

ME3241/ME3241E/TME3241 Microprocessor Applications

Assignment 3: GBA Game (**Extended version**)

Guillaume SARTORETTI, NUS-MPE

Due: **21/04/2023**

1 Goal

The goal of this assignment is to program your very own GameBoy Advance (GBA) video game!

2 Assignment

You can choose your game, or (even better) invent your own game. Existing game include: Space Invaders, Snake, Sudoku, Arkanoid, Zelda.

At the minimum, your game must include the following features:

- The game must have a **simple menu to start a session, and return to at the end (win/loss).**
- The game must use sprites.
- You must use interrupts/timers.
- You must use the console buttons.
- You can code the game in the language of your choice (**Assembly/C**). You need to have at least a small portion in assembly, which can be called from C (like in CA1).
- You must create **several levels (at least 2).** At each level, the difficulty level should increase (e.g., more ennemies, ennemies are faster/more powerful).

2.1 Additional Information

- Please **comment your code** appropriately (C code and especially assembly portion). Any code that is hard to understand and not well-commented will be penalized in the final grade.
- The website <https://www.gbadev.org/tools.php> has a lot of great tools to help, including tools to help you design sprites and palettes, which can be very useful when completing your project!

3 Deliverables

Your source code, as well as a short report describing your work.

Good luck, and enjoy the assignment! Get creative (bonus points)!