Falling in love with the DMG

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GConfs

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What's a DMG?

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"[...] You have to hold one in your hands. You study the finer details. The colors of the plastics, the textures, the sleek shine, it's firmness, it's weight, the craftsmanship that went into it's design. [...]

At this point, if you're not already in love, you may need to get a pulse check, because the DMG is the alpha, the omega, the be all, end all, the big bang, the mother womb, the warm caressing light of eternity.

DMG is nirvana, bliss and eutopia, all rolled into a portable, plastic miniature monolith that stands the test of time."

— u/the_8bit_kingdom

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Figure: Perfection

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- 4-way D-pad
- 4 buttons: A, B, select, start
- 8 KB of RAM & VRAM

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- Yes I have

Haven't you done this before?

- Yes I have
- I wanted to learn more

Haven't you done this before?

- Yes I have
- I wanted to learn more
- I'm still no expert

Why are you doing this to yourself?

It's all because of Hacktoberfest ...

Why make a gameboy game in 2020

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- Lots of community-driven documentation
- Easy-to-grasp graphics pipeline
- Minimal tooling needed

What you need to get started

Sidenote: what about the OS?

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- Windows 10 + Ubuntu WSL 2 was my daily driver

What you need to get started

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- A development toolkit
- A code editor
- A sprite editor
- A tile data generator
- An emulator
- Documentation

Tools - Development toolkit: RGBDS

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- Uses GBZ80 assembly
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- Very well documented

Tools - Code editor: VS Code

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Your favorite code editor probably has a syntax highlighting plugin too - you can check the list here

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- Non-exhaustive

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- Non-exhaustive
- Probably has what you're looking for

Sidenote: about gingerbread

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You should still read *Game Boy Assembly Programming for the Modern Game Developer* if you don't plan on using Gingerbread.

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Figure: More than 10 sprites on a line

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  - Background
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Figure: Toy Story Racer - 2001

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A *hardware.inc* or equivalent is highly recommended

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Let's add an NPC interaction!

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1. Choose sprite

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4. Add dialogue string
5. Add interaction to list

Playing your game

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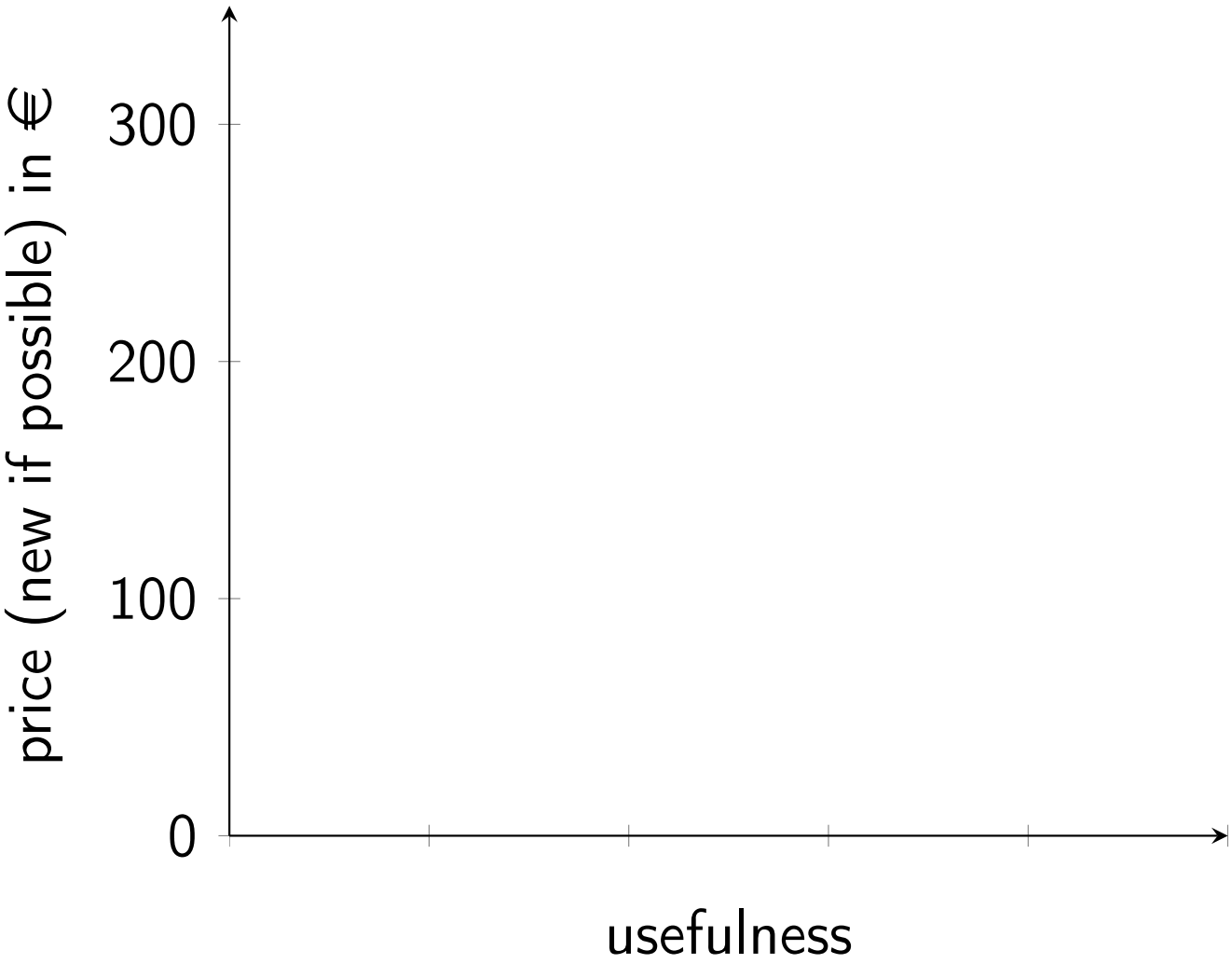

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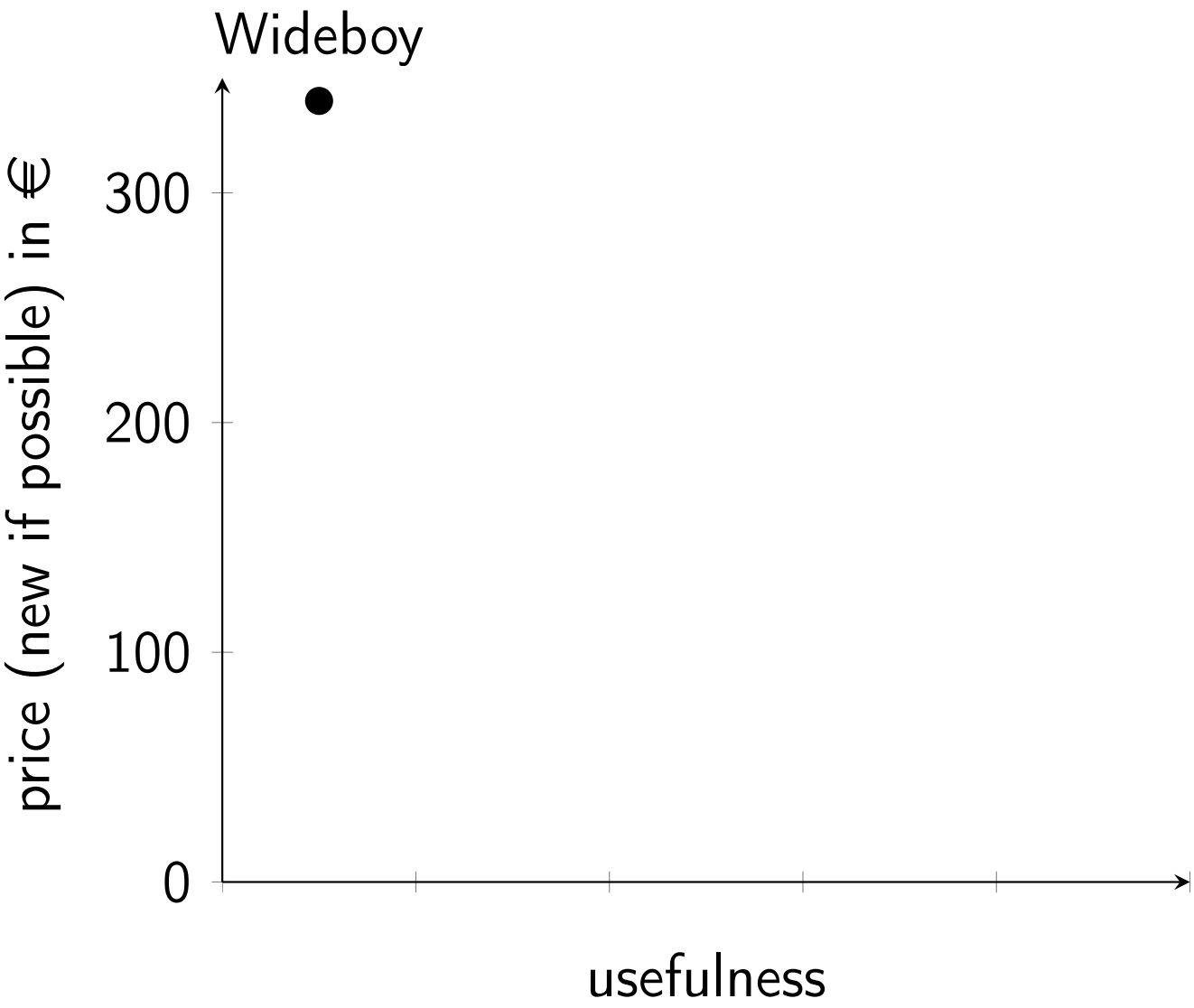

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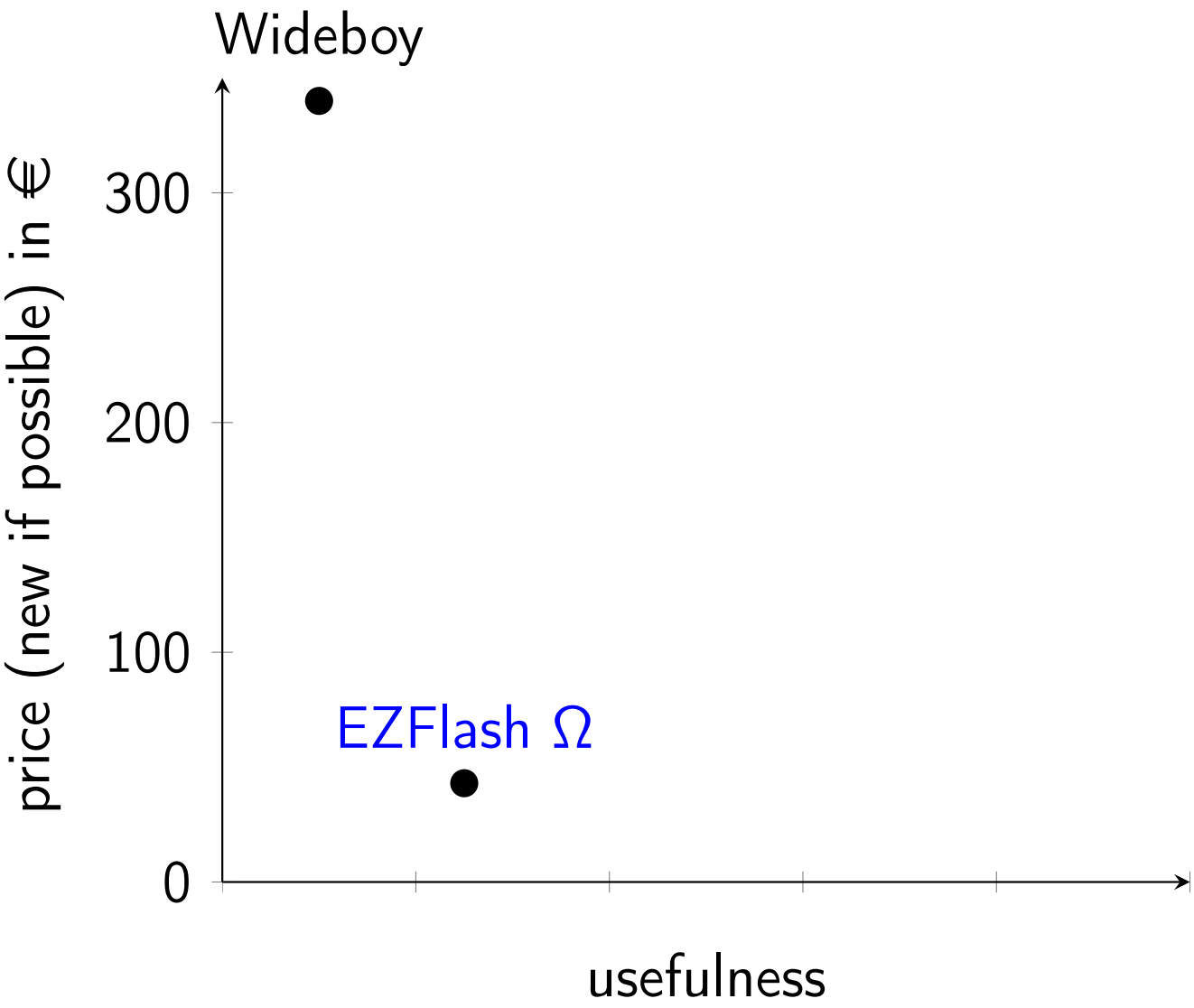

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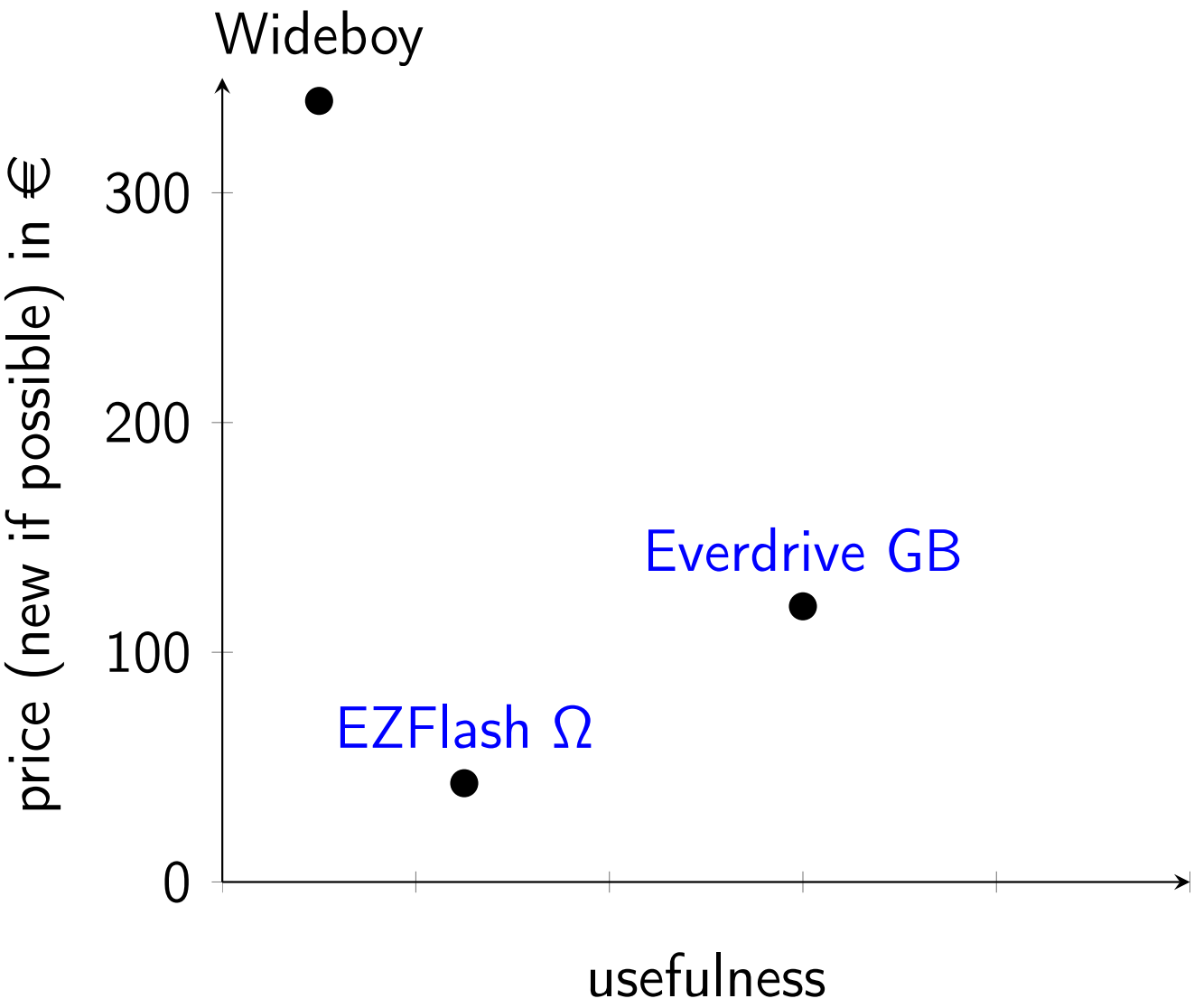

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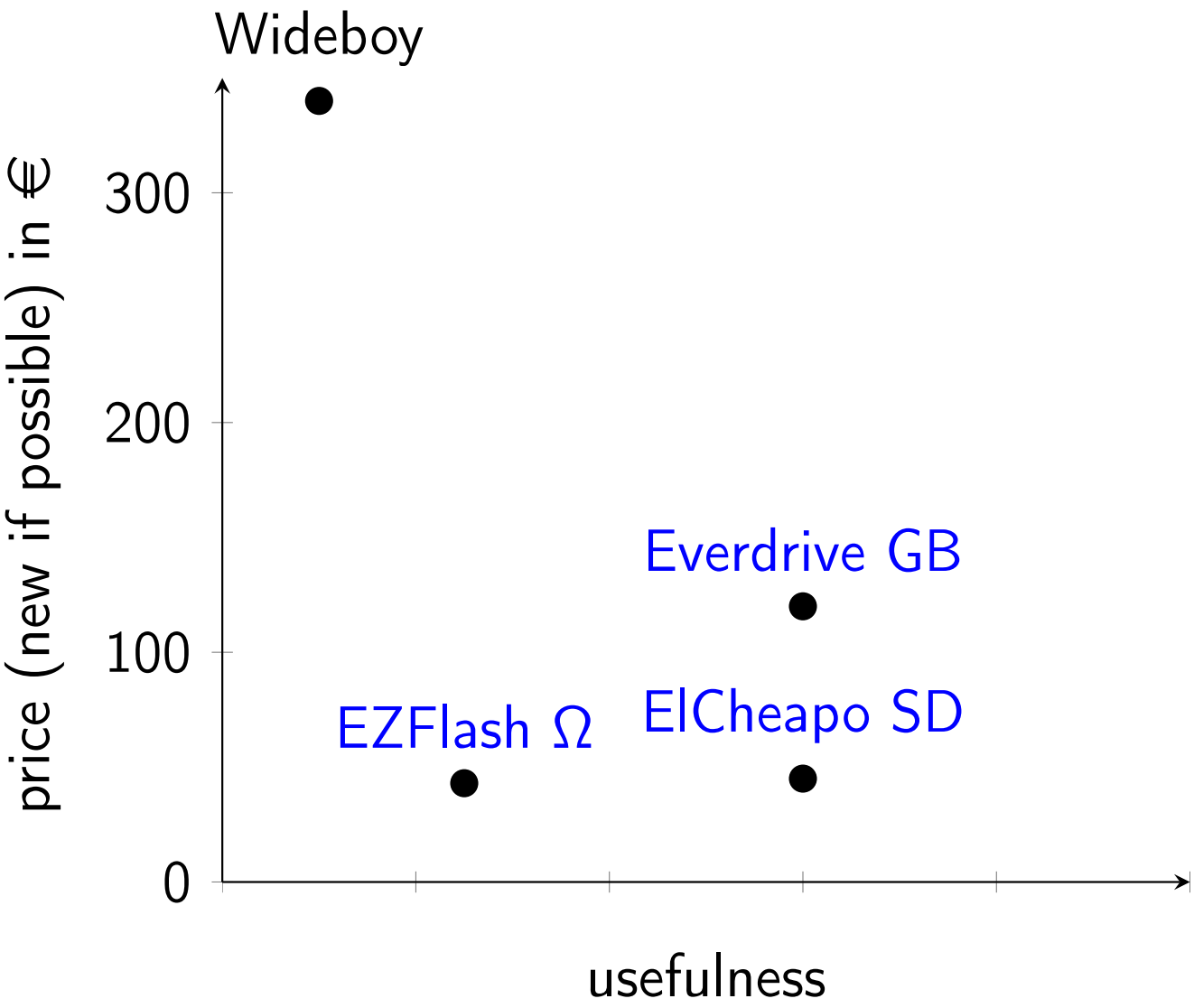

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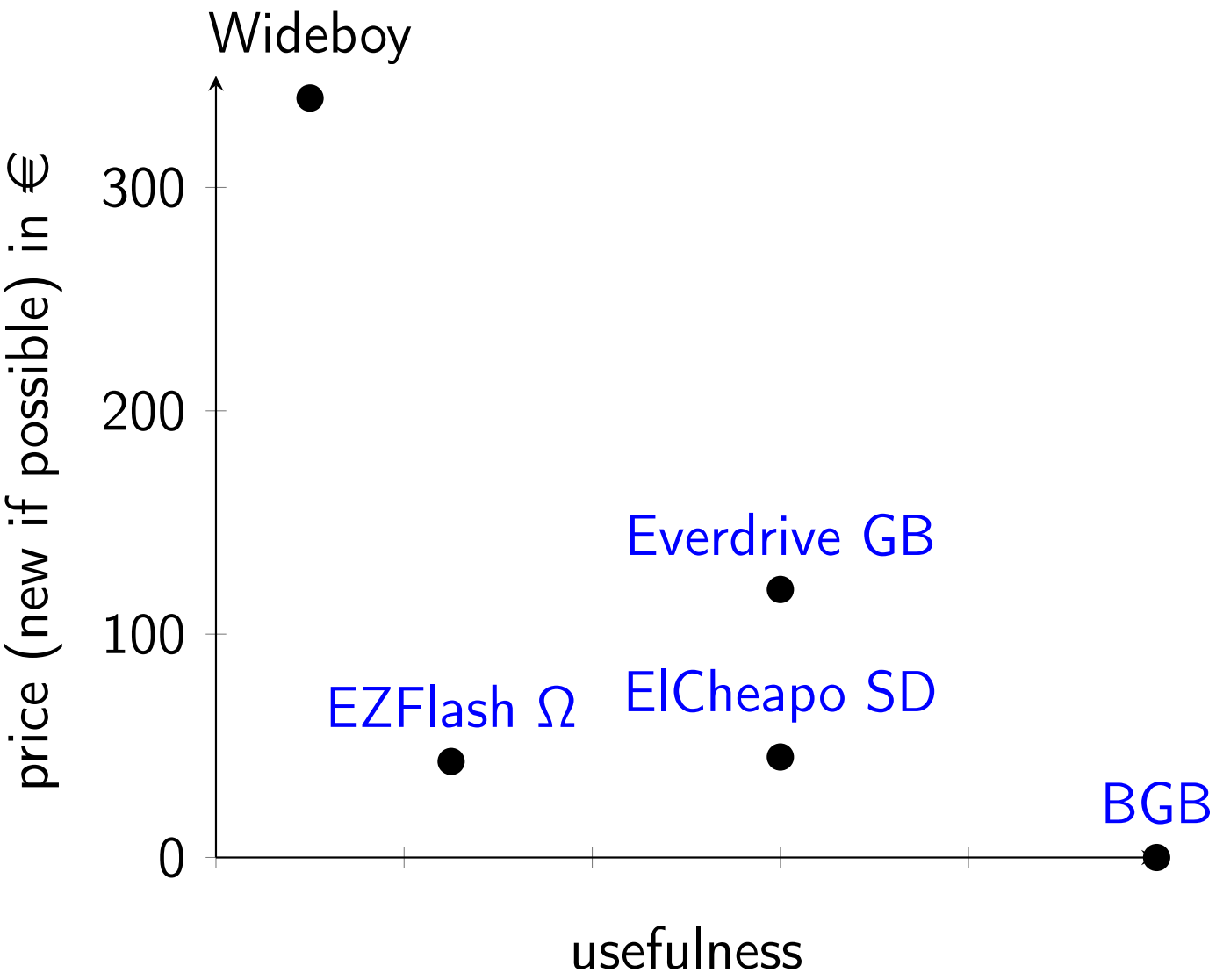

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- Don't hesitate to take shortcuts at first

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- Minimal toolkit and footprint compared to famous engines

Why I love the DMG

- “Simple” graphics code compared to OpenGL / SDL
- Minimal toolkit and footprint compared to famous engines
- Nostalgia and ever growing respect for the OG

What the future holds

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- Add objectives

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- Add (real) menus

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- Add (real) menus
- Add sound
- Move on to GBA (thanks to butano)

Questions, comments, something unclear ?

Thank you for listening

Useful links - Tools

1. Development toolkit - RGBDS
2. Code editor - VS Code
3. Sprite editor - Aseprite
4. Tile data generator - GBTDG
5. Emulator - BGB
6. Constant definitions - hardware.inc

Useful links - Documentation

1. Gingerbread companion book - Game Boy Assembly Programming for the Modern Game Developer
2. Useful links list - Awesome Game Boy Development
3. Game Boy technical reference - Pan Docs
4. GBZ80 Opcode reference - RGBDS GBZ80 opcode reference
5. GBZ80 Instruction set - Optables
6. Source code - GitHub
7. Slides - sunbro.dev/talks