

QGIS Application - Bug report #16925

Field calculator "round" function wrong results if rounding to 8 or more decimals

2017-07-24 11:36 PM - Giovanni Manghi

Status: Closed	
Priority: Normal	
Assignee:	
Category: Field calculator	
Affected QGIS version: 2.18.11	Regression?: No
Operating System:	Easy fix?: No
Pull Request or Patch supplied: No	Resolution: fixed/implemented
Crashes QGIS or corrupts data: No	Copied to github as #: 24824
Description	
This is regardless of the datasource and field type, example:	
round(40.70298315437546, 8) > -21.47483648	
round(40.70298315437546, 7) > 40.7029832	

Associated revisions

Revision 4b009f96 - 2017-08-24 06:35 PM - Nyal Dawson

Use std::round instead of qRound

Now that our minimum VS studio version allowed supports std::round, we should use that in place of Qt's qRound method.

Because:

- it doesn't truncate to int, resulting in unpredictable behaviour (refs #16925)
- better to stick to standard c++ methods wherever possible, since they're likely better supported and optimised by the compilers
- it's a tiny reduction to the barrier for entry to QGIS development (I'm sick of pointing out the need to use qRound during PR reviews!)

History

#1 - 2017-08-23 04:31 PM - Alain Bertholom

In core/qgsexpression.cpp fcnRound:

qRound(...) is called for rounding, an int is returned.

use the math round function instead of qRound should solve the problem.

The field calculator should return a floating point number in all case...

```
static QVariant fcnRound( const QVariantList& values, const QgsExpressionContext , QgsExpression parent ){
    if ( values.length() == 2 ) {
        double number = getDoubleValue( values.at( 0 ), parent );
        double scaler = pow( 10.0, getIntValue( values.at( 1 ), parent ) );
```

```
//return QVariant( qRound( number * scaler ) / scaler );
return QVariant( round( number * scaler ) / scaler );
}
if ( values.length() == 1 )
{
double number = getIntValue( values.at( 0 ), parent );
//return QVariant( qRound( number ) ).toInt();
return QVariant( round( number ) );
}
return QVariant();
}
```

#2 - 2017-08-23 07:21 PM - Nyal Dawson

Nice fix Alain - can you open a pull request on GitHub with this change? That'll make it easy to review.

#3 - 2017-08-23 10:52 PM - Alain Bertholom

On master, 2.18, or both?

#4 - 2017-08-23 11:44 PM - Jürgen Fischer

Alain Bertholom wrote:

| *On master, 2.18, or both?*

Note that 2.18 is built with VS2010 on Windows, which doesn't have `std::round`. See [commit:8cb578f69](#), [commit:0a1270b9f](#), [commit:ad437bfdff](#) and [commit:4f58f13822](#)

#5 - 2017-08-24 05:27 AM - Nyal Dawson

You can use `qgsRound` for 2.18, instead of `qRound`.

#6 - 2018-08-25 03:13 PM - Giovanni Manghi

- *Resolution set to fixed/implemented*
- *Status changed from Open to Closed*

Works as expected on master.