C++ Club UK

Gleb Dolgich
2019-09-19

https://devblogs.microsoft.com/cppblog/open-sourcing-msvcs-stl/

https://www.reddit.com/r/cpp/comments/d58pmg/open_sourcing_m
svcs_stl/

https://github.com/microsoft/STL

Reddit

> *If someone says they have mastered C++ they are lying.*
> *You don't master C++. Instead C++ masters you.*

Article

- Reddit

https://www.cycfi.com/2019/07/photon-micro-gui/

- Reddit

- VTK https://vtk.org/
- ROOT https://root.cern.ch/
- matplotlib-cpp https://github.com/lava/matplotlib-cpp
  - matplotlib (Python) https://matplotlib.org/
- QCustomPlot (QT, GPL/commercial)
  https://www.qcustomplot.com/

http://cppcast.com/2019/07/robert-maynard/

- Reddit

http://dominikberner.ch/cmake-interface-lib/

- Reddit

https://github.com/bernedom/SI

Professional CMake: A Practical Guide, 4th ed., CMake 3.15
https://crascit.com/professional-cmake/ $30

What happens with header-only libraries?

https://www.reddit.com/r/cpp/comments/d4uu46/what_happens_with_headeronly_libraries/

> *Assuming a reasonably-sized project where certain libraries will be required multiple times in different source files… What happens with all the in-lines and templates that get compiled in? Are there just multiple copies of each? Do modern compilers/linkers trim out the duplicates? Do they leave them in?*

https://gcc.gnu.org/onlinedocs/gcc-9.1.0/gcc/Template-Instantiation.html

https://github.com/yrnkrn/zapcc

This is a C++17 class library for using the Single Instruction Multiple Data (SIMD) instructions in modern microprocessors.

https://www.agner.org/optimize/blog/read.php?i=1013

https://github.com/vectorclass/version2 (Apache 2.0)

Manual
https://github.com/vectorclass/manual/blob/master/vcl_manual.pdf

mdspan

- Implementation https://github.com/kokkos/mdspan (BSD 3-Clause)
    - Intro https://github.com/kokkos/mdspan/wiki/A-Gentle-Introduction-to-mdspan
    - r/cpp https://www.reddit.com/r/cpp/comments/cl127i/mdspan_productionquality_reference_implementation/
- Kokkos https://github.com/kokkos/kokkos
- Multi-dimensional strided array views in Magnum https://blog.magnum.graphics/backstage/multidimensional-strided-array-views/
- P0009R9 **mdspan:** A Non-Owning Multidimensional Array Reference http://wg21.link/p0009r9
- CppCast with Bryce Adelstein Lelbach https://cppcast.com/bryce-lelbach-mdspan/

https://github.com/aras-p/ClangBuildAnalyzer

Reddit

- PyTorch https://pytorch.org/features -- has a pure C++ front end https://pytorch.org/cppdocs/
- TensorFlow for C++ https://www.tensorflow.org/api_docs/cc
- Shogun https://www.shogun.ml/

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

https://devblogs.microsoft.com/oldnewthing/20190830-00/?p=102823

- Reddit

https://blog.magnum.graphics/announcements/introducing-python-bindings/

https://github.com/pybind/pybind11

Are there any memory safety libraries for C++?

https://www.reddit.com/r/cpp/comments/d0hguz/are_there_any_memory_safety_libraries_for_c/

https://github.com/duneroadrunner/SaferCPlusPlus/

https://github.com/deplinenoise/ig-memtrace

> *MemTrace is a memory debugging tool developed internally at Insomniac Games.*

https://github.com/ivmai/bdwgc

> *The Boehm-Demers-Weiser conservative C/C++ Garbage Collector (libgc, bdwgc, boehm-gc) https://www.hboehm.info/gc/*

Steve Downey: https://www.sdowney.org/2019/07/anyduck-a-value-type-erased-type/

Tony Van Eerd @tvaneerd

```
try {
  return vec.at(index);
}
catch (std::out_of_range const &) {
  return –1;
}
```

I just saw this in a code review and was going to claim it inefficient, but darn @CompileExplore proved me wrong again. (IIRAC*) All compilers turn it into an if check on the bounds.

*Read ASM

11h • 11/07/2019 • 22:56

John McFarlane @JSAMcFarlane
Accidentally accurate: apparently this mug is "generic".

Cup<T>

Generic Cup<T> Two-Tone Coffe...
zazzle.com

9h • 12/08/2019 • 14:56

Remy Goldschmidt @taktoa1

Electronics is like programming, except if you call a function with arguments of the wrong type, the function is deleted.

1d • 19/08/2019 • 01:38 •