QGIS Application - Bug report #3609
in a reprojected raster "zoom to best scale (100%)" does not work

2011-03-14 05:09 AM - Giovanni Manghi

Status:	Closed		
Priority:	High		
Assignee:			
Category:	Rasters		
Affected QGIS version:	master	**Regression?:**	No
Operating System:		**Easy fix?:**	No
Pull Request or Patch supplied:	Yes	**Resolution:**	
Crashes QGIS or corrupts data:	No	**Copied to github as #:**	13668

Description

summary says it all

Related issues:

Duplicates QGIS Application - Bug report # 3864: raster layer - zoom to best ...	**Closed**

Associated revisions

Revision 7f731ae3 - 2015-10-16 04:44 PM - Steven Mizuno

fix legendLayerZoomNative to use diagonal of source raster pixel

to match the use of the diagonal of mapCanvas pixel.
Also fix spelling in a comment.

(fixes #3609)

History

#1 - 2011-04-15 10:21 AM - Redmine Admin

- Status changed from Open to Closed

- Resolution set to fixed

FIxed.

#2 - 2011-06-02 08:31 AM - Jürgen Fischer

- Status changed from Closed to Feedback

- Resolution deleted (fixed)

see also #3864

#3 - 2011-06-10 04:41 PM - Steven Mizuno

I have realized that the resulting scale is the square root of 2 larger than it should be, which gave me a clue.
The problem comes from the calculation for the ratio to zoom by - the 'width' of reprojected pixel is actually the diagonal of the pixel, but the raster pixel width is just the x distance

It appears the intent is to use the diagonal, but the raster layer doesn't provide the y raster units per pixel.

A simple fix is to just use the x distance.
line 1843 in QgsLegend could be

```
double width = qAbs( p1.x() - p2.x() ); // width of reprojected pixel
```

instead of

```
double width = sqrt( p1.sqrDist( p2 ) ); // width of reprojected pixel
```

I have tried this.

#4 - 2011-07-25 09:10 AM - Paolo Cavallini

- Tracker changed from Bug report to 4
- Start date set to 2011-07-25
- Pull Request or Patch supplied set to No
- Status changed from Feedback to Open

#5 - 2011-08-12 04:59 AM - Steven Mizuno

- File patch_for_3609.diff added

Here is a better way to fix.
My proposed fix involves adding two functions to QgsRasterLayer:

- rasterUnitsPerPixelX()
- rasterUnitsPerPixelY()

and using these in QgsLegend::legendLayerZoomNative() to calculate the diagonal distance of a raster pixel.

This is good preparation for the future in handling non-square pixels.

The X and Y raster units per pixel values are already handled in QgsRasterLayer, so it is just a matter of providing API functions for use by other modules.

As rasterUnitsPerPixel() already returns the X value it is changed to call rasterUnitsPerPixelX() to avoid duplicate code.

Perhaps rasterUnitsPerPixel() could be removed at some point; its use probably should be deprecated.

I have also included Python interface functions.

#6 - 2011-08-12 05:11 AM - Steven Mizuno

- Pull Request or Patch supplied changed from No to Yes

forgot to set Patch supplied

#7 - 2011-12-16 01:48 PM - Giovanni Manghi

- Target version changed from Version 1.7.0 to Version 1.7.4

#8 - 2012-04-15 09:23 AM - Giovanni Manghi

- Affected QGIS version set to master
- Crashes QGIS or corrupts data set to No
- Tracker changed from 4 to Bug report

#9 - 2012-04-16 06:26 AM - Paolo Cavallini

- Target version changed from Version 1.7.4 to Version 1.8.0

#10 - 2012-09-04 11:59 AM - Paolo Cavallini

- Target version changed from Version 1.8.0 to Version 2.0.0

#11 - 2012-10-04 04:52 PM - Giovanni Manghi

- Assignee deleted (Redmine Admin)
- Operating System deleted (All)
- Status info deleted (0)
- Status changed from Open to Closed
- Resolution set to fixed

Seems to work fine in the latest master.

#12 - 2015-09-08 08:50 AM - Steven Mizuno

- Resolution deleted (fixed)
- Status changed from Closed to Reopened
- Target version changed from Version 2.0.0 to Version 2.12

During a process of qualifying recent versions of QGIS I find that the" Zoom to best scale (100%)" still is not working correctly (or has reverted -- I'm not sure as I had been using a personal modified version from before v. 1.8). This is when OTF is enabled.

An example is an aerial photo at 1m ground sample distance is zoomed to 1:2673 rather than 1:3780 that would be proper for a 96dpi display.

The problem is due to a calculation error in QgisApp::legendLayerZoomNative() where the screen pixel size is determined by the square root of the squares of the x and y distances, but the raster layer pixel size is just the x distance.

Here is a reworking of the previously supplied patch.
in qgisapp.cpp:
at or about line 7622:

```
mMapCanvas->zoomByFactor( qAbs( layer->rasterUnitsPerPixelX() / width ) );
```

change to:

```
mMapCanvas->zoomByFactor( sqrt( layer->rasterUnitsPerPixelX() * layer->rasterUnitsPerPixelX() + layer->rasterUnitsPerPixelY() * layer->rasterUnitsPerPixelY() ) / width );
```

This takes square root of the quantity of the squares of the X and Y raster pixel distances added, the same as is done for the display pixel.

#13 - 2015-09-10 04:17 AM - Giovanni Manghi

- Priority changed from Low to High

Steven Mizuno wrote:

> *During a process of qualifying recent versions of QGIS I find that the" Zoom to best scale (100%)" still is not working correctly (or has reverted -- I'm not sure as I had been using a personal modified version from before v. 1.8). This is when OTF is enabled.*
>
> *An example is an aerial photo at 1m ground sample distance is zoomed to 1:2673 rather than 1:3780 that would be proper for a 96dpi display.*
>
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> *Here is a reworking of the previously supplied patch.*
> *in qgisapp.cpp:*
> *at or about line 7622:*
> *[...]*
>
> *change to:*
> *[...]*
>
> *This takes square root of the quantity of the squares of the X and Y raster pixel distances added, the same as is done for the display pixel.*

many thanks for this patch. I would like to suggest to submit it as a Pull Request on github, otherwise here there is the real risk to be overlooked by core devs. Cheers!

#14 - 2015-09-16 08:58 AM - Steven Mizuno

I have created pull request !#2314.

#15 - 2015-10-16 07:46 AM - Steven Mizuno

- Status changed from Reopened to Closed

Fixed in changeset commit:"7f731ae309bc49861cd3c13b6f75fa37db68f521".

Files

patch_for_3609.diff	4.63 KB	2011-08-12	Steven Mizuno