

---

Subject: Gearing up for 2022.1 release...

Posted by [mirek](#) on Thu, 03 Mar 2022 08:29:49 GMT

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---

IME support took longer than expected, but with that done, I think it is time for another release.

Current list of major changes:

- sizeof(wchar) is changed to 4 (32 bits) to support non BMP unicode characters

This might bring some incompatibilities in the code that expects wchar to be 16 bit, which especially involves dealing with Win32 (and to lesser extend MacOS) APIs, so if your application

is doing that, please check all instances of WCHAR (UniChar on MacOS) or even wchar especially type casts.

To support host APIs, char16 is introduced (but there is no 16-bit String varian).

Use ToSystemCharsetW, FromSystemCharsetW to convert texts to Win32 API.

- Support of drawing non-BMP characters in GUI
- Vastly improved character font replacement code (when drawing characters missing with requested font, replacement font is used)
- Last instances of Win32 ANSI calls (those ending with A) are removed
- UTF handling routines are refactored and their's naming is unified
- RTF is now being able to handle non-BMP characters (RTF is used as clipboard format for RichText)
- Improved input method (aka preedit in Linux, aka marked text in MacOS) support

Other minor changes:

- fixed TryRealloc issue
- improved MemoryCheck
- Removed MemoryAlloc48/MemoryFree48
- In theide Background parsing should less often cause delays in the main thread

Win32 release:

- updated clang to actual version (llvm14)
- zlib updated to 1.2.12
- openssl updated to 1.1.1n
- jpeg updated to 9e

If you have any issue to fix before the release, please post it here.

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Subject: Re: Gearing up for 2022.1 release...  
Posted by [pvictor](#) on Thu, 03 Mar 2022 10:07:35 GMT  
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---

Hello,

Is it possible to add ExecuteSelectDir() method to FileSelNative class?

Best regards,  
Victor

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [mirek](#) on Thu, 03 Mar 2022 10:13:17 GMT  
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---

pvictor wrote on Thu, 03 March 2022 11:07Hello,

Is it possible to add ExecuteSelectDir() method to FileSelNative class?

Best regards,  
Victor

Probably, do we have implementation for all 3 platforms?

Mirek

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [pvictor](#) on Thu, 03 Mar 2022 10:21:46 GMT  
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---

mirek wrote on Thu, 03 March 2022 15:13pvictor wrote on Thu, 03 March 2022 11:07Hello,

Is it possible to add ExecuteSelectDir() method to FileSelNative class?

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Victor

Probably, do we have implementation for all 3 platforms?

Mirek

But it is implemented somehow in FileSel for all platforms.

Victor

---

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Subject: Re: Gearing up for 2022.1 release...  
Posted by [mirek](#) on Thu, 03 Mar 2022 15:11:54 GMT  
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pvictor wrote on Thu, 03 March 2022 11:21mirek wrote on Thu, 03 March 2022 15:13pvictor wrote on Thu, 03 March 2022 11:07Hello,

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Victor

Probably, do we have implementation for all 3 platforms?

Mirek

But it is implemented somehow in FileSel for all platforms.

Victor

How is that supposed to help? :)

Mirek

---

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Subject: Re: Gearing up for 2022.1 release...  
Posted by [pvictor](#) on Fri, 04 Mar 2022 04:34:06 GMT  
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---

mirek wrote on Thu, 03 March 2022 20:11

How is that supposed to help? :)

Mirek

It doesn't help, you are right.

Directory selection must be in all native APIs:

Linux: gtk\_file\_chooser\_dialog\_new(..., GTK\_FILE\_CHOOSER\_ACTION\_SELECT\_FOLDER, ...);

Windows: SHBrowseForFolderA(...);

Mac: NSOpenPanel can choose a directory.

Victor

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Subject: Re: Gearing up for 2022.1 release...  
Posted by [Klugier](#) on Fri, 04 Mar 2022 20:09:39 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Hello Mirek,

We need this (GitHub PR) UppHub improvements. It checks for git and adds git dependency.

Klugier

---

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [mirek](#) on Sun, 06 Mar 2022 15:13:16 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

pvector wrote on Fri, 04 March 2022 05:34mirek wrote on Thu, 03 March 2022 20:11

How is that supposed to help? :)

Mirek

It doesn't help, you are right.

Directory selection must be in all native APIs:

Linux: `gtk_file_chooser_dialog_new(..., GTK_FILE_CHOOSER_ACTION_SELECT_FOLDER, ...);`

Windows: `SHBrowseForFolderA(...);`

Mac: `NSOpenPanel` can choose a directory.

Victor

OK, not too much happy about this late new feature, but done... Pls check.

---

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Subject: Re: Gearing up for 2022.1 release...  
Posted by [mirek](#) on Sun, 06 Mar 2022 19:51:27 GMT  
[View Forum Message](#) <> [Reply to Message](#)

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Klugier wrote on Fri, 04 March 2022 21:09Hello Mirek,

We need this (GitHub PR) UppHub improvements. It checks for git and adds git dependency.

Klugier

OK; I have fixed English in that Excalamtion...

Mirek

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Subject: Re: Gearing up for 2022.1 release...  
Posted by [Klugier](#) on Sun, 06 Mar 2022 20:02:59 GMT  
[View Forum Message](#) <> [Reply to Message](#)

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Hello Mirek,

Sure. Thanks for applying!

Klugier

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---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [pvictor](#) on Mon, 07 Mar 2022 13:08:48 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

mirek wrote on Sun, 06 March 2022 20:13

OK, not too much happy about this late new feature, but done... Pls check.

I've checked it on Linux.

It works OK.

Thank you.

Victor

---

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [pvictor](#) on Wed, 09 Mar 2022 09:18:31 GMT  
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---

pvictor wrote on Mon, 07 March 2022 18:08mirek wrote on Sun, 06 March 2022 20:13

OK, not too much happy about this late new feature, but done... Pls check.

I've checked it on Linux.

It works OK.

Thank you.

Victor

---

FileSelNative works fine both in Linux and Windows.  
However the public interfaces aren't the same:

#### Windows

```
void Serialize(Stream& s);  
void New();  
bool IsNew() const;
```

```
bool Execute(bool open, const char *title = NULL);  
bool ExecuteOpen(const char *title = NULL);  
bool ExecuteSaveAs(const char *title = NULL);  
bool ExecuteSelectDir(const char *title = NULL);  
String Get() const;  
void Set(const String& s);  
operator String() const;  
void operator=(const String& s);  
String operator~() const;  
void operator<<=(const String& s);  
int GetCount() const;  
const String& operator[](int i) const;  
  
bool GetReadOnly() const;  
String GetActiveDir() const;
```

```
FileSelNative& Type(const char *name, const char *ext);  
FileSelNative& AllFileType();  
FileSelNative& ActiveDir(const String& dir);  
FileSelNative& ActiveType(int i);
```

```
FileSelNative& DefaultExt(const char *ext);
```

```
FileSelNative& Multi(bool b = true);
```

```
FileSelNative& ReadOnlyOption(bool b = true);
```

```
FileSelNative& Asking(bool b = true);  
FileSelNative& NoAsking();
```

#### Linux

```
bool Execute(bool open, const char *title = NULL);  
bool ExecuteOpen(const char *title = NULL);  
bool ExecuteSaveAs(const char *title = NULL);  
bool ExecuteSelectDir(const char *title = NULL);  
String Get() const;  
void Set(const String& s);  
operator String() const;  
void operator=(const String& s);  
String operator~() const;  
void operator<<=(const String& s);  
int GetCount() const;  
const String& operator[](int i) const;
```

```
FileSelNative& AllFileType();  
FileSelNative& ActiveDir(const String& dir);  
FileSelNative& ActiveType(int i);
```

```
FileSelNative& Multi(bool b = true);
```

```
FileSelNative& Asking(bool b = true);  
FileSelNative& NoAsking();
```

```
FileSelNative& ShowHidden(bool b = true);
```

Best regards,

Victor

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Subject: Re: Gearing up for 2022.1 release...  
Posted by [Tom1](#) on Fri, 11 Mar 2022 11:35:03 GMT  
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---

Hi,

I just tried to do a fresh install of the current nightly on a clean Raspberry Pi 4 system. I cannot seem to get the dependencies right. First it was package 'fontconfig' but I seem to end up in a complicated dependency mess that cannot be solved.

The OS is the latest Raspbian OS (11 bullseye) updated to date.

Does anybody have a similar setup to test this and possibly solve the issue.

Thanks and best regards,

Tom

---

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [Tom1](#) on Fri, 11 Mar 2022 11:42:34 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Hi,

Under Windows, compiling with 'MSBT22x64 Release' I get:  
C:\upp-git\upp.src\uppsrc\Draw\FontCR.cpp(440): warning C4244: 'argument': conversion from 'T' to 'int', possible loss of data

```
    with  
    [  
        T=double  
    ]
```

Best regards,

Tom

---

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [mirek](#) on Thu, 17 Mar 2022 12:23:47 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Tom1 wrote on Fri, 11 March 2022 12:42Hi,

Under Windows, compiling with 'MSBT22x64 Release' I get:  
C:\upp-git\upp.src\uppsrc\Draw\FontCR.cpp(440): warning C4244: 'argument': conversion from 'T' to 'int', possible loss of data  
    with  
    [  
        T=double  
    ]

Best regards,

Tom

Hopefully fixed.

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Subject: Re: Gearing up for 2022.1 release...  
Posted by [Tom1](#) on Thu, 17 Mar 2022 13:32:14 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Hi Mirek,

Thanks!

Best regards,

Tom

---

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [mirek](#) on Sat, 19 Mar 2022 09:39:42 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Tom1 wrote on Fri, 11 March 2022 12:35Hi,

I just tried to do a fresh install of the current nightly on a clean Raspberry Pi 4 system. I cannot seem to get the dependencies right. First it was package 'fontconfig' but I seem to end up in a complicated dependency mess that cannot be solved.

The OS is the latest Raspbian OS (11 bullseye) updated to date.

Can you give me download link? (Just to be 100% sure I am testing the same thing).

Mirek

---

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Subject: Re: Gearing up for 2022.1 release...  
Posted by [Tom1](#) on Sat, 19 Mar 2022 10:38:15 GMT  
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---

Hi,

I just upgraded a buster to bullseye by switching the sources to point to bullseye instead of buster, and then did a full distupgrade. After that I downloaded latest upp nightly and tried to proceed as normal with ./install.

Best regards,

Tom

EDIT: UPDATE: I booted my RPi 4 system to look for proper version info for you, but now I discovered additional issues with my OS. I may in fact need to do a fresh OS re-install from this link and see if it helps:

[https://downloads.raspberrypi.org/raspios\\_arm64/images/raspios\\_arm64-2022-01-28/2022-01-28-raspios-bullseye-arm64.zip](https://downloads.raspberrypi.org/raspios_arm64/images/raspios_arm64-2022-01-28/2022-01-28-raspios-bullseye-arm64.zip)

Anyway, this is the one I'm supposed to be running.

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Subject: Re: Gearing up for 2022.1 release...  
Posted by [Tom1](#) on Sat, 19 Mar 2022 16:52:19 GMT  
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---

Hi Mirek,

Now I'm on the freshly installed Raspberry OS 64-bit, the same as I linked for you. Here the ./install works for setting up the dependencies and starts compilation as expected.

However, the compilation fails with error:

```
./uppsrc/Core/Ops.h: In function 'Upp::byte Upp::addc64(Upp::uint64&, const uint64&, Upp::byte)':  
./uppsrc/Core/Ops.h:223:9: error: '_addcarry_u64' was not declared in this scope  
223 | return _addcarry_u64(carry, result, value, &result);
```

I do not know if there are more issues as the compilation stops to this error.

Best regards,

Tom

---

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [Klugier](#) on Sat, 19 Mar 2022 17:42:24 GMT  
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---

Hello Tom,

I have the same problem on M1 Mac when compiling application for native executable.  
\_addcarry\_u64 is not compatible with ARM architecture, so I think there must be a problem with #ifdefs.

Klugier

---

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [Tom1](#) on Sun, 20 Mar 2022 07:47:20 GMT  
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---

Hi Klugier and Mirek,

I agree. Tried to change the #if on line 219 of Ops.h:  
`#if defined(__SIZEOF_INT128__) && (__GNUC__ > 5 || __clang_major__ >= 5) && !defined(CPU_ARM)`

Adding "`&& !defined(CPU_ARM)`", in the end of the line, enabled successful compilation on current Raspberry OS (64-bit). However, I do not know if this change would cause issues on some other platform.

Best regards,

Tom

---

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [mirek](#) on Sun, 20 Mar 2022 08:35:57 GMT  
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---

Tom1 wrote on Sun, 20 March 2022 08:47Hi Klugier and Mirek,

I agree. Tried to change the #if on line 219 of Ops.h:  
`#if defined(__SIZEOF_INT128__) && (__GNUC__ > 5 || __clang_major__ >= 5) && !defined(CPU_ARM)`

Adding "`&& !defined(CPU_ARM)`", in the end of the line, enabled successful compilation on current Raspberry OS (64-bit). However, I do not know if this change would cause issues on some other platform.

Best regards,

Tom

Well, but that would bring in ugly mul64. I have tried better approach in the trunk... (but it is worth checking whether addc64 is compiled into something reasonable. It probably should get optimised out...)

Mirek

---

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [Tom1](#) on Sun, 20 Mar 2022 09:00:00 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Hi Mirek,

Good point. Your code compiles and seems to work fine on Raspberry. I'm just wondering if CPU\_X86 is defined for 64-bit AMD architecture, or should you include CPU\_AMD64 flag too?

Best regards,

Tom

---

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [mirek](#) on Sun, 20 Mar 2022 09:16:41 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Tom1 wrote on Sun, 20 March 2022 10:00Hi Mirek,

Good point. Your code compiles and seems to work fine on Raspberry. I'm just wondering if CPU\_X86 is defined for 64-bit AMD architecture, or should you include CPU\_AMD64 flag too?

Best regards,

Tom

It is. (Check config.h)

---

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [Tom1](#) on Sun, 20 Mar 2022 09:24:42 GMT  
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---

OK, thanks! So, it's all good now.

Best regards,

Tom

---

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [coolman](#) on Sun, 20 Mar 2022 09:33:36 GMT  
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---

Hi Mirek,

With the commit d3ef160f104a181eba9aed10173762382838f39f (TabBar: ConfirmCloseSome)  
I'm not able to compile Thelde. I got error

```
/Develop/upp/./uppsrc/Core/Function.h:17:50: error: no matching function for call to object of type  
'(lambda at /Develop/upp/uppsrc/TabBar/TabBar.cpp:334:21)'  
    virtual Res Execute(ArgTypes... args) { return fn(args...); }  
                                ^~
```

```
/Develop/upp/./uppsrc/Core/Function.h:19:3: note: in instantiation of member function  
'Upp::Function<bool (Upp::ValueArray)>::Wrapper<(lambda at  
/Develop/upp/uppsrc/TabBar/TabBar.cpp:334:21)>::Execute' requested here  
    Wrapper(F&& fn) : fn(pick(fn)) {}  
    ^
```

```
/Develop/upp/./uppsrc/Core/Function.h:56:57: note: in instantiation of member function  
'Upp::Function<bool (Upp::ValueArray)>::Wrapper<(lambda at  
Develop/upp/uppsrc/TabBar/TabBar.cpp:334:21)>::Wrapper' requested here  
    template <class F> Function(F fn) { ptr = new Wrapper<F>(pick(fn)); }  
                                ^
```

```
/Develop/upp/uppsrc/TabBar/TabBar.cpp:334:21: note: in instantiation of function template  
specialization 'Upp::Function<bool (Upp::ValueArray)>::Function<(lambda at  
/Develop/upp/uppsrc/TabBar/TabBar.cpp:334:21)>' requested here  
    ConfirmCloseSome = []() { return true; };  
    ^
```

```
Develop/upp/uppsrc/TabBar/TabBar.cpp:334:21: note: candidate function not viable: requires 0  
arguments, but 1 was provided
```

```
Develop/upp/uppsrc/TabBar/TabBar.cpp:334:21: note: conversion candidate of type 'bool (*)()'
```

clang -v

Ubuntu clang version 12.0.1-++20211029101322+fed41342a82f-1~exp1~20211029221816.4

Target: x86\_64-pc-linux-gnu

Thread model: posix

uname -a

Linux 5.13.0-35-generic #40~20.04.1-Ubuntu SMP Mon Mar 7 09:18:32 UTC 2022 x86\_64

x86\_64 x86\_64 GNU/Linux

BR, Radek

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [Tom1](#) on Sun, 20 Mar 2022 12:31:43 GMT  
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---

Hi,

I can confirm this issue on Raspberry when building theide. (Previously I did not notice it when working with nightly and then UWord for testing.)

Best regards,

Tom

---

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [mirek](#) on Sun, 20 Mar 2022 13:26:44 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

coolman wrote on Sun, 20 March 2022 10:33Hi Mirek,

With the commit d3ef160f104a181eba9aed10173762382838f39f (TabBar: ConfirmCloseSome) I'm not able to compile Theide. I got error

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    ^
```

```
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                                ^
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```
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/Develop/upp/uppsrc/TabBar/TabBar.cpp:334:21)>' requested here  
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    ^
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Target: x86\_64-pc-linux-gnu  
Thread model: posix

uname -a  
Linux 5.13.0-35-generic #40~20.04.1-Ubuntu SMP Mon Mar 7 09:18:32 UTC 2022 x86\_64  
x86\_64 x86\_64 GNU/Linux

BR, Radek

Hopefully fixed.

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [mirek](#) on Sun, 20 Mar 2022 13:42:06 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

pvictor wrote on Wed, 09 March 2022 10:18pvictor wrote on Mon, 07 March 2022 18:08mirek wrote on Sun, 06 March 2022 20:13  
OK, not too much happy about this late new feature, but done... Pls check.

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It works OK.  
Thank you.

Victor

FileSelNative works fine both in Linux and Windows.  
However the public interfaces aren't the same:

Windows

Linux

void Serialize(Stream& s);  
void New();  
bool IsNew() const;

|  |  |
|--|--|
| bool Execute(bool open, const char *title = NULL); | bool Execute(bool open, const char *title = NULL); |
| bool ExecuteOpen(const char *title = NULL);        | bool ExecuteOpen(const char *title = NULL);        |
| bool ExecuteSaveAs(const char *title = NULL);      | bool ExecuteSaveAs(const char *title = NULL);      |
| bool ExecuteSelectDir(const char *title = NULL);   | bool ExecuteSelectDir(const char *title = NULL);   |
| String Get() const;                                | String Get() const;                                |
| void Set(const String& s);                         | void Set(const String& s);                         |
| operator String() const;                           | operator String() const;                           |
| void operator=(const String& s);                   | void operator=(const String& s);                   |

```
String operator~() const;
void operator<=(const String& s);
int GetCount() const;
const String& operator[](int i) const;
```

```
String operator~() const;
void operator<=(const String& s);
int GetCount() const;
const String& operator[](int i) const;
```

```
bool GetReadOnly() const;
String GetActiveDir() const;
```

```
FileSelNative& Type(const char *name, const char *ext); FileSelNative& Type(const char *name,
const char *ext);
FileSelNative& AllFileType(); FileSelNative& AllFileType();
FileSelNative& ActiveDir(const String& dir); FileSelNative& ActiveDir(const String& dir);
FileSelNative& ActiveType(int i); FileSelNative& ActiveType(int i);
```

```
FileSelNative& DefaultExt(const char *ext);
```

```
FileSelNative& Multi(bool b = true); FileSelNative& Multi(bool b = true);
```

```
FileSelNative& ReadOnlyOption(bool b = true);
```

```
FileSelNative& Asking(bool b = true); FileSelNative& Asking(bool b = true);
FileSelNative& NoAsking(); FileSelNative& NoAsking();
```

```
FileSelNative& ShowHidden(bool b = true);
```

Best regards,  
Victor

Should be now improved (but 100% is impossible).

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [coolman](#) on Sun, 20 Mar 2022 19:04:35 GMT  
[View Forum Message](#) <> [Reply to Message](#)

Hi,

I can confirm, that your TabBar fix is OK. I can sucessfully build Thelde.

BR, Radek

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [Tom1](#) on Tue, 29 Mar 2022 11:30:35 GMT

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---

Hi Mirek,

Any status update for 2022.1 release schedule? :)

Best regards,

Tom

---

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [Novo](#) on Thu, 31 Mar 2022 02:10:05 GMT  
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---

LLVM 14.0.0 was released several days ago.  
IMHO, it makes sense to ship UPP with llvm-mingw compiler based on LLVM 14.

---

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [Klugier](#) on Sun, 03 Apr 2022 13:43:55 GMT  
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Hello Mirek,

I also proposed bumping C++ standard from c++14 to c++17. However, this could be done in the next release. There are a lot of risks here in context of compilation on various platforms.

Even if we do not have any features that particularly targets c++17 we should compile with that standard and our users should have access to it by default. Also, maybe this is a bug, but for MSVC we do not force any standard. It is always latest. I think it should change and we should target exactly the same standard as for GCC and CLANG.

Klugier

---

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [mirek](#) on Sun, 03 Apr 2022 17:33:31 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Novo wrote on Thu, 31 March 2022 04:10LLVM 14.0.0 was released several days ago.  
IMHO, it makes sense to ship UPP with llvm-mingw compiler based on LLVM 14.

Unfortunately:

<https://github.com/mstorsjo/llvm-mingw/issues/271>

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Subject: Re: Gearing up for 2022.1 release...  
Posted by [mirek](#) on Sun, 03 Apr 2022 17:36:07 GMT  
[View Forum Message](#) <> [Reply to Message](#)

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Klugier wrote on Sun, 03 April 2022 15:43Hello Mirek,

I also proposed bumping C++ standard from c++14 to c++17. However, this could be done in the next release. There are a lot of risks here in context of compilation on various platforms.

Even if we do not have any features that particularly targets c++17 we should compile with that standard and our users should have access to it by default. Also, maybe this is a bug, but for MSVC we do not force any standard. It is always latest. I think it should change and we should target exactly the same standard as for GCC and CLANG.

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Yeeah, I was thinking about it a lot, problem is we have so far universal package for Posixes and we are not 100% sure c++17 compliant compiler is there. I think we would need to add detection code before adding -std=c++17 to options, which is sort of complicated and quirky.

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Subject: Re: Gearing up for 2022.1 release...  
Posted by [Novo](#) on Sun, 03 Apr 2022 22:48:55 GMT  
[View Forum Message](#) <> [Reply to Message](#)

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mirek wrote on Sun, 03 April 2022 13:33Novo wrote on Thu, 31 March 2022 04:10LLVM 14.0.0 was released several days ago.  
IMHO, it makes sense to ship UPP with llvm-mingw compiler based on LLVM 14.

Unfortunately:

<https://github.com/mstorsjo/llvm-mingw/issues/271>

I just double-checked that (added -fno-limit-debug-info to "Debug options").

Everything compiles just fine ...

The only "problem" that I see is a lot of "clang-14: warning: argument unused during compilation: '-mthreads' [-Wunused-command-line-argument]"...

P.S. I checked that on Linux.

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Subject: Re: Gearing up for 2022.1 release...  
Posted by [mirek](#) on Mon, 04 Apr 2022 15:38:27 GMT  
[View Forum Message](#) <> [Reply to Message](#)

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P.S. I checked that on Linux.

You are right, it was my fault. Tomorrow nightly should be clang-14 (pls check)

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Subject: Re: Gearing up for 2022.1 release...

Posted by [Novo](#) on Tue, 05 Apr 2022 04:46:37 GMT

[View Forum Message](#) <> [Reply to Message](#)

---

mirek wrote on Mon, 04 April 2022 11:38

You are right, it was my fault. Tomorrow nightly should be clang-14 (pls check)

Compilation is fine (at least on Linux).

I do see a weird problem with Md5Stream. I'll check it tomorrow.

---

---

Subject: Re: Gearing up for 2022.1 release...

Posted by [Klugier](#) on Tue, 05 Apr 2022 10:21:36 GMT

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---

mirek wrote on Sun, 03 April 2022 19:36Klugier wrote on Sun, 03 April 2022 15:43Hello Mirek,

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Hello Mirek,

What about changing approach? If it doesn't compile you could always back to older stable release of Upp. The old systems shouldn't hold us back and keep with old standard. We could make 2022.1 last official release with c++14 and the next one will be c++17.

The C++14 was introduced in 2017 in our code base. 3 years after official standard announcement. Right now we are 5 years after c++17. There is no consistency here.

Klugier

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [Tom1](#) on Tue, 05 Apr 2022 13:00:44 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

mirek wrote on Mon, 04 April 2022 18:38 You are right, it was my fault. Tomorrow nightly should be clang-14 (pls check)

Hi,

The latest nightly (upp-win-16223.7z) shows version 11.0.0. for clang:

```
C:\upp\bin\clang\bin>clang.exe --version  
clang version 11.0.0 (https://github.com/llvm/llvm-project.git  
176249bd6732a8044d457092ed932768724a6f06)
```

```
Target: x86_64-w64-windows-gnu
```

```
Thread model: posix
```

```
InstalledDir: C:\upp\bin\clang\bin
```

```
C:\upp\bin\clang\bin>
```

Best regards,

Tom

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [Novo](#) on Tue, 05 Apr 2022 13:29:23 GMT  
[View Forum Message](#) <> [Reply to Message](#)

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Tom1 wrote on Tue, 05 April 2022 09:00

The latest nightly (upp-win-16223.7z) shows version 11.0.0. for clang:

I personally checked against git ...

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [Novo](#) on Tue, 05 Apr 2022 19:00:20 GMT  
[View Forum Message](#) <> [Reply to Message](#)

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Novo wrote on Tue, 05 April 2022 00:46

I do see a weird problem with Md5Stream. I'll check it tomorrow.

It turned out to be a weird problem with FindAllPaths + wine + unix-style path.

For example:

```
FindAllPaths("/home/ssg/data/download", "*.pdf")
```

will return

```
v =
```

```
Z:\home\ssg\dlp\cpp\code\upp\out\MyApps\MINGWcpp17.Debug.Debug_Full.Gui.Shared.Win32\home\ssg\data\download\mysqluc2007-wikipedia-workbook.pdf
```

```
v =
```

```
Z:\home\ssg\dlp\cpp\code\upp\out\MyApps\MINGWcpp17.Debug.Debug_Full.Gui.Shared.Win32\home\ssg\data\download\recsplit.pdf
```

```
v =
```

```
Z:\home\ssg\dlp\cpp\code\upp\out\MyApps\MINGWcpp17.Debug.Debug_Full.Gui.Shared.Win32\home\ssg\data\download\StatisticsWithJuliaDRAFT.pdf
```

```
v =
```

```
Z:\home\ssg\dlp\cpp\code\upp\out\MyApps\MINGWcpp17.Debug.Debug_Full.Gui.Shared.Win32\home\ssg\data\download\UHHA Info Update 5-8-20.pdf
```

```
v =
```

```
Z:\home\ssg\dlp\cpp\code\upp\out\MyApps\MINGWcpp17.Debug.Debug_Full.Gui.Shared.Win32\home\ssg\data\download\web-prolog.pdf
```

```
v =
```

```
Z:\home\ssg\dlp\cpp\code\upp\out\MyApps\MINGWcpp17.Debug.Debug_Full.Gui.Shared.Win32\home\ssg\data\download\whole-book.pdf
```

This can be a problem with wine, Upp or both ...

Another thing. In case of Wine + Upp log-file is created in an app folder. SetConfigGroup is ignored. I guess this is done "by design".

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [Novo](#) on Wed, 06 Apr 2022 07:07:53 GMT  
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---

It turned out that Windows has a command line package manager called "winget" now. (This, probably, was already discussed on this forum)

IMHO, it would be cool to have an Upp package for it.

Installing Upp via "winget install Upp" seems to be the easiest way to get it.

And "winget search upp" seems to be the easiest way to find it.

---

Subject: Re: Gearing up for 2022.1 release...

Posted by [mirek](#) on Wed, 06 Apr 2022 09:59:34 GMT

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---

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And "winget search upp" seems to be the easiest way to find it.

Go for it :)

---

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Subject: Re: Gearing up for 2022.1 release...

Posted by [mirek](#) on Wed, 06 Apr 2022 10:05:48 GMT

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Klugier wrote on Tue, 05 April 2022 12:21mirek wrote on Sun, 03 April 2022 19:36Klugier wrote on Sun, 03 April 2022 15:43Hello Mirek,

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The C++14 was introduced in 2017 in our code base. 3 years after official standard announcement. Right now we are 5 years after c++17. There is no consistency here.

Klugier

Uhm, now we are mixing 2 things I guess:

- (1) C++ that is required by U++
- (2) default C++ setting of build methods

So far I was speaking about (2). As for (1) I do not as of now see anything in C++17 that would make U++ codebase significantly better (cleaner, shorter, faster), so IMO it is not worth it to break U++ for old systems yet.

I could go with (2), but that would require detection system for posix install. IDK, maybe running "c++ -std=c++17" and detecting the error code would do the job?

Mirek

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Subject: Re: Gearing up for 2022.1 release...  
Posted by [Novo](#) on Wed, 06 Apr 2022 17:04:29 GMT  
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---

mirek wrote on Wed, 06 April 2022 05:59Novo wrote on Wed, 06 April 2022 09:07It turned out that Windows has a command line package manager called "winget" now. (This, probably, was already discussed on this forum)

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Installing Upp via "winget install Upp" seems to be the easiest way to get it.  
And "winget search upp" seems to be the easiest way to find it.

Go for it :)  
I'm not a Windows person. )  
First of all I need to figure out how to legally get/build a QEMU Windows 11 VM which I need for testing.  
Your suggestions are welcome!

---

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [Novo](#) on Wed, 06 Apr 2022 17:21:25 GMT  
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Another issue.  
Linking options from the "Output mode" dialog completely overwrite these options from a builder. This is fine when you develop for only one platform. ("All static" for Windows and "Use shared libs" for POSIX)  
But when you need to cross-compile this becomes a problem.  
Suddenly your Windows apps start requiring dependencies ...  
It took me quite a lot of time to realize that.

P.S. Interesting, what happens in case of umk ...

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Subject: Re: Gearing up for 2022.1 release...  
Posted by [Novo](#) on Wed, 06 Apr 2022 17:34:59 GMT  
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mirek wrote on Wed, 06 April 2022 06:05

- (1) C++ that is required by U++
- (2) default C++ setting of build methods

IMHO, it makes sense to ship Upp with different C++-versioned builders.

CLANG14, CLANG17, e.t.c instead of just a CLANG ...

And Upp should be tested against all versions of C++ because old code often doesn't compile with new versions of C++.

I personally use C++17 because my own code doesn't compile with older versions of C++ 8)

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Subject: Re: Gearing up for 2022.1 release...  
Posted by [mirek](#) on Thu, 07 Apr 2022 08:42:44 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Novo wrote on Wed, 06 April 2022 19:34mirek wrote on Wed, 06 April 2022 06:05

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CLANG14, CLANG17, e.t.c instead of just a CLANG ...

And Upp should be tested against all versions of C++ because old code often doesn't compile with new versions of C++.

I personally use C++17 because my own code doesn't compile with older versions of C++ 8)

Yes, that is another possibility. Anyway, I postpone this until next release.

---

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [Tom1](#) on Thu, 07 Apr 2022 10:16:08 GMT  
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---

Hi,

Bundled clang in windows now seems up to version 14.0.0. :)

However, when linking my project with CLANG I get the following error:  
Linking...

ld.lld: error: duplicate symbol: std::\_\_throw\_bad\_alloc()

>>> defined at C:/upp-git/out/program/Core/CLANGx64.Blitz.Gui.Protect/heap.o

>>> defined at libc++.a(new.cpp.obj)

clang-14: error: linker command failed with exit code 1 (use -v to see invocation)

There were errors. (1:31.25)

Please note that this is not specific to CLANG-14 but also happened with previous CLANG version bundled.

Any idea where this comes from and suggestions how to proceed?

Best regards,

Tom

---

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [Klugier](#) on Thu, 07 Apr 2022 10:55:27 GMT  
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---

Hello Mirek,

I still think that we should bump c++ version everywhere. There are some features that could be use within Upp code base such as structural binding, nested namespaces or declaring variable in if, switch statement. There are also a lot of features in the standard library like std::optional. Anyway, we should go forward. C++20 is a head of us with much more important feature such as modules and concepts. If we do not want to switch to c++17 right now, so when we will switch to c++20. In 2030?

If the POSIX bundle will do not compile on the oldest system you could always back to previous stable release which supports older standards and you could always install newer compiler version to overcome the problem. In reality to support c++17 we need compiler from 2016/2017.

I am not sure introducing CLANG17 will give us something instead of additional configuration file. You could switch standard by modifying CLANG inside TheIDE after installation and replacing it by -std=c++17. Very easy, however it would be good to have it by default.

Klugier

---

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [mirek](#) on Thu, 07 Apr 2022 11:21:37 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Tom1 wrote on Thu, 07 April 2022 12:16Hi,

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There were errors. (1:31.25)

Please note that this is not specific to CLANG-14 but also happened with previous CLANG version bundled.

Any idea where this comes from and suggestions how to proceed?

Best regards,

Tom

It rings some bells:

<https://github.com/mstorsjo/llvm-mingw/issues/91>

Core/heap.cpp:302

Mirek

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [Tom1](#) on Thu, 07 Apr 2022 11:40:04 GMT  
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Hi Mirek,

I thought, now that CLANG is at version 14, the issue would have been solved.  
mstorsjo commented on Apr 23, 2021

This should have been fixed by the previous release (based on LLVM 11.0.0).  
Best regards,

Tom

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [Tom1](#) on Thu, 07 Apr 2022 13:07:00 GMT  
[View Forum Message](#) <> [Reply to Message](#)

Hi Mirek,

I commented out the following line in heap.cpp:  
`void __attribute__((__noreturn__)) std::__throw_bad_alloc (void) { throw bad_alloc(); }`  
As a result the linker stopped complaining about it. Is this line required at all anymore?

(There are some external static libs I need that still prevent my app from running, but that's another story.)

Best regards,

Tom

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [Novo](#) on Thu, 07 Apr 2022 20:57:53 GMT  
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---

Klugier wrote on Thu, 07 April 2022 06:55  
I still think that we should bump c++ version everywhere.  
I have a different proposal. :) Upp doesn't really use any of C++14 language features. C++14 added improved constexpr support. Upp doesn't use it. It uses just a couple of C++14-specific stl files (maybe, just one). So, by dropping of this dependency and implementing this functionality in Upp itself it will be possible to lower C++ version requirement to C++11. :)

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---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [Novo](#) on Thu, 07 Apr 2022 21:21:26 GMT  
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---

Novo wrote on Wed, 06 April 2022 13:34  
And Upp should be tested against all versions of C++ because old code often doesn't compile with new versions of C++.

TheIDE cannot be compiled with C++20.

Clang + -std=c++20

/home/ssg/dvlp/cpp/code/upp/git/uppsrc/CtrlCore/CtrlPos.cpp:152:11: error: use of overloaded operator '!=' is ambiguous (with operand types 'Upp::Rect' (aka 'Rect\_t<int>') and 'Upp::Rect16' (aka 'Rect\_t<short>'))

    if(view != f.view) {

        ~~~~ ^ ~~~~~~

/home/ssg/dvlp/cpp/code/upp/git/uppsrc/Core/Gtypes.h:337:9: note: candidate function

    bool operator!=(const Rect\_& b) const                   { return !operator==(b); }

    ^

/home/ssg/dvlp/cpp/code/upp/git/uppsrc/Core/Gtypes.h:336:9: note: candidate function

    bool operator==(const Rect\_& b) const;

    ^

/home/ssg/dvlp/cpp/code/upp/git/uppsrc/Core/Gtypes.h:336:9: note: candidate function (with reversed parameter order)

IMHO, this should be fixed.

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [Tom1](#) on Fri, 08 Apr 2022 07:43:00 GMT  
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---

Hi Novo,

I like your idea of flexibility here. It is far easier to maintain projects across platforms if the latest uppsrc works nicely (i.e. is compatible) with all the standards from c++11 to c++20 -- or whatever the latest is. Anyway, there are always dependencies that cause all kinds of trouble with their requirements, so keeping uppsrc widely compatible is an excellent choice.

Best regards,

Tom

---

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [mirek](#) on Fri, 08 Apr 2022 09:09:40 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Novo wrote on Thu, 07 April 2022 23:21Novo wrote on Wed, 06 April 2022 13:34  
And Upp should be tested against all versions of C++ because old code often doesn't compile with new versions of C++.

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    ^

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IMHO, this should be fixed.

Unfortunately, that just seems to be the tip of the iceberg.

Frankly, are they paid for screwing our code every 3 years or what? :)

(Fixing things now..)

Mirek

---

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [mirek](#) on Fri, 08 Apr 2022 09:19:29 GMT  
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---

Novo wrote on Thu, 07 April 2022 22:57 Klugier wrote on Thu, 07 April 2022 06:55  
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Actually, we use C++14 lambda features that cannot be worked around. But I would like to stay there (at C++ 14).

Mirek

---

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [mr\\_ped](#) on Fri, 08 Apr 2022 10:42:42 GMT  
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IMHO:

- upp packages "should" compile also in C++20 mode, so user apps can use the C++20 (would be really nice to have this fixed before 2022.1 release)
- changing minimal requirement from C++14 to C++17 without using it is useless, just adding artificial hurdle (some users may be forced to C++14 in their projects)
- refactoring the code to use C++17 just before 2022.1 release just for the sake of using C++17 is also weird use of dev-time

My understanding is that U++ is almost ready for release, and unless there is some practical value in using C++17 for remaining tasks, it is IMHO much better to release it as C++14 compatible (but ideally with C++17 and C++20 compatibility too), that enables most options for users.

And things like bumping minimal version should be rather done at beginning of the release (ideally when some new features also make sense and will be used actively), not in last minute before release.

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Subject: Re: Gearing up for 2022.1 release...  
Posted by [mirek](#) on Fri, 08 Apr 2022 13:34:55 GMT  
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I am really frustrated with C++20. It breaks backward compatibility huge way, I will probably have to spend weeks to fix my codebase :( What were they thinking?

---

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [Tom1](#) on Fri, 08 Apr 2022 14:15:36 GMT  
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---

mirek wrote on Fri, 08 April 2022 16:34I am really frustrated with C++20. It breaks backward compatibility huge way, I will probably have to spend weeks to fix my codebase :( What were they thinking?

How about not going to C++20 just yet? Instead, release the stable U++ 2022.1 and only thereafter re-start to look at the C++20 standard issues.

Best regards,

Tom

---

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [mirek](#) on Fri, 08 Apr 2022 14:50:54 GMT  
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---

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Best regards,

Tom

OK, I have probably exaggerated a bit.. :) Right now I have just one really annoying warning to fix...

That said, breaking overloading rules is not a good idea. Had to add quite some lines to support C++20...

Mirek

---

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [mirek](#) on Fri, 08 Apr 2022 15:04:29 GMT  
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ide now compiles with C++ 20 with some warnings. If anybody had time to investigate these, it would be much appreciated...

C:\u\upp.src\uppsrc\RichText\ParaData.cpp (344): warning: ISO C++20 considers use of

overloaded operator '!=' (with operand types 'const  
WithDeepCopy<Vector<Upp::RichPara::Tab>>' and 'const  
WithDeepCopy<Vector<Upp::RichPara::Tab>>') to be ambiguou  
s despite there being a unique best viable function [-Wambiguous-reversed-operator]

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---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [Novo](#) on Fri, 08 Apr 2022 19:37:14 GMT  
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---

mirek wrote on Fri, 08 April 2022 05:19  
Actually, we use C++14 lambda features that cannot be worked around. But I would like to stay  
there (at C++ 14).

Mirek

Sorry, I missed that ...

---

---

Subject: Re: Gearing up for 2022.1 release...  
Posted by [Novo](#) on Fri, 08 Apr 2022 19:39:57 GMT  
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---

MacOS 10.15  
./umk uppsrc ide CLANG -bus  
In file included from /Users/ssg/worker0/m-upp/build/uppsrc/CtrlCore/MKeys.h:3:  
/Users/ssg/worker0/m-upp/build/uppsrc/CtrlCore/CocoKeys.h:12:1: error: default initialization of an  
object of const type 'const Upp::dword' (aka 'const unsigned int')  
K\_CTRL\_KEY,  
^  
= 0  
/Users/ssg/worker0/m-upp/build/uppsrc/CtrlCore/CocoKeys.h:13:1: error: default initialization of an  
object of const type 'const Upp::dword' (aka 'const unsigned int')  
K\_ALT\_KEY,  
^  
= 0  
...

---

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Subject: Re: Gearing up for 2022.1 release...  
Posted by [mirek](#) on Mon, 11 Apr 2022 10:07:46 GMT  
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Novo wrote on Fri, 08 April 2022 21:39 MacOS 10.15  
./umk uppsrc ide CLANG -bus

In file included from /Users/ssg/worker0/m-upp/build/uppsrc/CtrlCore/MKeys.h:3:  
/Users/ssg/worker0/m-upp/build/uppsrc/CtrlCore/CocoKeys.h:12:1: error: default initialization of an  
object of const type 'const Upp::dword' (aka 'const unsigned int')  
K\_CTRL\_KEY,  
^  
= 0  
/Users/ssg/worker0/m-upp/build/uppsrc/CtrlCore/CocoKeys.h:13:1: error: default initialization of an  
object of const type 'const Upp::dword' (aka 'const unsigned int')  
K\_ALT\_KEY,  
^  
= 0  
...

Should be now fixed.

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Subject: Re: Gearing up for 2022.1 release...  
Posted by [Novo](#) on Mon, 11 Apr 2022 17:14:42 GMT  
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mirek wrote on Mon, 11 April 2022 06:07Novo wrote on Fri, 08 April 2022 21:39MacOS 10.15  
./umk uppsrc ide CLANG -bus  
In file included from /Users/ssg/worker0/m-upp/build/uppsrc/CtrlCore/MKeys.h:3:  
/Users/ssg/worker0/m-upp/build/uppsrc/CtrlCore/CocoKeys.h:12:1: error: default initialization of an  
object of const type 'const Upp::dword' (aka 'const unsigned int')  
K\_CTRL\_KEY,  
^  
= 0  
/Users/ssg/worker0/m-upp/build/uppsrc/CtrlCore/CocoKeys.h:13:1: error: default initialization of an  
object of const type 'const Upp::dword' (aka 'const unsigned int')  
K\_ALT\_KEY,  
^  
= 0  
...

Should be now fixed.  
Thank you!  
It is fixed now. Compilation on MacOS 11.1 is fine as well.

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