

C++ Club Meeting 102

Gleb Dolgich

2020-03-19

- **Reddit**
 - **Reddit: Varna ISO meeting postponed**

- Botond Ballo
 - [Reddit](#)

How I Declare My class And Why

- Howard Hinnant
 - [Reddit](#)
 - [Coding guidelines](#)

Order:

- data members
- destructor
- default constructor
- copy special members
- move special members
- other constructors
- other member functions

- Herb Sutter
 - Reddit

- **Reddit**

- [GitHub](#)

- [GitHub](#)

Reddit

- Casey Muratori aka HandmadeHero
- C++ Weekly by Jason Turner
- Jonathan Blow
- TheChernoProject
- Bo Quian
- Hopson
- OneLoneCoder

Analyze your builds programmatically with the C++ Build Insights SDK

- [MSVC Blog](#)
- [Reddit](#)
- [vcperf on GitHub](#)

- Reddit

- [toml++](#) (C++17, MIT)
- [Reddit](#)

See also: [TOML Spec V0.5.0](#)

A header-only, tiny and easy to use library for game programming and much more written in modern C++, mainly known for its innovative entity-component-system (ECS) model.

- [GitHub](#) (C++17, MIT)
- [Reddit](#)

- [Article](#)

The C++ Lifetime Profile: How It Plans to Make C++ Code Safer

- Daniel Martin

The C++ rvalue lifetime disaster, by Arno Schödl

- [Video](#)
- [Article by Arthur O'Dwyer](#)
- [Reddit](#)

See also: [Abseil Tip of the Week #107: Reference Lifetime Extension](#)

```
1 std::string Foo::GetName();  
2 const std::string& name = obj.GetName(); // Is this safe/legal?
```


A new decade, a new tool: libman

- Colby Pike (vector-of-bool)
- Reddit
- GitHub
- Specification

libman is a new level of indirection between package management and build systems.

dds is Drop-Dead Simple build and package manager.

- CppCon 2019: Robert Schumacher “How to Herd 1,000 Libraries”

"Making new friends" idiom by Dan Saks

Wikibooks

The goal is to simplify creation of friend functions for a class template.

```
1 #include <iostream>
2 template<typename T>
3 class Foo {
4     T value;
5 public:
6     Foo(const T& t) { value = t; }
7     friend std::ostream& operator <<(std::ostream& os, const
        Foo<T>& b)
8     {
9         return os << b.value;
10    }
11 };
```

A hidden gem: `inner_product` (1/2)

- Article

A hidden gem: inner_product (2/2)



Conor Hoekstra @code_report

@cjdb_ns & @TartanLlama

4

This makes me so incredibly happy! I literally just yesterday googled, C++17 / C++20 zip to see if they had anything, because I wrote some code in both C++ and [Python](#) and Python was so much more beautiful.

```
int solve(int h, vector<int> w, vector<int> l) {  
    int p = 0;  
    for (int i = 0; i < w.size(); ++i)  
        p = max(p, w[i] - l[i] / 4);  
    return max(0, p - h);  
}  
  
def solve(h, w, l):  
    p = max(a - b/4 for a, b in zip(w, l))  
    return max(0, p - h)
```

29w • 03/12/2018 • 17:47



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Also, I just discovered `std::inner_product` – a beautiful temporary solution to a lack of `zip`.
[#cpp](#) [#inner_product](#)

```
int solve(int h, vector<int> w, vector<int> l) {  
    return max(0, inner_product(begin(w), end(w), begin(l), 0,  
        [](auto a, auto b) { return max(a, b); },  
        [](auto a, auto b) { return a - b / 4; }) - h);  
}
```

27w • 16/12/2018 • 09:30



- Raymond Chen: How can I handle both structured exceptions and C++ exceptions potentially coming from the same source?
 - [Reddit](#)
- Raymond Chen: Can I throw a C++ exception from a structured exception?

How to Pass Class Member Functions to STL Algorithms

- [Article by Jonathan Boccara](#)
- [Reddit](#)

STL writes:

mem_fn is less typing, but lambdas are higher performance (MSVC's optimizer can't see through mem_fn's data member) and can handle overloaded/templated member functions much more easily.

- If you plan on keeping the parameter anyway, then there's no need to have separate `T const&` and `T&&` overloads
- If you're not keeping the parameter, then you still want to have separate `T const&` and `T&&` overloads
- [Reddit](#)

- [Reddit](#)
- [Paper PDF](#)
- [Paper GitHub](#)
- [Reference implementation](#)



I Am Devloper @iamdevloper

CDC: to avoid the spread of the coronavirus, self-isolate and stay indoors, avoiding other people

Programmer: I've been preparing for this my whole life

9h • 05/03/2020 • 08:31 •

