

Not your Mother's C++

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What I'm NOT Going Say...

I'm a C++ expert (hint: I'm not)

Everyone should use C++

C++ is really easy

C++ is always faster than everything else

Memory Management is Hard...

```
cin << "Can I have my garbage collector back please"
```

```
cout >> "NO, not unless you really want it."
```

```
cout << "So don't do (much of) it!"
```

```
cin >> "SERIOUSLY !?"
```

```
cout << "YES... Here's how"
```

RIIA

Resource Instantiation Is Allocation

Or...

Wrapping pointers in value types so the compiler does a lot of the heavy lifting for you.

Or...

NO RAW POINTERS

Think C++, Think Differently

Containers:

`array<T>`, `vector<T>`,

Iterators:

`begin()`..., `forward_iterator`, `reverse_iterator` ...

Algorithms:

`for_each`, `generate`, `sort`, `shuffle` ...

A Real App in 300 lines

Conway's Life



What I ~~Like~~ Love About C++

I can write really fast code (if I want)

Choose the level of abstraction that's right:

- Assembly or vector intrinsics

- CPU or GPU parallelism

- Control of memory/cache access patterns

- Libraries for building GUIs

Some language features “better” than C#:

- const keyword, lambda capture, templates

Visual Studio now has better C++ support

What's Not To Like?

There are still many dark corners

- Avoid the C and stick with the ++

- Use idioms and patterns to avoid pitfalls

- move semantics(?)

No real equivalent of the .NET BCL

- Standard Library, Boost, Casablanca, Cinder

There's much more momentum around C++ now than before. Many of these things are improving

What's Next

See the Blog Post

Links to the these slides and the source code.

<http://www.ademiller.com/blogs/tech>

Also includes references to books and other resources like Cinder and Boost

Live by the end of the day.