FIT3077 SPRINT 4

Team name: U-knownZero

Team member: Lee Eng Jie 33002703
              Yew Yee Perng 32205481
              Yeoh Ming Wei 32205449
              Avril Chai 32693885

Extensions implemented in the game

Required Extension:
- Additional of one Dragon card: Racoon
- Loading and saving the game from/to an external (configuration) file

Self-Defined Extension:
- Timer (Human value)
- Shuffle and skip turn button for each player: Each player has only a chance to shuffle the Dragon Cards per game by pressing the 'Shuffle Cards' button. For the skip turn extension, it is an inspiration from the shuffle extension. Whereby a player can skip the turn of the next player. Example: During Player 2's turn, instead of picking Dragon Card, Player 2 decides to use skip turn by pressing the button that says 'Skip next player turn'. The result will be Player 2's turn will be ended and Player 3's turn is skipped, and it will be Player 4's turn.

Reflection on how much the design/implementation from Sprint 3 was suitable to incorporate the extended functionality

Extension of Racoon Dragon card:
For the extension of the Racoon Dragon Card, it was rather feasible as the extension could be done with slight modifications on a few classes to accommodate the changes. By modifying the execute() function in Moveaction to take into account the flipping of the Racoon chitcard, the function checks and allows it to perform a swap with the nearest token available on the board. Slight modifications were done on Board and Game classes as well to add an additional chit card to the game. If I were to go back to Sprint 3 and could start all over again, I might redo it to make it perfectly accept extensions without needing to modify it slightly even though modifications were 1 or 2 lines.
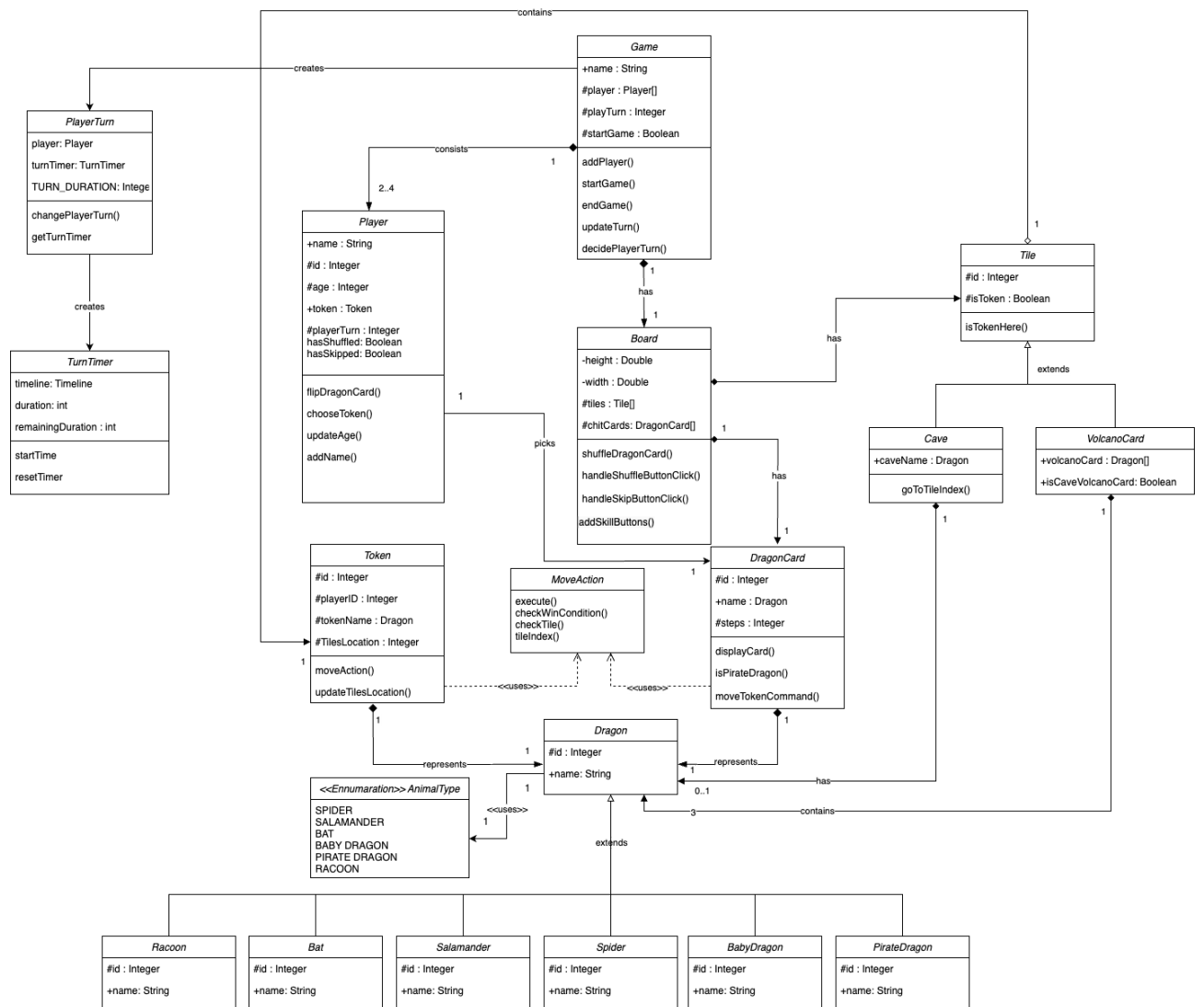
Extension of timer for each player:
The classes involved in this extension of creating a timer are the PlayerTurn, and Game and Board class. A TurnTimer class was created for this extension as well. PlayerTurn and Game classes were used in the implementation of the timer while the Board class was altered to display the time remaining for each player's turn. Implementation was smooth, apart from some hiccups and slight trouble due to some parts of the code not fully adhering to OOP design principles

Extension of both shuffle and skip turn buttons:
One positive aspect of the design is the separation of concerns between the Game class, Board class, PlayerTurn class and DragonCard class. This modular approach

made it easier to add new functionality, such as the shuffle button and skip button, without significantly modifying the existing code. The addSkillButtons() method in the Board class effectively separates the creation and positioning of the buttons from the handling of their respective actions. This modular approach makes it easier to add or modify buttons without affecting the overall structure of the application. The handleShuffleButtonClick() and handleSkipButtonClick() methods handle the specific actions for each button, which is a good separation of concerns. These methods are responsible for updating the game state and handling the UI updates, which is a clear and focused responsibility.

Diagrams

PlayerTurn
- player: Player
- turnTimer: TurnTimer
- TURN_DURATION: Intege
- changePlayerTurn()
- getTurnTimer

TurnTimer
- timeline: Timeline
- duration: int
- remainingDuration : int
- startTime
- resetTimer

creates

creates

contains

Game
- +name : String
- #player : Player[]
- #playTurn : Integer
- #startGame : Boolean
- addPlayer()
- startGame()
- endGame()
- updateTurn()
- decidePlayerTurn()

consists 2..4 1

Player
- +name : String
- #id : Integer
- #age : Integer
- +token : Token
- #playerTurn : Integer
- hasShuffled: Boolean
- hasSkipped: Boolean
- flipDragonCard()
- chooseToken()
- updateAge()
- addName()

has 1 1

Board
- -height : Double
- -width : Double
- #tiles : Tile[]
- #chitCards: DragonCard[]
- shuffleDragonCard()
- handleShuffleButtonClick()
- handleSkipButtonClick()
- addSkillButtons()

picks 1

has

Tile
- #id : Integer
- #isToken : Boolean
- isTokenHere()

has 1

extends

Cave
- +caveName : Dragon
- goToTileIndex()

VolcanoCard
- +volcanoCard : Dragon[]
- +isCaveVolcanoCard: Boolean

Token
- #id : Integer
- #playerID : Integer
- #tokenName : Dragon
- #TilesLocation : Integer
- moveAction()
- updateTilesLocation()

MoveAction
- execute()
- checkWinCondition()
- checkTile()
- tileIndex()

DragonCard
- #id : Integer
- +name : Dragon
- #steps : Integer
- displayCard()
- isPirateDragon()
- moveTokenCommand()

<<uses>> *<<uses>>*

Dragon
- #id : Integer
- +name: String

represents 1 1

represents 1

has 0..1

contains 3

<<Ennumaration>> AnimalType
- SPIDER
- SALAMANDER
- BAT
- BABY DRAGON
- PIRATE DRAGON
- RACOON

<<uses>> 1

extends

Racoon
- #id : Integer
- +name: String

Bat
- #id : Integer
- +name: String

Salamander
- #id : Integer
- +name: String

Spider
- #id : Integer
- +name: String

BabyDragon
- #id : Integer
- +name: String

PirateDragon
- #id : Integer
- +name: String

Class Diagram of Fiery Dragon Board Game with extensions

myeo008
43 commits (myeo0008@student.monash.edu)

Commits — Avg: 500m · Max: 7
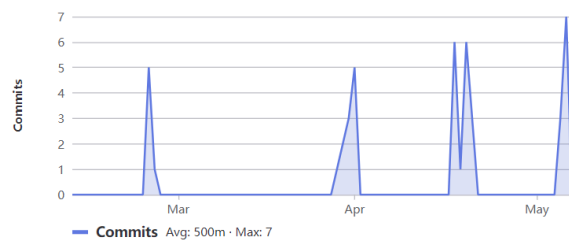
avril
20 commits (acha0154@student.monash.edu)

Commits — Avg: 233m · Max: 5
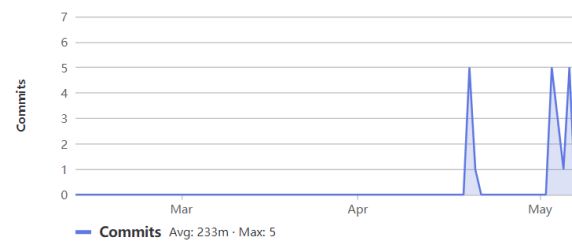
elee0070
17 commits (elee0070@student.monash.edu)

Commits — Avg: 198m · Max: 4
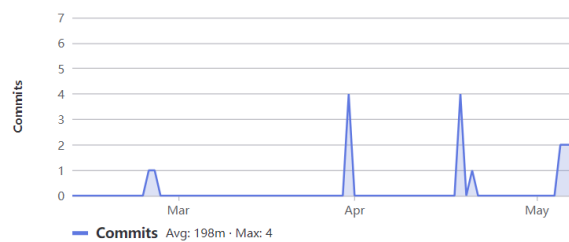
yyew0004
17 commits (yyew0004@student.monash.edu)

Commits — Avg: 198m · Max: 7
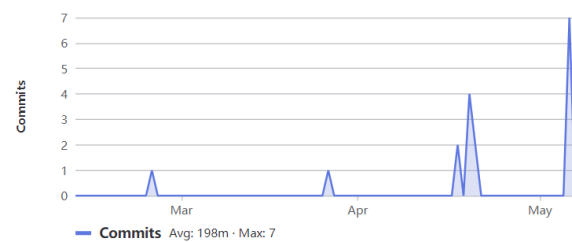
A recent screenshot of the "Contributor Analytics" visualising the commit history of all team members.

Sprint 4 Information (Revised from Sprint 3)

Java version "22.0.1" 2024-04-16 Java(TM) SE Runtime Environment (build 22.0.1+8-16) SDK : javafx-sdk-22.0.1 (Make sure that the downloaded SDK is for the right operating system)

To ensure the application works, please make sure to update the same Java version as the one above. How to check Java version:

1. **Click search button at the bottom left.**
2. **Type `cmd` and open Command Prompt.**
3. **Type `java --version` and press enter to check the Java version.**
4. **If it's not the latest Java, download from this website.
   https://www.oracle.com/my/java/technologies/downloads/#jdk22-windows**

How to run the application?

There are two different ways to open the application:

1. Run through executable JAR File. You can run through clicking the executable JAR file through this directory.

> **~\YOUR_DOWNLOAD_PATH\fit3077-git\out\artifacts\fit3077_git_jar**

If it doesn't work, consider trying to build the artifacts again. Link: https://taylorial.com/tools/jar/, (Configuring Jar to be Created)

The javafx-sdk-22.0.1\lib directory is here:

> **~\YOUR_DOWNLOAD_PATH\fit3077-git\Project\Sprint2_YeohMingWei_32205449\javafx-sdk-22.0.1**

2. Build from IntelliJ

1. **Go to File > Project Structure.**
2. **In the Project section, set JDK to version 22.0.1.**
3. **In the Modules section folder directory, go to `Project\src\` and mark `main` as Source folder.**
4. **In the Libraries section , press the '+' button and press Java.**
5. **Locate to this folder `~\YOUR_DOWNLOAD_PATH\fit3077-git\Project\Sprint2_YeohMingWei_32205449\javafx-sdk-22.0.1\lib` and press add.**

   This may be differed due to different operating system, ensure that the downloaded SDK is for the correct OS and link the path to the right library.

6. **Go to Run > Edit Configuration.**
7. **Press '+' button and create a new application.**
8. **Change the running program to Game.main.**
9. **Add VM options : `--module-path "\path\to\javafx-sdk-22.0.1\lib" --add-modules javafx.controls,javafx.fxml`, `\path\to\` is the local address. I had located the directory of the javafx above.**

   This may be differed due to different operating system, ensure that the downloaded SDK is for the correct OS and link the path to the right library.

10. **Run the program.**

Troubleshoots

- **Graphics Device initialization failed for : es2, sw A: Ensure that you download the correct SDK from JavaFX website and redo Method 2 Build from IntelliJ, step 3 - 9. This is due to different operating system that causes the issue.**

- **Any JavaFX libraries are not found. A: Reboot IntelliJ, or check the directory as well. (Redo Method 2 Build from IntelliJ, step 3 - 9)**

Contact me if the application doesn't work: Monash email: myeo0008@student.monash.edu Discord: nekronfeonix Phone Number: 018-9510388

Documents

Directory: ~\YOUR_DOWNLOAD_PATH\fit3077-git\Project\Sprint2_YeohMingWei_32205449\docs

Documents for Sprint 3

Directory: ~\YOUR_DOWNLOAD_PATH\fit3077-git\Project\Sprint 3 Docs

Documents for Sprint 4 (With Executable Files)

Directory: ~\YOUR_DOWNLOAD_PATH\fit3077-git\Sprint 4 Doc and Exe