

Re: Unified Ada library

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Hyman Rosen <hyrosen@mail.com> wrote:

: Matthew Heaney wrote:

:> Right now, I'm leaning towards (1). The thing I like about Charles is

:> that it's a relatively pure port of the STL to Ada95. There are C++

:> developers who think that the STL could only have been written in C++,

:> and Charles is my argument that that claim is false.

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: Bravo. I hope you keep going with this. You will have to watch out for the

: Ada people who hate and fear C++ and will seek to turn this library into

: something that is more "like Ada" in their perception, and will thereby kill

: it.

Could you comment on the importance of iterators and generic algorithms in the template libraries?

I just stumbled across this in Stroustrup's Language book (sections 16.2.1-3):

"The standard library containers and iterators (often called the STL framework ..) can be understood as an approach to gain the best of the two traditional models described previously [*]. That wasn't the way the STL was designed, though. The STL was the result of a single-minded search for uncompromisingly efficient and generic algorithms.

"The aim of efficiency rules out hard-to-inline virtual functions Therefore, we cannot present a standard interface to containers or a standard iterator interface as an abstract class. Instead, each kind of container supports a standard set of basic operations. ... Operations that cannot be efficiently implemented for all containers are not included in the set of common operations. ... Each kind of container provides its own iterators that support a standard set of iterator operations.

"The standard containers are not derived from a common base. Instead, every container implements all of the standard container interface. [dito for iterators]. No ... run-time type checking is involved.

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[*] Specialized Containers and Iterators, generics with type parameters together with Iterator objects for the containers, versus Based Containers, of a common base type, and with fat interfaces.