Refactoring Reward Logic and Sound:

Code Smell 1 - Duplicate Code

Commit ID: b377c137

> **Problem:** GetRandomXY was used both in boardData aswell as RewardLogic
>
> **Fix:** created class RandomXY with method getRandomXY() inside Helpers package. The method was changed to public whereas RewardLogic had a private access modifier. Morever, some changes inside of Board Data needed to be made, including needing to make the function calls to the old getRandomXY with argument "this".

Code Smell 2 - DeadCode

Commit ID: 7694f3f5

> **Problem**: Code was attempting to hide object in the first 6000 ms in order to not have
>
> bonus rewards spawn too early.
>
> **Fix**: Hiding the bonus reward refactored into GameObjectData during phase 2 development.
>
>   So code was removed entirely

Code Smell 3 - Poorly Structured Code

Commit ID: faf8b05d

> **Problem**: If statement was calculating too many variables in the condition. It was comparing that the objects have been spawned in for long enough, and also that the tile which it resides on is a BONUS object (and not a ENEMYANDOBJECT). As a result, the if statement was hard to read and needed to be changed
>
> **Fix**: Local variables created with appropriate names for better code understanding for   the following calculations:

-Total time spawned / despawned

- If enough time has passed before spawning/despawning entity

-creating a position variable which will check if the data at the position is BONUS

Code Smell 4: Poor Code Scalability

Commit ID: 3ba2b796

Problem: objects respawn/respawn times are constant across all difficulties and there was no way to change it.

Fix: Created setters which will allow for more dynamic difficulties in the game. This allows for GameObjectData to create RewardLogic class and set min/max respawn/despawn times based on the difficulty. For example, hard difficulties can make rewards despawn quicker by setting maxLifeTime and minLifeTime to smaller valus

Code Smell 5: Long method

Commit ID: 9728475e

Problem: updateRewards method was pretty long and it was implementing swapping two positions multiple times.

Fix: Created a swap method that gets two Positions as its input and swaps them, called this methods with proper inputs inside updateRewards. Also, in the same commit fixed a lot of names to camelCase and chose more meaningful names for variables.

Code Smell 6: Dead code

Commit ID: 8f41ce8e

Problem: Inside Sound.java there were some methods that were written initially and then later on with some changes we were not using anymore (unused methods for sound).

Fix: Removed all unused methods and cleaned up the code.

Code Smell 7: Unnecessary if/else statements

Commit ID: 833131ba

Problem: There were some common instructions in both if block and else block inside playMusic() method in sound.

Fix: Got common codes outside of if/else statements. And used only an if statement with stopMusic().

Code Smell 8/9: Lack of documentation + Bad/Confusing Variable Naming

Commit ID: 0a52caba

Problem: insufficient comments for determining the rate for which bonus spawn/respawn

Fix: Wrote a detailed paragraph for the logic as well as visual representation of how the logic is handled under the hood of the program