

1. Installation

- The installation guide provided by the team-6 was helpful in setting up the project and running the GUI. They had also provided the external jars required to run the project successfully.
- The functionality of the program was also mentioned in the installation guide.
- However, the dependency required to run the test cases were neither provided nor documented anywhere.

2. Tests

- Required jar to run test cases were neither provided nor documented.
- Unable to run all the test cases as test files were missing.
- Test cases refer to local path in the developer's system.
- All test cases which test the similarity function failed.
- Raised an issue in GitHub to provide required files for testing.
- No test cases were available to check the core logic. The provided test cases (after fixing), checks only the basic login/register functionality.
- Tests does not have 100% coverage.

3. Code Review

- Multiple entry points (main methods) were provided in the project.
- Test cases were inadequate.
- Documentation were missing for many methods and classes.
- Only one interface was used.
- Static methods were used which reduces the flexibility.
- Commented out code was present in the release.
- No documentation was provided for interpreting the meaning of the similarity score. A threshold score or a metrics could have given a better idea of how similar the files are.
- The provided test cases were not covering many functionalities.
- Unused libraries were imported.
- Duplicate code present in class GraphOperations and AlternateGraph.
- Unused methods were defined and never used
eg: bFSTraversalUsingQueue(int start)

4. Bugs

- Not handling comments or whitespaces. Application provides different values of score for same files with minor changes. When two exactly same files were compared the score that I got was 40.76. The same file with extra comments and white spaces reduced the score to 9.
- Not handling variable changes. When variable name was different, score for the files were 1.85 instead of 40.76

Shared test file used with the team:

<https://github.ccs.neu.edu/sankargireesan/testFilesMSD>

- No option to retrieve password was provided.
- Unable to run the test cases initially because developer had hard coded a local path in the system. Had to change the tests to work with relative path.
- Required test files were not provided. Thus, was not able to see the coverage.
- Old set of files were getting compared again when user tries to compare a different set. This was because the files are not getting removed/reset after a successful comparison.

5. UI

- UI was basic swing application. No extra functionality other than login/register was provided.
- No help was provided.
- Login/register option was available, but is not letting user have any advantage of having it. The previous records or results are not saved anywhere.
- No back button or reset button was provided. Every time the user need to login again to do the comparison.
- When a user register, the login credentials get saved to a file named “user” in JSON format which is a good way to avoid the necessity of having a database. But this exposes the security of the system at risk.
- New users were created without checking if they are already present.
- Need to improvement the UI. Each time a new frame is getting created when a comparison is done.

6. Other issues

- The application takes only files. It won't take project.
- The similarity score was not consistent even with minor changes. There were significant variations with small changes. Was not handling
- The installation guide refers the output of the application as score and documentation in the project refer the same as percentage. If it is percentage, even when comparing exact same files, the application addresses it as 40% similarity case. And even with minimum changes, the accuracy can go below 1 %.