## 2024-04-27 Free Range Programming

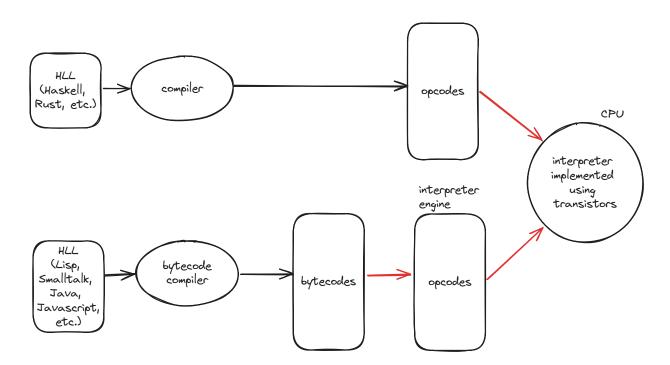
### **Bloatware**

Coding is the act of creating assembler programs.

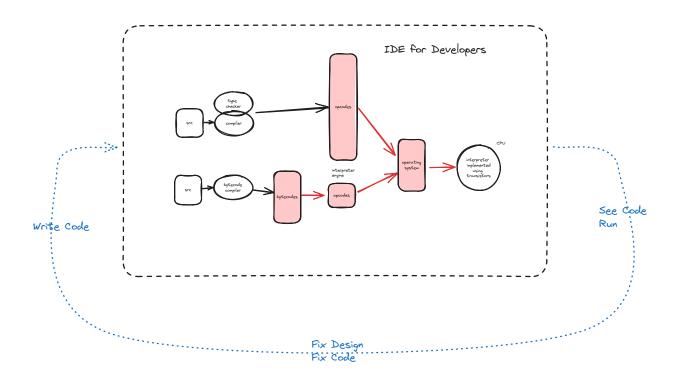
All programming languages, including languages like Haskell and Rust, ultimately create assembler.

The so-called interpreted languages create scripts that are run by engines that are coded in assembler. This adds an extra layer of indirection - the CPU interpreter interprets the engine which interprets encoded instructions.

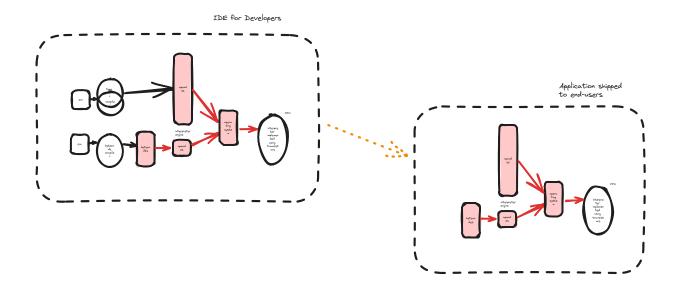
All languages are interpreted. So-called "compiled" languages are interpreted directly by the hardware CPU. The CPU is an interpreter. It interprets encoded instructions ("opcodes") in hardware.



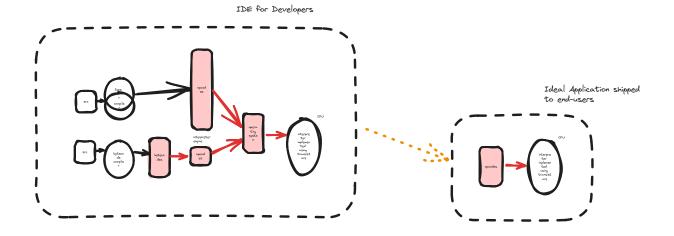
Type-checking creates extra code that developers find to be useful, especially on their souped-up development machines.



Then, developers ship code that still contains the useful stuff.

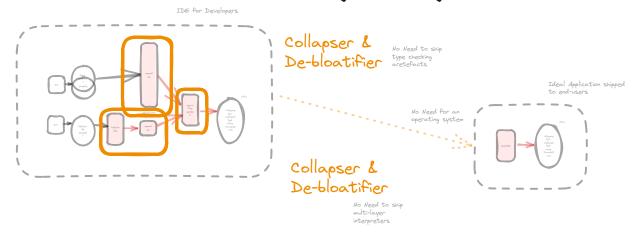


But, end-users don't need all of that extra code. End-users don't need to pay for souped-up machinery.



What's missing from this process?

# Production Engineering



## Appendix - See Also

#### See Also

References <a href="https://guitarvydas.github.io/2024/01/06/References.html">https://guitarvydas.github.io/2024/01/06/References.html</a>

Blog https://guitarvydas.github.io/

Blog https://publish.obsidian.md/programmingsimplicity

Videos https://www.youtube.com/@programmingsimplicity2980

[see playlist "programming simplicity"]

**Discord** <u>https://discord.gg/Jjx62ypR</u> (Everyone welcome to join)

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More writing (WIP): https://leanpub.com/u/paul-tarvydas