C++ Club Meeting Notes

Gleb Dolgich

2019-04-25

- ▶ ACCU 2019 Slides and Trip Report by Anthony Williams
- ▶ Trip report by Ori Ben-Shir (a Rust developer)

C++17/20 Features and Fixes in Visual Studio 2019

- ▶ https://devblogs.microsoft.com/cppblog/cpp17-20-features-and-fixes-in-vs-2019/
- ▶ https://www.reddit.com/r/cpp/comments/bf3fmk/c1720_features_and_fixes_in_visual_studio_2019/

https://youtu.be/HBuIBaOEqYQ

How have you seen the embedded systems industry change over the last 20
years?

The ubiquity of embedded systems (in 2008!)

https://youtu.be/HBuIBaOEqYQ

What would you say is the most difficult aspect of your work with C++?

Combining flexibility with performance is hard, especially when you have to remain backward compatible.

C++ had $5000 over 3 years of advertisement budget.

https://youtu.be/HBuIBaOEqYQ

If you were starting off in the industry today, what would you want to invent, and why?

Better support for hard realtime constraints, reliability, concurrency. A combination of language and tools, compilation and execution techniques. Perhaps a subset of a general-purpose language, or a subset of C++ (1/10 in size).

https://youtu.be/HBuIBaOEqYQ

Are there any aspects of C++ that you wish you could change?

- ▶ C++ syntax is baroque (some decisions were made because the C compiler had to fit in 48K memory)
- ▶ Inside C++ there is a smaller language (1/10 in size)
- ▶ Scope, RAII
- ▶ Classes, templates would still be there

https://youtu.be/HBuIBaOEqYQ

Did you ever imagine that C++ would become so important?

Performance still matters.

Is there any reason for a competent programmer to use C when a C++
compiler of comparable quality is available for a target platform?

No.

https://youtu.be/HBuIBaOEqYQ

What's your opinion on the embedded C++ subset?

- ▶ A bad idea. No templates (?!)
- ▶ Need rules specific for the area.
- ▶ Start with a superset (language + libraries), then cut off unnecessary things.
  - ▶ *JSF was mentioned!*
- ▶ In a hard realtime environment:
  - ▶ Don't rely on a general-purpose free store manager
  - ▶ Be very careful with C pointers

https://youtu.be/HBuIBaOEqYQ

What's next after C++?

> *C++ will be around as a major factor for another 20 years at least. Next generation (C++0x) will be finished in a couple of years. It will be a significant improvement.*

> *Teaching, writing a book for beginners. Researching tools and techniques.*

> *Work on C++0x will wind down over the next few years. (!!)*

https://youtu.be/HBuIBaOEqYQ

Which programming techniques and language features are the most
important?

> *With C++ you combine different techniques and features to solve
> the problem. This will improve with C++0x.*

> *With hard realtime constraints we shouldn't use free store or
> exceptions ("I'm very sad"), given the tools we have today.*

https://youtu.be/UzfYG8GdB3I

So, what's exactly wrong with C++?

https://www.reddit.com/r/cpp/comments/bfia2h/so_whats_exactly_
wrong_with_c/

https://stackoverflow.com/questions/55772424/why-is-stdmove-not-nodiscard-in-c20
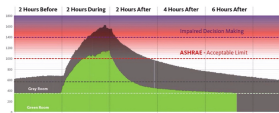
Twitter

Chris Young 🇨🇦
@netmanchris

This is crazy. Study shoes three people in a conference room over 2 hours can result in a Co2 level that can impair cognitive functioning. Ie. If you're making decisions at the end of the meeting, you're mentally less qualified to do so.
pic.twitter.com/yGdufCWoVF

AIR *Parameters*
Gensler Study · 2016

TWO HOUR CONTROLLED MEETING STUDY

4,017 Likes   2,171 Retweets

16 Mar 2019 at 14:59   via **Twitter for iPad**

Twitter

Greg Ferro:

An engineer who works remotely should be called an 'engifar'

Twitter

Jason Karns
@jasonkarns

Bought a mechanical keyboard with more resistance so my code will be strongly typed.

7,901 Likes	**1,940** Retweets
27 Mar 2019 at 19:23	via **Twitter for iPhone**