

C++ Club Meeting Notes

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2017-09-28

Bjarne Stroustrup awarded 2017 Faraday Medal

Congratulations!

Columbia University:

For significant contributions to the history of computing, in particular pioneering the C++ programming language, Bjarne Stroustrup has been named the recipient of the 2017 Faraday Medal, the most prestigious award to an individual made by the Institution of Engineering and Technology.

Bjarne Stroustrup “Learning and Teaching Modern C++”

Video (1h38m), [Reddit thread](#)

[CppCon 2017 Playlist](#)

- ▶ “We’re all students and teachers”
- ▶ “Don’t brag”

Is C++ Programming “bipolar”?

The C++ coding experience is bi-polar, lets talk about it (Reddit)

Winner of the “Most misconceptions about C++ in one post” award.

Stephan T. Lavavej on Twitter:

C++17 fold expressions have been implemented by @joncaves for VS 2017 15.5!

And later:

Our plan was C++17 complete in calendar year 2017. It looks like we'll miss that, but we're getting really close. FS will be last in libs.

Google's Abseil

[Abseil](#) is an open-source collection of C++ library code designed to augment the C++ standard library. The Abseil library code is collected from Google's own C++ code base, has been extensively tested and used in production, and is the same code we depend on in our daily coding lives.

In some cases, Abseil provides pieces missing from the C++ standard; in others, Abseil provides alternatives to the standard for special needs we've found through usage in the Google code base. We denote those cases clearly within the library code we provide you.

[Intro](#), [Why](#), [C++ Quickstart](#), [GitHub](#) (Apache), [Reddit](#)

Stb libraries by Sean Barrett

Single-file libraries for C/C++ (Public Domain/MIT)

[GitHub](#), [libraries](#), [Author](#), [Twitter](#)

C, MSVC 6 (!)

Wt is a web GUI library in modern C++. Quickly develop highly interactive web UIs with widgets, without having to write a single line of JavaScript. Wt handles all request handling and page rendering for you, so you can focus on functionality.

[Home](#), [Download](#), [GitHub](#) (GPL/Commercial)

GCC 7.2 patch implementing abbreviated lambdas

- ▶ [GitHub](#), [Reddit](#)
- ▶ Implements “Abbreviated Lambdas for Fun and Profit”: [P0573r1](#)
- ▶ Implements “Forward without forward”: [P0644r0](#)

```
1 [](auto&&x) => func(>>x);  
2 //equivalent to  
3 [](auto&& x) ->  
4 decltype((func(std::forward<decltype(x)&&>(x))))  
5 noexcept(noexcept(func(std::forward<decltype(x)&&>(x))))  
6 {  
7     return func(std::forward<decltype(x)&&>(x));  
8 };
```


Useful GCC warning options not enabled by -Wall -Wextra

Post

[GitHub](#) (MIT)

The Parsing Expression Grammar Template Library (PEGTL) is a zero-dependency C++11 header-only parser combinator library for creating parsers according to a [Parsing Expression Grammar](#) (PEG).

What's new in Clang-format 5

Post

Article

- ▶ Most efficient: C, C++, Rust
- ▶ Least efficient: Python, Ruby, Perl, Lua

Units 2.3.0 released

GitHub

A compile-time, header-only, dimensional analysis and unit conversion library built on C++14 with no dependencies.

```
1 // simple implicit conversion
2 foot_t      len  = 5_m;
3 // more complex implicit conversion
4 meters_per_second_t speed = 60_mi / 1_hr;
5 // previous example with mixed units
6 square_meter_t  area  = 15_m * 5_m + 1000_cm * 1000_cm;
```

Detection Idiom - A Stopgap for Concepts

Post

- ▶ SFINAE and expression SFINAE
- ▶ `void_t`
- ▶ `is_detected` implementation
- ▶ links to videos on the topic

How to implement the pimpl idiom by using `unique_ptr`

Article by Jonathan Boccara



Small Buffer Optimization for C++ Lambdas

[Blog post](#), [GitHub](#)

A faster replacement for `std::function` using `PImpl`, type erasure and `placement-new` (MIT).

Tweet



System.Data.Pup  
@6b766e

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I empathize with Visual Studio, as I too take a tremendously long time to open up for people

5:14 PM - 21 Sep 2017

1,726 Retweets 4,970 Likes



39



1.7K



5.0K

