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Subject: GLFW Package

Posted by [Xemuth](#) on Tue, 01 Dec 2020 18:51:31 GMT

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Here is a GLFW package compatible Windows and Linux.

No flag have to be set to make it compatible with your operating system.

Default POSIX/LINUX implementation use X11. If you want to use Wayland or Mesa instead use flag MESA or WAYLAND

UPDATE : The package present in this post is up to date (at least until UppHub have been released)

A simple example code :

```
#include <Core/Core.h>
```

```
#include <GLFW/glfw.h>
```

```
const unsigned int SCR_WIDTH = 800;
```

```
const unsigned int SCR_HEIGHT = 600;
```

```
CONSOLE_APP_MAIN{
```

```
    // glfw: initialize and configure
```

```
    glfwInit();
```

```
    //Major and Minor stand (in this case) for OpenGL 3.2
```

```
    //Make sure your OpenGL implemntation is compatible with the version exaplained here
```

```
    glfwWindowHint(GLFW_CONTEXT_VERSION_MAJOR, 3);
```

```
    glfwWindowHint(GLFW_CONTEXT_VERSION_MINOR, 2);
```

```
    //If you OpenGL version is higher than 3.2 :
```

```
    glfwWindowHint(GLFW_OPENGL_PROFILE, GLFW_OPENGL_CORE_PROFILE);
```

```
    //else if it's below :
```

```
    //glfwWindowHint(GLFW_OPENGL_PROFILE, GLFW_OPENGL_ANY_PROFILE);
```

```
#ifdef __APPLE__
```

```
    glfwWindowHint(GLFW_OPENGL_FORWARD_COMPAT, GL_TRUE);
```

```
#endif
```

```
    // glfw window creation
```

```
    GLFWwindow* window = glfwCreateWindow(SCR_WIDTH, SCR_HEIGHT, "Ultimate++",  
NULL, NULL);
```

```
    if (window == NULL)
```

```
    {
```

```
        Upp::Cout() << "Failed to create GLFW window\n";
```

```
        glfwTerminate();
```

```
        Upp::Exit(-1);
```

```
    }
```

```
    glfwMakeContextCurrent(window);
```

```
    // Glew: load all OpenGL function pointers
```

```
    glewExperimental=true;
if (glewInit() != GLEW_OK){
    Upp::Cout() << "Failed to initialize GLEW\n";
    Upp::Exit(-1);
}

//the game loop
glViewport(0,0, SCR_WIDTH, SCR_HEIGHT);
while (!glfwWindowShouldClose(window)){
    glfwSwapBuffers(window);
    glfwPollEvents();
}
glfwTerminate();
}
```

EDIT: at the moment LINUX version have been tested on X11. Some Memory leaks have been reported. (probably due to a AMD driver bug)  
EDIT2: Cocoa (MacOS) and Wayland and Mesa have not been tested yet.

## File Attachments

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1) [GLFW.7z](#), downloaded 384 times

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Subject: Re: GLFW Package  
Posted by [Oblivion](#) on Tue, 01 Dec 2020 19:28:17 GMT  
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Hello Xemuth,

Nice work! I hope it will mature well.

I have tested it on ArchLinux (Setup:)

```
Linux 5.9.8,
GCC 10.2.0, x86_64
CLANG 11.0.0 x86_64,
Gnome 3.38, WAYLAND/xwayland,
GL_VERSION: 4.5 (Compatibility Profile) Mesa 20.2.2
GL_RENDERER: AMD OLAND (DRM 2.50.0, 5.9.8-arch1-1, LLVM 11.0.0)
GL_VENDOR: X.Org
```

IT compiled just fine. A blank window with "Ultimate++" title is created. And on exit, heap leaks are reported (as expected, I presume?)

Best regards,

Oblivion

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Subject: Re: GLFW Package  
Posted by [Xemuth](#) on Tue, 01 Dec 2020 19:54:01 GMT  
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Thanks for testing !

heap leaks are reported (as expected, I presume?)

Indeed, I have heap leak aswell, I dont know why, I will dig it.

The fact you have wayland and Mesa implemented is awesome !  
if you don't mind I will ask you later for testing it using them

Thanks again !

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Subject: Re: GLFW Package  
Posted by [Oblivion](#) on Tue, 01 Dec 2020 19:56:16 GMT  
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Quote:if you don't mind I will ask you later for testing it using them

Sure, I'll happily test it along the way.

---

Subject: Re: GLFW Package  
Posted by [Klugier](#) on Wed, 02 Dec 2020 00:31:54 GMT  
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Hello Xemuth,

I am glad it is working! I am also happy UppHub will have this awesome package for the premiere.  
Good job!

Also, please replace "int main()" with `CONSOLE_APP_MAIN` thanks to Core we are in U++ world

return -1 can be replaced with `Upp::Exit()`. Also, you could consider adding description to GLFW package - what it is. It is very helpful information when you don't know anything about package and wants to try.

I tested it on my machine with Radeon GPU on Manjaro (X11) and in the window I saw only

blinking artifacts . This might be the library problem or something else. I will probably do not have time to dig more.

Small remark:

```
Upp::Cout() << "Failed to create GLFW window" << Upp::EOL;
```

Could be replace with

```
Upp::Cout() << "Failed to create GLFW window\n";
```

Oblivion the leak problem is related to leak in AMD drivers we (Mirek and I) fought with it in the past for GLCtrl but without success.

Klugier

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Subject: Re: GLFW Package

Posted by [Oblivion](#) on Wed, 02 Dec 2020 08:17:10 GMT

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Quote: the leak problem is related to leak in AMD drivers we (Mirek and I) fought with it in the past for GLCtrl but without success.

Yes, I remember reporting the leak with GLCtrl. Thank you for your efforts! I guess it is an upstream issue at this point.

Best regards,  
Oblivion

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Subject: Re: GLFW Package

Posted by [Xemuth](#) on Wed, 02 Dec 2020 09:58:37 GMT

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Hello Klugier,

Thanks for testing !

Klugier wrote on Wed, 02 December 2020 01:31

Also, please replace "int main()" with `CONSOLE_APP_MAIN` thanks to Core we are in U++ world

The quick example I provided was taken from web. I had change the original post to make it U++

Klugier wrote on Wed, 02 December 2020 01:31

Also, you could consider adding description to GLFW package - what it is. It is very helpful information when you don't know anything about package and wants to try.

Yes, the next update (which will include Wayland and Mesa) will have a description

Klugier wrote on Wed, 02 December 2020 01:31

I tested it on my machine with Radeon GPU on Manjaro (X11) and in the window I saw only blinking artifacts . This might be the library problem or something else. I will probably do not have time to dig more.

The example I provided only open a Window, acquire an OpenGL context and loop infinitely. the window is supposed to be fully black. In your case it probably come from lib. do you have a dedicated GPU ? or is it an integrated one ? do you know your OpenGL version ? (if you have Mesa, you can type commande `glxinfo`, see OpenGL version string)

Klugier wrote on Wed, 02 December 2020 01:31

Oblivion the leak problem is related to leak in AMD drivers we (Mirek and I) fought with it in the past for GLCtrl but without success.

I have dig up an old machine and put Lubuntu in it (so I'm running X11) with an intel CPU (pentium 4 + integrated intel GPU) and leak still happen. Maybe I'm naive but my system dont have amd driver, so the problem is may be related to my lib.

@Oblivion how have you retrieve system information you provided on this post ? is it a simple command ? (have not found it on web )

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Subject: Re: GLFW Package

Posted by [Oblivion](#) on Wed, 02 Dec 2020 10:23:59 GMT

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Quote:how have you retrieve system information you provided on this post ? is it a simple command ? (have not found it on web

There are several tools to retrieve GL information but by default I use glinfo (part of mesa-demos package):

[https://www.archlinux.org/packages/extra/x86\\_64/mesa-demos/files/](https://www.archlinux.org/packages/extra/x86_64/mesa-demos/files/)

Others are `uname` and `gcc --version` and `clang --version`

Best regards,  
Oblivion

---

Subject: Re: GLFW Package

Posted by [Xemuth](#) on Wed, 02 Dec 2020 10:56:15 GMT

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Thanks Oblivion,

Well my machine is not Wayland / Mesa compliant apparently.

I have updated the package to implement WayLand and Mesa. Can you please test it on your machine ? same code just flag MESA or WAYLAND

I'm curious to see If you have a compilation error like "no member named 'null' in ..." or "no member named 'wl' in ..."

Thanks in advance

### File Attachments

1) [GLFW.7z](#), downloaded 397 times

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Subject: Re: GLFW Package

Posted by [Xemuth](#) on Wed, 02 Dec 2020 11:04:20 GMT

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Also, if someone with a MAC OSX could try the cocoa implementation it could be awesome ! (no flag needed)

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Subject: Re: GLFW Package

Posted by [Oblivion](#) on Wed, 02 Dec 2020 11:07:57 GMT

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With WAYLAND flag:

```
/home/testuser/GLFW/code/src/wl/wl_init.c (58): error: no member named 'wl' in 'struct
_GLFWwindow'
/home/testuser/GLFW/code/src/wl/wl_init.c (60): error: use of undeclared identifier 'topDecoration'
/home/testuser/GLFW/code/src/wl/wl_init.c (63): error: no member named 'wl' in 'struct
_GLFWwindow'
/home/testuser/GLFW/code/src/wl/wl_init.c (65): error: use of undeclared identifier 'leftDecoration'
/home/testuser/GLFW/code/src/wl/wl_init.c (68): error: no member named 'wl' in 'struct
_GLFWwindow'
(): if (surfaons.right.surface)
/home/testuser/GLFW/code/src/wl/wl_init.c (70): error: use of undeclared identifier
'rightDecoration'
/home/testuser/GLFW/code/src/wl/wl_init.c (73): error: no member named 'wl' in 'struct
_GLFWwindow'
/home/testuser/GLFW/code/src/wl/wl_init.c (75): error: use of undeclared identifier
'bottomDecoration'
```

```
/home/testuser/GLFW/code/src/wl/wl_init.c (103): error: no member named 'wl' in 'struct
_GLFWwindow'
/home/testuser/GLFW/code/src/wl/wl_init.c (104): error: no member named 'wl' in 'struct
_GLFWlibrary'
/home/testuser/GLFW/code/src/wl/wl_init.c (105): error: no member named 'wl' in 'struct
_GLFWlibrary'
/home/testuser/GLFW/code/src/wl/wl_init.c (107): error: no member named 'wl' in 'struct
_GLFWwindow'
/home/testuser/GLFW/code/src/wl/wl_init.c (109): error: no member named 'wl' in 'struct
_GLFWwindow'
/home/testuser/GLFW/code/src/wl/wl_init.c (118): error: no member named 'wl' in 'struct
_GLFWlibrary'
/home/testuser/GLFW/code/src/wl/wl_init.c (123): error: no member named 'wl' in 'struct
_GLFWwindow'
/home/testuser/GLFW/code/src/wl/wl_init.c (125): error: no member named 'wl' in 'struct
_GLFWlibrary'
/home/testuser/GLFW/code/src/wl/wl_init.c (126): error: no member named 'wl' in 'struct
_GLFWlibrary'
/home/testuser/GLFW/code/src/wl/wl_init.c (128): error: no member named 'wl' in 'struct
_GLFWlibrary'
/home/testuser/GLFW/code/src/wl/wl_init.c (136): error: no member named 'wl' in 'struct
_GLFWlibrary'
```

With MESA flag:

```
/home/testuser/GLFW/code/src/mesa/null_window.c (36): error: no member named 'null' in 'struct
_GLFWwindow'
/home/testuser/GLFW/glfwlib.c (47): In file included from /home/testuser/GLFW/glfwlib.c:47: ():
window->null.width = wndconfig->width;
/home/testuser/GLFW/code/src/mesa/null_window.c (37): error: no member named 'null' in 'struct
_GLFWwindow'
/home/testuser/GLFW/code/src/mesa/null_window.c (109): error: no member named 'null' in
'struct _GLFWwindow'
/home/testuser/GLFW/code/src/mesa/null_window.c (111): error: no member named 'null' in
'struct _GLFWwindow'
/home/testuser/GLFW/code/src/mesa/null_window.c (116): error: no member named 'null' in
'struct _GLFWwindow'
/home/testuser/GLFW/code/src/mesa/null_window.c (117): error: no member named 'null' in
'struct _GLFWwindow'
/home/testuser/GLFW/code/src/mesa/null_window.c (133): error: no member named 'null' in
'struct _GLFWwindow'
/home/testuser/GLFW/code/src/mesa/null_window.c (135): error: no member named 'null' in
'struct _GLFWwindow'
```

These are the errors I've encountered.

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Subject: Re: GLFW Package  
Posted by [Xemuth](#) on Wed, 02 Dec 2020 11:16:32 GMT  
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Thanks, this is what I was expecting

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Subject: Re: GLFW Package  
Posted by [Klugier](#) on Sun, 06 Dec 2020 20:33:12 GMT  
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Hello Xemuth,

Here is my graphic card information:

GL\_VERSION: 4.6 (Compatibility Profile) Mesa 20.2.3  
GL\_RENDERER: Radeon RX 580 Series (POLARIS10, DRM 3.39.0, 5.9.11-3-MANJARO, LLVM 11.0.0)  
GL\_VENDOR: X.Org  
GLU\_VERSION: 1.3  
GLUT\_API\_VERSION: 4  
GLUT\_XLIB\_IMPLEMENTATION: 13

KDE Plasma 5.20.4 X11

I hope it helped.

Klugier

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Subject: Re: GLFW Package  
Posted by [Xemuth](#) on Sun, 13 Dec 2020 02:15:39 GMT  
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---

Hello, I have updated GLFW package, it now compile with MESA (but in my computer fail to init window, I will try to find why later).

It now also compile with Wayland but in my computer I got some linking errors. (I'm trying to find why...)

@Oblivion, if you don't mind you can try on your computer, (if you have libwayland-protocols link the code with it, it should work !)

## File Attachments

---

1) [GLFW.7z](#), downloaded 420 times

---

---

Subject: Re: GLFW Package

Posted by [Oblivion](#) on Sun, 13 Dec 2020 08:54:20 GMT

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Hello Xemuth,

A Quick try and I am getting the exact same linker errors with Wayland on ArchLinux (I have wayland-protocols already installed). (I'll have time to investigate it tonight...)

Best regards,  
Oblivion

---

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Subject: Re: GLFW Package

Posted by [Xemuth](#) on Sun, 13 Dec 2020 14:06:26 GMT

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Hello Oblivion, Thanks for trying !

don't lose your time on this if you don't have so much ! I have asked about this problem on StackOverflow.

If nobody know then I will ask to GLFW community directly, I'm suspecting a problem from glfw (after all, all wayland file are marked 'unstable') maybe it can't be compiled using wayland at this time.

---