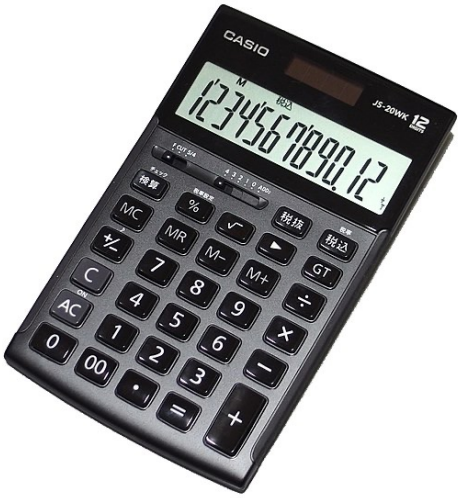
Observing the World of Software

State of the art software techniques result in unreliable products.

Calculators Then And Now

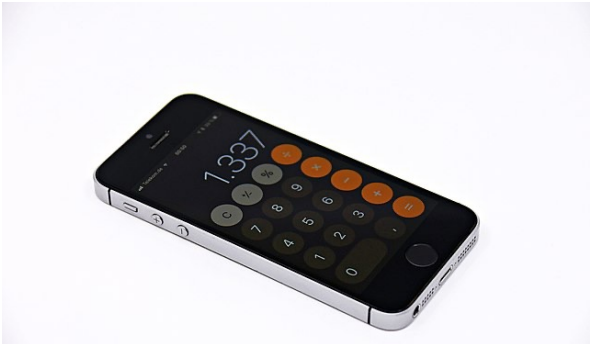
Programming Simplicity



Caption

19xx

- buy off-the-shelf at Radio Shack for **$7.99**
- needs **no updates**, i.e. zero (0) failures in the field
- **immediate access**
- **tactile keyboard**
- **Tort Law applies**, lawsuit or jail-time if it causes personal injury or if it causes substantial financial losses
- **accessibility** provided by different SKUs, i.e. larger keys, larger displays
- **guarantee** - producer guarantees that calculator meets users' expectations, EE signs schematic - legal guarantee
- **security** - if lost cannot divulge personal info, since data is not persisted, not connected to the rest of the world
- **VPL**s (aka "schematics")
- everything-is-**async**-first mindset
- **Moon**: Apollo 11 - https://spectrum.ieee.org/the-calculator-that-helped-land-men-on-the-moon
- **Memory**: a small handful of *save* registers



Caption

20xx

- buy **$1,000.00** phone from Apple
- **updates** to phone are downloaded every quarter/month/week/day
- needs **several button pushes** to access calculator
- **glass "keyboard"**, not tactile
- phone needs to be **rebooted** once in a while
- marketing departments convince users to accept this state of affairs as a fact of life - giving the impression that **it cannot possibly get better,** developers think so, too
- end-users **accept failure** and provide f**ree Q/A** to producers, legal disclaimers
- **accessibility hidden** behind Systems Setting menu(s) and unobvious
- **guarantee** - are you kidding?
- **security** - big issue, scammers continuously devise new ways to break in based on faults in programming and design techniques that were used, connected to the rest of the world
- **TPL**s (Textual Programming Language, e.g. objc / Haskell / Rust / Python, etc.)
- everything-is-**sync**-first mindset
- **Moon**: we haven't been back
- **Memory:** measured in Gigabytes

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