

Department of Engineering and Computer Science

Refactoring

**Advanced Programming Practices
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Team 3
Dmitry Kryukov
Ksenia Popova
Rodolfo Mateus Mota Miranda
Nikitha Papani

Concordia University
Montreal, Quebec, Canada

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For the build 3 we did several refactoring operations. We chose the refactor targets (described below) so that the code would be more understandable, readable and maintainable (easier to make changes, fixes and add new functionality). Some of the applied refactoring operations (renaming, empty lines) are done so that the code follows the chosen code convention.

1. Implemented the Strategy pattern. All classes that describe a user or computer behaviours are implemented as strategies, the whole game acts as a context that uses selected strategies through the strategy interface.
2. The main menu is almost completely rewritten to make it more understandable and to take into account the new features of the game, such as the tournament mode, load the game, notification window
3. Renamed some of the methods so that their names follow the chosen code convention (e.g. `init_data_structures` was renamed to `initDataStructures`).
4. Renamed some of the methods and variables so that their names are more understandable and describe the purpose of these variables and methods.
5. Added empty lines to wrap methods and important part of the code, so it is easier to read and understand.
6. Created the Test Suite to run Unit tests (instead of running them separately as it was done before).
7. Deleted the blocks of code that were not used (commented lines or excessive code).
8. Added the comments to the blocks of code to describe the processes in these blocks.