across different contexts.

In summary, the SDKLIB JAR file bridges the gap between small-scale projects and advanced graphics, making Java development more efficient and visually appealing. Its integration with JDBC handling further streamlines application development.

All methods for JDBC will be with jar file in GitHub repository mentioned in next page reference no.4

REFERENCES

1.GeeksForGeeks -https://www.geeksforgeeks.org/introduction-to-java-swing/

2. Raven projects- https://github.com/DJ-Raven/java-ui-dashboard-001/tree/main/part%201/ui-dashboard-001/src/com/raven

3. ravenButton - https://github.com/DJ-Raven/swing-gradient-button

4.Library Jar File Link- https://github.com/Priyanshu237/SDKLIB-JAR.git