

Main problems encountered

God class hard to refactor.

Description: Level (the God class) was hard to divide into smaller parts because of its central role in the game.

Fix: In the end, we decided to move all moving and drawing of objects to another class. In the next iteration we will try to divide Level even more

Working in a group on the same classes.

Description: Four of us worked on the same code almost all the time this iteration. While two developed new features, two others had to refactor that very code. This led to some code conflicts in the beginning.

Fix: We communicated well on what classes we were editing, reviewing each others changes and when necessary postponed coding while the others were in the same class.

Modulo operation can give negative numbers

Description: In the last hour of the project we changed the algorithm for spawning balls in survival mode. We later found out that balls were spawning of smaller sizes than expected. Ater some debugging it was constituted that the problem came from a modulo operation returning a negative number. We thought modulo operations only returned positive numbers or zero.

Fix: We put the modulo operation inside `Math.abs()`.

Adjustments for the next Sprint Plan

Fix Power-up comments

The comments in the Power-ups were mostly copied from each other, which needs to be fixed.

Refactor the different gamemodes through hierarchie.

The several gamemodes should have there own classes as to prevent clutter and classes having methods they don't use.

Bouble Trouble	Sprint Assignment 4					
Group 14						
User story	Task	Task assigned to	Estimated effort per task (hours)	Relative importance (A - E)	Actual effort per task	Done (yes/no)
As a user I want to play an endless level which I can play till the player gets crushed	Create an algorithm to drop balls of different sizes at somewhat random intervals	Shane	5	A	6	yes
	Disable time and lives	Shane	1	A	1	yes
	Disable certain powerups	Shane	1	B	0	yes
As a user I want to get an appropriate ammount of powerups	Fix the numbers for the powerup drops	Shane	2	C	0	no
Improve code quality using inCode	resolve Data class warning	Joris	3	B	2	yes
	document Data class resolving	Hidde	1.5	B		
	resolve God class warning	Joris & Hidde	5	A	5	yes
	document God class resolving	Joris & Hidde	4	B	2	yes
	resolve Feature envy warning	Joris	2	B	3	yes
	document Feature envy resolving	Hidde	1	B		
As a user, I want to be able to play a multiplayer game (Coop and duel modes)	Implement collision detection for more than one player	Cas	2	A	3	yes
	Implement options for more than one player	Jasper	2	C	4	yes
	implement graphics for more than one player	Cas & Jasper	2	C	2	yes
	Add multiplayer initialization of the game	Cas & Jasper	2	A	2	yes
	Manage next level & dieing	Cas & Jasper	1	A	1	yes
	Implement highscore for multiplayer	Jasper	2	B	2	yes
	Adjust powerup management for multiplayer	Cas	4	B		yes

	Add special multiplayer levels	Cas	2	D		yes
	Enable the coop mode	Cas & Jasper	2	C	3	yes
	Enable the duel mode	Cas & Jasper	2	C	2	yes
Other tasks	Fix Observer - Observable pattern	Joris	1	D	1	yes
	Implement sound	Jasper	3	E	2	partially
	Fix highscore bug	Jasper	1	A	1	yes