

Sprint Retrospective, Iteration # 6

User Story	Task	Member responsible for the task	Task Assigned To	Estimated Effort per Task <i>(in hours)</i>	Actual Effort per Task <i>(in hours)</i>	Done <i>(yes / no)</i>	Priority (A—E) <i>(A is highest)</i>	Note	Link to commit / pull request	Reviewer(s)
As a user I want multiple device integration, so that I can play the game with more people	Assigning each connected Android device a different position (corner) under the platform.	Luka	Luka	2.0	Luka: 2.0	yes	A	Missing some tests	https://github.com/MrCrime/ContextMigi-1/pull/71	Nils Marcel
	Moving the platform into a certain direction depending on all four Android devices (taking the average seems to be the logical choice).	Luka	Luka	3.0	Luka: 6.0	yes	A	Fixing absolutely terrifying merge conflicts with master took about 50% of the time.	https://github.com/MrCrime/ContextMigi-1/pull/71	Nils Marcel
	Get the platform to tilt if the four accelerometers aren't very well synchronized.	Luka	Luka	5.0	-	no	C	-	-	-
As a developer I want the code to be clean and future proof so it is easier to work on in the long run	Close the Server and Client at appropriate moments.	Luka	Luka	2.0	Luka: 0.5	yes	A	Together with refactoring ClientWrapper.	https://github.com/MrCrime/ContextMigi-1/pull/68	Nils Marcel
	Refactor ClientWrapper the same way as the ServerWrapper previous sprint	Luka	Luka	2.5	Luka: 3.0	yes	A		https://github.com/MrCrime/ContextMigi-1/pull/68	Nils Marcel
	Refactor damageDealerGenerator and its factories	Damian	Damian	5.0	Damian: 4.0	yes	A		https://github.com/MrCrime/ContextMigi-1/pull/64	Marcel Nils
As a user I want to be able to collide with walls so the game becomes more challenging and fun	Make collision able with the path boundaries	Damian	Damian	4.0	-	no	A	This could only really be implemented when the new steering features were implemented. Those features took longer than expected due to the person responsible for the task being ill.		
As a user I want the carriers to have full functionality so the game becomes more challenging and fun	Make the carriers spawn at the designated spot under the platform as soon as the game starts	Marcel	Marcel	1.0	Marcel: 2.5	yes	A	Implementing this was a bit more complicated than expected.	https://github.com/MrCrime/ContextMigi-1/pull/61	Luka

	Make carriers able to be immobilized when they lose their health	Marcel	Marcel	5.0	Marcel: 5.0	yes	A		https://github.com/MrCrime/ContextMigi-1/pull/62	Nils/Damian
	Make carriers able to recover after a set time, and keep on playing	Marcel	Marcel	3.0	Marcel: 4,0	yes	B		https://github.com/MrCrime/ContextMigi-1/pull/62	Nils/Damian
	Make the carriers have 3 spots where enemies can stand next to them	Marcel	Marcel	5.0	Damian: 5.0 Marcel: 1.0	yes	B			
As a user I want the enemies to have full functionality so the game becomes more challenging and fun	Make the enemies spawn correctly according to the revamped game world, and not for example spawn in trees	Damian	Damian	3.0	Damian : 2.0	partially	A	The enemies do spawn in the correct areas, but since the world pieces don't line up correctly, after several world pieces the enemies start spawning in the wrong spots, was not high on the list of things to do this week, in hindsight		
	Make the enemies pick the spots next to the carriers at random, and only when they are empty	Damian	Damian	7.0	Damian: 13.0	Yes, not merged yet	A	This includes the creation of tests for most of the classes that have to do with enemies		
	Make enemies get hit and die and remove them from the game when they die	Damian	Damian	3.0	Damian: 2.0	Yes, not merged yet	B	The pull request that included everything to do with enemies had some issues that needed to be resolved		
	Make enemies hit the player after a certain amount of time	Damian	Damian	3.0	Damian: 3.0	Yes, not merged yet	B			
As a player with android device, I want to be able to be hit and get hit by enemies	Make players lose health when hit.	Remi	Remi	1.0	Remi: 2.0	Yes, but not merged	A	This is purely the calculations on the pc	https://github.com/MrCrime/ContextMigi-1/pull/66	Nils Marcel Luka

	Create visuals to losing health	Remi	Remi	2.0	Remi: 13.0	Yes, but still needs some refinement	A	This is both communication between phone and server and the visuals of the hearts. Most time was spent on fixing merge conflicts and other issues caused by merging. Implementing the actual feature itself didn't take nearly as long	https://github.com/MrCrime/ContextMigi-1/pull/66	Nils Marcel Luka
	Make the buttons send data saying that the player performs an attack in a specific direction.	Remi	Remi	3.0	Remi: 15.0	Yes, but still needs some refinement	A	Most time was spent on fixing merge conflicts and other issues caused by merging. Implementing the actual feature itself didn't take nearly as long	https://github.com/MrCrime/ContextMigi-1/pull/66	Nils Marcel Luka
	Implement a cooldown after pressing a button with visual representation	Remi	Remi	4.0	-	no	B	-	-	-
As a player with Oculus Rift, I want to feel like I am actually standing on a platform, carried by players.	Implement the rotating of the camera when the platform moves in a certain direction	Nils	Nils	2.0	-	no	A	We decided we will not implement this, since the player with the VR can already move 360 degrees around.	-	-
	Implement the shaking of the camera when the platform becomes unstable	Nils	Nils	2.0	-	no	B	The tilting of the platform is not implemented and therefore this feature is also not added to the game yet.	-	-
As a gamer, I want to be able to lose the game, so that I can be challenged.	Create game over routine	Marcel	Marcel	6.0	Marcel: 8.0	partially	A	Making the game restart was quite difficult, due to memory leak problems. Restarting and pausing was implemented.		
	Implement a scoring mechanism	Marcel	Marcel	4.0	Marcel: 4.0	yes	B	The mechanism is implemented, but can be integrated better in the game.	https://github.com/MrCrime/ContextMigi-1/pull/65	Nils/Remi
	Being able to save the score to a file	Marcel	Marcel	4.0		no	D			
As a player with android device, I want to have something to do other than just doing wat the commander tells me to.	Implement random events for the android device	Nils	Nils + Remi (uitleg android)	10 + 2 uur respectively	Nils: 20.0 Remi: 1.0	no	A	Due to a lot of refactoring and an underestimation of the time this would take with messaging, this task will be continued next week.	-	-

As a player, I want to have progression while I play the game.	Implement a checkpoint system in the game	Nils	Nils	4.0	Nils: 2.0	yes	A	-	https://github.com/MrCrime/ContextMigi-1/pull/69	Marcel Luka Remi
	Increase the difficulty of the game each checkpoint.	Nils	Nils	8.0	Nils: 6.0	yes	A	-	https://github.com/MrCrime/ContextMigi-1/pull/69	Marcel Luka Remi
	Create a visual representation for the Android players that a checkpoint has been reached	Nils	Nils	2.0	-	no	C	Due to difficulties in the random events, we didn't have the time to complete this task.	-	-
	Create a visual representation for the Oculus player that a checkpoint has been reached	Nils	Nils	2.0	Nils: 2.0	yes	C	There is now a red textual indication in the top left of the screen when a checkpoint has been reached	https://github.com/MrCrime/ContextMigi-1/pull/69	Marcel Luka Remi
As the Oculus Rift player, I want to be placed in a <i>lobby world</i> , where I can wait until all Android users have joined.	Create an Environment that serves as the lobby	Luka	Luka + Remi	4.0 pp	Remi: 2.0	no	A	Remi could spend some time on this during the moments where there were no comments on his pull request.	-	-
	Add a GUI button to the <i>lobby world</i> , that the Oculus Rift user can select to start the actual game.	Luka	Luka + Remi	1.0 pp	0.0	no	A	-	-	-
	Add a GUI button to the <i>lobby world</i> , that the Rift user can select to exit the game.	Luka	Luka + Remi	0.5 pp	0.0	no	C	-	-	-
	Don't allow the selection of the start button if not all players have connected.	Luka	Luka	2.0	0.0	no	B	-	-	-
As a player I want to hear music and sound effects while playing.	Make sfx play when pressing start in the lobby	Remi	Remi	2.0	-	no	D	Didn't get to doing this, because attacking and taking damage had priority	-	-
	Make music play and loop during gameplay	Remi	Remi	3.0	-	no	C	-	-	-
	Make sfx play when getting hit and when attacking in the android app	Remi	Remi	3.0	-	no	B	-	-	-

As a newcoming developer, I want the big changes in the last sprint being documented in the EAD	Create class diagrams (UML) for several class structures of the project in the EAD. (Task from previous sprint)	Luka	Luka	4.0	-	no	D	-	-	
	Create state chart diagrams (UML) of the project in the EAD	Damian	Damian	3.0			D			
	Create several sequence diagrams (UML) of the project in the EAD	Remi	Remi	3.0			D	Didn't get to doing this, because attacking and taking damage had priority.	-	
The following tasks aren't ones from the backlog.	General walking back and forth helping people with troubleshooting (mainly messaging problems).	Luka	Luka	-	Luka: 4.0	yes	-	-	-	-
	Preparing semi-presentation for Alberto Bachelli	Luka	Luka	-	Luka: 1.0	yes	-	-	-	-

Total hours:
Nils: 30
Luka: 16.0 (+ 2.5 hours of coude review)
Marcel: 27.5 (+ 2.5 hours of code review)
Damian: 29 (+ 1.5 hours of code review)
Remi: 33 (+ 1 hour of code review)

Main problems encountered:

Problem 1:

Luka, was ill for the majority of the sprint, causing many important features to not be finished this sprint and his number of total hours spent being way less than the rest of the team.
Reaction: The number of hours spent will be higher in the next two weeks, so he catches up the lost hours.

Problem 2:

Merge conflicts. Lots and lots of merge conflicts. Remi's feature_AppHealthAndDamage branch really needed some features of the feature_multiSteering, which was controlled by Luka. However, because of his illness, Remi couldn't wait for his branch to appear on master, so we've decided to merge the multiSteering branch in AppHealthAndDamage. This caused some mayor conflicts when he merged master into his branch, but he managed to fix it. Luka got better from his illness and started working on his branch, also merging master in it. This of course caused the same problems that Remi got, but Luka fixed it unknowingly that Remi already did it in his branch. After Luka's pull request got accepted, Remi got the exact same merge conflicts as the ones he fixed, but worse.
Furthermore, the refactor_wrapperClasses branch caused a lot of problems with branches that made use of the ClientWrapper's singleton property.

Problem 3:

The software contains some real design issues. One of the main challenges is the interaction between the *Carrier*, *Platform*, and *Commander* class. They all have a different behaviour, yet the same. If the platform goes left, the carriers have to go left. But carriers also have to trip and fall when they die. How to program this with good design principles?

Reaction: This is a real trade-off between the software engineering part and the context part of this project. In the end we chose context, because of the upcoming feature freeze. The week after that will be the week of refactoring.

Adjustments for next sprint:

- More work for Luka
- More communication is required if one person needs code from another person. Otherwise **problem 2** will reoccur again, which is a waste of time.
- Because of the upcoming feature freeze, we will have to sacrifice good software if it means finishing something in time.

