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Ogre ImGui binding

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Ogre ImGui binding



by **Crashy** » Tue Sep 06, 2016 1:00 pm

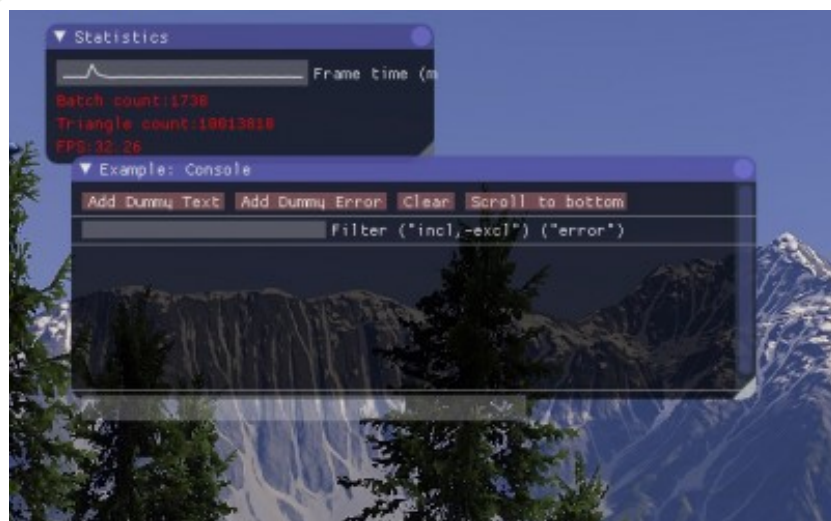
Hi everybody,

I've just released my quick and (not so) dirty integration of imgui in ogre. I'm using it with Ogre 2.0 and GL3+/D3D11 render systems, ~~but it may work with other ogre versions and/or D3d9 with minor modifications.~~
Now it works with Ogre 1.x too, and in D3D9, D3D11 & GL 3+

Disclaimer: this is my very first release of open source code, so feel free to comment about improvements/fixes 😊

<http://bitbucket.org/LMCrashy/ogreimgui/overview>

screenshot:



From the readme:

Integration

Crashy

Google Summer of Code
Student



Posts: 964
Joined: Wed Jan 08, 2003
9:15 pm
Location: Lyon, France
Contact:

Create and init the ImGuiManager after your Ogre init:

CODE: SELECT ALL

```
ImGuiManager::createSingleton();
ImGuiManager::getSingleton().init(mSceneMgr,mOISKeyboardInput,mOISMouseInput);
```

Then in your render loop:

CODE: SELECT ALL

```
ImGuiManager::getSingleton().newFrame(getDeltaTime(),
Ogre::Rect(0,0,_getRenderWindow()->getWidth(),_getRenderWindow()->getHeight()));
```

And voilà !

You can then use ImGui just like you want.

Note

You'll also need to transfer input events from your OIS Input listener to the ImGui manager.

For example:

CODE: SELECT ALL

```
bool MyInputManager::mouseMoved( const OIS::MouseEvent &arg )
{
    Ogre::ImGuiManager::getSingleton().mouseMoved(arg);
}
```

Last edited by Crashy on Fri Sep 09, 2016 10:05 am, edited 2 times in total.

0 x

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Re: Ogre ImGui binding

by **insider** » Tue Sep 06, 2016 3:53 pm

Excellent 😊



0 x



insider
Orc

Posts: 460
Joined: Thu Sep 15, 2011 12:50 pm
Contact:



hydrexon

Re: Ogre ImGui bindingby **hydexon** » Wed Sep 07, 2016 2:35 am

OH DEAR GOD, Thanks you so much!



Gremlin

Posts: 163

Joined: Sun Apr 14, 2013

8:51 pm

Contact:

0 x

**Re: Ogre ImGui binding**by **xrgo** » Wed Sep 07, 2016 2:50 am

Fantastic!! thanks for sharing =D!

**xrgo**

OGRE Expert User



Posts: 768

Joined: Sat Jul 06, 2013

10:59 pm

Location: Chile

Contact:

0 x

**Re: Ogre ImGui binding**by **Crashy** » Wed Sep 07, 2016 8:43 am

Thanks for your positive feedback.

I've just made some changes to use unified gpu programs, and I can also confirm it works with the D3D11 Render System.

**Crashy**

Google Summer of Code Student



Posts: 964

Joined: Wed Jan 08, 2003

9:15 pm

Location: Lyon, France

Contact:

0 x

Follow la Moustache on [Twitter](#) or on [Facebook](#)**Re: Ogre ImGui binding**by **Crashy** » Fri Sep 09, 2016 10:11 am

Aaaand now I've fixed build issues with Ogre 1.x and added D3D9 shaders.

**Crashy**

Google Summer of Code Student



Posts: 964

Joined: Wed Jan 08, 2003

9:15 pm

Location: Lyon, France

Contact:

0 x

Follow la Moustache on [Twitter](#) or on [Facebook](#)**Re: Ogre ImGui binding**by **chaos creator** » Sun Sep 18, 2016 8:50 pm

A few days ago I saw your post, searched for ImGui and was surprised that I haven't seen it earlier.

So I immediately started trying to port it to Ogre 2.1 since that's what I'm currently porting.

First of all, your code was very legible and easy to understand, without it I

**chaos creator**

Gnoblur

Posts: 22

Joined: Tue May 08, 2012

5:56 pm

Contact:

don't even know if I would have even tried writing my own binding 😊

But unfortunately some things didn't work under Ogre 2.1

So first I tried doing everything the correct "v2 way" – which was way too complicated.

Using vao's and creating a movable object and renderables didn't work out for me (at least in the ~~short~~ amount of time I spent on it)

(BTW, there is a bug in your GLSL shader where you output "ocol" in the vertexshader but try to input "col" in the fragments shader)

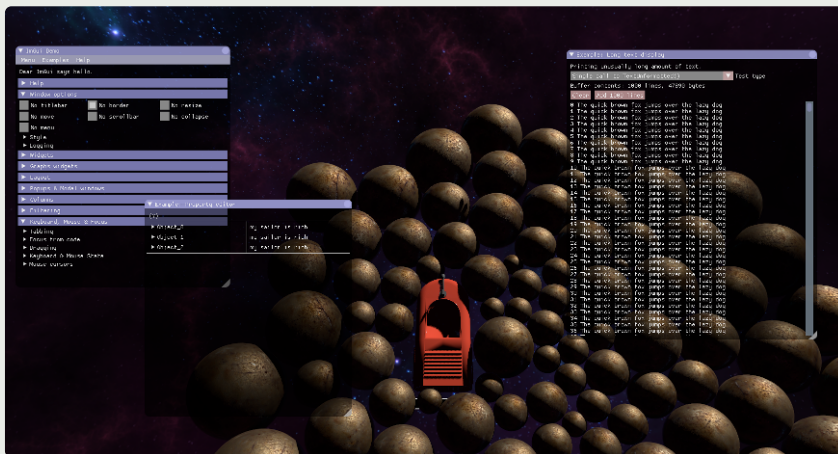
One of the issues render queue listeners: only renderQueueStarted is called (for the Ogre overlays to work), so the listeners are basically useless 😞

Then I had to modify the setting of the used Pass to use a hlms macro– and blendblock.

Also the correct blend mode was ignored by the render system, so I had to set it manually.

I'm not exactly sure how much I changed in the end, but I suspect your version and my 2.1 port differ too much to bundle it into one repro (also I changed some things to my own coding style 😊)

Sooo.... I'll just show my own version 😊



[https://bitbucket.org/ChaosCreator/imgui ... inding/src](https://bitbucket.org/ChaosCreator/imgui...inding/src)

Usage

Just init ImGuiManager once after you init Ogre:

CODE: SELECT ALL

```
ImGuiManager::getSingleton().init(mSceneManager);
```

... and that's about it.
No need to include anything else (besides the 4 source files)

Don't call `ImGui::newFrame()` or `ImGui::render()` or something similar, the `ImGuiManager` does it for you.

Also be aware that it just renders the GUI in the middle of `frameRenderingQueued`.

Besides that: you can now call all your ImGui functions and the results are immediately shown.

Input

Nearly forgot to say...

You have to do that part yourself (at least for now)

I removed the OIS part as I'm using SDL. SDL has no listeners, so I see no point of handling input in the `ImGuiManager` itself.

Basically you need to update the ImGui key- and mousestate within your own code, but that is completely unrelated to ogre.

And after all, the gui should also be seperated from the input system of your choise 😊

@Crashy

I also use the ImGui clipping data to set the scissoring tests accordingly 😊

You might look into that, but it means splitting the Renderables much more finely since clipping is performed on every Gui element

0 x



Re: Ogre ImGui binding

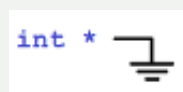
by **only_a_ptr** » Thu Sep 29, 2016 12:02 am

Yay! I was almost determined to begin researching and integrating DearImGui and OGRE myself, but now I can just remain lazy.

Many thanks for both the 2.0 and 2.1 variant.

0 x

Rigs of Rods is alive and [kicking!](#)



only_a_ptr
Halfling

Posts: 61
Joined: Sun Apr 26, 2009
8:43 pm
Contact:



Re: Ogre ImGui binding

by **hydrexon** » Sun Oct 16, 2016 2:31 am

I have a little issue to trying it on Windows 10, OGRE 2.1/D3D11, OGRE throws an exception, about an sampler0 is not found when you set the named constant in `ImGuiManager::createMaterial()`, line 441.



hydrexon
Gremlin

Posts: 163
Joined: Sun Apr 14, 2013
8:51 pm
Contact:

The relevant log about the exception was:

CODE: SELECT ALL

```
Invalid target for D3D11 shader 'imgui/VP/D3D9' - 'vs_2_0'
Invalid target for D3D11 shader 'imgui/FP/D3D9' - 'ps_2_0'
Exception thrown at 0x00007FFFFDCB7788 in DragoraCarbon.exe:
Microsoft C++ exception: Ogre::InvalidParametersException at memory
location 0x000000DEDE57CD510.
Unhandled exception at 0x00007FFFFDCB7788 in DragoraCarbon.exe:
Microsoft C++ exception: Ogre::InvalidParametersException at memory
location 0x000000DEDE57CD510.
```

i'm using the "chaos creator" version, i wonder why is using D3D9 as their default version when i'm using D3D11 version.

0 x



Re: Ogre ImGui binding



by **einherjer** » Sun Oct 23, 2016 1:33 pm

Same problem for me with the OGRE 2.1 version:

“

```
14:31:07: OGRE EXCEPTION(2:InvalidParametersException): Parameter called
sampler0 does not exist. Known names are: in
GpuProgramParameters::_findNamedConstantDefinition at
C:\OgreSDK\OgreMain\src\OgreGpuProgramParams.cpp (line 2214)
```

If I am commeting out the following line

CODE: SELECT ALL

```
mPass->getFragmentProgramParameters()->setNamedConstant("sampler0",
0);
```

I am getting the following error when trying to render the GUI:

“

```
14:40:49: OGRE EXCEPTION(3:RenderingAPIException): D3D11 device cannot
draw indexed
Error Description:ID3D11DeviceContext::DrawIndexed: A Vertex Shader is
always required when drawing, but none is currently bound.
Active OGRE vertex shader name: imgui/VP/D3D11
Active OGRE fragment shader name: imgui/FP/D3D11 in
D3D11RenderSystem::_render at
C:\OgreSDK\RenderSystems\Direct3D11\src\OgreD3D11RenderSystem.cpp
(line 3330)
```

What are we doing wrong (OGRE 2.1, D3D11, 64 bit, statically linked)?

0 x

einherjer
Gnoblur

Posts: 11
Joined: Wed Sep 09, 2009
10:47 am
Contact:

Re: Ogre ImGui bindingby **chaos creator** » Fri Oct 28, 2016 12:09 pm**chaos creator**

Gnoblar

Posts: 22

Joined: Tue May 08, 2012

5:56 pm

Contact:

Does it work under OpenGL?

I never used D3D11 because Ogre crashed even when I only included the Plugin.

Probably I should look into it, but because OpenGL is crossplatform I saw no problem in switching to it.

So unfortunately right now I can't even search for the reason for the crash – but at least it was never guaranteed to work ;D

If you can try openGL I would be happy to hear if it worked 😊

0 x

Re: Ogre ImGui bindingby **hydrexon** » Fri Oct 28, 2016 10:55 pm**hydrexon**

Gremlin

Posts: 163

Joined: Sun Apr 14, 2013

8:51 pm

Contact:

“ chaos creator wrote:

Does it work under OpenGL?

I never used D3D11 because Ogre crashed even when I only included the Plugin.

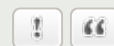
Probably I should look into it, but because OpenGL is crossplatform I saw no problem in switching to it.

So unfortunately right now I can't even search for the reason for the crash – but at least it was never guaranteed to work ;D

If you can try openGL I would be happy to hear if it worked 😊

Doesn't work in OpenGL (in Windows), but unlike DX11, they don't crash but don't display anything from ImGui (called ImGui::ShowTestWindow() just after setting up ImGui), the Log output throws OpenGL Error such GL_BIND something is invalid.

0 x

Re: Ogre ImGui bindingby **john21wall** » Wed Nov 02, 2016 3:29 pm**john21wall**

Gnoblar

Posts: 1

Joined: Wed Nov 02, 2016

12:40 pm

Contact:

Hi guys, I am currently working with a program which implements terrain the same way it is implemented in the third basic tutorial. I have to add some effects which are easy done using material passes (fog_override so I have only fog where the terrain is and not above, caustics as animated texture), so I would love to use an .material file for this terrain. Is this somehow possible? Like if I would create an object using the entity–strategy described in basic tutorial 1.

0 x



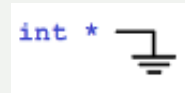
Re: Ogre ImGui binding

by **only_a_ptr** » Fri May 19, 2017 1:25 pm

Hello.

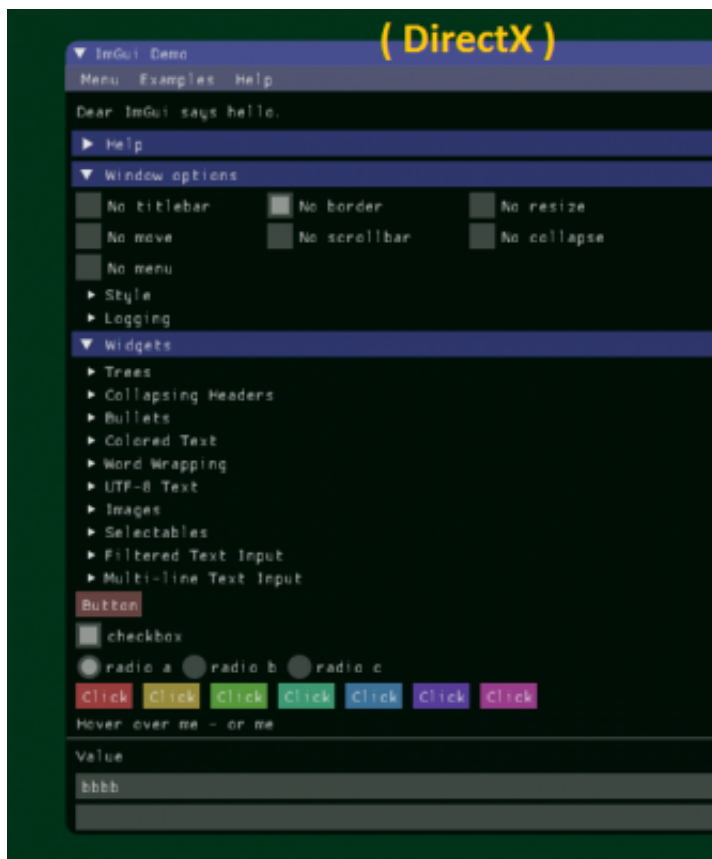
I created a demo application to test the binding: <https://github.com/only-a-ptr/ogre-ImGui-test>. It's basically trimmed OgreWiki-TutFramework with ImGui + the binding included.

With DirectX9, I get a blurry text and slightly misaligned elements – apparently the entire sizing is off, although settings are default.



only_a_ptr
Halfling

Posts: 61
Joined: Sun Apr 26, 2009
8:43 pm
Contact:



DirectX9

[Ogre.log](#)

DirectX9

(15.06 KiB) Downloaded 31 times

With OpenGL, UPDATE: I fixed the GLSL shader bug discovered by user <chaos creator> above. The rendering is now crisp 😊 – but that only makes me more baffled by the DirectX issue.

I'm using Windows 7 x64, Visual Studio 2015 pro, OGRE 1.9 – rest is visible from the logs. **I'm quite baffled by the scaling issue of DirectX – can anyone enlighten me please?** Note that so far I've only worked with LMCrashy's repository version of the binding, I haven't inspected the other

modification (and mentioned bugs).

0 x

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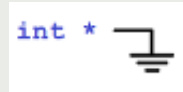
Re: Ogre ImGui binding



by **only_a_ptr** » Wed May 24, 2017 8:48 pm

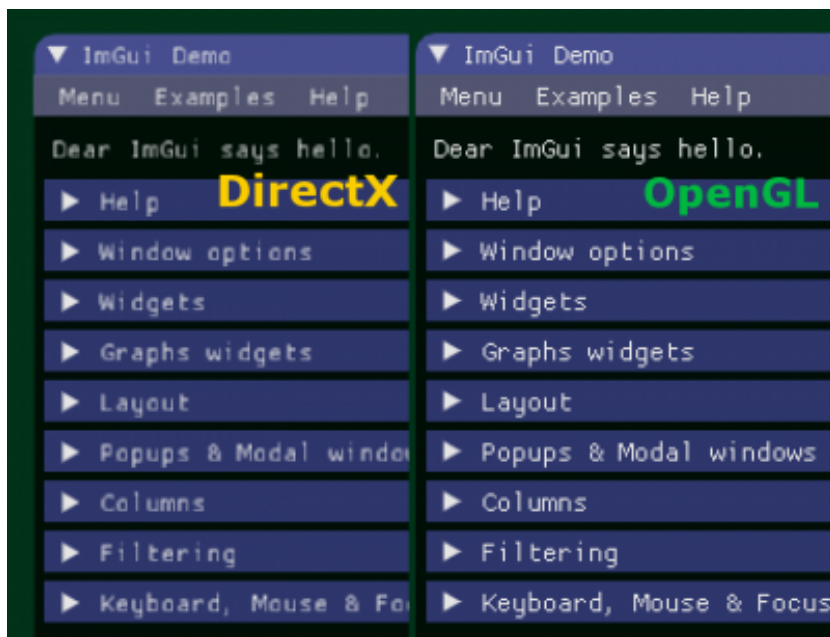
Sorry for bumping, but attachment limit...

I tested again on a different machine (geForce videocard). Same issue. I'm attaching Ogre.log to show my full specs, and also a comparsion image of DirectX9 / OpenGL rendering result.



only_a_ptr
Halfling

Posts: 61
Joined: Sun Apr 26, 2009
8:43 pm
Contact:



closeup render output.

Anyone has an idea what's the problem?

0 x

ATTACHMENTS

Ogre.log

DirectX on geForce660 machine.
(14.17 KiB) Downloaded 29 times

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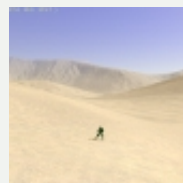
Re: Ogre ImGui binding



by **dark_syline** » Wed May 24, 2017 11:48 pm

Looks like the D3D9 version isn't using the half-texel offset correction (whereas OGL & D3D11 don't need it)

Ogre 1.x provides how much offset to apply via
RenderSystem::getHorizontalTexelOffset &
RenderSystem::getVerticalTexelOffset and also via [texel_offsets](#) auto binding



dark_syline
OGRE Team Member



for shaders.


I don't know anything about this ImGui port so I cannot help further. AFAIK ImGui already has a D3D9 backend, so it's very likely they already have some facility to perform the texel offset, if so, it would be just a matter of telling ImGui to use it when D3D9 RenderSystem is active.

Cheers

0 x

Twitter: [@matiasgoldberg](#) • [Follow my progress on 2.1](#) • [Alliance AirWar](#) • [Tech Blog, Video games & Free Music at Yosoygames.com.ar](#)

Old:
[My GSoC2013](#)

Posts: 3375
Joined: Sat Jul 21, 2007
4:55 pm
Location: Buenos Aires,
Argentina
Contact: 

Re: Ogre ImGui binding

by **Crashy** » Thu May 25, 2017 12:11 am

I'm gonna take a look as soon as I have some time left. I haven't tested the dx9 version that much.
ImGui doesn't use any texture to render, so at least it's not a filtering issue, Dark Sylink is surely right about the texel offset.

I'm also going to fix that glsl little bug, it works fine on my nVidia card but I know in/out variable naming is important on some hardware.

0 x

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Crashy

Google Summer of Code
Student



Posts: 964
Joined: Wed Jan 08, 2003
9:15 pm
Location: Lyon, France
Contact: 

Re: Ogre ImGui binding

by **devxkh** » Fri May 26, 2017 11:53 am

I've tried to implement imgui with a movable object without luck. Seems to be a projectionmatrix problem, that i don't understand. 😊
Maybe someone else is interested and is able to solve this.


<http://www.ogre3d.org/forums/viewtopic.php?f=25&t=92801&p=536905#p536905>

0 x

My little OGRE engine -> [FrankE](#) WIP



devxkh
Halfling

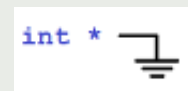
Posts: 71
Joined: Tue Aug 02, 2016
6:07 pm
Location: Germany
Contact: 

Re: Ogre ImGui binding


by **only_a_ptr** » Mon May 29, 2017 1:37 pm

@dark_sylink: Thanks for the pointer – **problem solved**, [code published in my test repo](#)

Once I learned what to look for, it wasn't hard to find it in ImGui's DirectX9 sample: [header comment](#) and [the projection matrix](#)



only_a_ptr
Halfling

Posts: 61
Joined: Sun Apr 26, 2009
8:43 pm
Contact: 

@Crashy: Feel free to grab anything from my test repo! 😊

0 x

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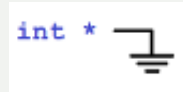
Re: Ogre ImGui binding



by **only_a_ptr** » Fri Jun 02, 2017 4:34 pm

BUMP!

Another issue: Font rendering. Only the built-in bitmap font "ProggyClean" works OK, any TTF font will come out distorted. DirectX9 looks worst. OpenGL is better, but also broken.



only_a_ptr
Halfling

Posts: 61
Joined: Sun Apr 26, 2009
8:43 pm
Contact:

0 x

ATTACHMENTS



Code used to insert the font is equivalent: size=25, all defaults

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Re: Ogre ImGui binding



by **Crashy** » Sat Jun 03, 2017 12:42 pm

Hi,
thanks, i've merged your changes into my repo, and also fixed the glsl shader.
I'll try to use another font and tell you my results.

Crashy
Google Summer of Code Student



Posts: 964
Joined: Wed Jan 08, 2003
9:15 pm
Location: Lyon, France
Contact:

0 x

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Re: Ogre ImGui binding



by **Crashy** » Sat Jun 03, 2017 7:29 pm

BTW, how are you adding the extra-fonts ?
Could you please also output & post it the generated atlas ?

Crashy
Google Summer of Code Student



Posts: 964
Joined: Wed Jan 08, 2003

Just add this at the end of ImGuiManager::createFontTexture

CODE: SELECT ALL

```
Ogre::Image dst;
mFontTex->convertToImage(dst, false);
dst.save("f:/font.tga");
```

0 x

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9:15 pm
Location: Lyon, France
Contact:

Re: Ogre ImGui binding

by **only_a_ptr** » Mon Jun 05, 2017 9:09 am

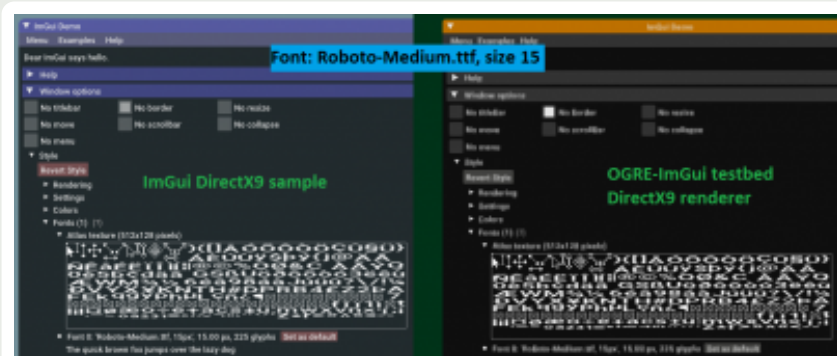


@crashy

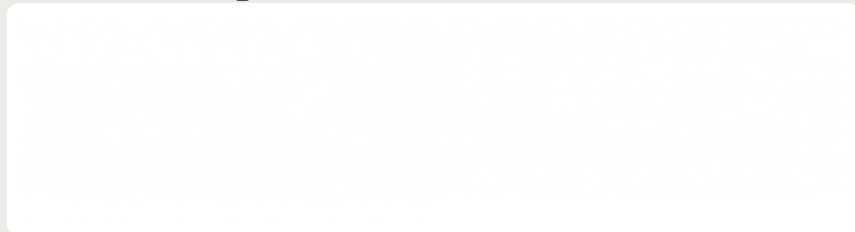
– For the DirectX9 sample, I uncommented [this line](#) (plus the `GetIO()` one) and changed font filename.

– For my testbed, I added the same line [at the top of `createFontTexture\(\)` function](#).

I have image-dump code [in there already](#), but I don't think the image atlas is the problem. Here's a side-by-side comparison screenshot with ImGui's Dx9 demo – the textures look perfectly equivalent:



Here's the dumped texture anyway (white font on transparent BG, so it's OK to appear blank 😊):



dumped image atlas texture

0 x

[Rigs of Rods](#) is alive and [kicking!](#)

Re: Ogre ImGui binding

Crashy

by **Crashy** » Mon Jun 05, 2017 9:13 pm



Okay. At least my atlas is the same as yours.
But I don't have any glyph visible here using GL3+ RS. I'm looking for a fix.

0 x

Follow la Moustache on [Twitter](#) or on [Facebook](#)



Google Summer of Code Student



Posts: 964
Joined: Wed Jan 08, 2003 9:15 pm
Location: Lyon, France
Contact: [✉](#)



Re: Ogre ImGui binding

by **Crashy** » Fri Jun 16, 2017 6:59 am



Ok, I think I've found the issue, at least on GL*
It was just a filtering issue, just as I expected, see this changeset:
[https://bitbucket.org/LMCrashy/ogreimgu ... fd8f0ce036](https://bitbucket.org/LMCrashy/ogreimgu...fd8f0ce036)

Please tell me if that fixed your bug.

0 x

Follow la Moustache on [Twitter](#) or on [Facebook](#)



Crashy

Google Summer of Code Student



Posts: 964
Joined: Wed Jan 08, 2003 9:15 pm
Location: Lyon, France
Contact: [✉](#)



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