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**CSC 392**

**MY REPORT ON AN INTERN REGISTRATION SYSTEM WITH ID CARD GENERATOR I CREATED FOR HiiT Plc**

**Introduction**

In this report, I will discuss the Intern Registration System with ID Card Generator that I developed using Java, NetBeans IDE 17, and Java SDK 18. This system aims to streamline the process of registering interns and generating ID cards for HiiT plc. The application utilizes MySQL as the database for storing intern information and generating Id cards.

**Objectives**

The main objectives of the Intern Registration System are as follows:

- Simplify and improve the intern registration process.

- Efficiently manage and store intern details.

- Generate unique ID cards for each registered intern.

- Provide a user-friendly interface for easy navigation and data entry.

**System Features**

* Intern Registration

- I designed a feature that collects essential intern information, such as their name, contact details, and educational background.

- To ensure accuracy and completeness, the system validates the input data.

- Additionally, the system generates an intern ID for easy identification and retrieval of information.

* ID Card Generation

- The application uses a predefined ID card template to an ID card.

- It incorporates intern details and a unique intern ID on the ID cards.

* Database Management

- To store intern information securely, the system utilizes MySQL as the backend database.

- I established a secure connection to the database for efficient data retrieval and storage.

- This allows for seamless querying and updating of intern records.

**System Architecture**

The Intern Registration System follows a client-server architecture. I developed the client-side application using Java and NetBeans IDE 17, while the server-side utilizes MySQL for data storage and retrieval. The communication between the client and server is facilitated through JDBC (Java Database Connectivity).

**Minimum System Requirements for Running the Intern Registration System with ID Card Generator:**

* Operating System:

- Windows 7 or higher

- macOS 10.12 or higher

- Linux distribution (Ubuntu, Fedora, etc.)

* Processor:

- Intel Core i3 or equivalent

- 1.8 GHz or higher

* Memory (RAM):

- 4 GB or higher

* Storage:

- Minimum of 100 MB of free disk space

* Display:

- Minimum screen resolution of 1024x768 pixels

* Java Development Kit (JDK):

- Java SE Development Kit (JDK) 8 or higher

* NetBeans IDE:

- NetBeans IDE 8.2 or higher

* Database:

- MySQL Database Server 5.7 or higher

* Connectivity:

- Internet connectivity is required for downloading dependencies and updates.

Please note that these are minimum system requirements, and for optimal performance, I will recommend to have a more powerful system with higher specifications.

**Running The Program**

* Import the Project
* Open NetBeans IDE.
* Select "File" from the menu and choose "Open Project."
* Browse to the location where you have saved the "internfinal" project file is located and select it.
* Click "Open" to import the project into NetBeans IDE.
* Configure Database Connection
* Make sure you have MySQL Database Server 5.7 or a higher version installed on your system.
* Create a new database schema named "interns" in MySQL.
* Open the project in NetBeans IDE and locate the database configuration file (e.g., " dbConnection.java").
* Edit the file to update the database connection details, including the database URL, username, and password, to match your MySQL configuration.
* In the interns project under “source packages > database> dbConnection.java”, change the password in *“ private static final String password = "Starbaby@8";*” to your database password if there is none leave it as blank i.e password = “”;
* If the database has a name then change the name in “*private static final String username = "root"*;” else just leave it as “root”.
* Save the changes.
* Build and Run the Project
* In NetBeans IDE, right-click on the project name "internfinal" in the Projects panel.
* Select "Build" from the context menu to compile the project.
* Once the build is successful, right-click on the project name again and select "Run" to execute the application.

**Implementation Details**

* User Interface

- I designed an intuitive graphical user interface (GUI) using NetBeans IDE.

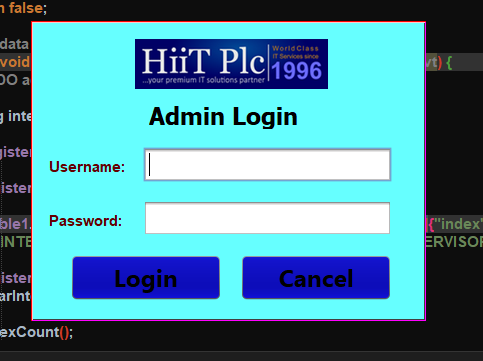
- I utilized swing components and layouts to ensure a well-organized display of data entry fields and buttons.

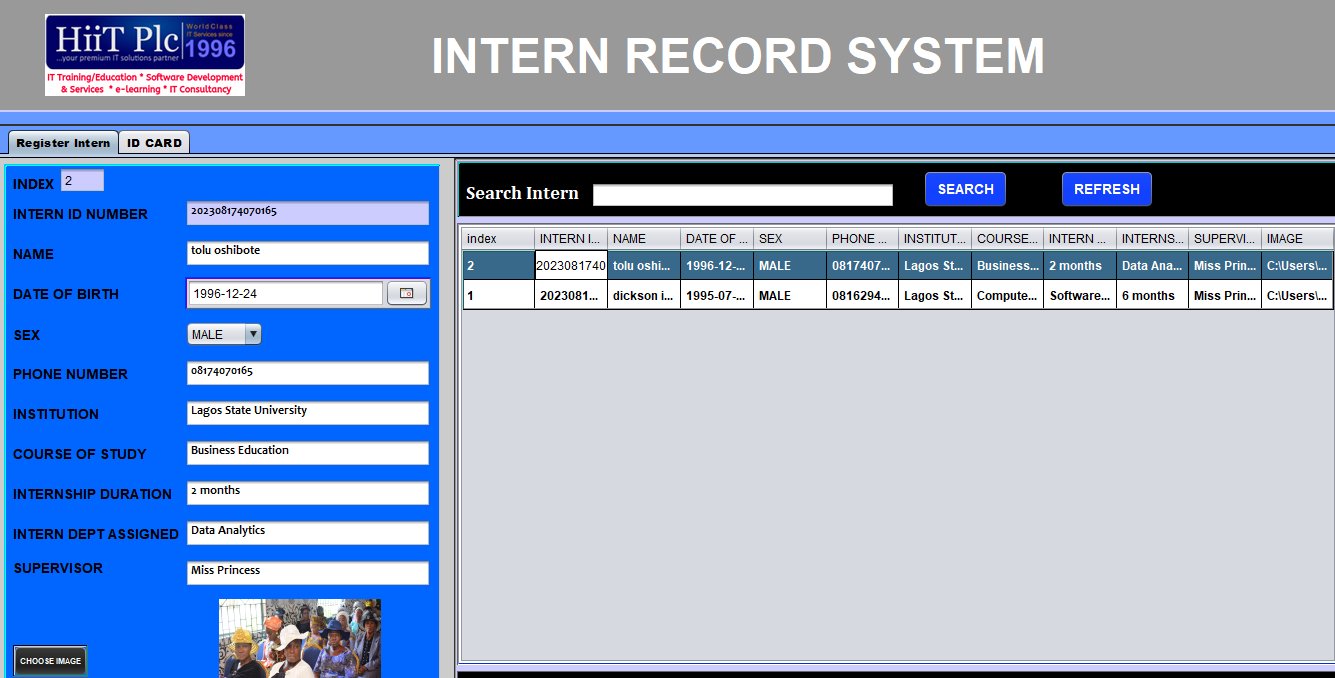
- To maintain data integrity, I implemented error handling and validation mechanisms.

To access the software you need authorized access:

USERNAME: **dickson**

PASSWOD: **hiit**

*Admin Panel to prevent unauthorized access to the software*



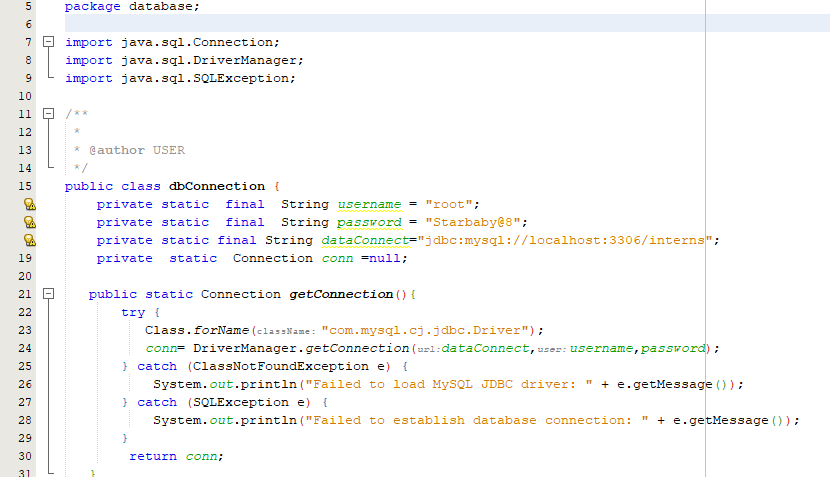
*An overview of the record system interface.*

*A view for seeing all the names of registered interns just like how it would be in the database.*

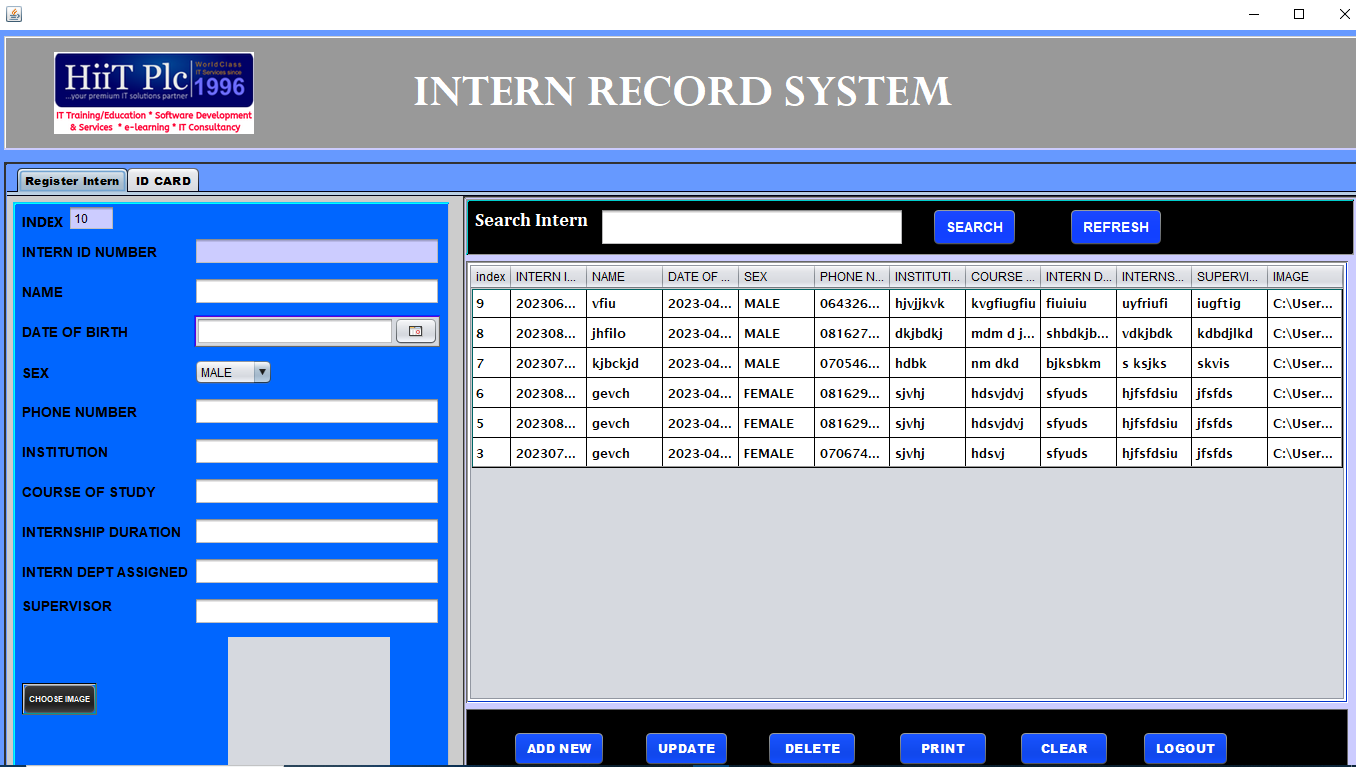
* Database Integration

- I established a connection to the MySQL database using JDBC.

- To accommodate intern data, I created the necessary tables and relationships.

 - I also implemented SQL queries for efficient data retrieval, insertion, and modification.

*Connection linking the database to the software.*

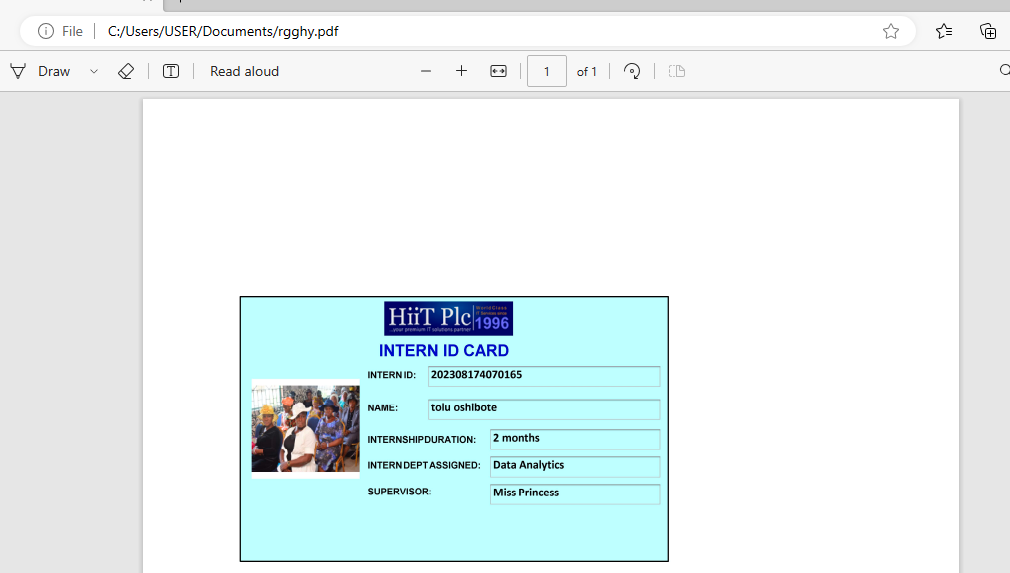


*In the above diagram, are buttons showing the software ability to perform CRUD operations. These operations will be further discussed on in the database documentation*.

* ID Card Generation

 - By leveraging libraries or frameworks, I ensured accurate image rendering and proper placement of text on the id card template.

*Generated ID CARD*



*A pdf copy of the generated I D INTERN CARD*

**Conclusion**

The Intern Registration System with ID Card Generator that I developed offers a practical solution for managing intern registrations and generating ID cards. By utilizing Java, NetBeans IDE 17, Java SDK 18, and MySQL, this application simplifies intern management tasks, maintains accurate records, and generates professional ID cards. Overall, the system enhances efficiency and reduces manual effort in handling intern-related processes.