
Subject: Re: 2022(?).2 beta

Posted by [Lance](#) on Sun, 18 Dec 2022 17:50:54 GMT

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Klugier wrote on Sun, 18 December 2022 09:41Hello Lance,

Quick question, what about replacing [=] with [this]. Does it produce warning with C++20? It compiles fine with C++14 and I think in most cases we can replace it. We are using [=] to capture local variables very really, however this can be overcome by explicit argument capture.

The solution with CAPTURETHISBYVALUE is ugly and very impractical especially for U++ maintainers :)

I agree that we should be compatible with C++20 as much as we can. On the other hand, I also think it is a good moment to change default standard from c++14 to c++17. c++14 is 8/9 years old standard and on most of currently supported system compilers with c++17 support are present. For example I like `auto [x, error] = GetTuple()` that can not be used in c++14 word. Very useful feature when you want to back-propagate error without using exceptions. I remember, we discussed this transition some time ago, but maybe it is good to discuss it one more time :)

Klugier

Hi Klugier:

Unfortunately it doesn't work. In a lot of occasions [=] captures more than just [this].

I will try my approach and report the result.

Regards,
Lance

PS:

It works perfectly in GCC/CLANG on Ubuntu.

Here is what I did:

1. Insert the definition of CAP_BY_VALUE_WITH_THIS after `#include <utility>`

```
#if __cplusplus > 201703L
#   define CAP_BY_VALUE_WITH_THIS = ,this
#else
#   define CAP_BY_VALUE_WITH_THIS =
#endif
```

2. Do a Replace in Files..., replace all occurrences of [=] with CAP_BY_VALUE_WITH_THIS, for all files under the folder uppsrc;

3. Compile some examples, eg. <Examples/Color>, fix all errors due to wrongful replacement in step 2. I believe there are 3-4 such occurrences.

4. Compile TheIDE, 2 more errors pop up. In <ide/Builders/Install.cpp>, replace

```
auto Fix = [CAP_BY_VALUE_WITH_THIS](const char *s) {
```

with

```
auto Fix = [=](const char *s) {
```

And in <ide/Designers/HexView.cpp>, Ln 98, replace

```
RegisterGlobalSerialize("FileHexViewPos", [CAP_BY_VALUE_WITH_THIS](Stream& s) {
```

with

```
RegisterGlobalSerialize("FileHexViewPos", [=](Stream& s) {
```

and ide is ready to be built. Of course I fix problems as GCC complains to me. As I did nothing in between, any errors that stopped compiling would mean I need to replace [CAP_BY_VALUE_WITH_THIS] with [=] (where there is no `this` at all).

BR,
Lance
