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:		**Resolution:**	fixed/implemented
Crashes QGIS or corrupts data:		**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 - Nyall 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 - Nyall 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 - Nyall 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.