Advanced Programming Practices
Project - Build 3
Refactoring Document

Team
Tejaswini - 40186127
Vignesh - 40171544
Vikram - 40126852
William - 40186129
Manimaran - 40167543

Contents:

1.Potential refactoring targets

1. **Display Special Card details:**

   In build 2. If a player conquers a country a special card was assigned. But, the details of special card were never displayed/exposed to the player until the player takes the next turn. In Build 3, Immediately after conquering a country, special card details are provided to a player in the console.

2. **Enhanced implementation of Advance Order Logic:**

   In build 2, The 60% :: 70% attack logic was computed with the sum of total armies possessed by each player.
   In Build 3, The logic is rectified in such a way, that the 60% ::70% proportion is calculated based on the single unit of army possessed by each player when they use their armies to attack against each other.

3. **Display Game Phase details :**

   To have an improvised game flow and to show the potential evidence of state pattern implementation, the transition of games states is notified in the console during game play.

4. **Improved Project Structure / Hierarchy:**

   In build 1 & 2, the project structure and the classes were scattered without inclining to the package name / implementation logic.
   In build 3, the project structure is optimized, the logic of each classes is refactored, and the respective packages were created to have a better understanding of code base.

5. **Author correction in git**

   In GIT repository, the actual commit count was not reflecting, then the problem has been identified that the code was not committed with the proper git credentials. As a fix, using advanced git commands, author details for few commits has been changed.

6. **improved architecture design.**

   Architecture design has been improved for build 3, The designed architecture depicts and incorporated design patterns like observer, command, state, adapter, and strategy patterns.

2.Actual refactoring targets

- Display Special Card details

- Enhanced implementation of Advance Order Logic

- Display Game Phase details

- Improved Project Structure / Hierarchy

- Author correction in GIT

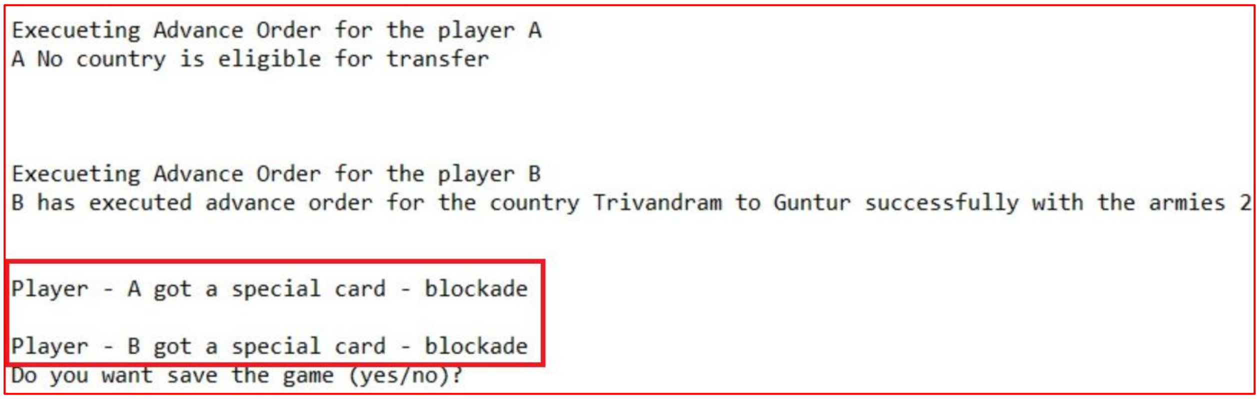
3.Refactoring operations

1. Display Special Card details

Necessity of refactoring operation :

In build 2. If a player conquers a country a special card was assigned. But, the details of special card were never displayed/exposed to the player until the player takes the next turn. In Build 3, Immediately after conquering a country, special card details are provided to a player in the console.

After Refactoring :



```
Execueting Advance Order for the player A
A No country is eligible for transfer



Execueting Advance Order for the player B
B has executed advance order for the country Trivandram to Guntur successfully with the armies 2


Player - A got a special card - blockade

Player - B got a special card - blockade
Do you want save the game (yes/no)?
```

2. Enhanced implementation of Advance Order Logic

Necessity of refactoring operation :

In build 2, The 60% :: 70% attack logic was computed with the sum of total armies possessed by each player.
In Build 3, The logic is rectified in such a way, that the 60% ::70% proportion is calculated based on the single unit of army possessed by each player when they use their armies to attack against each other.

3. Display Game Phase details

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To have an improvised game flow and to show the potential evidence of state pattern implementation, the transition of games states is notified in the console during game play.

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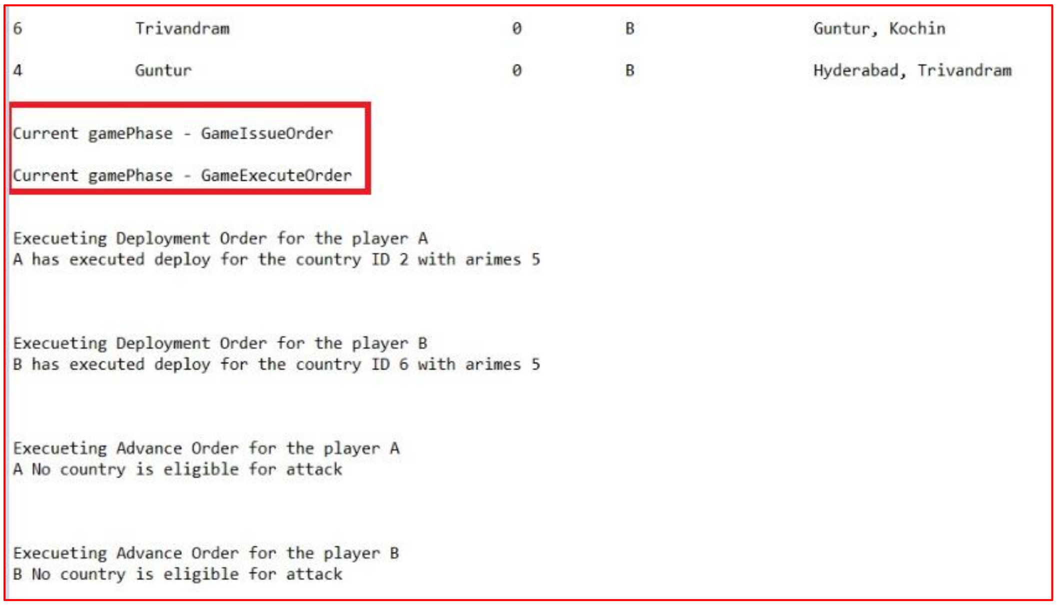

```
6          Trivandram                     0         B                Guntur, Kochin

4          Guntur                         0         B                Hyderabad, Trivandram

Current gamePhase - GameIssueOrder

Current gamePhase - GameExecuteOrder

Execueting Deployment Order for the player A
A has executed deploy for the country ID 2 with arimes 5


Execueting Deployment Order for the player B
B has executed deploy for the country ID 6 with arimes 5


Execueting Advance Order for the player A
A No country is eligible for attack


Execueting Advance Order for the player B
B No country is eligible for attack
```

4. Improved Project Structure / Hierarchy

Necessity of refactoring operation :

In build 1 & 2, the project structure and the classes were scattered without inclining to the package name / implementation logic.
In build 3, the project structure is optimized, the logic of each classes is refactored, and the respective packages were created to have a better understanding of code base.

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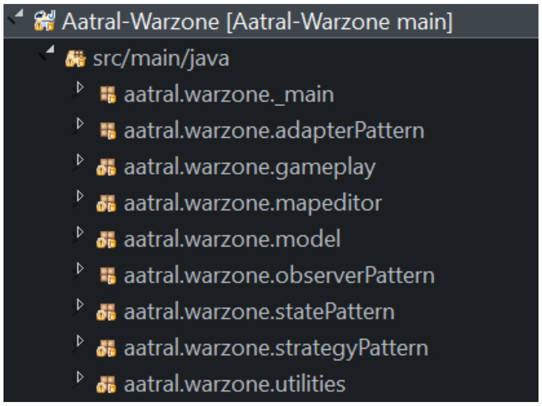
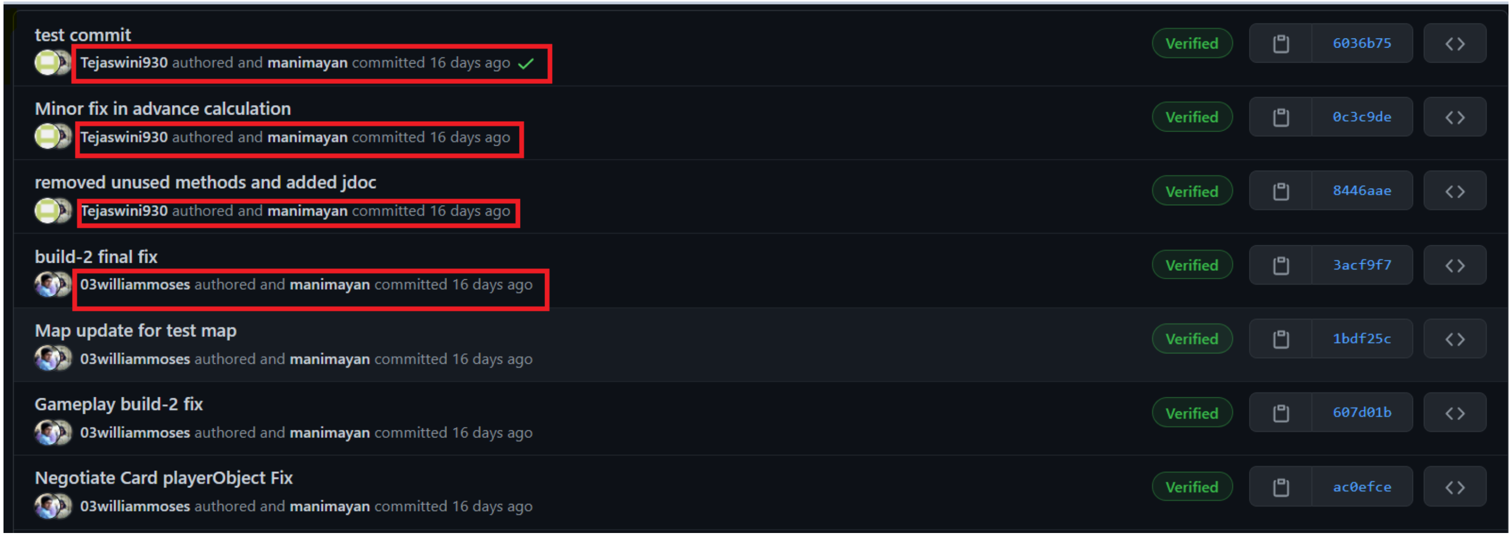


Aatral-Warzone [Aatral-Warzone main]
src/main/java
aatral.warzone._main
aatral.warzone.adapterPattern
aatral.warzone.gameplay
aatral.warzone.mapeditor
aatral.warzone.model
aatral.warzone.observerPattern
aatral.warzone.statePattern
aatral.warzone.strategyPattern
aatral.warzone.utilities

5. Author correction in GIT

As a part of observer pattern, for every command executed during application is being stored in a log file with timestamp and the effect of each command.

After Refactoring :



test commit
Tejaswini930 authored and manimayan committed 16 days ago ✓
Verified 6036b75

Minor fix in advance calculation
Tejaswini930 authored and manimayan committed 16 days ago
Verified 0c3c9de

removed unused methods and added jdoc
Tejaswini930 authored and manimayan committed 16 days ago
Verified 8446aae

build-2 final fix
03williammoses authored and manimayan committed 16 days ago
Verified 3acf9f7

Map update for test map
03williammoses authored and manimayan committed 16 days ago
Verified 1bdf25c

Gameplay build-2 fix
03williammoses authored and manimayan committed 16 days ago
Verified 607d01b

Negotiate Card playerObject Fix
03williammoses authored and manimayan committed 16 days ago
Verified ac0efce