Disaster Relief System Project

Brief Overview:

The project's goal was to develop a system that would allow disaster relief service workers to keep track of the victims affected by natural disasters and additional information that aids in family reunification. The program has two interfaces, one for a location-based worker, and another for a central-based worker, both having two different sets of responsibilities.

Setup:

Import the SQL file named "project" into the "ensf380project" database using PostgreSQL's pgAdmin or command line. Ensure that a user named "oop" with password "ucalgary" is created and granted appropriate privileges for the database.

Compiling the entire program (including unit tests):

In the CLI, navigate to the project directory. Compile all the files in the edu.ucalgary.oop package using the following command:

javac –cp "C:\path\to\your\lib\junit.jar; C:\path\to\your\lib\hamcrest-core.jar; C:\path\to\your\lib\postgresql.jar ;C:\path\to\project\directory" -d bin edu\ucalgary\oop*.java

To execute this command properly, ensure that you replace "C:\path\to\your\lib\junit.jar", "C:\path\to\your\lib\hamcrest-core.jar", and "C:\path\to\your\lib\postgresql.jar" with the actual file paths to your JUnit, Hamcrest, and PostgreSQL JAR files respectively. Also, replace "C:\path\to\project\directory" with the actual path to the project directory.

Also note that depending on your operating system, the command will work with colons instead of semi-colons. This applies to the backslashes as well, as certain systems may require the forward slash.

Execution:

IMPORTANT: Please be aware that the tests, especially DisasterVictimSearchTest, are tailored to pass based on the initial state of the database (as it was when downloaded). Alterations made to the database content could impact the test results. Hence, it's recommended to run the tests prior to executing the user interfaces. Running the user interfaces first might introduce changes to the database, potentially affecting the test outcomes. Consider using a mock database for testing purposes to resolve this issue.

To run tests:

In the CLI, write the command:
java -cp "C:\path\to\your\lib\junit.jar;C:\path\to\your\lib\hamcrest-core.jar;C:\path\to\your\lib\postgresql.jar;C:\path\to\project\directory;bin" org.junit.runner.JUnitCore edu.ucalgary.oop.TestName

Ensure you include “bin” as shown.

Replace “TestName” with any of the Test Classes:

- DisasterVictimSearchTest
- InquirerTest
- LocationTest
- DisasterVictimTest
- SiblingRelationTest
- FamilyRelationTest
- DietaryRestrictionsTest
- MedicalRecordTest
- LogTest
- MarriageRelationTest
- ParentChildRelationTest
- ReliefServiceTest
- SupplyTest

To run LocationBasedWorker interface:

In the CLI, write the command:
java -cp "C:\path\to\your\lib\postgresql.jar; C:\path\to\project\directory;bin" edu.ucalgary.oop.LocationBasedWorker

This interface has the following features:

- Location Selection: The user, identified as a location-based relief service worker, selects the location they work at. This ensures that they only have access to information relevant to their assigned location.
- Data Entry: The user can enter information about disaster victims, including their personal information, medical records, dietary restrictions, and family relationships. This data entry functionality allows the system to keep track of individuals affected by the disaster and their specific needs.
- Search Functionality: Users can search for disaster victims in the location and their relationships with other victims (even if the other victims are in different locations).
- Most information (dietary restrictions and medical records of each victim) displayed to the user is location-specific, meaning that a user at one location cannot access most of the detailed information of disaster victims located in other locations. This access control ensures data privacy and security while allowing relief workers to focus on assisting individuals in their assigned area.

To run CentralBasedWorker interface:

In the CLI, write the command: java -cp "C:\path\to\your\lib\postgresql.jar; C:\path\to\project\directory;bin" edu.ucalgary.oop.CentralBasedWorker

This interface has the following features:

- Users can view all inquiries made by individuals seeking assistance or information. This includes inquiries from volunteers offering help or individuals searching for family members.
- Inquiry Log Management: Users can add inquiry logs to record details of interactions with inquirers. This helps maintain a history of communication and aid in family reunification.
- Inquirer Management: Users can add new inquirers to the system and track recurring contacts. This ensures efficient management of inquiries from individuals who continue to contact the organization.
- Search: The application provides a search functionality to browse through all disaster victims across all locations. This feature aids in family reunification by enabling users to search for missing individuals across the entire database.