COSC1295 Assignment 2
s3468489 Xinyu YE
s3615625 Yifan ZHANG

This is the design document of COSC1295 Assignment2 of the group

Xinyu YE (s3468489) and Yifan ZHANG (s3615625).

The contribution for this project is 50/50 between Xinyu and Yifan.

The Github repository of this assignment is:

https://github.com/rmit-s346849-xinyu-ye/1295a2

1. Changes compared to our assignment 1 regarding the design

In the model (named “mininet”) package, for classes Person, Adult, Dependent, we have removed the fields friends/children/parents, respectively.

Instead, for the relations (i.e., connections) between any two persons, we have implemented them with a newly introduced class named “Relation”, which contains three String type fields: name1, name2, relationType.

In the runtime, all the relations will be stored in an arrayList named “relations”, when exiting this GUI application, all the records of relations, will be written to and stored in a text file, i.e., “relations.txt”, similarly, all the records of people, will be written to and stored in a text file named “people.txt’.

For reading information of people stored in the database, we created a new class called DBConnect. We have chosen to use SQLite as our embedded database for this program.

In addition, we also added several customized Exception classes as constraints in adding/editing relationships.

Finally, for the connectionChain function, we have also introduced two new classes, which are RelationPath and PathNode.

In the view (named “gui”) package, we have added the class MiniNet as the main window for this application, plus we have also introduced classes AddPerson, ConnectionChain, DefineRelation, ListEveryone, DisplayProfile, UpdateProfile, QueryParentChild, QueryRelationship, for implementing the graphical user interface.

2. How the new classes are organized

Classes that are responsible for doing related things are placed in the same package. To be more precise, the classes DBConnect, Relation, RelationPath, PathNode, along with those newly introduced customized Exception classes, are placed in the package “mininet”.

Those newly created classes for operating this program through the interface, are all placed in the package “view”.

3. The process to interact with user and external data source

If the text file “people.txt” exists, when the program is launched, it will read the data of people from people.txt to the ArrayList “theMiniNet”. Otherwise, this program will try to retrieve data of people from the embedded SQLite database. If both of the text file “people.txt” and the embedded database do not exist, this program will pop up a dialog box with an exception message, and terminate immediately. When

launching this program, it will also try to read data of relations from the text file "relations.txt".

After adding a new person, or modifying the profile of any existing persons, when the user clicked the close window icon on the main UI of this program, the program will save any change with existing data to the file "people.txt". Addition, modification, deletion of any relations between any two selected persons, will be saved to the text file "relations.txt".

The two text files mentioned above and the embedded SQLite database are located in the root directory of this project.

We have attached the class diagram for this project at the end of this document, and just in case that it is zoomed to be not visually clear, we have also saved the png file of the class diagram in the root directory of this project.

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The Class Diagram