

Fayez's Findings

Code Duplication

The classes Student.java and Raccoon.java both contain the same code to load sprite images for their respective characters. This functionality has been refactored and moved to the parent class Characters.java, where an additional variable has been added to define the path of the images.

Related Commit: @fd8b8b8e

https://csil-git1.cs.surrey.sfu.ca/cmpt276s23_group21/group21/-/commit/fd8b8b8ea37914f08247944460d4618acc5d48ce

Poorly Structured Code

The method setAction() in the class Raccoon.java causes the enemies to either chase the player or have random movement. However, since enemies must chase the player, the random movement is unnecessary. To refactor this, the functionality has been moved to the parent class to be used for future characters.

Related Commit: @a43f8724

https://csil-git1.cs.surrey.sfu.ca/cmpt276s23_group21/group21/-/commit/a43f8724153472836155309807408e91be4f3be0

Long Method

In the class TileManager.java, the method getTileImage() contains a lot of duplicated code, resulting in the method being excessively long. To refactor this, the directory of the images folder has been placed in a variable and the image names have been placed in an array. The new code results in the function being shorter and makes the process of adding new tiles easy.

Related Commit: @c12618a6

https://csil-git1.cs.surrey.sfu.ca/cmpt276s23_group21/group21/-/commit/c12618a62cd6a266b5e2e4ab53d03140c566486c

Unnecessary if/else Statements

Both checkRewards() and checkPunishments() methods in the class CollisionChecker.java have unnecessary if/else statements. To refactor this, the statements were removed, but the code within the statements was kept.

Related Commit: @6d7d5f99

https://csil-git1.cs.surrey.sfu.ca/cmpt276s23_group21/group21/-/commit/6d7d5f990092462ee00477a4609e8f83a3507ae6

Unused Variables

In the class UI.java, two unused variables for Fonts were identified and removed.

Related Commit: @1106e2d5

https://csil-git1.cs.surrey.sfu.ca/cmpt276s23_group21/group21/-/commit/1106e2d5674c4c566baeca4650dccacd9832dd55

In the classes Raccoon.java and Characters.java, the unused variable "onPath" has been removed.

Related Commit: @2120e00e

https://csil-git1.cs.surrey.sfu.ca/cmpt276s23_group21/group21/-/commit/2120e00e84340b514766f02bddae9019d003f105

Dead Code / Unused Comment

In the class Raccoon.java, a block of code was commented out in the searchPath() function. Since this block of code is no longer needed, it has been removed.

Related Commit: @191f43c7

https://csil-git1.cs.surrey.sfu.ca/cmpt276s23_group21/group21/-/commit/191f43c79c73574c30ac1cc1c9d200206ebc64

Jun's Findings

Long Method

1. In the class Student.java, the method, update() was initially over 90 lines. Thus, extract methods were created within the class to reduce the line to make it shorter

The Extract Methods created are..

- | | |
|---------------------------|------------|
| 1. setUpMovement() | → 18 lines |
| 2. setUpCollisionObject() | → 20 lines |
| 3. moveChar() | → 14 lines |
| 4. makeSprite() | → 12 lines |

After refactoring, the update() method has 15 lines.

Related Commit: @b9f8a04c

https://csil-git1.cs.surrey.sfu.ca/cmpt276s23_group21/group21/-/commit/b9f8a04c27686fd35544df7231bcb623df29f89c

2. In the class KeyHandler.java, the method, keyPressed() was initially about 90 lines. Thus, extract methods were created within class to reduce the line to make it shorter

The Extract Methods created are..

- | | |
|-----------------------|------------|
| 1. inputTitleScreen() | → 27 lines |
|-----------------------|------------|

- 2. inputMove() → 17 lines
- 3. inputPause() → 29 lines
- 4. inputGameOver() → 25 lines

After refactoring, the keyPressed() method has 8 lines.

Related Commit: @ccda5621

https://csil-git1.cs.surrey.sfu.ca/cmpt276s23_group21/group21/-/commit/ccda562135f7573552fbf80415aab71277731b0d

Primitive Obsession

1. In the class GamePanel.java, there are 5 integer values to show game states. Thus, State enum class has been made

Before there were 5 integer values such as..

1. Int state
2. Int titleState
3. Int gameState
4. int pauseState
5. Int gameOverState

After refactoring by making the new enum class, State.java

1. State state

Related Commit: @405c970f

https://csil-git1.cs.surrey.sfu.ca/cmpt276s23_group21/group21/-/commit/405c970f0442d40e93aa29b9e643aed2cfd8a988

Code duplication

1. In the class CollisionChecker, the two methods uses the same structure except for the name of the array, thus solved it with extract method.

Before two methods, checkRewards(), checkPunishments()

After refactoring, checkObjects() which gets the Items array (possibly rewards[] and punishments[]) one at a time as parameter

Related Commit: @68ce7f95

https://csil-git1.cs.surrey.sfu.ca/cmpt276s23_group21/group21/-/commit/68ce7f95705a7d8db505a28aff92b9089ba0dbcf

Bad/Confusing variables names

1. Class name: Items

Variables: int x, y ⇒ This may confuse thus, changed to xPosition, yPosition

Class name: Characters

Variables: int x, y ⇒ This may confuse thus, changed to xPosition, yPosition

Class name: Portal

Variables: int x, y ⇒ This may confuse thus, changed to xPosition, yPosition

Since the variables x and y in those 3 classes represents the position of the instance of class but it may confuse, therefore refactored by changing their names to xPosition and yPosition

Related Commit: @16be0a8c

https://csil-git1.cs.surrey.sfu.ca/cmpt276s23_group21/group21/-/commit/16be0a8c4e6424419404469dfe9a29d97d5ca576

Dead Code / Unused Comment

1. In the class Student.java, in the method, update(), there was an unnecessary comment in line 104. By refactoring, the comment has been removed.

Related Commit: @5ee6d7e3

https://csil-git1.cs.surrey.sfu.ca/cmpt276s23_group21/group21/-/commit/5ee6d7e3daeb52ac5ebf221e173f69aff697b1dc

2. In the class Stopwatch.java, toString() method is not used and not needed for the implementation of the program. Therefore, to refactor, the method has been removed

Related Commit: @4a4e32ce

https://csil-git1.cs.surrey.sfu.ca/cmpt276s23_group21/group21/-/commit/4a4e32ce05a8364adedcf547d254590af18d52a7

3. In the class Student.java, System.out.println() is removed since there is no point of alert in the terminal that user picks up the object. To refactor, the code has been removed. And in line 201, unused comment has been removed.

Related Commit: @729a3a08

https://csil-git1.cs.surrey.sfu.ca/cmpt276s23_group21/group21/-/commit/729a3a08c9f64e29f9cfd63747d673d2dc406d4e

Unnecessary if/else or switch/case statement

1. In the class, Portal.java, there were two separate if/else and switch/case statements. The problem is that second switch/case statement was dependent on how first if/else statement results. To refactor, second was removed and the results are inside of first if/else statement.

Related Commit: @9e427d9d

https://csil-git1.cs.surrey.sfu.ca/cmpt276s23_group21/group21/-/commit/9e427d9d6d9fc56bdef0776c05bf3f0867566f84