QGIS Application - Bug report #17861
SQLite REAL numbers displayed as too many digits in Attribute Table

2018-01-15 09:51 PM - Kory Roberts

Status:	Closed		
Priority:	Normal		
Assignee:	Alessandro Pasotti		
Category:	Attribute table		
Affected QGIS version:	master	**Regression?:**	Yes
Operating System:	Linux Mint 18.3 Cinnamon	**Easy fix?:**	No
Pull Request or Patch supplied:		**Resolution:**	fixed/implemented
Crashes QGIS or corrupts data:	No	**Copied to github as #:**	25756

Description

In an SQLite/SpatiaLite database I have fields as type REAL. These are displayed in the Attribute Table with too many digits (often many zeros or 9's). This bug seems to have just shown up (but I believe it was also temporarily in a previous version of QGIS as well).

Example 1:
SQLite value = 35.990605
QGIS Attribute Table display = 35.990605000000002

Example 2:
SQLite value = -90.248519
QGIS Attribute Table display = -90.248519000000002

In attempting to examine this bug more deeply, I created a SpatiaLite database from within QGIS (Layer -> Create Layer -> New SpatiaLite). It seems type decimal number are assigned as FLOAT in SQLite, but may be better (i.e. more correct by SQLite documentation) to assign as REAL.

It appears the QGIS attribute table is treating fields of type FLOAT and REAL with different display (only REAL has bug), but in SQLite there is no difference in affinity.

http://sqlite.org/datatype3.html

Related issues:

Related to QGIS Application - Bug report # 18007: QGIS 3 Vector data corrupti...	**Closed**	**2018-01-30**
Related to QGIS Application - Bug report # 17878: QGIS 3 Vector Layer Fields ...	**Closed**	**2018-01-17**

Associated revisions

Revision 1adc55f3 - 2018-01-31 09:24 AM - Alessandro Pasotti

[bugfix] Lower priority of range widget for doubles

This was the root cause of several critical bugs with
data corruption in the attribute table and forms:
SpinBox has a fixed number of decimal places, which
makes it not ideal for floating points because most
of the times it rounds the number changing it when
in edit mode even if the user has not really modified
the value by writing in the spin box or using the
controls.

So, the defult is now back to the line edit (which has

bugs in the validator, but that's another less
critical and separate issue).

Partially fixes #17861
Partially fixes #18007

History

#1 - 2018-01-16 04:30 AM - Kory Roberts

OK, turns out both FLOAT and REAL show the same bug after all (after file reload?).

#2 - 2018-01-30 12:24 PM - Alessandro Pasotti

- Assignee set to Alessandro Pasotti

Can you please attach a small spatialite test file with your tests?

What is the expected behavior?

Is there a way to automatically determine what is the right number of digits that has to be shown?

I mean that floating point numbers representation is not exact, converting back and forth from the DB backend to QGIS internal representation is always going to have some small rounding errors.

#3 - 2018-01-31 01:36 AM - Kory Roberts

> *Can you please attach a small spatialite test file with your tests?*

I guess not since even the smallest spatialite file seems to exceed 5MB. I recreated the behavior by...

Layer -> Create Layer -> New Spatialite File...

Geometry as point, add new decimal number field ("field_a").

Now add point to the map, enter 34.05 as field_a.

Open attribute table.

Cell displays as 34.0499999999999997.

Click on cell in edit mode...back to 34.05.

More testing...

QGIS DB Manager displays as 34.05.

spatialite_gui displays as 34.050000. <- Same "bug"????
(fresh database and table created by spatialite_gui shows same behavior)

sqlitemanager.xul (Firefox add-on) displays as 34.05.

DB Browser for SQLite displays as 34.05.

> *What is the expected behavior?*

Consistency, I guess. The number of decimals can be used to indicate level of precision, particularly if a field contains lat/long data. 34.05 means less is known about lat for location than 34.04999, for example.

Both QGIS attribute table and spatialite_gui have the same thing going on for some reason, but nothing else I was able to test handles the data display in that way. For everything else, if 34.05 is entered, then 34.05 is displayed...which, in my view, should be the expected behavior.

#4 - 2018-01-31 09:31 AM - Alessandro Pasotti

- Related to Bug report #18007: QGIS 3 Vector data corruption when Adding a Point Feature added

#5 - 2018-01-31 09:31 AM - Alessandro Pasotti

- Related to Bug report #17878: QGIS 3 Vector Layer Fields Garbled when Clicking the Toggle Editing Icon added

#6 - 2018-02-01 07:52 AM - Anonymous

- Status changed from Open to Closed

- % Done changed from 0 to 100

Applied in changeset commit:qgis|1adc55f376c93dcc986b714c55de5db0c4de7948.

#7 - 2018-02-01 07:57 AM - Alessandro Pasotti

Please test the latest commits, all tests should be done with a new project because the default widgets for fields have changed.

#8 - 2018-02-01 07:57 AM - Alessandro Pasotti

- Resolution set to fixed/implemented