
Subject: Re: RE: Job package: A scope-bound worker thread for non-blocking operations.

Posted by [Oblivion](#) on Sat, 23 Sep 2017 12:17:54 GMT

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Hello Mirek (and Upp community),

Job package is updated in accordance with the above discussion.

To sum up, it is heavily improved (tested on GCC 7.2.0, MinGW (supplied with U++), and latest MinGWx64, and MSC 2017):

- Void type instantiation is re-introduced for good (does not rely on anything other than plain template specialization rules.)
- Value return semantics is re-introduced for good.
- Constant reference access operator is added. (This is especially useful when using Job with containers such as Vector, or array (e.g. `Job<Vector<int>>>`) in a loop. See JobExample test app provided)
- Exception propagation mechanism is added. Workers will propagate raised exceptions to their caller. (when one of the `GetResult()`, `operator~()`, or `IsError()` methods is called.)
- JobExample test application is added to the package. This example demonstrates the above mentioned traits.

I believe with the recent update Job is now slightly superior to `async/future/promise` trio (not `shared_future`), in that it has full control over its thread (which is a proper worker thread) worker cancellation/abortion mechanics, and optional container-like reference access to its result which can reduce copying/moving where unnecessary. (Except Job doesn't support reference specialization. `Job<T&>` is not possible for now. But that is not a big deal, really)

Bug reports, criticism and feedback is deeply appreciated.

[See below message for new version]

Best regards.
Oblivion
