C++ Club UK Meeting 114

Gleb Dolgich

2020-10-01

September 2020 mailing

- September 2020 mailing

Select papers

- P2216R0 `std::format` improvements
- P2218R0 More flexible `optional::value_or()`
- P2219R0 Executors Issues Needing Resolution

CppCon2020 presentation materials

- GitHub

The Little Things: Speeding up C++ compilation

- Article by Martin Hořeňovský
  - Reddit
  - HackerNews

Techniques

- Include less
- Forward declarations (*hmmm – GD*)
- Explicit outlining
- Hidden friends
- Link less
- Extern template
- **Modules** (*not mentioned... – GD*)

Tools

- Include What You Use (IWYU)
- Ninja
- LLD

The Defold game engine code style

Article

Code style

- C-like C++
- No classes (*huh? – GD*)
- No exceptions
- No STL
  - Custom containers
- Data ownership tracking
- C++98

Should I use C++ exceptions?

Reddit

C++17 Zero allocation Coroutine/[Resumable function] library

GitHub

This does not use C++20 coroutines. It is a managed state machine style coroutine library, a modern take on Duff's device. This is supposed to work with C++17 compilers. Why, because C++20 coroutines:

- are difficult to develop with.
- make nested `co_await` clumsy and have large memory overhead to do it right.
- HALO optimization seems to regularly fail.
- require heap allocation to be avaliable in the general case,making them unusable on many systems.

Reddit

> *I do not buy any of these anti-coroutine arguments (maybe except for the fact that HALO can fail in some situations – but that is an engineering problem in the compiler).* ⇒

A Buffers Library for C++20

- Colby Pike

Unpopular opinion: It’s ok to derive from STL types/classes

- Reddit

Why I like C++ attributes

- Marius Bancila

C++ STL-Like Algorithm Libraries

- Conor Hoekstra

Library: Libcu++ - the NVIDIA Standard Library

- GitHub
  - Reddit

Recursive lambdas in C++

- Philip Trettner

id Tech – Game engines written in C++

- Engines and games
  - Reddit

Fabien Sanglard's game engine code reviews

- Quake
- Quake 2
- Quake 3
- Doom 3

See also

- Doom Eternal study

Named Parameters in C++20

- Peter Dimov
  - Reddit

C++ in Visual Studio Code reaches version 1.0

- Julia Reid
  - Reddit

Book: C++ Best Practices by Jason Turner

- LeanPub (min. $9.99)

C++ Talk Index

- Website
  - Reddit

vcpkg: Accelerate your team development environment with binary caching and manifests

- Microsoft
  - Reddit

Related

Why is it such an abysmal pain to use libraries in C++ compared to pretty much anything else?

The terrible **size_t**

- Reddit

juCi++: a lightweight, cross-platform IDE

- GitLab
- Installation guide

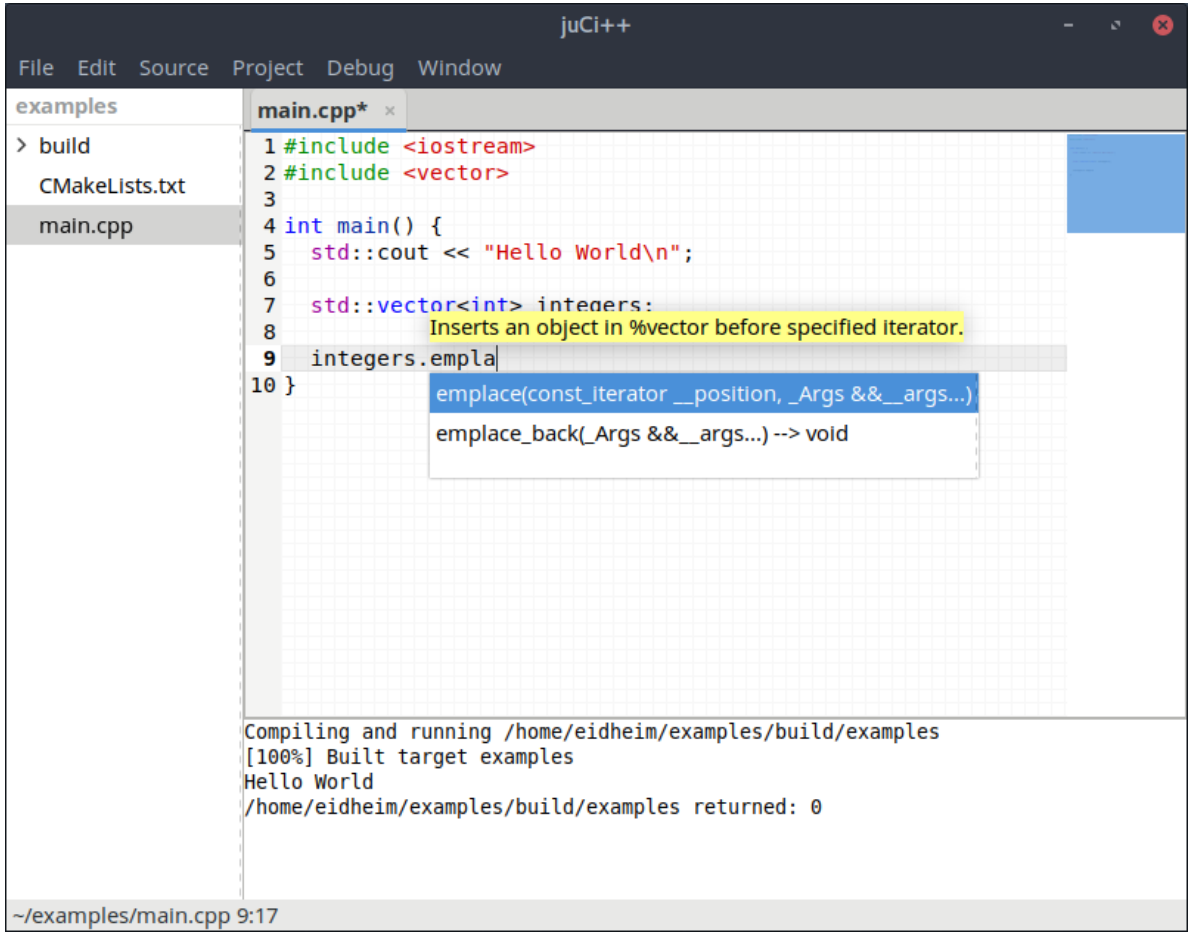

Figure 1: Screenshot

Library: cpp-lazy

- GitHub

Cpp-lazy is a fast and easy lazy evaluation library for C++14/17/20.

Lazy evaluation is an evaluation strategy which holds the evaluation of an expression until its value is needed. In this library, all the iterators are lazy evaluated.

This library is not a replacement for `ranges::v3` but rather a (smaller) alternative.

Library: Crypto3

- Home page
- Boost mailing list announcement
- GitHub
- Reddit

Library: AAA - Auxiliary Arithmetic Algorithms

- GitHub (MIT)
- Docs