# Game Engine Development - Assignment 1

The game that is going to be developed using this game engine, Will be based around a 'Brick breaking' type genre of game, Where the user will use keyboard inputs to control a character platform to bounce a ball back and forth to destroy target objects. There may be an aspect of AI as a final moving block that will fire back or dodge the user's attacks.

In my opinion the game engine will use SFML as the external library and API, SFML has the wider selection of libraries and functionality compared to SDL, while also being automatically hardware accelerated to run processes faster rather than SDL libraries. This is because of the use and access of the GPU rather than SDL's sole use of the CPU. Taking them factors aside, SFML is a more recent API so in turn the updates and bugs are being pushed out much faster than SDL libraries. There is good documentation and online tutorials for SFML whereas due to the lack of activity from SDL development team soon parts of the libraries will be depreciated and not function correctly.

2D rendering will be easily managed by SFML. "sf::RenderWindow adds high-level functions to help you draw things easily."(Sfml-dev.org, 2017). This alongside the 'draw' functions allows a multitude of 2D rendering options, Ie. Adding sprites, Text, shapes and vertex's. (Milchev, 2015)

• 2D Rendering

• User Input

• Collision Detection / Physics

• AI

• Resource management

• Scene management

2D rendering options discussed 10

User Input options discussed 10

Physics / Collision Detection options discussed 10

AI features discussed 10

Resource management discussed 10

Scene Management discussed 10

Tool development discussed 10

Clear reasoning of SDK selection 15

Quality of presentation 15

## **References**

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(Gregory, 2014)

Gregory, J. (2014) *Game engine architecture*. 2nd edn. Boca Raton, Florida: CRC Press.

(Moreira, 2013)

Moreira, A., Haller, J. & Hansson, H.V. (2013) *SFML Game Development,* 1st edn, Packt Publishing, Olton.

(Milchev, 2015)

Milchev, M. (2015). *SFML essentials*. Birmingham, UK: Packt Publishing, pp.24-28.

Sfml-dev.org. (2017). *Drawing 2D stuff (SFML / Learn / 2.4 Tutorials)*. [online] Available at: https://www.sfml-dev.org/tutorials/2.4/graphics-draw.php [Accessed 8 Nov. 2017].

## **Bibliography**

https://www.sfml-dev.org/faq.php#grl-whatis

<https://www.reddit.com/r/gamedev/comments/44npzz/sdl20_vs_sfml2_in_2016/>

<https://www.reddit.com/r/gamedev/comments/42og4b/what_is_a_good_library_to_2d_games_in_c/>

<https://www.sfml-dev.org/tutorials/2.0/graphics-draw.php>

<https://en.wikipedia.org/wiki/Application_programming_interface>