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Subject: 2024rc1

Posted by [mirek](#) on Sat, 28 Sep 2024 07:16:42 GMT

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2024 (rev. 17417) (Sep 2024)

<https://sourceforge.net/projects/upp/files/upp/2024rc1/>

## Core

First release of U++ that requires C++17

Moveable concept redesigned with C++17 features. U++ now allows non-moveable types to be stored in Vector flavor of containers (using `Upp::is_upp_guest`). PODs are automatically moveable (aka trivially relocatable)

`Upp::Tuple` now supports structured binding

`GetFileTime`, `GetFileLength`, `FileExists`, `DirectoryExists` and `FileMapping` refactored

`Stream::GetAll` now invokes `LoadError` on negative count

`ValueCache` limits setting methods are simplified

`Value` now directly supports 'float' type

Some iffy code now made more C++ compliant (e.g. always using `memcpy` for unaligned data)

AsXML had new `XML_ESCAPELF`

Improved `DarkTheme` function

## plugin/Zip

## zip64 support

## Draw

UHD image now can serve as source for SD image

New `S3` .iml image flag - the images are drawn supersampled 3x, usually without antialiasing, and only downsampled at runtime

## Painter

Multithreaded rendering further optimised

New image filtering parameter - so far, rendering image was always with bilinear filtering, new parameter allows other Image filter like Lanczos 3

## CtrlCore

Horizontal mouse scroll wheel support

`CtrlMapper` now provides `operator()(Ctrl, T, const T& factor)` for simple unit conversions

gtk backend improvements, XWayland mouse cursor bug workaround

## CtrlLib

`CtrlMapper` now provides `operator()(Ctrl, T, const T& factor)` for simple unit conversions

ide

Icon Designer refactored and optimised, new tools added, S3 flag support added  
Alt-M now goes to special scratchpad file of the same type as is current file, this is helpful e.g. for temporary storing and editing parts of .iml images that are then composed to the final image.  
Output directory in assembly definition now can be left empty and defaults to reasonable path.  
Hexadecimal view is now much faster  
Fixed further corner case Assist++ problems  
Layout designer text field, used with e.g. Labels, now has Qtf button to edit text with RichEdit  
Git file history now goes through renames  
Compare with menu now suggests files in Download folder too  
Main package configuration dialog improved

plugin upgrades

plugin/sqlite3: 3.46.0  
plugin/lzma: 24.6  
plugin/zstd: 1.5.6  
Core: LZ4 1.9.4  
plugin/z: 1.3.1  
plugin/png: 1.6.46  
plugin/tif: 4.6.0  
plugin/jpeg: 9f

Win32

OpenSSL upgraded to 3.2.1  
Clang compiler upgraded to 18.1.5

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