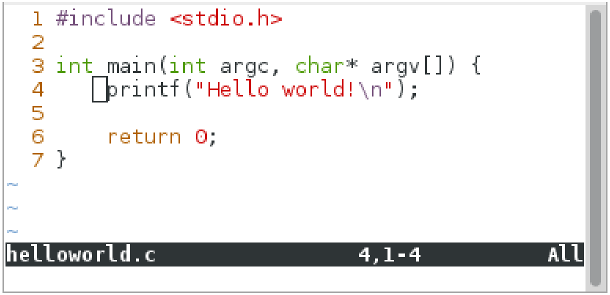
Software Development Principles

Dave van Soest

February 13, 2014

Introduction



```
#include <stdio.h>

int main(int argc, char* argv[]) {
    printf("Hello world!\n");

    return 0;
}
~
~
~
helloworld.c                    4,1-4          All
```

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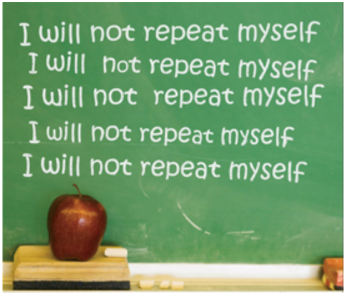
DRY


I will not repeat myself
I will not repeat myself
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- No seriously, do not repeat yourself, ever.

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- Implicit dependencies can and will eventually cause inconsistencies in your system.

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- Check for repetition during code review.

KISS

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division into
ornament, etc.
ness. 5. lack
from L. simpl

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- Maintainability: “What you can’t comprehend, you can’t change with confidence.”

Premature Optimization

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- Compilers and interpreters are far better at optimizing code. Some seeming optimizations may even block the compiler/interpreter from applying it's own optimizations.
- Beware: Don't pessimize prematurely! If it doesn't take longer to implement and doesn't reduce code clarity, please do it.

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- Run the optimized code in different scenarios, not only in the scenario you're trying to optimize.

SOLID

SOLID: Single responsibility principle

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- Always describe the responsibility of an entity in a comment inside the code. For variables, a descriptive name can be sufficient.
    - Rule of thumb: If the responsibility can't be described without conjunctives or disjunctives, then it violates this principle.

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  - No need for recompilation, code reviews, running unit tests of the original entity.

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- This principle imposes a number of requirements on the definition and implementation of subtypes and their methods.

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- Use concise, specific interfaces instead of bulky multi-purpose interfaces.

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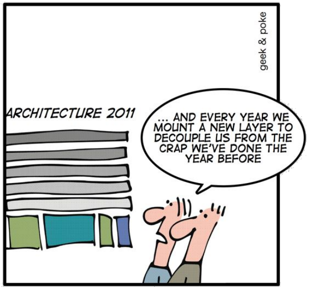
Best Practices


geek & poke
ARCHITECTURE 2011
... AND EVERY YEAR WE MOUNT A NEW LAYER TO DECOUPLE US FROM THE CRAP WE'VE DONE THE YEAR BEFORE

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- Prefer DRY comments. Don't repeat (parts of) other comments. Don't repeat logic that is already clear from the code.

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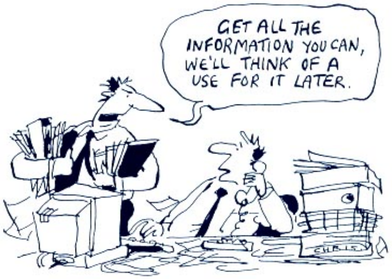
- Common vocabulary to use in design discussions.

Questions & Discussion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CHRIS