Group Members:

1. Tyreque Hibbert
2. Chloe Morris
3. Del-Piero Graham
4. Jelani Jackson

Introduction: As a group, our task was to create an application in Java that facilitates user login for three different roles: student, student advisor, and student advisor supervisor. The application also includes functionalities such as live chat between student advisor and student, making complaints as students and responding to them as advisors, and assigning complaints to advisors to respond to for the student advisor supervisor.

Learning Trails:

1. Tyreque Hibbert: Challenges:

* Understanding the requirements and functionalities of the application.
* Implementing the live chat feature between student advisors and students.
* Designing the complaint management system for students and advisors.

Steps taken to overcome challenges:

* Conducted thorough research on Java libraries and technologies for implementing live chat functionality.
* Collaborated with other group members to gather input and feedback on the complaint management system.
* Implemented appropriate error handling mechanisms to ensure smooth functioning of the application.

Lessons learned:

* Proper planning and communication among group members are crucial for a successful project.
* Research and exploration of available technologies can help overcome challenges.
* Clear understanding of requirements is essential to ensure accurate implementation.

1. Chloe Morris: Challenges:

* Designing and implementing the user login system for three different roles.
* Ensuring proper authentication and authorization mechanisms are in place.
* Integrating the complaint management system with the user login system.

Steps taken to overcome challenges:

* Designed a robust user login system using Java's built-in authentication and authorization features.
* Implemented role-based access control to restrict functionalities based on user roles.
* Integrated the complaint management system with the user login system to ensure proper assignment of complaints to advisors based on their roles.

Lessons learned:

* Proper authentication and authorization mechanisms are critical for maintaining security in an application.
* Role-based access control is an effective way to manage user permissions.
* Integrating different functionalities of an application requires careful planning and coordination among team members.

1. Del-Piero Graham: Challenges:

* Handling and resolving complaints efficiently and effectively.
* Implementing the client server was one of the major challenges.
* Handling the front-end user experience.

Steps taken to overcome challenges:

* Implemented proper error handling and logging mechanisms to track and resolve complaints efficiently.
* Collaboratively working on the issues with my group members and researching errors.
* Testing the authentication component to ensure that it works as expected.

Lessons learned:

* Proper error handling and logging mechanisms can help track and resolve issues effectively.
* Effective communication and coordination among team members are fundamental for resolving complaints in a timely manner.
* Breaking down the project and testing each step can minimize time spent on debugging.

1. Jelani Jackson:

Challenges:

* Developing a database that enables advisors to access a complete list of complaints or queries assigned to them.
* Providing advisors with the ability to view individual complaints or queries, as well as the associated student information.
* Handling potential difficulties that could emerge while building and managing the database.

Steps taken to overcome challenges:

* Researched and implemented appropriate Java libraries for database communication, such as Client-Server TCP/IP Networking.
* Working together with fellow group members to address issues and conducting research on errors.
* To ensure database communication, error handling and synchronization mechanisms were properly implemented.

Lessons learned:

* Choosing and implementing suitable technologies is crucial for enabling database communication and management.
* Effective error handling and synchronization mechanisms play a vital role in ensuring a functional database system.
* Collaborative testing and addressing errors are essential in developing a dependable database.

Conclusion: In conclusion, our group successfully developed an application in Java that facilitates user login for different roles, database communication for student advisors, and a complaint management system.