

Implementation

"Mathochist Studios" Cohort 4, Team 11

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Third Party Licences

The main third-party library we used was LibGDX which is a Java game development framework which we are using as the base to develop our game in Java so our game can be compiled and run on several different platforms like e.g. MacOS and Linux. The ability to develop a game for all our desires under a single code base allows us to save valuable time and effort converting and optimising our pre-existing code to run and perform on other platforms. LibGDX is provided under the Apache 2.0 licence, allowing us to use it for any commercial or non-commercial projects which is perfect for our situation. We are also able to edit the source code to change anything to how we desire and even redistribute our own modified or unmodified versions of the framework.

Some sprites like the WASD icons are originally from the Simple Keys Assets Pack made by beamedeighth available on itch.io. Our use case for these is allowed as the only directive for the fair use of these assets are *“use these assets in any kind of project you want, personal or commercial. Giving credits is not necessary but appreciated.”* meaning we are allowed to use the sprites in the game with no problems, but we should give credit on the github page so we are using them in good faith. These sprites help us achieve NFR_LEGIBLE_TEXT through being large and clear in-game providing the player with an easily readable and understandable tutorial to the game which wouldn't have been possible if the images in the diagram were blurred and unreadable.

We also used several pieces of third party software in order to aid with the development of the game like for example Aseprite, a proprietary, source-available program. This alongside photoshop was mainly used for the development of sprites and assets used in the game. It requires buying a licence in order to be used but with a licence we can use it commercially for games, apps, or any creative project. Unlike libGDX however we aren't allowed to redistribute the source code at all since it uses a commercial proprietary license. This supports one of our original requirements of NFR_NO_GRAPHIC_CONTENT as pixel art is less detailed and so is generally safer for younger audiences even if the art is intended to appear unsuitable as the lack of detail hides anything we don't want. We also use it for NFR_FILE_SIZE as in our code we scale up pixel sprites, meaning we can store the sprites as very small images, keeping the file size down and letting us use this room elsewhere.

Incomplete Requirements

Due to time constraints, we are unable to fully implement each of the initial requirements outlined by the client and ourselves in our requirements document as other parts of the project were prioritised and developed in its place instead. One example of this is NFR_FILE_SIZE, our final game is above the 30Mb aim for us to have fulfilled the requirement, however the user requirement this is referencing has the “May” priority, so we did not feel it was overly necessary to implement.

NFR_CROSS_OS_COMPATIBILITY / UR_MULTI_OPERATING_SYSTEM_COMPATIBLE is another requirement which has not been fully explored as we have not yet had the opportunity to test and compile the game on a linux based machine to ensure that all elements of the game maintain its current quality and do not break from unexpected differences. As far as we know now it works but without proper testing there is no way to be fully sure.