

# Making a gameboy game in 2019

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GConfs

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# What's a gameboy ?

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Figure: A gameboy

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- 4 buttons: A, B, select, start

Figure: A gameboy



- 3 layers

- 3 layers
  - Background

- 3 layers
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  - Window



- 3 layers
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Figure: 10 sprites on a line

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Figure: More than 10 sprites on a line

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- Essentially no 3D



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Figure: Toy Story Racer - 2001

- Devkits

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Figure: The Wide-Boy - Front

- Devkits

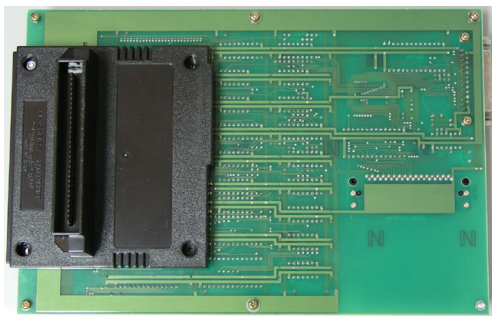


Figure: The Wide-Boy - Back

- Devkits
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- Lots-o'-optimization

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Let's take a look at a real game

- Design with constraints



- Design with constraints
- "Simple" sprites

- Design with constraints
- "Simple" sprites
- An active community, on modern social networks

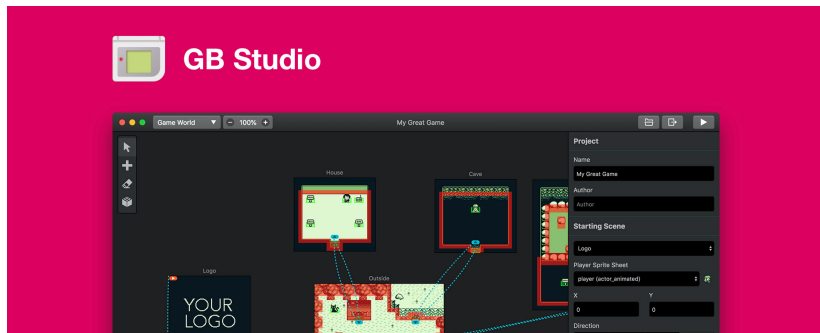


Figure: GB Studio

- The RPG Maker of gameboy development

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- Free as in freedom and free beer

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Unfortunately, EPITA syndrome is a thing ...



# What you need to get started

- A programming language
- A compiler
- A library
- An editor
- A sprite editor
- A tilemap editor
- Tests
- CI / CD
- An emulator





- [gbdk-n](#) by Andreas Karlsson

- Relatively up-to-date

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- Easy to use

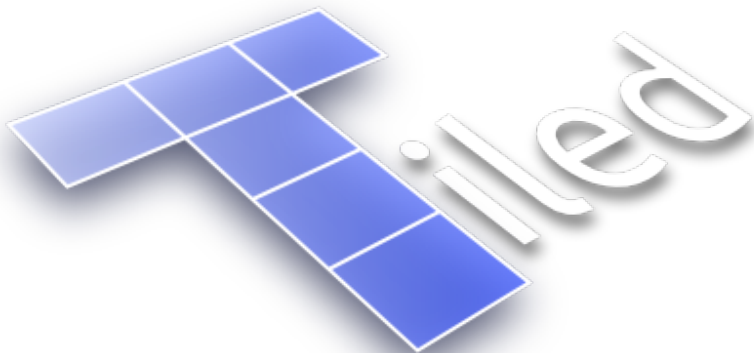
- Relatively up-to-date
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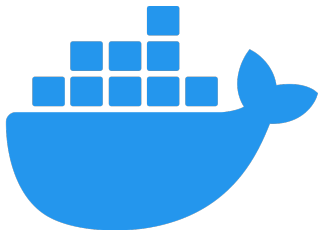
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- [Criterion](#) by Snaipe



docker<sup>®</sup>

- Gitlab CI
- [gb\\_img](#) by me

Method	Cost
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Table: Methods by obtainability

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- BGB by bircd



# Let's read some code

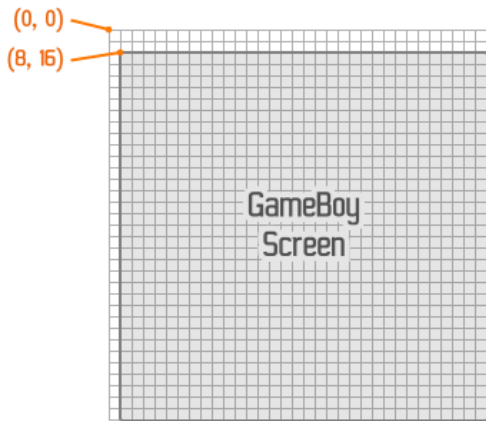


Figure: Gameboy screen coordinates

How about a demo ?

What about real hardware ?

- Add menus

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- Add sound

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- Migrate from C to ASM for performance

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- Add sound
- Migrate from C to ASM for performance
- Make something more ambitious



Thank you for listening

- 1 Fabien "FLOZz" LOISON - [gameboy - FLOZz's Blog](#)
- 2 gbdev - [GBDEV](#)
- 3 ISSOtm & tobiasvl - [To C or not to C](#)
- 4 Pan of Anthrox et al. - [GameBoy™ CPU Manual](#)
- 5 Handheld Museum - [Nintendo Game Boy Wide-Boy](#)