User Manual: Whole Person Health Aging Data Analysis Project

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1. Introduction

The Whole Person Health Aging Data Analysis project is designed to analyze and cluster data related to healthy aging. This user manual provides instructions on how to use the project effectively, including installation, setup, and a step-by-step guide on performing data import, clustering, and viewing results.

2. System Requirements

Before using the project, ensure that your system meets the following requirements:

- Java Runtime Environment (JRE 17)
- Access to the project repository: https://github.com/dussec/whole-person-health-aging-data-analysis.git

3. Installation and Setup

To install and set up the project, follow these steps:

1. Confirm the zip file you downloaded has a folder named “HealthyAgingProject”, make sure there are two sub-folders “bin” and “src”. Once you confirm these two sub-folders are present, you may skip step 2.
2. Clone the project repository from the link above.
    a. **Note: if you need to edit the code then you will need to complete this step!**
3. Ensure you have downloaded the necessary data file(s) for analysis from above.
4. Open a terminal or command prompt and navigate to the project folder on your local machine.
5. Compile the Java source files by executing the appropriate commands. Use the following commands in the terminal:
    a. For Mac and Windows: javac -cp . Person.java TScore.java Clusterer.java Clustering.java
    b. Mac: javac -cp "/path/to/lib/*" DataImport.java
    c. Windows: javac -cp "C:\path\to\lib*" DataImport.java

i. Replace "/path/to/lib/*" with the actual file path of the "lib" folder in the project. Note: it must end in /lib/*
ii. Once the code is compiled successfully, you are ready to run the project

4. Project Overview

Provide an overview of the project's purpose, functionality, and key features. Explain the main objectives of the project and how it can assist users in analyzing and clustering data related to healthy aging.

5. Using the Project

This section provides step-by-step instructions on how to use the project effectively.

5.1 Data Import

Open a terminal or command prompt and navigate to the project's "bin" directory.
Execute the following command:

Mac: java -cp "/path/to/lib/*:/path/to/bin" testing_commit.DataImport "file/path/of/your/excel/file"
Windows: java -cp "C:\path\to\lib*;C:\path\to\bin" testing_commit.DataImport "file\path\of\your\excel\file"

Replace "/path/to/lib/*" with the file path of the "lib" folder (note: with /lib/* included), and "file/path/of/your/excel/file" with the actual file path of the Excel sheet you want to run the algorithm on.

Wait for the import process to complete. If successful, the terminal will display the clustering output and the message: "Results written to text file successfully!"

To view the results, locate the "output.txt" file in your computer's file system. The file contains the output of the code, including the number of activities listed for each cluster. Note: this should be on your desktop.

5.2 Clustering

Open a terminal or command prompt and navigate to the project's "bin" directory.
Execute the following command:

Mac: java -cp "path/to/lib/*:/path/to/bin" testing_commit.Clustering arg
Windows: java -cp "C:\path\to\lib*;C:\path\to\bin" testing_commit.Clustering arg

Replace "path/to/lib/*" with the file path of the "lib" folder, and "arg" with an integer value representing the amount of top activities to be printed for each cluster.
Wait for the clustering process to complete. If successful, the terminal will display the message: "Results written to text file successfully!"

5.3 Viewing Results

After running the clustering process, locate the "output.txt" file in your computer's file system.
Open the file using a text editor or viewer of your choice. The contents of the file will display the results of the clustering algorithm, including the activities listed for each cluster.

Review the results to gain insights into the clusters and their corresponding activities.

6. Troubleshooting

In case you encounter any issues while installing or running the project, refer to the following troubleshooting tips:

If you encounter compilation errors, ensure that you have correctly navigated to the project directory and have the necessary Java dependencies installed.
If the code fails to run, double-check the file paths provided in the command line prompts and ensure that the data file(s) and project directories are correctly specified.
If you experience any other errors or unexpected behavior, consider checking for updates or consulting the project documentation or support resources.

Common Errors:

1) If you get an error like the following:

```
DataImport.java:14: error: package org.apache.poi does not exist
import org.apache.poi.EncryptedDocumentException;
                     ^
DataImport.java:15: error: package org.apache.poi.ss.usermodel does not exist
import org.apache.poi.ss.usermodel.Cell;
                                  ^
DataImport.java:16: error: package org.apache.poi.ss.usermodel does not exist
import org.apache.poi.ss.usermodel.Row;
                                  ^
DataImport.java:17: error: package org.apache.poi.ss.usermodel does not exist
import org.apache.poi.ss.usermodel.Sheet;
                                  ^
DataImport.java:18: error: package org.apache.poi.ss.usermodel does not exist
import org.apache.poi.ss.usermodel.Workbook;
                                  ^
```

   a) It is most likely an issue with the directory that you passed in, make sure it is formatted correctly and confirm that it is the right directory.

2) If you get the “dquote” error:
   a) It is a problem with the formatting of your command line prompt, make sure the spacing matches the directions. Also make sure that you use straight quotation marks (`""`) instead of (“ ”).
   b) To exit out of dquote, type a single quotation mark (") and press enter.

8. Conclusion

In conclusion, the Whole Person Health Aging Data Analysis project allows users to analyze and cluster data related to healthy aging. This user manual has provided step-by-step instructions on how to install, set up, and use the project effectively. By following the guidelines outlined in this manual, users can gain valuable insights into the clustering of activities and further their understanding of healthy aging.