QGIS Application - Bug report #19311
setCrs() works incorrectly during Python plugin loading

2018-07-02 05:13 AM - Igor Evdokimov

Status:	Open		
Priority:	Normal		
Assignee:			
Category:	Python plugins		
Affected QGIS version:	3.2	**Regression?:**	No
Operating System:	Windows 7 x64	**Easy fix?:**	No
Pull Request or Patch supplied:		**Resolution:**	
Crashes QGIS or corrupts data:		**Copied to github as #:**	27139

Description

I have this code at the end of plugin loading (Python 3.6):

for data_dict in __DATA:
....
    vlayer = QgsVectorLayer(uri.uri(), _v_layer[0], _v_layer[1])
    QgsProject.instance().addMapLayer(vlayer)
    QgsMapCanvas().setExtent(vlayer.extent())
    QgsMapCanvas().setLayers([vlayer])
....
crs_dest = QgsCoordinateReferenceSystem(3857, QgsCoordinateReferenceSystem.PostgisCrsId)
QgsProject.instance().setCrs(crs_dest)

The destination CS is not set in QgsMapCanvas after that.
But QgsProject.instance().crs() shows correct CRS number at this moment (just after setCrs()).

If this code is run in thread, setCrs() works in some situations.
Setting the CRS manually (by button, etc.) after loading also works.

I think <QGis> changes some QgsMapSettings after plugin loading and resets CRS settings.

In 2.18 version similar code (based on mapRenderer) worked here.

What should I do to run setCrs() at the start of plugin automatically?

History

#1 - 2018-07-02 09:20 AM - Igor Evdokimov

I found that finally (after plugin loading) QGis sets Project CRS to the source CRS of loaded layers.

Maybe it's because constructor
QgsLayerTreeMapCanvasBridge::QgsLayerTreeMapCanvasBridge(...)
makes mAutoSetupOnFirstLayer(**true**) by default,
and then in QgsLayerTreeMapCanvasBridge::setCanvasLayers()
the call of QgsProject::instance()->setCrs(mFirstCRS) sets layer's CRS to all Project?

#2 - 2018-07-02 10:48 AM - Igor Evdokimov

Found solution/workaround:

https://gis.stackexchange.com/questions/273252/qgis-changing-canvas-crs-defaults-to-imported-layer

My working code:

```
from PyQt5.QtWidgets import QApplication
...
for data_dict in __DATA:
....
  vlayer = QgsVectorLayer(uri.uri(), _v_layer0, _v_layer1)
  QgsProject.instance().addMapLayer(vlayer)
  QgsMapCanvas().setExtent(vlayer.extent())
  QgsMapCanvas().setLayers([vlayer])
....
QApplication.instance().processEvents() #this operation solves this problem
crs_dest = QgsCoordinateReferenceSystem(3857, QgsCoordinateReferenceSystem.PostgisCrsId)
QgsProject.instance().setCrs(crs_dest)
```

Is it a bug nevertheless?

#3 - 2018-07-03 12:53 AM - Nyall Dawson

QApplication.instance().processEvents()

^ is VERY dangerous to call, especially in places like this. It'll likely result in crashes.

What's the use case here? Why are you forcing a particular crs on startup?

#4 - 2018-07-03 06:46 AM - Igor Evdokimov

Layers data are in 4236 crs, we need to set 3857 destination crs on startup.

#5 - 2018-07-24 07:44 PM - Matthew Baker

All our source PostGIS data is stored in SRID:4326.

We make all our maps in State Plane SRID:2877

This feature is handy so that every time we start a map in QGIS, we don't have to set the 'on the fly' reprojection, and takes the guesswork out for new users who don't know about coordinate systems and get them going with a good looking map right away.

Nyall Dawson wrote:

> QApplication.instance().processEvents()
>
> ^ is VERY dangerous to call, especially in places like this. It'll likely result in crashes.
>
> What's the use case here? Why are you forcing a particular crs on startup?