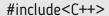
# C++ Club Meeting Notes

Gleb Dolgich

2018-04-12

### Post-Jacksonville Standard Committee Documents

**▶** Email



#### Website

A global, inclusive, and diverse community for developers interested in C++. Here, you can find a welcoming space to learn and discuss C++. We also provide resources to create safer, more inclusive, community gatherings.

### Announcing Meeting C++ 2018

- Announcement
- ▶ When: 15th-17th November
- ▶ Where: Andels Hotel Berlin
- ▶ 4 Tracks: ~30+ Talks about C++
- 3 Keynotes:
  - Andrei Alexandrescu
  - ► Lisa Lippincott
  - Nicolai Josuttis

# Björn Fahller - Type Safe C++? LOL! :-)

Video

Type\_safe
NamedType

```
Slides

1 enum class Apple{};
2 enum class Orange{};
3

4 Orange o{4};
5 Apple a{3};
6 Apple x{o}; // Oops
```

# Outcome 2.1 progress report

- ► Reddit
- Outcome GitHub
- ► Boost.Outcome GitHub

### East end functions, by Phil Nash

#### ▶ Article

```
1 auto doesItBlend() -> bool;
2 auto whatsYourFavouriteNumber() -> int;
3 auto add(double a, double b) -> double;
4 void setTheControls();
```

### Why = means assignment?

#### Article

```
1 integer algol_x; algol_x := 5;
2
3 cpl_by_value = 5;
4 cpl_by_reference ~= 5;
5 cpl_by_subst = 5;
6
7 apl x ← 5
```

ALGOL -> CPL -> BCPL -> B -> C

### IsCool Entertainment's General Purpose C++ Library

#### ▶ GitHub

IsCool Core is a collection of general purpose C++ libraries developed at IsCool Entertainment. This code is used intensively in Bazoo, Garden of words (iOS, Android) and Bouquet of Words (iOS, Android).

### SG13 (2D Graphics): why it failed

- ▶ Reddit
- Jeremy Ong feedback post
  - "The parts that are hard but critical (window surface, choice of driver backend, input) are vastly underspecified."

# Proposed standard low level file i/o library for C++20

- ▶ Reddit
- Draft proposal announcement
- Draft proposal PDF

### Live++ - C and C++ live coding

### Product page

- ▶ Windows only, programs must be built with MSVC, 32 or 64 bit
- > 30 day trial, then EUR 119 (ind.) or EUR 199 (business) per year

Live++ enables live coding (hot-reload) for C/C++ applications, combining the power of rapid iteration with the speed of a compiled language. Live++ compiles your changes in the background, directly patching the machine code of the running executable(s). It links against existing code and data symbols, automatically persisting the state of global symbols, function static variables, and the like. It works with any kind of C/C++ code and requires neither plug-ins nor a debugger or IDE.

### A C++ implementation of a memory efficient hash map and hash set

- ► GitHub (MIT)
- ► How Google Sparsehash achieves two bits of overhead per entry using sparsetable

# Type.Erasure - C++17 run-time polymorphism library

- ▶ GitHub
- Similar:
  - ► Adobe.Poly
  - ▶ Boost.TypeErasure
  - ► Folly.Poly
  - Dyno

# There is much more to std::for\_each than meets the eye, by Ivan Čukić

### Article

```
for (item : items) {
    // do something
}

for_each(items, [](item) {
    // do something
});
```

### optional in a possible C++20 future

- Article
  - ▶ Initial code
  - ▶ p0847: Deducing this / Code
  - ► P0892: Explicit(boo1) / Code
  - ▶ P0848: Conditionally Trivial Special Member Functions / Code
  - Code +spaceship operator
  - ▶ Code +concepts

### Reflection in C++ Part 1: The Present

- Article
- ► Reddit thread

### Topics:

- Type introspection using SFINAE
- ► The magic\_get library GitHub
- Reflecting function types
  - ► Boost.CallableTraits

### 5 Reasons NOT to Use std::ostream for Human-Readable Output

#### Article

- ▶ i18n
- multithreading
- sticky flags
- readability
- {fmt} is much better

### CryptoPP 7.0 released

- Release notes
- ▶ Home page
- GitHub (Boost Software License)

### Twitter: John Regehr



### Twitter: James McNellis



### Twitter: Kévin Boissonneault

