

Group 3:

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Refactoring Report

These refactoring steps are intended to improve the modularity, compatibility, and performance of our Project Management System. The following are the areas that we focused on during the refactoring process:

1. Using the extract method on the JavaFX fxml files to improve their modularity and simplify their maintenance. The fxml files are the view portion of our model-view-controller architecture. When first designed, they were hacked together as singular files to fit minimum-value-program requirements. However, for future functionality and development streamlining, it was required to break the elements of these larger fxml files into smaller, modular ones.
2. Updating the JavaFX version from 13.0 to 17.01 to address deprecations and API changes, and to ensure the application remains compatible with all machines. The application was first built on version 13.0 due to familiarity with some members of the team, however this became an issue when trying to run on other members machines and the machines of client and QA teams. Refactoring required multiple changes across files where the version number needed to be specified
3. Refactoring the database using Hibernate Java to simplify database connection management and reduce errors caused by manual updates to database connection details. An issue with the original database connection was that the connection information required manual changes to the URL, username, and password when run on different machines. Refactoring with Hibernate allowed for the automation of this process.