# C++ Club Meeting Notes

Gleb Dolgich 2019-11-07

### The Case for C++

Article

#### ABI: Now or Never

P1863R0 by Titus Winters

Reddit

C++ Epochs won't help as they only touch syntax, not ABI.

### The Most Essential C++ Advice

John M. Dlugosz

# Another cool MSVC flag: /d1reportTime

Aras Pranckevičius

# Introducing C++ Build Insights in Visual Studio

- VC++ Team Blog
- Reddit

```
Why T t(u) not equivalent to T t = u ?
```

Reddit

STL:

C++ initialization is a mess.

Stack Overflow: Is there a difference between copy initialization and direct initialization?

## A Universal Async Abstraction for C++

Corentin Jabot

P0443R11 The Unified Executors Proposal

# Scapix language bridge

- Intro
- Code
- Reddit 1
- Reddit 2

# **CURL** wrappers

#### Swish

- Code
- Reddit

#### **CPR**

- Code
- Docs

### Span Lite

#### Code

A C++20-like span for C++98, C++11 and later in a single-file header-only library.

#### mdspan

- Implementation (BSD 3-Clause)
  - Intro
  - Reddit
- Kokkos
- Multi-dimensional strided array views in Magnum
- P0009R9 mdspan: A Non-Owning Multidimensional Array Reference
- CppCast with Bryce Adelstein Lelbach

# Enums, warnings, and default

### Barry Revzin

### Reddit

GCC & Clang: -Wswitch-enum

# Machine Learning with C++

- PyTorch
- TensorFlow for C++
- Shogun

The sad history of Unicode printf-style format specifiers in Visual C++

Raymond Chen

# **Introducing Magnum Python Bindings**

Blog

PyBind11

# AnyDuck: A Value Type Erased Type

Steve Downey

Template meta-programming: Some testing and debugging tricks

Ivan Cukic

Article

# Berkeley Container Library (BCL)

GitHub

## C++ Interview Questions

### Eliminating the Static Overhead of Ranges

### Colby Pike, Reddit

#### Without ranges

```
vector<string> child_names;
for (auto& person : all_people) {
    if (person.age < 14) {
        child_names.push_back(person.name);
    }
}</pre>
```

#### With ranges

```
1 auto children_names =
2    all_people
3    | filter([](const auto& person) { return person.age < 14; })
4    | transform([](const auto& person) { return person.name; })
5    | to_vector;</pre>
```

### Expression templates, ranges, and coroutines

- Wikipedia
- We don't need no stinking expression templates by Andy G
  - Reddit

Change standard containers' size() method to return signed integer?

#### Camomilla by Vittorio Romeo

A Python script that simplifies C++ compiler errors. Useful when using heavily-templated libraries.

GitHub

Is requiring lambdas to explicitly list what they capture a good coding standard?

# **Installing GCC on Windows**

- GCC 9
- GCC 8.2 by STL



## James McNellis @JamesMcNellis

There's a neat trick that I use to remember when to use the typename keyword:

If the compiler tells me that there's a "missing 'typename'", I add the typename keyword where the compiler tells me to put it.



### Quote

The Programmers' Credo:

We do these things not because they are easy, but because we thought they were going to be easy.