# SOEN 6441 – Advanced Programming Practices – Winter 2021

# Warzone Project - Build 2 – Refactoring – Team 1

## Potential Refactoring Targets

The following list of refactoring targets have been taken mainly from the new requirements established in build 2, and based on pain points and inconsistencies encountered during the development of build 1. Also, several of the targets were taken from code analysis done using PMD Source Code Analyzer (https://pmd.github.io/).

1. Implement State pattern to phase processing in GameEngine.
2. Implement Observer pattern for message processing to console and log file.
3. Implement Command pattern for processing of Orders
4. Refactor all controller constructors to accept only ControllerFactory objects
5. Refactor all writes to 'System.out.print' to be done via Utl.consoleMessage (makes console output and logging centralized)
6. Rename class names: MessageType, OrderExecutionController, SoftwareFactoryController, UserMessageModel, OrderDeploy, SoftwareFactoryModel, SoftwareFactoryView, IUserMessageModel, MapEditorConsoleView, GameStartupConsoleView, GamePlayConsoleView, IOrderModel
7. Move order execution implementation from player class to respective order classes
8. Cleanup unused methods:
9. Use AssertSame instead OfAssertTrue in unit tests
10. Use AssertNull instead of AssertTrue in unit tests
11. Use AssertEquals instead of AssertTrue in unit tests
12. Rename method(s): setPlayer in Order class
13. Remove unused variables
14. Remove unused formal parameter(s)
15. Use collection IsEmpty instead of size() == 0 (or size() != 0, size() > 0, size() < 1)

## Actual Refactoring Targets

The list of actual refactoring taken from the target list above were chosen mainly because of the new requirements established in build 2, and on the greatest pain points and inconsistencies encountered during the development of build 1.

### Implement State pattern to phase processing in GameEngine

This refactoring was chosen because…

#### Before Refactoring:

#### After Refactoring:

#### Unit Tests: