

TI2206 Software Engineering
Bubble Shooter report: Assignment 1
EEMCS/EWI

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Exercise 1: The core

Sub-exercise 1.1

The two main classes that have already been implemented, described in terms of responsibility and collaborations are as follows:

1. First, one of the most important classes is the *Board* class. This class describes the entire playing-field. It can also place and remove bubbles, and it can return the clusters of bubbles of the same color. It collaborates with the *BubbleShooterScreen* class and the *Bubble* class.
2. Secondly, the *BubbleShooterScreen* class should also be considered one of the main classes. It is responsible for drawing all the game elements (bubbles, cannon and background) onto the screen, for the game logic and for applying the game's rules. Additionally it takes care of the user input and acts accordingly. It collaborates with the *Board* class and the *Cannon* class.

Sub-exercise 1.2

The reason why the other classes are not considered main classes, is because of the fact that they carry far less responsibility. Those classes do not collaborate with that many classes in comparison to the main classes. For example, the *Bubble* class does not "know" about any other classes, and its only responsibility is basically to exist.

Looking at the current structure, some changes to the main classes are in order.

First up is the *BubbleShooterScreen* class. The name of the class does not correspond to its actual responsibility within the program. *BubbleShooterScreen* should only take care of the rendering of the game, and the User Interface. Therefore, the game logic and user input code should both go to their respective classes.

Then, the *Board* class' grid implementation and behaviour should also be encapsulated. This way, we can always substitute the hexagonal grid for a square grid, for example.

Exercise 2: Theory in practice

Exercise 3: Play with your friends